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Continuing Education

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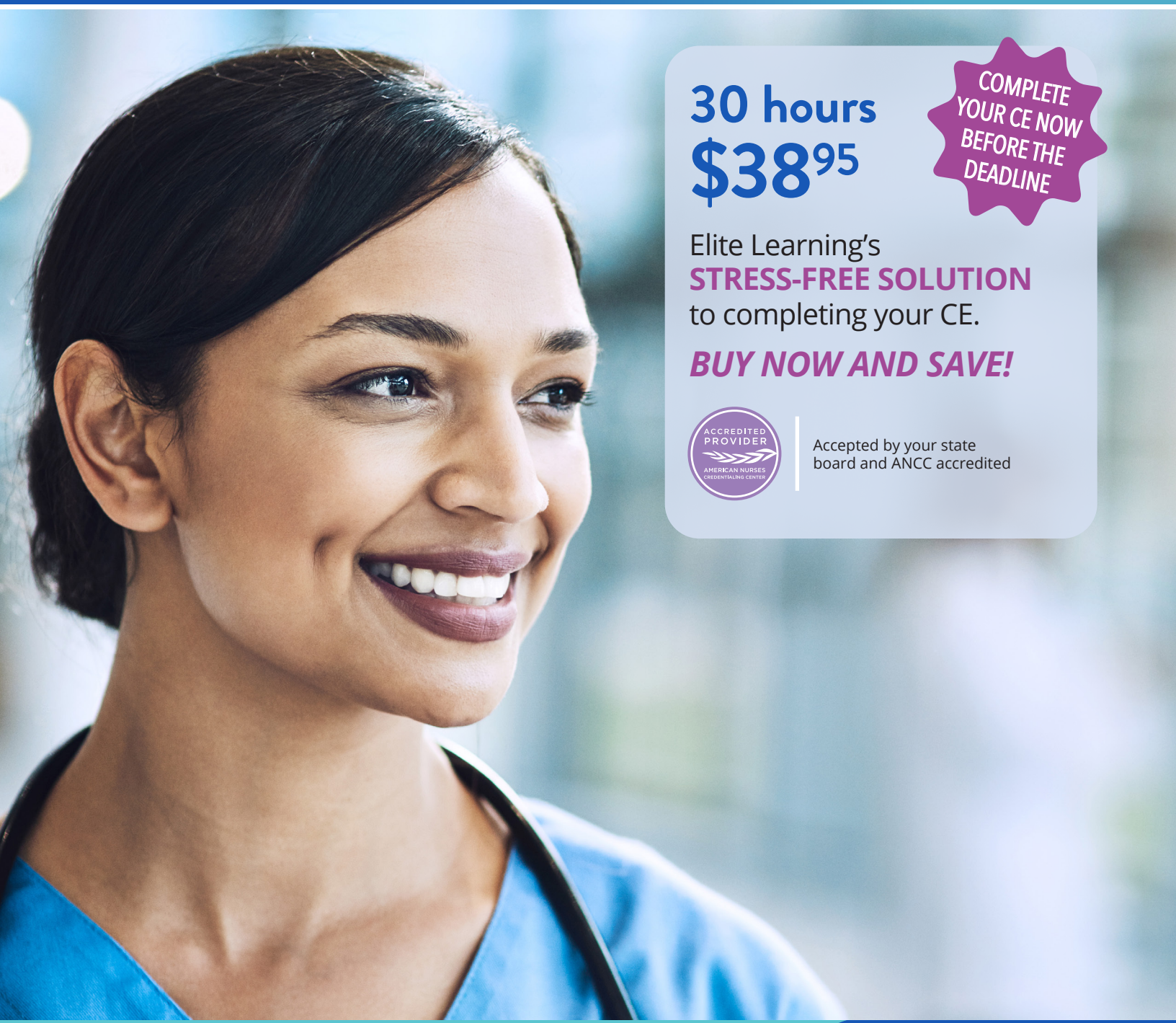

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Complete this book online with book code: **ANCCUS3023**

Elite courses are rated
4.8/5 stars
★★★★½

WHAT'S INSIDE

ALL COURSES SATISFY GENERAL HOURS REQUIREMENT

Asthma Management in Special Populations ____ 1
[3 contact hours]
This course focuses on asthma management for the adult with asthma. Asthma guidelines from the Global Initiative for Asthma (GINA) and the National Heart, Lung, and Blood Institute (NHLBI) will be presented. Types of asthma commonly seen in adults are discussed. Comorbid conditions that worsen asthma outcomes are also reviewed. The relationship of obesity and asthma throughout the life span is also examined. Implications for the older adult patient with asthma are also addressed.

Basic Psychiatric Concepts ____ 16
[6 contact hours]
This course is designed for registered nurses, licensed practical/vocational nurses, and newly licensed registered nurses who desire a greater understanding of basic mental health concepts. A fundamental understanding of medical terminology, abbreviations, and nursing care is assumed.

Crisis Resource Management for Healthcare Professionals ____ 40
[3 contact hours]
Understanding Crisis Resource Management (CRM) and utilization of the concepts within team emergent responses can improve patient outcomes. The course will outline CRM concepts and demonstrate the application within emergent situations in healthcare. CRM concepts discussed will include leadership and followership, role identity and clarity; effective communication strategies; situational awareness; resource allocation; and dynamic decision making. Physicians, advanced practice providers, nurses, respiratory therapists, pharmacists, and other health team members should understand CRM to improve their performance in emergent team responses and ultimately improve patient outcomes. CRM framework is also applicable in medical and environmental emergent situations where teams work together to ensure patient safety.

Diabetes Prevention and Management for Healthcare Professionals ____ 54
[5 contact hours]
Diabetes is a significant health problem in the United States and throughout the world. It is imperative that the healthcare community take aggressive steps to reduce the number of Americans who have the disease and to promote more effective treatment so that persons with diabetes can enjoy their maximum quality of life. This education program presents information on both the impact of the disease and how to provide effective healthcare professional interventions to those affected.

Ethical and Legal Issues in Nursing Practice ____ 77
[7 contact hours]
Nursing practice is guided by three major pillars: ethical concepts, professional standards, and laws/regulation to ensure safe and professional nursing practice. A nurse must know and understand all three of these guiding pillars. A nurse will be held to these guiding pillars and lack of knowledge or understanding will not be an excuse if something happens to a patient. This course will first describe ethical concepts that influence nursing practice, then examine professional standards, most of which are based on specific ethical concepts. Finally, laws and regulations will be discussed. By the end of the course the nurse will have a better understanding of the three pillars that guide nursing practice.

Mental Health Concerns and The Older Adult ____ 107
[6 contact hours]
The healthcare worker meeting mental health needs will be able to view the older adult within the context of aging theories and identify interpersonal connection, biopsychosocial elements, and the assessment and treatment for common mental health problems in the older adult. The target audience is any healthcare worker who will assess, intervene, or treat mental health needs of an older adult client. Registered nurses, mental health technicians, mental health providers, case managers, and primary care healthcare workers can benefit from the perspective provided by this course.

Course Participant Sheet ____ 134

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FREQUENTLY ASKED QUESTIONS

What are the requirements for license renewal?

Contact Hours Required
Review our chart on the following pages, find your state and your required contact hours.

How much will it cost?

If you are only completing individual courses in this book, enter the code that corresponds to the course below online.

COURSE TITLE	CONTACT HOURS	PRICE	COURSE CODE
Asthma Management in Special Populations	3	$23.95	ANCCUS03AS
Basic Psychiatric Concepts	6	$35.95	ANCCUS06PC
Crisis Resource Management for Healthcare Professionals	3	$23.95	ANCCUS03CR
Diabetes Prevention and Management for Healthcare Professionals	5	$29.95	ANCCUS05DM
Ethical and Legal Issues in Nursing Practice	7	$35.95	ANCCUS07EL
Mental Health Concerns and The Older Adult	6	$35.95	ANCCUS06MH
Best Value - Save $146.75 - All 30 Hours	**30**	**$38.95**	**ANCCUS3023**

How do I complete this course and receive my certificate of completion?

See the following page for step by step instructions to complete and receive your certificate.

Are you approved by ANCC?

Colibri Healthcare, LLC is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Are my contact hours reported to my state board?

We report your hours to the following boards: Alabama, Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, North Dakota, New Mexico, South Carolina, and West Virginia

What information do I need to provide for course completion and certificate issuance?

Please provide your license number on the test sheet to receive course credit. Your state may require additional information such as date of birth and/or last 4 of Social Security number; please provide these, if applicable.

Is my information secure?

Yes! We use SSL encryption, and we never share your information with third-parties. We are also rated A+ by the National Better Business Bureau.

What if I still have questions? What are your business hours?

No problem, we have several options for you to choose from! Online at EliteLearning.com/Nursing you will see our robust FAQ section that answers many of your questions, simply click FAQs at the top of the page, e-mail us at office@elitelearning.com, or call us toll free at 1-866-344-0971, Monday - Friday 9:00 am - 6:00 pm, EST.

Important information for licensees:

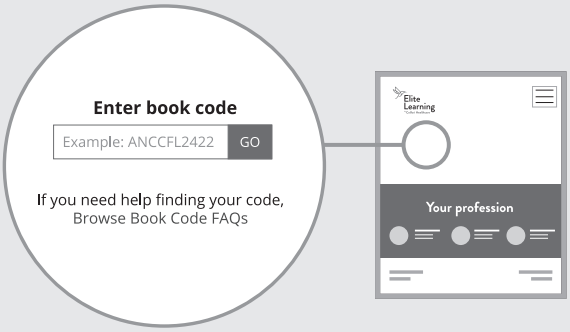
Always check your state's board website to determine the number of hours required for renewal, mandatory subjects (as these are subject to change), and the amount that may be completed through home-study. Also, make sure that you notify the board of any changes of address. It is important that your most current address is on file.

HOW TO COMPLETE THIS BOOK FOR CREDIT

Please read these instructions before proceeding.

IF YOU'RE COMPLETING ALL COURSES IN THIS BOOK:

- Go to **EliteLearning.com/Book** and enter code **ANCCUS3023** in the book code box, then click **GO**.
- If you already have an account created, sign in with your username and password. If you don't have an account, you'll be able to create one now.
- Follow the online instructions to complete your final exam. Once you finish your purchase, you'll receive access to your completion certificate.



IF YOU'RE ONLY COMPLETING CERTAIN COURSES IN THIS BOOK:

- Go to **EliteLearning.com/Book** and enter code that corresponds to the course below, then click **GO**. *Each course will need to be completed individually.*

COURSES YOU'VE COMPLETED	CODE TO ENTER
All 30 hours in this correspondence book	**ANCCUS3023**
Asthma Management in Special Populations	ANCCUS03AS
Basic Psychiatric Concepts	ANCCUS06PC
Crisis Resource Management for Healthcare Professionals	ANCCUS03CR
Diabetes Prevention and Management for Healthcare Professionals	ANCCUS05DM
Ethical and Legal Issues in Nursing Practice	ANCCUS07EL
Mental Health Concerns and The Older Adult	ANCCUS06MH

By mail

- Fill out the course participant sheet and mandatory evaluation found in the back of this booklet. Please include a check or credit card information and e-mail address. Mail to Elite, **PO Box 37, Ormond Beach, FL 32175**.
- Completions will be processed within 2 business days from the date it is received and certificates will be e-mailed to the address provided.
- Submissions without a valid e-mail will be mailed to the address provided.

By fax

- Fill out the course participant sheet and mandatory evaluation found in the back of this booklet. Please include credit card information and e-mail address. Fax to **(386) 673-3563**.
- All completions will be processed within 2 business days of receipt and certificates e-mailed to the address provided.
- Submissions without a valid e-mail will be mailed to the address provided.

STATE	HOURS ALLOWED BY HOMESTUDY	TOTAL HOURS REQUIRED	
Alabama	24	24	LPNs, RNs, and APRNs - CRNPs are required to complete 24 contact hours of CE every 2-year renewal period. Contact hours must include: ● Board Functions, the Nurse Practice Act, Regulations, Professional Conduct, and Accountability – 4 contact hours at 1st renewal period. For more information visit the Alabama Board of Nursing website.
Alaska	30	30	LPNs, RNs, and APRNs - ANPs are required to complete 2 of the following every 2-year renewal period: ● 30 contact hours of CE. ● 30 contact hours of professional nursing activity. ● 320 hours of nursing employment. For more information visit the Alaska Board of Nursing website.
Arizona	0	0	LPNs and RNs – No CE requirements at this time. 4-year renewal period. For more information visit the Arizona Board of Nursing website.
Arkansas	15	15	LPNs, RNs, and APRNs are required to complete 1 of the following every 2-year renewal period: ● 15 contact hours of accredited practice-focused activities. ● Hold a current nationally recognized certification/recertification. ● Completed a minimum of 1 college credit hour nursing course with a C grade or better. For more information visit the Arkansas Board of Nursing website.
California	30	30	LPNs, RNs, and APRNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the California Board of Nursing website.
Colorado	0	0	LPNs, RNs, and APRNs – No CE requirements at this time. 2-year renewal period. For more information visit the Colorado Board of Nursing website.
Connecticut	0	0	LPNs and RNs – No CE requirements at this time. Annual renewal period. For more information visit the Connecticut Board of Nursing website.
Delaware	RNs-30 / LPNs-24	30/24	LPNs are required to complete 24 contact hours every 2-year renewal period. RNs and APRNs are required to complete 30 contact hours of CE every 2-year renewal period. Contact hours must include: ● Substance Abuse – 3 contact hours every 2-year renewal period. For more information visit the Delaware Board of Nursing website.
District of Columbia	RNs-24 / LPNs-18	24/18	LPNs are required to complete 18 contact hours of CE every 2-year renewal period. RNs and APRNs are required to complete 24 contact hours of CE every 2-year renewal period. LPN, RN, and APRN CE contact hours must include: ● LGBTQ or Cultural Awareness - 2 contact hours every 2-year renewal period AND 10% of the total hours shall be in Public Health Priorities determined by the Director. For more information visit the Washington DC Board of Nursing website.
Florida	24	24	LPNs and RNs are required to complete 24 contact hours of CE every 2-year renewal period. LPNs, RNs, and APRNs CE contact hours must include: ● Prevention of Medical Errors – 2 contact hours every 2-year renewal period. ● Florida Laws and Rules – 2 contact hours every 2-year renewal period. ● NEW Human Trafficking – 2 contact hours every 2-year renewal period. ● HIV/AIDS – 1 contact hour; 1-time requirement. ● Recognizing Impairment in the Workplace: ○ LPNs and RNs - 2 contact hours every other renewal. ○ APRNs - 2 contact hours every other renewal. ● Domestic Violence: ○ LPNs and RNs: 2 contact hours every 3rd renewal (the license will include 26 contact hours during the renewal period when taken). ○ APRNs: 2 contact hours every 3rd renewal (the license will include 29 contact hours during the renewal period when taken). For more information visit the Florida Board of Nursing website.
Georgia	RNs-30 / LPN-20	30/20	LPNs are required to complete 20 contact hours of CE every 2-year renewal period. RNs and APRNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the Georgia Board of Nursing website.
Hawaii	30	30	LPNs and RNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the Hawaii Board of Nursing website.
Idaho	15	15	LPNs and RNs are required to complete 15 contact hours of CE every 2-year renewal period. For more information visit the Idaho Board of Nursing website.
Illinois	20	20	LPNs and RNs are required to complete 20 contact hours of CE every 2-year renewal period. LPN and RN required hours: ● 1 hour Implicit Bias Awareness training ● 1 hour Sexual Harassment Prevention training ● 1 hour Diagnosis, Treatment and Care of Alzheimer's disease (if licensee provides health care services to adults 26 years of age and older) For more information visit the Illinois Board of Nursing website.
Indiana	0	0	LPNs and RNs – For active licenses at the time of renewal, no CE is required. 2-year renewal period. If license has lapsed 3+ years and not currently licensed in another jurisdiction, requirements for renewal include: ● Refresher course including a clinical component and; ● 24 contact hours of CE. For more information visit the Indiana Board of Nursing website.

NOTE: CE Rules can change. Always check your state board for the most up-to-date information.

STATE	HOURS ALLOWED BY HOMESTUDY	TOTAL HOURS REQUIRED	
Iowa	30	36	LPNs and RNs are required to complete 36 contact hours of CE every 3-year renewal period. ● Every 5 years the renewal requires 2 contact hours of CE for Identification and Reporting of Child/ Dependent Adult Abuse (must be a state-approved course). For more information visit the Iowa Board of Nursing website.
Kansas	30	30	LPNs, RNs, and APRNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the Kansas Board of Nursing website.
Kentucky	14	14	LPNs, RNs, and APRNs are required to complete 14 contact hours of CE annually. Contact hours must include: ● Domestic Violence – 3 contact hours; 1-time requirement. ● Pediatric Abusive Head Trauma – 1.5 contact hours; 1-time requirement. ● Suicide Prevention - 2 hours; 1-time requirement ● Implicit Bias - 1.5 hours; 1-time requirement For more information visit the Kentucky Board of Nursing website.
Louisiana	30	30	LPNs - No CE requirements at this time. Annual renewal period. RNs are required to complete 30 board-approved contact hours during the two-year licensure period or a minimum of 900 practice hours during the two-year licensure period. For more information visit the Louisiana Board of Nursing website.
Maine	0	0	LPNs and RNs - No CE requirements at this time. 2-year renewal period. For more information visit the Maine Board of Nursing website.
Maryland	0	0	LPNs and RNs - No CE requirements at this time. 2-year renewal period. For more information visit the Maryland Board of Nursing website.
Massachusetts	15	15	LPNs and RNs are required to complete 15 contact hours of CE every 2-year renewal period. CE contact hours are not required for 1st renewal period. For more information visit the Massachusetts Board of Nursing website.
Michigan	25	25	LPNs, RNs, and APRNs are required to complete 25 contact hours of CE every 2-year renewal period. Contact hours must include: ● Implicit Bias Training - 1 hour each year in addition to required CE ● Pain and Symptom Management – 2 contact hours every 2-year renewal period. Per the State Board of Nursing, the following is a 1-time REQUIRED COURSE, but CAN NOT count toward total required CE contact hours: ● Human Trafficking. For more information visit the Michigan Board of Nursing website.
Minnesota	RNs-24 / LPNs-12	24/12	LPNs are required to complete 12 contact hours of CE every 2-year renewal period. RNs are required to complete 24 contact hours of CE every 2-year renewal period. For more information visit the Minnesota Board of Nursing website.
Mississippi	0	0	LPNs and RNs - No CE requirements at this time. 2-year renewal period. For more information visit the Mississippi Board of Nursing website.
Missouri	0	0	LPNs and RNs - No CE requirements at this time. 2-year renewal period. For more information visit the Missouri Board of Nursing website.
Montana	24	24	LPNs, RNs, and APRNs are required to complete 24 contact hours of CE every 2-year renewal period. For more information visit the Montana Board of Nursing website.
Nebraska	20	20	LPNs and RNs are required to complete 20 contact hours of CE every 2-year renewal period. For more information visit the Nebraska Board of Nursing website.
Nevada	30	30	LPNs and RNs are required to complete 30 contact hours of CE every 2-year renewal period. Licenses issued within 2 years are not required to complete CE contact hours for 1st time renewal. Contact hours must include: ● Bioterrorism: Responding to Acts of Terrorism – 4 contact hours; 1-time requirement. ● Cultural Competency - 2 hours; every renewal. For more information visit the Nevada Board of Nursing website.
New Hampshire	30	30	LPNs and RNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the New Hampshire Board of Nursing website.
New Jersey	30	30	LPNs and RNs are required to complete 30 contact hours of CE every 2-year renewal period. Contact hours must include: ● Prescription opioid drugs - 1 hour; every renewal cycle. For more information visit the New Jersey Board of Nursing website.
New Mexico	30	30	LPNs and RNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the New Mexico Board of Nursing website.
New York	4	4	RNs are required to complete: ● Infection Control - state approved course every 4-year renewal period. * ● Child Abuse – 2 hour one time requirement for initial renewal. Since September 1, 1990, programs registered by NYS that lead to nursing licensure have been required to include a 2-hour training in the identification and reporting of child abuse. Students graduating from such programs on or after September 1, 1990 are not required to take additional training. Individuals who did not graduate from a licensure-qualifying NYS nursing program must provide proof they've completed this training when initially applying for licensure. LPNs are required to complete: ● Infection Control - state approved course every 4-year renewal period. * The Child Abuse course requirements does not apply to LPNs. * Elite has a NY state approved course. For more information visit the New York Board of Nursing website.

NOTE: CE Rules can change. Always check your state board for the most up-to-date information.

STATE	HOURS ALLOWED BY HOMESTUDY	TOTAL HOURS REQUIRED	
North Carolina	**Up to 30**	15/30	LPNs and RNs must complete one of the following learning activity options: ● 15 contact hours of CE and 640 hours of active practice; ● National Certification/ Recertification; ● 30 contact hours of CE; ● Completion of a Board-approved refresher course; ● Completion of a minimum of two semester hours of post-licensure academic education related to nursing practice; ● 15 contact hours of CE and completion of a nursing project as Principal or Co-principal Investigator including a statement of the problem, project objectives, methods, and a summary of findings; ● 15 contact hours of CE and authoring or co-authoring a published nursing-related article, paper, book, or book chapter; or ● 15 contact hours of CE and designing, developing, and conducting an educational presentation or presentations totaling a minimum of five totaling a minimum of five contact hours, including program brochure or course syllabi, objectives, date and location of presentation, and approximate number of attendees.
North Dakota	**12**	12	LPNs and RNs are required to complete 12 contact hours of CE every 2-year renewal period. For more information visit the North Dakota Board of Nursing website.
Ohio	**24**	24	LPNs and RNs are required to complete 24 contact hours of CE every 2-year renewal period. Contact hours must include: ● The Nurse Practice Act – 2 contact hours for 1st renewal period. ● Ohio Laws and Rules – 1 contact hour every renewal period. For more information visit the Ohio Board of Nursing website.
Oklahoma	**24**	24	LPNs and RNs are required to complete 1 or more of the following every 2-year renewal period: ● 24 contact hours or; ● 520 hours of employment a year or; ● Certification in a nursing specialty area or; ● Complete a Board-approved refresher course or; ● 6 academic semester credit hours. For more information visit the Oklahoma Board of Nursing website.
Oregon	**3**	3	LPNs and RNs are required to complete 3 mandatory hours every 2-year renewal period. Elective CE is not required for licensees who can attest to 400 practice hours in the previous 2 years. Mandatory hours include: ● Pain Management - 1 hour Oregon Pain Management Commission module; every renewal period. ● Cultural Competency - 2 hours; every renewal period. For more information visit the Oregon Board of Nursing website.
Pennsylvania	**LPNs*-2/RNs-30 (*LPNs - 3 initially 2 thereafter)**	2/30	LPNs are only required to complete 3 contact hours (initially) and 2 contact hours thereafter on Child Abuse Recognition and Reporting every 2-year renewal period. RNs and APRNs - CRNPs are required to complete 30 contact hours every 2-year renewal period. Contact hours must include: ● Child Abuse Recognition and Reporting - 3 contact hours (initially) and 2 contact hours thereafter every 2-year renewal period. For more information visit the Pennsylvania Board of Nursing website.
Rhode Island	**10**	10	LPNs, RNs, and APRNs are required to complete 10 contact hours of CE every 2-year renewal period. Contact hours must include: ● Alzheimer's Disease Training - 1 contact hour; 1-time requirement. ● Substance Abuse - 2 contact hours every 2-year renewal period. For more information visit the Rhode Island Board of Nursing website.
South Carolina	**30**	30	LPNs, RNs and APRNs are required to complete 30 contact hours of CE every 2-year renewal period. For more information visit the South Carolina Board of Nursing website.
South Dakota	**0**	0	LPNs, RNs and APRNs - No CE requirements at this time. 2-year renewal period. For more information visit the South Dakota Board of Nursing website.
Tennessee	**5**	5	LPNs and RNs must satisfy two of the following: ● Copy of a satisfactory employer evaluation ● Letter from a peer providing a satisfactory evaluation of your nursing performance ● Letter from a patient or family member giving evidence of a satisfactory nurse/patient relationship ● Copy of a contract of renewal or re-appointment to a nursing position ● Written self-evaluation based on the standards of competence listed in the rules ● Evidence of current national certification ● A document that identifies two nursing goals and how you met these goals ● A letter from the agency where you volunteered as a nurse ● Documentation from a school of nursing stating that you participated in the education of nursing ● students (RNs only) ● Certificate/evidence of five contact hours of continuing education ● (for RNs/LPNs who are not practicing, ten contact hours will fulfill the competency requirement) ● Copy of a published article relevant to nursing written by the licensee ● Letter of satisfactory completion of a nursing refresher course ● Letter of satisfactory completion of a comprehensive nursing orientation program ● Official transcript (may be student issued) demonstrating two hours of nursing credit ● Evidence of successfully retaken NCLEX For more information visit the Tennessee Board of Nursing website.

NOTE: CE Rules can change. Always check your state board for the most up-to-date information.

STATE	HOURS ALLOWED BY HOMESTUDY	TOTAL HOURS REQUIRED	
Texas	**20**	20	LVNs, RNs and APRNs are required to either maintain/renew national certification or complete 20 contact hours of CE every 2-year renewal period. Contact hours must include: ● Human Trafficking - HHSC-approved course every renewal period. ● Texas Nursing Jurisprudence and Ethics – 2 contact hours every third renewal period. ● Older Adult/Geriatric Care - 2 contact hours every renewal period. Additional requirement for APRNs with prescriptive authority (for a total of 25 contact hours): ● Pharmacotherapeutics – 5 contact hours every 2-year renewal period. ● Pain Management and Prescription Opioids - 4 contact hours every 2-year renewal period. Recommended: ● Tick-borne diseases, diagnosis and treatment (hours unspecified). Additional requirement for emergency department nurses (LVNs, RNs and APRNs): ● Forensic Evidence Collection – 2 contact hours; 1-time requirement. For more information visit the Texas Board of Nursing website.
Utah	**30**	30	LPNs and RNs are required to complete 1 of the following every 2-year renewal period: ● 30 contact hours or; ● 15 contact hours and 200 practice hours of employment a year or; ● 400 practice hours. For more information visit the Utah Board of Nursing website.
Vermont	**0**	0	LPNs and RNs - No CE requirements at this time. For more information visit the Vermont Board of Nursing website.
Virginia	**Up to 30**	15 / 30	LPNs and RNs are required to complete 1 of the following every 2-year renewal period: ● Current specialty certification by a national credentialing body recognized by the Board or; ● Completion of a Board-approved refresher course or; ● Completion of a minimum of 3 credit hours of post-licensure academic education related to nursing practice offered by a regionally accredited college or university or; ● Completion of a nursing-related, evidence-based practice project or research study or; ● Completion of a publication as the author or co-author during a renewal cycle or; ● Teaching or developing a nursing-related course resulting in no less than 3 semester hours of college credit, a 15-week course, or specialty certification or; ● Teaching or developing nursing-related continuing education courses (Accounts for up to 30 contact hours) or; ● 15 contact hours of workshops, seminars, conferences, or COURSES relevant to the practice of nursing and 640 hours of active practice as a nurse or; ● 30 contact hours of workshops, seminars, conferences, or COURSES relevant to the practice of nursing. For more information visit the Virginia Board of Nursing website.
Washington	**8**	8	LPNs and RNs are required to complete at minimum 8 hours of CE and 96 active practice hours each year. License renewals are annual. LPNs, RNs, and APRNs contact hours must include: ● Suicide Prevention - 6 contact hours; 1-time requirement. ● Telemedicine training - if providing clinical services through telemedicine. For more information visit the Washington Board of Nursing website.
West Virginia	**RNs-12 / LPNs-24**	12/24	LPNs are required to complete 24 contact hours of CE and 400 practice hours every 2-year renewal period. Contact hours must include: ● Mental Health Conditions Common to Veterans and Their Family Members – 2 contact hours every 2-year renewal period. ● Substance Abuse – 3 contact hour every 2-year renewal period. ● End-of-Life Care – 2 contact hours; 1-time requirement. RNs are required to complete 12 contact hours of CE every 1-year renewal period. Contact hours must include: ● Mental Health Conditions Common to Veterans and Their Family – 2 contact hours every 1-year renewal period. ● Chemical Dependence/Substance Abuse Disorders – 3 contact hours every 1-year renewal period. ● For RNs prescribing, administering, or dispensing controlled substances: Drug Diversion and Safe Prescribing Practices – 3 contact hours initially and 1 contact hour thereafter every 1-year renewal period. For more information visit the West Virginia Board of Nursing website.
Wisconsin	**0**	0	LPNs and RNs - No CE requirements at this time. 2-year renewal period. For more information visit the Wisconsin Board of Nursing website.
Wyoming	**Up to 30**	15 / 30	LPNs and RNs are required to complete one of the following during the 2 years prior to renewal: ● 400 hours of active nursing practice; or ● 200 hours of active nursing practice and 15 hours of CE; or ● 30 hours of CE; or ● Successfully pass the NCLEX. For more information visit the Wyoming Board of Nursing website.

NOTE: CE Rules can change. Always check your state board for the most up-to-date information.

Asthma Management in Special Populations

3 Contact Hours

Release Date: October 21, 2021

Expiration Date: October 21, 2024

Faculty

Judith Quaranta, PhD, RN, CPN, AE-C, FNAP, is an Associate Professor in the Decker College of Nursing and Health Sciences, Binghamton University. She received her PhD from the Decker School of Nursing, with her dissertation focusing on asthma management of school nurses. Dr. Quaranta's research focus is on barriers and facilitators for asthma management as well as factors that impact asthma and asthma development. As a Train the Trainer for the American Lung Association's *Open Airways for Schools* curriculum, she has worked collaboratively with the Broome County Health Department, the Asthma Coalition of the Southern Tier, United Health Services Hospital, and the local American Lung Association to implement this program in local schools. She has presented at multiple national conferences on the topic of asthma and self-management. Dr. Quaranta has also authored manuscripts for numerous journals including the *Public Health Nursing, Journal of School Nursing, Journal of Asthma and Allergy Educators, Online Journal of Rural Nursing, Journal of Family Social Work, Journal of Interprofessional Care*, as well authored chapters in textbooks on research and community and public health..

Judith Quaranta has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer:

Karen Meyerson, MSN, RN, FNP-C, AE-C, is Director of Commercial Care Management for Priority Health, the second largest health plan in the state of Michigan. Karen previously served as Manager of the Asthma Network of West Michigan (ANWM), a nationally recognized asthma coalition serving western Michigan. She has served as a national speaker/ consultant and has lectured extensively on asthma for professional and lay audiences.

Karen graduated with her Bachelor of Science degree in nursing from the University of Wisconsin-Madison and her Master of Science degree in Nursing from Grand Valley State University in Grand Rapids, Michigan. A board-certified family nurse practitioner, Karen specialized in asthma and allergies in private practice for 9 years. At the national level, Karen was elected to the National Asthma Educator Certification Board (NAECB), where she now serves as an Emeritus member, and has presented on asthma-related issues at Congressional Briefings on Capitol Hill in Washington, DC.

Karen Meyerson has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

This course focuses on asthma management for the adult with asthma. Asthma guidelines from the Global Initiative for Asthma (GINA) and the National Heart, Lung, and Blood Institute (NHLBI) will be presented. Types of asthma commonly seen in adults are discussed. Comorbid conditions that worsen asthma outcomes are also reviewed. The relationship of obesity and asthma throughout the life span is also examined. Implications for the older adult patient with asthma are also addressed.

Learning objectives

After completing this course, the learner will be able to:

- Apply the National Asthma Education and Prevention Program and the Global Initiative for Asthma guidelines for asthma management.
- Differentiate the types of asthma seen in adults.
- Distinguish antecedent, comorbid, and exacerbating conditions that can affect asthma care in the adult.
- Examine the relationship between obesity and asthma.
- Examine the adverse effect on asthma of certain medications.
- Examine the unique considerations for providing care to the older adult with asthma.

How to receive credit

- Read the entire course online or in print which requires a 3-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

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Activity director

Shirley Aycock, DNP, RN, Executive Director of Quality and Accreditation

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ASTHMA MANAGEMENT PRINCIPLES AND GUIDELINES

Asthma is a chronic disease characterized by airway inflammation that can be controlled with appropriate interventions, including medications, trigger avoidance, identification of signs and symptoms of worsening asthma, and/or peak flow monitoring (if appropriate). Asthma is a chronic disease. Symptoms of asthma may include wheezing, shortness of breath, chest tightness, and cough. Expiratory airflow limitation may also be experienced by the person with asthma. Airway hyperresponsiveness (AHR), which occurs in response to asthma triggers, is also associated with asthma. Asthma symptoms are not usually persistent; they are intermittent and vary in intensity, which poses challenges to treatment. It needs to be emphasized that AHR and chronic airway inflammation are present even when the person with asthma is not experiencing any asthma symptoms. Although there are several different underlying disease processes of asthma with distinct demographic, clinical, and/or pathophysiological characteristics (referred to as phenotypes), treatment goals remain the same (GINA, 2021).

However, accurate diagnosis needs to occur before appropriate asthma interventions can be implemented. Treating asthma before carrying out objective tests decreases their sensitivity and can make confirmation of the diagnosis difficult. Unfortunately, there is no agreed-upon gold standard to diagnose asthma. Asthma may present with common respiratory symptoms, and physical examination may be unrevealing. Additionally, the most widely available tests (peak flow and spirometry) can be normal unless the patient is experiencing an exacerbation. This may result in underdiagnosis or overdiagnosis of asthma. Overdiagnosis leads to unnecessary treatment and a delay in making an alternative diagnosis. Underdiagnosis risks the continuation of daily symptoms, potentially serious exacerbations, and long-term structural changes in the airway (Kavanagh et al., 2019). A diagnosis is typically made by reviewing clinical features and objective measures and by assessing response to therapy.

It needs to be emphasized that asthma management is not a one-size-fits-all endeavor. Interventions need to be individualized at each interaction with the healthcare system according to the level of severity and asthma control. It is crucial that healthcare providers use an evidence-based approach to managing asthma within the population. Treatment decisions need to consider the patient's likely response to treatment, patient preferences, and practical issues. It is crucial for the healthcare provider to discuss barriers to adherence to the asthma management plan, which may include medication access and cost to the patient (GINA, 2021).

Healthcare Professional Consideration: There are numerous issues when a patient is either undiagnosed or overdiagnosed with asthma. For the person with undiagnosed asthma, symptoms go unaddressed and untreated, impacting their quality of life. Time is lost from work or school because of difficulty breathing or poor sleep from nocturnal asthma. This poses economic hardship from lost wages from work, because of the person's own illness or that of their child. Permanent pathological changes can occur within the respiratory system, leading to disability. Emergency room visits and hospitalizations are more likely to occur from untreated asthma, greatly impacting quality of life and resulting in economic burden. For the person misdiagnosed with asthma, the excess expense of unneeded medications and healthcare visits can impose a heavy burden. It is essential that objective testing be conducted to confirm the diagnosis of asthma; the healthcare provider should not rely on patient symptom history alone for treatment decisions. Appropriate follow-up care is needed to confirm or reject the diagnosis and to ascertain the best treatment intervention to alleviate the symptoms presented by the person

Asthma guidelines

The National Asthma Education and Prevention Program (NAEPP) of the NHLBI, which developed the Expert Panel Report 3 (EPR3); the subsequent 2020 Focused Updates to the Asthma Management Guidelines (also developed by the NHLBI); and the GINA are three of the most commonly cited guidelines used by healthcare providers and researchers to achieve best practices. The GINA Scientific Committee prepares updates to their guidelines each year, which are available on the GINA website as they are completed. The Committee reviews the world's literature with regard to asthma management and updates the GINA documents to reflect any new evidence-based information (GINA, 2021). NHLBI, based on systematic reviews conducted by the Agency for Healthcare Research and Quality, with input from NAEPP participant organizations, medical experts, and the public, released updates to the EPR3 in 2020 (NHLBI, 2021).

Asthma management goals

The goals for asthma management for both NAEPP and GINA are to achieve good symptom control and reduce impairment and risk (GINA, 2021; NHLBI, 2007). Specific recommendations are based on age groups that vary slightly depending upon the two guidelines. GINA (2021) differentiates treatment for adults/adolescents, children ages 6 to 11 years, and children 5 years and younger; the latest updates to the EPR3 (NHLBI, 2021) delineate the age groups as 12 years and older, 5 to 11 years, and 0 to 4 years. Impairment refers to the intensity and frequency of asthma symptoms and the limitations imposed by these symptoms. Risk encompasses the adverse outcomes associated with asthma and its treatments. Specific goals for reducing impairment include freedom from asthma symptoms (cough, chest tightness, wheezing, shortness of breath), use of rescue medication no more than 2 days per week, no more than two nighttime awakenings per month, optimization of lung function, no activity limitations, and satisfaction with asthma care provided. Specific goals for reducing risk include prevention of recurrent exacerbations and the need for emergency department or hospital care, prevention of lung function loss, and optimization of pharmacotherapy with minimal or no adverse effects (Fanta, 2020). Again, it is essential that the patient's goals for treatment be considered and incorporated into the management plan, and also a personalized plan addressing modifiable risk factors that have the potential to reduce the occurrence of asthma exacerbations (GINA, 2021).

Asthma assessment

Frequency of asthma assessment depends upon the patient's initial level of asthma control, their response to treatment, and their level of engagement with self-management. Patients should be seen 1 to 3 months after the start of treatment and every 3 to 12 months thereafter. If an exacerbation occurs, a review visit with the healthcare provider should be scheduled within 1 week (GINA, 2021). Asthma assessment should also be conducted with each encounter with the healthcare system, even if asthma is not the focus of the visit. Spirometry should be done in the office, if available. Peak flow monitoring should be done if spirometry is not available. The person with asthma should monitor peak flows at home, if appropriate. GINA (2021) emphasizes a continuous cycle of assessment (diagnosis, symptom control, risk factors, comorbidities, inhaler technique and adherence, patient preference and goals), adjusting treatment (asthma medications, nonpharmacologic strategies, treatment of modifiable risk factors), and reviewing response (symptoms, exacerbations, side effects, patient satisfaction, lung function) to achieve asthma control. The following questions should be asked (Fanta, 2020):

1. How often has your asthma awakened you at night or in the early morning?
2. How often have you needed to use rescue (quick-relief) medication for cough, shortness of breath, or chest tightness?
3. Have you needed any unscheduled care for your asthma, including calling in to the healthcare provider, an office visit, or emergency room visit?
4. Have you been able to participate in school/work and recreational activities as desired?
5. If peak flow measurements are done, have your peak flow readings been lower than your personal best?
6. Have you taken oral steroids for your asthma within the past year?
7. Have you been hospitalized for your asthma? How many times in the past year?
8. Have you been admitted to the intensive care unit or intubated because of your asthma within the past 5 years?
9. Do you or anyone in your household currently vape or smoke cigarettes? If yes, how many each day?
10. Have you noticed an increase in asthma symptoms after taking aspirin or a nonsteroidal anti-inflammatory agent (NSAID)?

Asthma management

Both the EPR3 (NHLBI, 2007) and GINA (2021) recommendations include a "step-up" or "step-down" methodology, increasing or decreasing medications and/or dosages, based on the needs of the person with asthma. Initial treatment plans are based on an assessment of asthma severity with adjustments made to the plan based on assessing the level of control. Both look at

impairment and risk to determine the best interventions. Asthma severity classification is determined by the number of days/nights with asthma symptoms, frequency of short-acting beta agonist use, activity limitations because of asthma, pulmonary function tests, and frequency of exacerbations requiring oral steroids. It should be noted that the levels of classification differ slightly between the EPR3 and GINA. The EPR3 (NHLBI, 2007) identifies four categories of severity: intermittent, mild persistent, moderate persistent, and severe persistent. GINA (2021) has incorporated intermittent asthma into the mild persistent category. Intermittent asthma historically was not treated with inhaled corticosteroids; however, the use of inhaled corticosteroids has been shown to reduce the severity of asthma exacerbations in those with intermittent asthma. GINA is currently reviewing its definition of mild asthma (GINA, 2021). For both guidelines, severity is classified by the category in which the most severe feature occurs. A step down should be considered for asthma that has been well controlled for at least 3 months. If a step up is needed because of poor asthma control, the health professional should first assess medication adherence, inhaler technique, environmental control, and comorbid conditions.

Asthma management education

Education for asthma self-management, and the skills needed to perform the needed management, is a critical component of asthma intervention. This should be done through a partnership between the healthcare provider and the person with asthma, with goals for treatment mutually agreed upon. The person with asthma needs clear training on using medication administration devices correctly. Adherence with medications and follow-up appointments needs to be encouraged through an agreed-upon strategy. Information about asthma needs to be provided so the person with asthma has an understanding and appreciation of what is happening to their body. The healthcare provider also needs to provide information on guided self-management, including self-monitoring of symptoms and/or peak flow measurements. A written asthma action plan that provides information on recognizing and responding to worsening asthma should be developed for each person with asthma and reviewed as the level of asthma control or severity changes (GINA, 2021; NHLBI, 2007). The healthcare professional needs to evaluate the readiness of the person with asthma to undertake the necessary self-management interventions and should also assess for any barriers that may preclude this from happening. If barriers are present, the healthcare professional needs to work with the person with asthma to assist in eliminating these barriers.

Self-Assessment Quiz Question #1

Which of the following is accurate regarding the asthma management guidelines discussed in this course?

a. Both the Expert Panel Report 3 and the Global Initiative for Asthma are updated yearly.
b. The Global Initiative for Asthma classifies asthma severity in three categories, whereas the Expert Panel Report 3 uses four categories.
c. In terms of the goal for asthma treatment, GINA focuses on asthma risk, whereas the EPR3 focuses on asthma control.
d. The age group delineation for asthma treatment is the same for both GINA and the EPR3.

Self-Assessment Quiz Question #2

A patient who experienced shortness of breath was previously prescribed a rescue inhaler. At the time of the visit, the patient is not experiencing any symptoms but is concerned about having asthma. Which of the following statements is true?

a. The healthcare provider should prescribe spirometry testing for a definitive diagnosis of asthma.
b. An asthma diagnosis should be based on the patient's symptoms that are specific to having asthma.
c. Treating symptoms before testing increases the ability to achieve an accurate diagnosis.
d. Spirometry testing may be normal if the patient is not experiencing any asthma symptoms.

TYPES OF ASTHMA IN ADULTS

Work-related asthma

Work-related asthma is caused by an occupational environment, characterized by variable airflow limitation and/or AHR attributable to stimuli encountered in the workplace (Quirce & Sastre, 2020). An estimated 11 million workers are exposed to at least one of the numerous agents known to be associated with occupational asthma. Approximately 17% of all adult-onset asthma cases are related to the work environment. Persons with work-related asthma are more likely to experience asthma attacks, emergency room visits, and worsening asthma symptoms than other adults with asthma. Workers who are African American, American Indian/Alaska Native, multiracial, or of Puerto Rican ethnicity have a higher prevalence of work-related asthma. No gender differences have been noted (National Institute for Occupational Safety and Health [NIOSH], 2017; Occupational Safety & Health Administration, n.d.). Workers at greatest risk for occupational asthma include bakers, detergent manufacturers, drug manufacturers, farmers, grain elevator workers, laboratory workers (especially those working with laboratory animals), metal workers, millers, plastics workers, and woodworkers (MedlinePlus, 2021).

The pathophysiology of work-related asthma is the same as that for non-work-related asthma: inflammation, edema, bronchoconstriction, and buildup of mucus in the airways lead to coughing, wheezing, chest tightness, and shortness of breath. Triggers include environmental sensitizers, irritants, or physical conditions. Sensitizers initiate an allergic response. Typically, there is a latency period of at least a few months between initial exposure and the development of symptoms. Sensitizers are categorized as either high or low molecular weight. Irritants in the workplace create a nonallergic response. Physical conditions, such as exposure to cold air and physical exertion, may lead to bronchoconstriction (NIOSH, 2017; Quirce & Sastre, 2020).

The diagnosis of work-related asthma includes an exposure history. Work-related asthma should be considered in individuals with new-onset asthma or worsening asthma after previously being controlled. Known exposures from all workplaces, past and present, should be assessed. Symptoms may develop at work or may be delayed, occurring after leaving the workplace (NIOSH, 2017; Quirce & Sastre, 2020).

The key to managing occupational asthma is to remove the worker from exposure as quickly as possible after the onset of symptoms. In some cases, occupational asthma may resolve if removal from exposure occurs soon after onset of symptoms. The use of respiratory protective equipment decreases worker exposure levels and reduces the incidence of occupational asthma, but does not completely protect against development of work-related asthma. Exposure monitoring, combined with medical surveillance of exposed workers, enables early identification of sensitization and removal from exposure to these agents for those who develop occupational asthma. Unfortunately, very low concentrations of antigen may be undetectable but still provoke bronchospasm in sensitized workers. Smoking cessation should be advised, as this may decrease the risk of antigenic sensitization in the workplace (Lemiere & Bernstein, 2019).

Evidence-based practice! Self-management education is an integral component of effective asthma care and is essential to minimize the effects for those with work-related asthma. Dodd and Mazurek (2020) looked at the number of people with a diagnosis of work-related asthma who received this very important education. The researchers analyzed data from 2012 to 2014 of the Behavioral Risk Factor Surveillance System Asthma Call-back Survey for ever-employed adults, 18 years and older, with a current diagnosis of asthma from 31 states and the District of Columbia. They found that adults with work-related asthma were more than twice as likely than those with asthma unrelated to the workplace to have ever taken a course to manage their asthma. Nearly twice as many persons with work-related asthma had an asthma action plan, compared to those with asthma not related with the workplace. Significantly more persons with work-related asthma had been shown how to use an inhaler, taught how to recognize early symptoms of an asthma episode, taught what to do during an asthma episode, taught how to use a peak flow meter to adjust daily medications, and advised to avoid asthma triggers (Dodd & Mazurek, 2020).

Exercise-induced bronchoconstriction

It is important to emphasize that exercise does not cause asthma but may trigger bronchoconstriction in persons with asthma. The severity of the bronchoconstriction is related to the underlying degree of AHR and the presence of airway inflammation, measured by the number of airway eosinophils. Therefore, exercise-induced bronchoconstriction (EIB) is less likely to be seen in persons with mild asthma, even with strenuous activity. Up to 90% of persons with symptomatic asthma have some degree of EIB (Mayo Clinic, 2020; O'Byrne, 2020). Changes in airway physiology triggered by large volumes of inhaled cool, dry air have been attributed to EIB. Bronchodilation initially occurs during the first 6 to 8 min of exercise, followed by bronchoconstriction, which begins within 3 min after the start of exercise and peaks within 10 to 15 min. Symptoms include shortness of breath, chest tightness, and cough. This bronchoconstriction is followed by a refractory period, related to prostaglandin release, which reduces EIB with repeated exertion. This refractory period lasts less than 4 hr. EIB also may be caused by exposure to inhalant allergens in sensitized individuals, especially during pollen or mold season (O'Byrne, 2020).

Certain sports are more likely to provoke EIB. Sports with periods of exercise lasting longer than 5 to 8 min, in cold or dry air, or in chlorinated pools, place the person with EIB at high risk. These include long-distance running, cycling, cross country or downhill skiing, ice hockey, ice skating, high altitude sports, swimming, water polo, and triathlons. Medium risk sports include soccer, rugby, football, basketball, volleyball, baseball, cricket, and field hockey, where athletes rarely perform more than 5 to 8 min of continuous exercise. Low-risk sports include non-long-distance track events inducing sprints, tennis, fencing, gymnastics, boxing, golf, weightlifting, bodybuilding, and martial arts (Gerow & Bruner, 2021).

Diagnosis of EIB is made with an exercise challenge test. The person being tested walks on a treadmill for 6 to 10 min to raise the heart rate to 80% to 90% of predicted maximum. Following the exercise portion, several repeat spirometry measurements are taken to determine if there is a decrease in lung function postexercise. A positive test shows a 10% or more decrease in forced expiratory volume in 1 s (FEV1). Most clinicians consider a 15% decrease as diagnostic (O'Byrne, 2020).

Treatment for EIB includes daily use of an inhaled corticosteroid and short-acting beta agonist as needed and before exercise as a preventive measure. An inhaled corticosteroid-formoterol combination as needed and before exercise is also an option. Warm-up exercise is also recommended (GINA, 2021). Leukotriene receptor antagonists may be used to address the inflammatory mediator release involved with EIB. Their usage may take 2 to 4 weeks for maximal effect. An antihistamine may be beneficial in patients with underlying allergies (Gerow & Bruner, 2021).

Nocturnal asthma

Nocturnal asthma is the worsening of asthma symptoms at night and may be a sign of severe or poorly controlled asthma. Symptoms include worsening coughing, wheezing, chest tightness, and difficulty breathing, and can be seen with any phenotype of asthma. Children might also experience nighttime awakening, sleep-disordered breathing, sleepwalking, difficulty falling asleep or remaining asleep, daytime sleepiness, difficulty concentrating, or behavioral issues (Duggal, 2020; Newsome, 2021). Nocturnal asthma is common, and approximately 30% to 70% of patients with asthma report nocturnal asthma symptoms at least once a month (Martin, 2021).

The frequency and severity of the symptoms parallel those experienced during the day. Nocturnal awakening once or twice a month correlates with daytime symptoms occurring 2 or fewer days per week and normal spirometry; nocturnal awakening one to three times a week correlates with daytime symptoms occurring more than 2 days per week and mild airflow limitation; and nocturnal awakening four or more times per week correlates with daily daytime asthma symptoms and a decrease of 60% in peak flow or FEV1 (Martin, 2021).

The mechanisms behind asthma symptoms worsening at night are not fully understood but may be related to normal hormonal changes in the evening (Martin, 2021; Newsom, 2021). Many hormones, including epinephrine, cortisol, and melatonin, have circadian patterns, which are 24-hr cycles connected to the body's internal clock. Changes in these hormones that occur in the evening may contribute to airway inflammation, increasing the risk of nocturnal asthma symptoms.

Obesity may increase the risk for nocturnal asthma, possibly related to excess fat around the throat and the increased systemic inflammation associated with obesity. Gastroesophageal reflux disease (GERD) has also been associated with nocturnal asthma, with some studies finding that nearly 80% of people with asthma may experience gastroesophageal symptoms (Newsom, 2021). Smoking and exposure to secondhand tobacco smoke can weaken lung function and irritate the airways (Vorvick, 2021). Allergens in the bedroom, including dust mites, cockroaches, rodents, animal dander, mold, and pollen can also contribute to nocturnal asthma. Additionally, exposure to these allergens during the day may result in a delayed allergic response during the night. Specific foods and medications, if taken close to bedtime, may trigger nocturnal asthma. These include sulfites, cold medicines, and aspirin (Newsom, 2021). Inhaling a greater level of cold air from an air conditioner or outside source has also been implicated in nocturnal asthma (Duggal, 2020).

The process of diagnosing nocturnal asthma is the same as that for diagnosing asthma in general. A diagnosis of asthma needs to be confirmed. For persons with an asthma diagnosis, typical asthma symptoms occurring during the night or early morning are usually because of asthma. With the new onset of nocturnal symptoms, office spirometry is usually done to assess daytime asthma control and to guide the selection of controller medication(s) for therapy. If nocturnal symptoms respond to this treatment, no further testing is needed. For a person without an asthma diagnosis, either asthma needs to be confirmed by spirometry or bronchoprovocation testing, or alternative diagnoses need to be evaluated (Martin, 2021).

Management goals for nocturnal asthma are essentially the same as the goals for asthma in general: reduction of symptoms, improvement in lung function, and reduction in risk for an exacerbation. As stated previously, therapy is generally based on the severity and frequency of symptoms. Specific interventions include medication regimen and controlling contributing factors related to allergen exposure, rhinitis and sinusitis, gastroesophageal reflux, and sleep apnea (Martin, 2021).

Evidence-based practice! Tinschert and colleagues (2020) examined the relationship of nocturnal cough and sleep quality with the level of asthma control in the person with asthma. The researchers investigated whether smartphone-recorded nocturnal cough and sleep quality could be used for detection of uncontrolled asthma or meaningful changes in asthma control, as well as the prediction of asthma exacerbations. Data from 79 adults with asthma was collected for 29 days through smartphones for sleep quality and nocturnal cough frequencies. Results showed that nocturnal cough and sleep quality were significantly associated with lack of asthma control. Sleep quality was more useful for detecting weeks with uncontrolled asthma, while nocturnal cough better detected weeks with asthma control deteriorations. Both predicted asthma attacks up to 5 days ahead.

Self-Assessment Quiz Question #3

Your patient, who works in a bakery, comes for an annual checkup after returning from a 2-week vacation. Before leaving for vacation, the patient was having trouble sleeping because of difficulty breathing, which occurred nightly and persisted during the day as well. The patient had been symptom-free throughout the vacation. Which type of asthma should the healthcare provider suspect?

a. Nocturnal asthma
b. Exercise-induced bronchospasm
c. Work-related asthma
d. Intermittent asthma

Healthcare Professional Consideration: Asthma is not a one-size-fits-all disease. Healthcare providers need to play detective and ensure they are asking the right questions to elicit the information needed to devise the correct treatment plan. They cannot assume that the patient knows what the healthcare providers need to know, and an important piece of vital information might be missed. A thorough understanding of the precipitating and exacerbating factors of symptoms, when they occur, and what makes them better is essential to determine the correct phenotype and best treatment plan.

ANTECEDENT CONDITIONS

Atopic march

The term *atopic march* describes the natural progression of allergic diseases from infancy to adulthood. These diseases occur in a time-based order: from atopic dermatitis (eczema) and food allergy in infancy; to seasonal and environmental allergies including allergic rhinitis in children ages 4 to 6 years; to the development of asthma by age 7 years (Asthma and Allergy Network, n.d.). Atopic dermatitis, a recurrent skin condition characterized by chronic skin inflammation, itching, and an impaired skin barrier, is the first manifestation of the atopic march. This condition is classified as either intrinsic, with normal immunoglobulin E (IgE) levels, or extrinsic (or nonallergic), with high IgE levels associated with increased disease severity. Yang and colleagues (2020) report that those infants with extrinsic atopic dermatitis are at increased risk of developing the atopic march. Once an individual has commenced on the atopic march, it is difficult to halt the progression (Hill & Spergel, 2018). According to Stokes and Casale (2021), nearly 80% of children with atopic dermatitis will subsequently develop allergic rhinitis or asthma.

Several processes underlying the atopic march have been put forth (Yang et al., 2020). An effective skin barrier has been deemed essential in preventing the progression. The skin is the foremost barrier for defense against pathogens and environmental pollutants, providing microbial, chemical, physical, and immune protections. Allergens, including food and aeroallergens, can enter the body through damaged skin to cause sensitization, which can lead to atopic dermatitis and, subsequently, allergic asthma and allergic rhinitis. The inflammatory factors that ensue may enter the digestive and respiratory tracts through blood circulation to facilitate the development of allergic asthma, allergic rhinitis, and food allergy if allergens are re-encountered. Thus, impaired skin might be a potential mechanism underlying the atopic march.

Another mechanism involves the microorganisms colonized in the intestine, skin, and respiratory tract (Yang et al., 2020). Alterations in skin and intestinal microbes were noted in infants with atopic dermatitis. Infants who had a positive skin prick test for food sensitization also had lower intestinal microbes. Infants with low diversity in intestinal flora at 1 month of age were likely to develop allergic asthma at school age. However, Yang and colleagues (2020) stress that further studies are needed to determine whether changes in these microorganisms are a cause or a consequence of the atopic march.

Atopic dermatitis is a chronic inflammatory skin disorder most commonly diagnosed in the first 6 months of life, which is marked by skin barrier dysfunction, frequent skin infections, and impaired quality of life. Severity of atopic dermatitis is a factor determining subsequent development of allergic disease (Hill & Spergel, 2018; Tham & Leung, 2019). The severity of atopic dermatitis positively correlates with risk of developing food allergies. The fact that sensitization occurs before food ingestion suggests that sensitization to foods occurs via exposure through inflamed skin as opposed to the gastrointestinal tract (Hill & Spergel, 2018). Alduraywish and colleagues (2017) found that food sensitization in the first 2 years of life was associated with increased risks of asthma and allergic rhinitis by age 10 years. Infants with early-onset persistent atopic dermatitis were three times more likely to develop asthma and allergic rhinitis in later childhood compared to children with late-onset atopic dermatitis that began after 2 years of age.

Preventive interventions aimed at halting the progression of the atopic march have been suggested. Many of these measures focus on reducing the risk of atopic dermatitis through prophylactic skin barrier protection with the use of standard emollients beginning very early in life in high-risk neonates (Tham & Leung, 2019). Glatz and colleagues (2018) found that the preventive effects of emollients in infants at risk for atopic dermatitis may be related to decreased skin pH and an increase in the bacteria, Staphylococcus salivarius. Decreased food sensitization at ages 6 and 12 months was found when emollient

therapy was introduced during the first 3 weeks of life of high-risk infants (Lowe at al., 2018). However, in a larger clinical study, Chalmers and colleagues (2020) found no difference in atopic dermatitis or food allergy sensitization in high-risk infants. There is some evidence that probiotic supplementation in pregnancy or infancy may be protective against the development of atopic dermatitis, but no protection against food allergy or other allergic disorders has been proven (Tham & Leung, 2019).

Many interventions have been investigated to try to stop the progression of atopy to the development of asthma. Many clinical trials to date have been effective only for subjects with certain characteristics, possibly related to asthma being a heterogenous condition, with a variety of triggers and clinical phenotypes. Thus far, a universally effective prevention strategy has not been found (Maciag & Phipatanakul, 2019).

Vitamin D supplementation during pregnancy has been found to reduce the risk of asthma in the children of the treated mothers at 0 to 3 years (Wolsk et al., 2017). It is believed that low levels of vitamin D are implicated in allergic disorders (Douros et al., 2017). Bolcas and colleagues (2019) report that vitamin D confers protection against asthma development from exposure to traffic-related air pollution. Maintenance of normal vitamin D levels in childhood significantly lessened the development of AHR in allergic asthma that was worsened by diesel exhaust.

Sublingual immunotherapy has been considered for asthma and atopy prevention. Marogna and colleagues (2017) found that patients sensitized to house dust mites who were treated with sublingual immunotherapy demonstrated a protective effect on pulmonary function when compared to a control group of sensitized individuals who did not receive immunotherapy. Additionally, a meta-analysis conducted by Kristiansen and colleagues (2017) demonstrated that low levels of vitamin D may lead to impairment of the immune functions involved in asthma. They evaluated allergen immunotherapy in those with allergic rhinitis and found a significant reduction in the development of asthma in the 2 years following completion of immunotherapy.

Omalizumab may limit the allergic inflammation implicated in asthma pathogenesis, aiding in the prevention of asthma. Omalizumab binds to free IgE, which lowers free IgE levels (Kaplan et al., 2017). Blocking IgE may inhibit the allergic sensitization that mediates asthma pathogenesis. Given the noted benefit in asthma and its underlying mechanism of blocking IgE, omalizumab is under consideration as a therapy for asthma prevention and disease modification (Maciag & Phipatanakul, 2019).

COMORBID CONDITIONS AND EXACERBATING CONDITIONS

Gastroesophageal reflux disease

GERD is a common coexisting condition of asthma and part of asthma's differential diagnosis. It is estimated that 80% of people with asthma have GERD (Newsom, 2021). People with asthma are twice as likely to have GERD as those who do not have asthma. People with severe persistent asthma that is resistant to treatment are most likely to also have GERD (Cleveland Clinic, 2019). GERD symptoms include frequent episodes of nocturnal asthma, heartburn, nighttime awakening with an acid taste in the mouth, and dyspepsia after meals. Some people with GERD may have no complaints at all. Persons with frequent nocturnal symptoms despite optimal asthma therapy (and no other complaints) should be evaluated for GERD. The diagnosis of GERD in patients with asthma is often a clinical diagnosis, based on the presence of classic symptoms of GE reflux. There is no esophageal or respiratory diagnostic test that identifies GE reflux treatment-responsive asthma. A referral to a gastroenterologist would be indicated for patients with symptoms that are suspicious for GERD but are atypical (Harding, 2019).

GERD and asthma impact each other, creating a vicious cycle (Asthma and Allergy Foundation of America [AAFA], 2021). The refluxed gastric acid irritates the nerve endings in the esophagus, resulting in mucus production in the airways and constriction of the small airways, thus producing asthma symptoms. The refluxed stomach contents can also be aspirated into the lungs, irritating the airways and resulting in wheezing, coughing, chest tightness, and other symptoms of asthma. Asthma also may trigger GERD when breathing difficulties or certain asthma medications cause the esophageal sphincter muscle to relax and allow stomach contents to reflux.

GERD must be managed to control asthma symptoms. Proton-pump inhibitors and histamine blockers are the recommended treatment options (Clarrett & Hachem, 2018). When treating asthma in people with GERD, beta agonists and theophylline should be avoided because they relax the lower esophageal sphincter and increase reflux symptoms (GINA, 2021). Although not all persons respond to therapy, standard medical treatment for reflux should be prescribed in addition to dietary and behavioral modifications. The person should be taught to eat smaller, more frequent meals and to avoid eating within 3 hr of bedtime. The head of the bed should be elevated. Avoidance of smoking, heavy alcohol consumption, large evening meals, nighttime snacks, and high dietary fat intake should be encouraged (Clarrett & Hachem, 2018; Sandhu & Fass, 2018).

Chronic rhinosinusitis

Chronic rhinosinusitis (CRS) is a chronic inflammatory disorder affecting the nasal passages and paranasal sinus cavities, which persists for at least 12 weeks despite treatment. At least two of the following symptoms must be present for this diagnosis to be considered: nasal congestion; mucus discharge from the nose or mucus that drips down the back of the throat; facial pain, pressure, or a sense of fullness; or a decreased sense of smell. Three categories of CRS have been identified: with nasal polyps, without nasal polyps, and with fungal allergy (Hamilos & Holbrook, 2020).

CRS affects about 10.9% to 13.4% of the general population, with polyps present in 18% to 20% of all cases (Laidlaw et al., 2020). Persons with CRS with nasal polyps often have severe and recurrent disease. This category of CRS is usually seen in people with asthma. CRS with nasal polyps with comorbid asthma is associated with more severe sinonasal symptoms and worse quality of life, and is more difficult to treat. Asthma in this case is also more difficult to control, more prone to exacerbations, and more likely to cause increased airway obstruction and more extensive eosinophilic inflammation. These findings suggest that CRS with nasal polyps with asthma may be a risk factor for asthma severity (Laidlaw et al., 2020).

CRS with nasal polyps tends to be associated with adult early-onset asthma (onset 18 to 39 years of age) or adult late-onset asthma (onset after 40 years of age) and is not usually linked with childhood asthma. Conversely, CRS without nasal polyps has been linked to childhood-onset asthma (onset before 16 years of age) and to adult early-onset asthma (onset before 40 years of age) in adults. The prevalence of CRS with nasal polyps and concomitant asthma increases with age, implying that disease burden is likely to increase in an aging population (Laidlaw et al., 2020).

Initial treatment of CRS with polyps consists of systemic and/or topical glucocorticosteroids, saline irrigations, and occasionally antibiotics. If conservative measures fail, surgery is performed with medical therapy resuming afterward (Avdeeva & Fokkens, 2018). The systemic inflammatory link between CRS with nasal polyps and asthma provides a compelling rationale for systemic treatment directed at the underlying inflammatory processes for patients with both conditions through the use of biologic therapies. Dupilumab has shown broad efficacy for both upper and lower airway disease, with decrease in polyp size, improved nasal congestion, improved FEV1, and improved score on the Asthma Control Questionnaire (Bachert et al., 2019; Laidlaw et al., 2019). This approach allows for common therapeutic management in patients with persistent CRS with nasal polyps and comorbid asthma.

Asthma and obesity, together and separately, are public health conditions with increasing prevalence (Dixon & Nyenhuis, 2021). Their exact relationship, however, is not clear: Does asthma lead to obesity? Does obesity lead to asthma? Numerous studies have linked these two disorders. Research demonstrates that the higher an individual's body mass index (BMI), the higher the risk for developing asthma. Barros and colleagues (2017) found that obesity quadrupled the risk for having asthma. Compared with lean individuals, the risk of asthma is increased almost one and a half times for adults with a BMI of 30.0 to 34.9 and two and a half times for adults with a BMI of 50 and above. In some individuals, obesity precedes asthma, and obesity is a risk factor for the later development of asthma. In other individuals, asthma precedes obesity, suggesting that asthma may be a risk factor for the development of obesity. Asthma at the age of 3 to 4 years is reported to increase the risk of obesity nearly twofold by age 8 (Dixon et al., 2020). However, recent evidence indicates that in adults, asthma does not affect the risk of obesity (Sun et al., 2020; Xu et al., 2019).

Self-Assessment Quiz Question #4

Which of the following is correct regarding changes in the prevalence of asthma and obesity?

a. Both asthma and obesity have increased.
b. Asthma has decreased; obesity has increased.
c. Neither asthma nor obesity has significantly changed.
d. Asthma has increased; obesity has decreased

Asthma with obesity phenotype

Asthma with obesity has been identified as a specific phenotype for asthma. Because asthma encompasses several processes with distinct mechanistic pathways (endotypes) and variable clinical presentations (phenotypes), understanding the variations associated with asthma with obesity is crucial for appropriate management for the individual with obesity. Obese patients with asthma may have prominent respiratory symptoms and little eosinophilic airway inflammation, which impacts treatment options used to maintain optimal control (GINA, 2021; Kuruvilla et al., 2019).

Age of onset is an important predictor of the impact for the obese asthma phenotype (Di Genova et al., 2018). Early-onset asthma occurs before age 12 years and is seen equally in both females and males. These individuals experience a severe decrease in airway function, specifically with FEV1 and forced vital capacity (FVC). Early-onset asthma is atopic in nature, with severe AHR and high asthma symptomatology. Airway inflammation with early-onset asthma is eosinophilic in nature. Conversely, late-onset asthma occurs after age 12 years and is generally more common in females. There is minimal airway obstruction, and this type of asthma is usually nonatopic. There is less AHR with few asthma symptoms. Airway inflammation is neutrophilic in nature. Both of these obese asthma phenotypes, early-onset and late-onset, are characterized by a severe asthma with more exacerbations and poorer symptom control than in lean asthmatic patients.

Asthma and Obesity Prevalence

Asthma and obesity prevalence are public health issues that affect the healthcare system. Prevalence rates for asthma and obesity are increasing in the United States. Over the past several decades, obesity and asthma have increased in parallel in the United States (Dixon & Nyenhuis, 2021).

For the years 2017 to 2018, the US adult obesity prevalence was 42.4%, an increase of almost 12% from 1999 to 2000. During this same time period, the prevalence of severe obesity increased from 4.7% to 9.2% (Centers for Disease Control and Prevention [CDC], 2021b). For children and adolescents aged 2 to 19 years in 2017 to 2018, obesity prevalence was 19.3%, affecting nearly 14.4 million children and adolescents. Obesity prevalence increased as age increased. Obesity prevalence was 13.4% among 2- to 5-year-olds, 20.3% among 6- to 11-year-olds, and 21.2% among 12- to 19-year-olds (CDC, 2021e).

Lurbet and colleagues (2019) examined data from the Behavioral Risk Factor Surveillance System from 1999 to 2016 for those 18 years and older. The researchers found a substantial increase in the prevalence of obesity among individuals with asthma over the last 2 decades. The prevalence of obesity changed from 24.7% in 1999 to 41.1% in 2016 among those with asthma. It was also found that obesity rates increased more among those with asthma when compared to those who did not have asthma. The likelihood of becoming obese increased by 36% when comparing those with asthma and those without asthma during this same time period. Analysis showed that older, African American, and Hispanic individuals with asthma had higher rates of obesity. These findings suggest that obesity is a growing problem in individuals with asthma.

It should be noted, however, that although asthma is more common in obese than nonobese individuals, the respiratory symptoms associated with obesity can be mistaken for asthma symptoms. For example, many patients with obesity can present with dyspnea on exertion. Because obesity directly alters lung mechanics by affecting airway wall thickness, respiratory rate, inspiratory effort, and promoting sleep apnea, these characteristics can confound the clinical evaluation of asthma and lead to a misdiagnosis of asthma in obese individuals. These characteristics, which are similar to those of someone with asthma, can lead to a misdiagnosis of asthma in obese individuals. It is essential to confirm an asthma diagnosis with objective measures demonstrating variable expiratory airflow limitation to prevent both under- and over-diagnosis of asthma in the person with obesity (GINA, 2021; Umetsu, 2017).

No areas in the United States are insulated from these statistics. According to the CDC (2021c), all US states and territories had more than 20% of adults with obesity. The Midwest (33.9%) and South (33.3%) had the highest prevalence of obesity, followed by the Northeast (29.0%), and the West (27.4%). Current asthma prevalence was higher in the Northeast (8.3%) than in the South (7.7%), West (7.7%), and Midwest (7.6%; Elfin, 2021). Prevalence rates did not differ between metropolitan and nonmetropolitan areas. These statistics highlight that both asthma and obesity are issues that need to be addressed. It is important to keep in mind that although these two factors are associated, direct causation has not been determined. This would explain why geographic areas with high obesity rates do not necessarily have the highest asthma rates.

Body mass index

BMI is a measure of body fat based on height and weight that applies to adult men and women. A BMI between 18.5 and 24.9 kg/m^2 is considered normal weight. Overweight is defined as a BMI of 25 to 29.9 kg/m^2, obese is a BMI of 30 kg/m^2 or higher, and underweight is a BMI of less than 18.5 kg/m^2. BMI can be used as a screening tool but is not diagnostic of the body fatness or health of an individual. The accuracy of BMI as an indicator of body fatness appears to be higher in persons with higher levels of BMI and body fat. Although a person with a very high BMI is likely to have high body fat, a relatively high BMI can be the result of either high body fat or high lean body mass, which would have implications for determining health status and risks (CDC, 2020).

BMI is interpreted differently for children and teens, accounting for age and sex. For children and teens, BMI is reported as a percentile based on representative data of the United States population of 2- to 19-year-olds collected between 1963 to 1965 and 1988 to 1994. Obesity among 2- to 19-year-olds is defined as a BMI at or above the 95th percentile of children of the same age and sex. This would be interpreted as the child weighing more than 95% of all of the other children of the same age range and sex. Additional categories include overweight from the 85th

percentile to less than the 95th percentile, normal or healthy weight from the 5th percentile to less than the 85th percentile, and underweight as less than the 5th percentile (CDC, 2021a).

A study by Ekström and colleagues (2017) looked at BMI over time in children with and without asthma at age 2 months and at ages 1, 2, 4, 8, 12, and 16 years. Age-specific definitions for asthma were used. At ages 1 and 2 years, asthma was defined as at least three episodes of wheeze after 3 months of age and in the last 12 months, respectively, in combination with treatment with inhaled glucocorticosteroids and/or signs of suspected hyperreactivity without concurrent upper respiratory infection. At ages 4, 8, 12, and 16 years, asthma was defined as at least four episodes of wheeze in the last 12 months or at least one episode of wheeze during the same time period, in combination with occasional or regular treatment with inhaled glucocorticosteroids. Transient asthma was defined as fulfilling the definition of asthma at ages 1, 2, and/or 4 years but not at ages 8, 12, and 16 years. Persistent asthma was defined as fulfilling the definition of asthma at ages 1, 2, and/or 4 years and at ages 8, 12, and/or 16 years. Late-onset asthma was defined as fulfilling the definition of asthma at ages 8, 12, and/or 16 years but not at ages 1, 2, and 4 years. Transient overweight was defined as overweight at ages 2, 3, and/or 4 years but not at ages 8, 10, 12, or 16 years.

Ekström and colleagues (2017) found that female children with persistent asthma had the highest BMI throughout childhood, and children without asthma had the lowest. This difference in BMI continued to increase with age. This relationship was also seen with girls with transient asthma and late-onset asthma, but it was not seen in boys. For girls, late-onset overweight was associated with late-onset asthma, and persistent overweight was associated with persistent asthma. Among boys, transient overweight was associated with transient asthma.

Physiologic interaction of asthma and obesity

Co-occurrence of asthma and obesity may be because of common disease-producing factors. These including environmental factors such as exposure to air pollutants and tobacco smoke, both in utero and as a child; a diet consisting of processed foods and saturated fatty acids; and low levels of vitamin D. Specific genes have been shown to be involved in both asthma and obesity. These include protein kinase C alpha, leptin, and beta-3 adrenergic receptor. In obese subjects who develop asthma, obesity may be the cause of airway disease. In individuals with asthma who become obese, the overweight could influence asthma severity as comorbidity. Breathing at reduced lung volumes also increases AHR, which seems to have a direct correlation with the worsening of BMI. Additionally, adipose tissue contributes to corticosteroid resistance, worsening asthma outcomes (di Palmo et al., 2021; Dixon & Nyenhuis, 2021; Dixon & Peters, 2018). It should be noted that although obesity does reduce the response to systemic corticosteroids or high-dose inhaled corticosteroids, this may be because of the fact that steroids target the immune processes that mediate allergic responses, but many obese subjects with severe asthma are nonatopic (Tashiro & Shore, 2019).

Increasing weight gain can have profound implications on lung physiology. Restriction from upward diaphragmatic displacement occurs from fat deposits around the chest wall and abdomen, resulting in reduced total lung capacity (TLC) and low expiratory reserve volume. Obesity increases the collapsibility of peripheral airways, especially among those with late-onset asthma. The risk for AHR, which is contraction of the bronchi causing narrowing (constriction) of the bronchioles and impaired airflow, increases with BMI (Peters et al., 2018; Dixon & Nyenhuis, 2021). The observation that weight reduction with bariatric surgery improves asthma severity, control, AHR, lung function, and quality of life suggests a direct effect of obesity on asthma symptomatology.

It should be noted that these improvements are seen in persons with late onset obesity-associated asthma. These same outcomes were not found for obese persons with early onset allergic disease. This suggests that the adult-onset (or late) form of asthma may be more directly caused by obesity than the early onset form, and that the early-onset form may require aggressive treatment of both the obesity and allergic inflammation (Umetsu, 2017).

Childhood obesity and asthma

Zhang and colleagues (2020) followed kindergarten and first-grade students up to 10 years to examine the relationship of asthma and obesity. Nonobese children with diagnosed asthma were 37% more likely to become obese compared with children without asthma. However, the presence of obesity was not statistically significantly associated with asthma onset. These authors concluded that childhood asthma appears to increase the onset of obesity among schoolchildren, whereas the onset of obesity does not necessarily imply future asthma.

The CDC (2021d) asserts that children who have obesity are more likely to develop asthma. The risk of developing obesity is nearly twofold higher at age 8 in children who suffered from asthma at 3 to 4 years of age (Contreras et al., 2018). Obese children tend to have increased asthma severity, poorer disease control, and lower quality of life. These children and adolescents also tend to have a decreased response to asthma medications, including a reduced response to inhaled corticosteroids. As a result, this group has a greater need for oral steroids and experiences more asthma exacerbations. Additionally, children hospitalized for asthma who were obese have longer lengths of stay and higher risk of mechanical ventilation. Obese children with asthma may also be more susceptible to having increased symptoms with exposure to indoor pollutants (Peters et al., 2018).

Evidence-based practice! Obesity is a major preventable risk factor for pediatric asthma. Lang and colleagues (2018) looked at the relationship between overweight and obesity and asthma in childhood. They compared the incidence of asthma among overweight and obese children ages 2 to 17 years to children with healthy weights. Overweight was defined as a BMI in the 85th to 94th percentile; obesity was defined as a BMI equal to or greater than the 95th percentile. Healthy weight was a BMI percentile between the 25th and 64th percentiles. None of the children had an asthma diagnosis at baseline. The children were followed for an average of 4 years. The incidence for asthma was 17% greater among children who were overweight and 26% greater for children who were obese. When asthma was confirmed by spirometry, the increase rose to 29%. The researchers concluded that an estimated 23% to 27% of new asthma cases in children are directly attributable to obesity, and that in the absence of overweight and obesity, 10% of all cases of asthma could be avoided (Lang et al., 2018).

Relationship among asthma, obesity, and inactivity

Understanding the relationship among asthma, obesity, and physical activity is challenging.

Because exercise can trigger bronchoconstriction in persons with asthma, this might lead to reduced participation in physical activity. Conversely, some researchers have found that aerobic activity reduces asthma symptoms. A vicious cycle can ensue: Just as obesity can contribute to physical inactivity, having both obesity and asthma may further contribute to sedentary behaviors and worsen asthma symptoms. Studies have shown that exercise-induced bronchospasm, measured by changes in FEV1, was more severe in children with asthma who were obese compared with those who were of normal weight (del Rio-Navarro et al., 2020). Children with poorly controlled asthma may avoid strenuous exercise (or a caregiver may restrict a child's activities because of fear of developing asthma symptoms), so their asthma may appear to be well controlled (GINA, 2021).

Freitas and colleagues (2017) investigated the effect of exercise training in a weight-loss program on asthma control, quality of life, inflammatory markers, and lung function. Fifty-five obese patients with asthma completed either a weight-loss program with exercise (aerobic and resistance muscle training) or a weight-loss program with breathing and stretching exercises. For both groups, the weight-loss program included calorie reduction and psychological support. After 3 months, the group that included the aerobic exercise demonstrated improved asthma control and greater weight loss. This group also had improved lung function with a significant increase in FEV1, FVC, and expiratory reserve volume, and decreased fractional exhaled nitric oxide showing decreased airway inflammation. A reduction in airway and systemic inflammation was also noted. This study demonstrates that exercise training associated with a weight-loss program leads to greater weight loss and improvements in aerobic capacity and strength, resulting in better clinical control of asthma compared to patients who underwent the same weight-loss program without exercise training. These results highlight that weight reduction is important for the management of asthma in obese adults and has additional anti-inflammatory effects that contribute to improved asthma control in these patients.

The CDC (2021f) recommends that children and adolescents should engage in a minimum of 60 min of physical activity daily. Most of this exercise should be either moderate- or vigorous-intensity aerobic physical activity and should include vigorous-intensity physical activity at least 3 days a week. Muscle-strengthening physical activity and bone-strengthening activities should be done at least 3 days per week. Parents can assist their children in having opportunities to engage in physical activity before and after school. Parents can work with their child's school to draft policies about health and wellness to ensure that all children's needs are addressed. Volunteering to walk with students to school will encourage a safe environment for physical activity and model behavior that the children can emulate. Parents can also identify community resources that provide intramural and club activities that can be held on school grounds. Parents' active involvement with their children will also encourage physical activity, such as watching their child participate in a sport or planning a family event that involves physical activity.

Implications for healthcare professionals

Healthcare professionals need to be cognizant that obese asthma phenotypes are characterized by more symptoms, worse control, more frequent and severe exacerbations, reduced response to corticosteroids, and lower quality of life (Di Genova et al., 2018). However, the management of asthma in obese patients is largely similar to nonobese patients. Potential differences include reduced responsiveness to standard controller medications, thresholds for determination of asthma phenotype to guide biologic therapy, importance of comorbidities, and the role of weight reduction (Dixon & Nyenhuis, 2021).

Although asthma medication guidelines do not differ for lean and obese patients, obese patients with asthma may be less responsive to standard therapies. All patients with asthma should have quick relief rescue therapy and be instructed in the correct inhaler technique. However, some studies reveal that a portion of obese adolescents of African or Hispanic descent may be less responsive to inhaled beta agonists than their nonobese peers (Dixon & Nyenhuis, 2021). Patients with persistent asthma should be treated with controller medication. Inhaled glucocorticoids, which reduce the frequency of asthma symptoms, improve asthma-related quality of life, and reduce the risk of severe asthma exacerbations, have been shown to have diminished effects in obese patients over the age of 5 years, but not among preschool children. Combination therapy with inhaled glucocorticoids and a long-acting beta agonist has also been found to be less effective in achieving asthma control in obese compared with nonobese subjects (Dixon & Nyenhuis, 2021). Unfortunately, many patients with obesity have severe asthma. It is important to avoid long-term treatment with systemic glucocorticoids if possible because of the side effects of weight gain and metabolic dysfunction, which are likely to worsen disease in this cohort. These patients should be evaluated for biologic agents (Dixon & Nyenhuis, 2021).

Weight loss needs to be incorporated into the treatment plan, with a multidisciplinary approach recommended. Physical activity should be increased with adherence to dietary guidelines and evaluating vitamin D supplementation. To state the obvious, prevention of childhood obesity by promoting a healthy diet and physical activity is essential to reduce the burden to this population (Di Genova et al., 2018). Holderness and colleagues (2017) found that in children with poorly controlled asthma (3 to 10 years), only 39% participated in 1 or more hours of physical exercise per day. Additionally, 85% of these children did not walk to and from school, 38% did not have any recess in school, and 35% reported no safe place to exercise. More children with very poorly controlled asthma symptoms than children with milder symptoms reported limitations in gym class and even in mild activities. Children with activity limitations were at significantly greater risk of being overweight or obese, underscoring the need to optimize asthma control and provide opportunity for increased physical activity both in school and at home.

Evidence-based practice! Okoniewski and colleagues (2019) conducted a systematic review of the literature to investigate whether weight loss in people with obesity and asthma resulted in improvements in asthma-related outcomes, including asthma-related quality of life. The researchers evaluated findings from randomized controlled clinical trials involving overweight/obese children or adults with asthma. Four studies for children and six for adults were identified for inclusion in their review. All interventions investigated weight loss, ranging from dietary restrictions to exercise training and cognitive behavioral therapy. The duration of interventions ranged from 8 weeks to 18 months. All studies reported successful improvements in weight or BMI, improvements in asthma-related quality of life and, to some degree, asthma control. Studies with adults also reported improvements in lung function (FEV1, FVC, TLC). These findings suggest that weight loss in subjects with obesity and asthma may improve asthma outcomes (Okoniewski et al., 2019).

Although asthma is more common in persons who are obese, it is important for the healthcare professional to be aware that the respiratory symptoms associated with obesity can mimic the symptoms of asthma. Symptoms because of deconditioning, mechanical restriction, and/or sleep apnea related to obesity need to be distinguished. Individuals who are obese who report dyspnea on exertion need objective confirmation of an asthma diagnosis (e.g., spirometry performed pre- and postbronchodilator use). Additionally, the healthcare professional should assess age-adjusted BMI and ask about diet and physical activity (GINA, 2021). As with other persons with asthma, inhaled corticosteroids are indicated for individuals who are obese and have asthma, but the healthcare professional needs to be cognizant that the effect of the inhaled steroid may be reduced as a result of the interaction between asthma and obesity. Weight reduction should be addressed. Studies have found that a 5% to 10% weight loss improved asthma control and quality of life (GINA, 2021). Several national organizations offer recommendations for clinical interventions and treatments for children and adults who are overweight or obese, including the American Academy of Pediatrics, the National Association of Pediatric Nurse Practitioners, and the American Heart Association.

Healthcare Professional Consideration: The exact relationship between asthma and obesity is unclear. Obesity and asthma are diseases of high prevalence, with significant increases occurring in the last 2 decades. Adipose tissue in individuals who are obese leads to a systemic proinflammatory state, which lends itself to airway inflammation and hyperresponsiveness. Obesity makes the diagnosis, treatment, and course of asthma more difficult. The treatment of individuals with asthma who are obese must include a weight-control program.

Because sedentary lifestyles and avoidance of physical activity are common, all individuals with asthma should be taught the importance of regular exercise for improved disease outcomes. Additional research is needed to more fully understand the link between obesity and asthma and to establish guidelines for growth and development indices, physical activity levels, and healthy eating lifestyles for individuals with asthma.

Evidence-based practice! Novelli and colleagues (2018) assessed the effect of different comorbidities on clinical, functional, and biologic features of severe asthma. They examined data on 72 patients, including smoking status, asthma history, and assessment of comorbidities. Pulmonary function, inflammatory biomarkers, upper airway disease evaluation, asthma control, and quality of life were assessed. Their findings revealed the comorbidities with the highest prevalence were CRS with or without nasal polyps, obesity, and gastroesophageal reflux, with some overlapping among them. Individuals with asthma who had CRS with nasal polyps had lower lung function and higher sputum eosinophilia; individuals with asthma who were also obese had worse asthma control and quality of life and tended to have lower sputum eosinophils; individuals with asthma who also had gastroesophageal reflux showed worse quality of life. Lower lung function was associated with the male sex and longer duration of asthma (Novelli et al., 2018).

ADVERSE MEDICATION EFFECTS AND ASTHMA

Several commonly used medications may worsen asthma. These include aspirin (acetylsalicylic acid [ASA]), NSAIDs, other medications used for pain relief, and medications used to control high blood pressure. The presence of aspirin-exacerbated respiratory disease (AERD) or NSAID in association with asthma and nasal polyps is referred to as ASA triad, asthma triad, and/or Samter's triad.

Nonsteroidal anti-inflammatory drugs

AERD, which is also called NSAID-exacerbated respiratory disease, refers to the combination of asthma, CRS with nasal polyps, and acute upper and lower respiratory tract reactions to ingestion of aspirin and other cyclooxygenase-1 (COX-1)-inhibiting NSAIDs. Reactions to aspirin and NSAIDs include nasal congestion and bronchoconstriction, typically beginning 20 min to 3 hr after ingestion (Laidlaw & Israel, 2019).

The prevalence of AERD is approximately 7% of persons with asthma. For persons with severe asthma, the prevalence is twice as high, approximately 14%. Persons with nasal polyposis or CRS have prevalence rates of about 10% and 9%, respectively. NSAID sensitivity is particularly prevalent in persons with both CRS and nasal polyposis. It is estimated that up to 20% of patients with AERD go undiagnosed. The management of AERD involves guideline-based treatment of the patient's asthma and CRS, in addition to suppression of the consequences of abnormal leukotriene metabolism. Patients must avoid all NSAIDs or, in selected cases, undergo aspirin desensitization followed by daily NSAID therapy (Laidlaw & Israel, 2019; Samter's Society, n.d.).

ASA triad, also known as Samter's triad or asthma triad, is characterized by three conditions: nasal polyps, asthma, and aspirin intolerance. The only environmental factors that have been linked to the development of Samter's triad are related to smoking and secondhand smoke. Persons with this condition develop a specific rash and/or asthmatic reaction, which can be life-threatening, when they take aspirin or NSAIDs. Symptoms include wheezing, tightness in the chest, a stuffed or blocked nose, thick nasal mucus, loss of smell and taste, facial pain, pain in the upper teeth and behind the eyes, and headaches. Urticaria (hives) and gastrointestinal upset are less common but frequently reported. These problems will be chronic and progressive even if aspirin and other NSAIDs are avoided. Ingestion of aspirin or NSAIDs results in an acute reaction, but the underlying disease is not dependent on them or caused by them. Because of this type of reaction, some patients with nasal polyps and asthma are often advised to avoid aspirin, even if they have never had a reaction to aspirin. Optimal treatment includes sinus surgery and medical management. Most patients with ASA triad require systemic and topical (nasal) corticosteroids. Good asthma treatment is critical as well. Some centers employ aspirin desensitization, a specific technique to create aspirin tolerance, which seems to improve both the asthma and the rhinosinusitis (Samter's Society, n.d.).

If a patient presents with a history of more than one episode of reaction to aspirin or other NSAIDS, then a diagnosis of AERD can be made with some degree of certainty. However, if they have no history of aspirin or NSAID use or it is ambiguous, then proper diagnosis of AERD would require a physician-observed aspirin challenge, where responses are measured by clinical presentation and pulmonary function tests. Aspirin challenge testing starts with a low dose of aspirin, and gradually increasing dosages are given until a positive response is achieved. Most symptoms occur within 30 to 60 min of ingesting doses of between 45 and 100 mg. Doses increase incrementally with 3 hr or less between each dose. Once a respiratory reaction is observed, the diagnosis of AERD can then be confirmed. Pulmonary function tests are used to document the respiratory response. FEV1 is measured every 30 min up to 120 min after the final dosage is given. A positive reaction is defined as a decrease in FEV-1 greater than 20%. If no response is achieved regardless of the dose, then the patient does not have aspirin sensitivity (Dominas et al., 2020).

Acetaminophen is usually well tolerated in patients with aspirin-induced asthma at doses less than 1,000 mg. However, at higher doses, acetaminophen can induce mild asthmatic reactions in 28% to 34% of patients with AERD. Meloxicam and nimesulide are preferred COX-2 inhibitors, and are usually well tolerated by patients with AERD when given at low doses. However, they can elicit mild respiratory reactions at higher therapeutic doses. The COX-2 selective inhibitors, like valdecoxib and celecoxib, are generally well tolerated by patients with AERD when given at therapeutic doses. These do not cross-react with ASA or other NSAIDs in patients with AERD (Rodríguez-Jiménez et al., 2018).

Beta Blockers and Angiotensin-Converting Enzyme Inhibitors

Other medications should be avoided or be taken with caution for the person with asthma. Beta blockers, commonly used for hypertension, heart failure, and coronary artery disease, as well as ocular beta blockers for glaucoma, can exacerbate asthma by worsening bronchospasm and decreasing the bronchodilator effect of quick-relief medication. These medications act on beta-2 receptors, which can cause bronchoconstriction. Because beta-adrenergic receptors of large and small airway smooth muscle are primarily the beta-2 subtype, nonselective beta-1/beta-2 blockers (e.g., propranolol) are more likely to cause bronchoconstriction in susceptible individuals. In contrast, selective beta-1 blockers (e.g., atenolol, metoprolol) have a 20-fold greater affinity for beta-1 adrenergic receptors than beta-2 adrenergic receptors and, therefore, are less likely to induce bronchoconstriction (Morales et al., 2017; Weinberger, 2020). Angiotensin-converting enzyme (ACE) inhibitors, used for hypertension or heart disease, include lisinopril and enalapril. Although they usually do not cause asthma, a small percentage

of patients who receive these drugs develop a persistent cough. This cough may be confused with asthma in some people and can trigger increased wheezing in others (American Academy of Allergy, Asthma, and Immunology, 2020; Weinberger, 2020).

Healthcare Professional Consideration: A thorough medication review is imperative when assessing the person with asthma. The healthcare provider must be cognizant of the potential interactions of commonly prescribed medications with medications used for asthma treatment. Use of electronic health records and medication reconciliation can facilitate this process. Electronic health records can prevent adverse medication events and improve patient outcomes through maintenance of current and active medication lists and medication allergy lists. These platforms can automatically check for problems whenever a new medication is prescribed, providing alerts for potential drug/drug and drug/allergy interactions. This will assist in reducing adverse events and improve patient outcomes (HealthIT.gov, 2019).

ASTHMA AND THE OLDER ADULT

Asthma prevalence in the older adult is similar to that of the total population. Unfortunately, the mortality rate from asthma for this age groups is vastly greater than all other age groups. In 2019, the mortality rate for those 65 years and older was 27.1%, compared to 10.7% for the total population of people with asthma and 11.5% for those 35 to 64 years of age (CDC, 2021g). Asthma in older adults is frequently underdiagnosed, thus explaining these high rates (Nanda et al., 2020).

Several age-related changes in the older adult impact asthma. There is greater chest wall rigidity and reduced respiratory muscle strength. Maximum inspiratory and expiratory pressures are reduced because of diaphragmatic weakness and age-related skeletal muscle weakness. Lungs reveal age-related peripheral airway narrowing with reduced airway surface-to-volume ratio. Because of these changes, older patients, even those without lung disease, are more likely to have increased residual volume and reductions in FEV1, FVC, and FEV1/FVC ratio with a minimal change in TLC. The age-related decline in FEV1 is accelerated in patients with asthma. This highlights the need to use age-adjusted values when interpreting spirometry results in older patients to avoid overdiagnosis of asthma (Dunn et al., 2018).

Increasing age also presents with alterations in both the innate and adaptive immune responses. These age-associated changes include a diminished response after a pathogenic exposure, resulting in increased low-grade systemic inflammation. This makes the elderly more susceptible to airway infections, which may exacerbate underlying asthma, or potentially play a role in the inception of late-onset asthma. There is also a reduced ability to produce specific and long-lasting antibodies to antigens, including vaccines and infections (Dunn et al., 2018). Therefore, the older adult with asthma is at higher risk for complications from vaccine-preventable diseases, even if their asthma is well controlled. Increased risk to the older patient may include the correlation between respiratory infections and asthma exacerbations, impairment of the airway lining, increased mucus production, and alterations in immune responses. The immune system may be suppressed if oral steroids are needed to gain asthma control (National Foundation for Infectious Diseases, 2014).

A detailed history and physical examination are essential to establish an asthma diagnosis and exclude alternative conditions. Although asthma symptoms are no different in older persons than in younger persons, older individuals are less likely to report dyspnea related to airflow limitation. This may be the result of adaptation to the long-term presence of symptoms or lower health expectations, increasing the likelihood that symptoms are not identified as a concern or are minimized in severity (Vaz Fragoso & Nyenhuis, 2021). For the older adult, other symptoms might be indicative of asthma, so it is imperative to look beyond the usual. Pertinent symptoms that warrant attention for an asthma diagnosis include nasal congestion, rhinorrhea, sneezing, and ocular itching. Chronic cough in nonsmoking older persons should also warrant further investigation (Vaz Fragoso & Nyenhuis, 2021).

Treatment needs to include pharmacological as well as nonpharmacologic management. Older adults are more vulnerable to polypharmacy and medication adverse events, and this should be considered when selecting the appropriate asthma treatment (Nanda et al., 2020). Asthma education should include information about asthma and its mechanism of action, the appropriate role and use of asthma medications, and measures to treat and prevent symptoms. A written asthma action plan is important to achieve optimal care (Vaz Fragoso & Nyenhuis, 2021).

Correct inhaler technique using the teach-back methods should be assessed to assure optimal efficacy of inhaled medications for asthma. Some older patients have difficulty learning correct inhaler technique because of cognitive impairment and difficulty performing multistep tasks or being unable to coordinate actuating the inhaler and breathing in the medication.

Use of a metered dose inhaler device with a valved holding chamber (a type of spacer that includes a one-way valve at the mouthpiece, which holds the medicine, allowing more time to take a slow, deep breath), a breath-actuated dry powder inhaler, or a nebulizer may improve medication delivery when the older person's inhaler technique is suboptimal (Vaz Fragoso & Nyenhuis, 2021).

The AAFA(2017) recommends the influenza, pneumococcal, shingles, and pertussis vaccines. Those adults with asthma who were vaccinated with the influenza vaccine were found to have fewer negative outcomes and lower mortality (Suárez-Varela et al., 2018). Pneumococcal disease can cause pneumonia, meningitis, sepsis, and ear infections, with high mortality rates for those 65 years or older. People with asthma might be at an increased risk for shingles, even if they have previously had shingles. Pertussis immunity can wane over time, and boosters in the form of Tdap (tetanus, diphtheria, acellular pertussis combination) is recommended (AAFA; 2017).

Healthcare Professional Consideration: The presence of comorbid conditions complicates the management of asthma for all age groups. Especially problematic is the lack of clinical trials in asthma patients who are elderly or who have serious comorbid conditions, resulting in a lack of strong evidence to guide asthma treatments for these individuals. Many comorbid conditions may impact asthma directly and some may require medications that can worsen asthma. In addition, other common age-related problems such as osteoarthritis, cognitive impairment, poor eyesight, hearing loss, or poor coordination can hamper a patient's ability to use their inhaler device correctly (Kaplan et al. 2020).

Evidence-based practice! Curto and colleagues (2019) investigated the prevalence of asthma in the elderly (>65 years) to determine if there were specific clinical and functional characteristics of this population. The researchers conducted a retrospective comparative descriptive study of demographic, clinical, and functional variables for 1,713 patients with asthma. Three groups were examined: those less than 65 years old, those aged 65 to 74 years, and those aged 75 years or older. They found that the patients with asthma were predominantly female, less likely to smoke, had greater obesity, poorer lung function, and lower values of nitric oxide in exhaled air. The most frequently seen comorbidity was gastroesophageal reflux. The researchers concluded that asthma in adults ages 65 and older is more severe and associated with greater comorbidity, which would indicate the need for a more integrated and multidimensional approach to asthma treatment for these patients (Curto et al., 2019).

Case study 1

A 38-year-old individual comes to your clinic with complaints of experiencing increased shortness of breath and wheezing for the last 4 months while at work. The patient has not previously been diagnosed with asthma. The patient started a new job 4 months ago in the bakery of a local grocery store. Symptoms are only present at work and are always better when at home. You suspect work-related asthma.

Case Study Questions

1. What type of questions would you ask to further assess the patient's history and any potential relationship between symptoms and work environment?
2. The patient states they need this job, yet the shortness of breath and wheezing while at work are hindering job performance. What advice would you give on how to address this dilemma?
3. What asthma education should be provided to this patient?

Case Study Answers

1. Because the symptom pattern suggests that the increased symptoms are related to the work environment, it is important to ask if allergy testing for environmental allergens has been done, and if so, what were the results. If allergy testing has not been done, a referral to an allergist is warranted.
2. The patient needs to approach the company's management and update them on the health concerns being related to substances in the bakery. Hopefully, the company would proactively reassign the patient to work in a different department in the grocery store or, at the very least, allow the use of a respirator on the job to protect from exposure.
3. The patient needs an asthma action plan developed in partnership with the healthcare professional. The patient needs to be aware of the medications needed to control asthma symptoms, what they are for, when to take them, and as importantly, how to take them. The patient needs to be able to identify early warning signs that asthma is worsening so asthma management steps as indicated on the plan can be initiated.

Case study 2

A 78-year-old woman with asthma visits the geriatric care clinic. The patient is being treated with a propranolol, a beta blocker medication, for hypertension and she takes ibuprofen, an NSAID, for joint pain. Asthma medications include albuterol inhaler, a beta-2 agonist, as needed. The patient denies using a valved holding chamber (a type of spacer that includes a one-way valve at the mouthpiece, which holds the medicine, allowing more time to take a slow, deep breath) for the medication administration. During the history, the patient appears confused, stating she has trouble remembering when to take medications. The patient tells you no one has ever provided a written management plan and no spacer. She reports a nocturnal cough almost every night but states, "That's to be expected at my age." Physical exam reveals difficulty breathing and audible wheezes.

Case Study Questions

1. What are the asthma management goals for this patient?
2. What nonasthma medications place her at risk for worsening asthma?
3. How do this patient's mental status and perception affect her self-management?

Case Study Answers

1. The goals for this patient include minimizing adverse drug reactions with nonasthma medications, preventing nocturnal symptoms, educating her regarding the proper use of asthma medication and the use of a spacer, and recognizing and treating asthma symptoms early.
2. Propranolol and ibuprofen place the patient at risk for worsening asthma. Propranolol is a beta blocker and causes bronchospasm. The healthcare provider should consider another class of antihypertensive medication that would effectively control the patient's blood pressure. The ibuprofen could worsen asthma. Different medications should be considered.
3. The patient has a complex medical regimen that is difficult to follow. Her memory loss and perception that asthma symptoms are inevitable because of her age (in reality, caused by poor disease management) complicate her management of, and adherence to, treatment.

Conclusion

Asthma management is critical to achieving good asthma outcomes. Adherence to the EPR3 (NHLBI, 2007) and GINA (2021) guidelines can assure appropriate management. Routine follow-up with healthcare professionals is essential so that asthma action plans can be adjusted and medications can be stepped up or down as needed. Comorbid conditions and conditions contributing to asthma symptomatology need to be addressed. Special consideration needs to be addressed for the older person with asthma.

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ASTHMA MANAGEMENT FOR SPECIAL POPULATIONS

Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: The EPR3 identifies four categories of severity: intermittent, mild persistent, moderate persistent, and severe persistent. GINA has incorporated intermittent asthma into the mild persistent category. GINA is updated yearly; the EPR3 was updated in 2020 for the first time since its 2007 version. Both GINA and EPR3 focus on risk and control. Specific recommendations are based on age groups that vary slightly depending upon the guideline. GINA (2021) differentiates treatment for adults/adolescents, children ages 6 to 11 years, and children 5 years and younger; the latest updates to the EPR3 (NHLBI, 2021) delineate the age groups 12 years and older, 5 to 11 years, and 0 to 4 years.

2. The correct answer is D.
Rationale: The most widely available tests, peak flow monitoring and spirometry, can be normal unless the patient is experiencing an exacerbation, making an asthma diagnosis challenging. Treating asthma before carrying out objective tests decreases their sensitivity and can make confirmation of the diagnosis difficult. Unfortunately, there is no agreed-upon gold standard for diagnosing asthma. Asthma may present with common respiratory symptoms and physical examination may be unrevealing.

3. The correct answer is C.
Rationale: The fact that asthma symptoms improved when not at work raises the possibility that something in the workplace is responsible for these asthma symptoms. This is not nocturnal asthma, as the symptoms improved when not at work and were present during daytime as well. Exercise-induced asthma occurs with physical exercise, which was not mentioned in the scenario.

4. The correct answer is A.
Rationale: Both asthma and obesity prevalence have increased according to recent data.

Basic Psychiatric Concepts

6 Contact Hours

Release Date: June 1, 2022 **Expiration Date:** June 1, 2025

Faculty

Robyn B. Caldwell, DNP, FNP-BC, earned a Doctor of Nursing Practice (DNP) from Samford University in nursing administration with an emphasis in nursing education in 2013; a post-master's certificate as a family nurse practitioner from Delta State University in 2003; a master's degree in Nursing Administration (MSN) in 1996; and Bachelor of Science in nursing (BSN) degree in 1990 from the University of Tennessee. Dr. Caldwell has worked in a variety of healthcare settings throughout her 32-year career including adult and pediatric emergency nursing, nursing administration, and nursing education (LPN to DNP) in both the community college and university settings. She has published and presented on topics relevant to nursing education and patient outcomes in local, state, and national venues. Currently, Dr. Caldwell is employed in an urgent care setting and is working on a post masters as a psychiatric mental health nurse practitioner (PMHNP).

Robyn B. Caldwell has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Kimberleigh Cox, DNP, PMHNP-BC, ANP-BC, PHNc., is an Associate Professor at the University of San Francisco's School of Nursing and Health Professions and is nationally board certified as both an adult nurse practitioner (ANP) and psychiatric mental health nurse practitioner (PMHNP). She is also a certified Public Health Nurse (PHNc). Dr. Cox received her bachelor's degree in Psychology from Brown University. She then worked for Harvard, Brown and Stanford Universities' Departments of Psychiatry and Mood Disorders Clinics from 1990-1995 doing clinical research, primarily in depressive and anxiety disorders. Dr. Cox received her master's degree in Nursing (MSN) from University of California San Francisco in 1998, completing a dual adult and psychiatric nurse practitioner program. She has practiced clinically as a Nurse Practitioner since 1998 working with diverse populations of individuals with psychiatric, behavioral health, and addictive problems in a variety of specialty mood disorders, psychiatric and residential care settings in California. She completed her Doctor of Nursing Practice (DNP) from USF in 2010 and was the Dean's Medal recipient for professionalism. Her doctoral work focused on chronic depression and the application of an evidence-based psychotherapeutic treatment. Dr. Cox has been teaching undergraduate and graduate nursing students in community/public health and psychiatric/mental health since 2003. She has presented nationally on managing patients with difficult behaviors, has authored publications, including "Bipolar and Related Disorders: Signs, Symptoms and Treatment Strategies" (2018), and has peer reviewed "Depression: A Major Public Health Concern" (2nd & 3rd editions - 2019, 2022).

Kimberleigh Cox has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

The goal of this course is to provide an introductory overview of mental health concepts. This course examines the history, epidemiology, legal/ethical aspects, mental health assessment, and other basic therapeutic skills used in mental health nursing. In-text links, case studies, and self-assessment questions and NCLEX-style testing are utilized.

This course is designed for registered nurses, licensed practical/vocational nurses, and newly licensed registered nurses who desire a greater understanding of basic mental health concepts. A fundamental understanding of medical terminology, abbreviations, and nursing care is assumed.

Learning objectives

Upon completion of the course, the learner will be able to:

- Explore historical aspects associated with mental healthcare.
- Identify legal and ethical principles of mental health nursing.
- Explore cultural aspects of mental health.
- Describe components of the psychiatric assessment, including the mental status exam.
- Describe neurobiological components essential to mental health.
- Identify therapeutic modalities used in mental healthcare.

How to receive credit

- Read the entire course online or in print which requires a 6-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
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Activity director

Deborah Martin, DNP, MBA, RN, NE-BC, FACHE, Director of Learning Innovation Colibri Healthcare, LLC

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Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

In 1973, the American Nurses Association (ANA) developed standards as a framework for psychiatric-mental health nursing practice, which evolved into the "Psychiatric-Mental Health Nursing: Scope and Standards of Practice" (2nd edition, 2014). These practice guidelines provide a foundation for standardization of the professional role, scope, and standards of practice for psychiatric-mental health nurses. During the 1980s and 1990s, respectively, the American Nurses Credentialing Center (ANCC) and American Association of Nurse Practitioners (AANP) implemented specialty certifications relevant to the level of education and experience of the applicants. Increasing numbers of psychiatric mental health nurse practitioners (PMHNPs) have obtained certification to provide advanced care to individuals in both acute and community health settings.

HISTORY OF MENTAL HEALTHCARE

Before the late 1800s, unusual behaviors were commonly thought to be caused by demonic forces. Those who displayed strange behaviors were often banished or confined. People with these odd behaviors were treated poorly and the treatments were aggressive and torturous. In the late 1700s, Philippe Pinel became the superintendent of a mental institution in France (Keltner, 2015). He noted the substandard conditions of the institution and the brutal treatment of the patients. He was the first to begin what became known as *moral therapy*, which consisted of better treatment, including unchaining patients and allowing them time outside. Soon after, William Tuke founded a similar facility in England (Boyd, 2018; Kibria & Metcalfe, 2016). This facility was based on the religious teachings of the Quakers and ensured moral treatment. Tuke saw this institution as a refuge for those with mental illness.

In the United States, Dorothea Dix, a Boston school teacher, was instrumental in opening a state hospital that endorsed a warm and caring environment, providing food and protection for Massachusetts residents (Boyd, 2018; Forrester, 2016). This facilitated a movement toward a more humanistic view of those with mental illness.

In the late 1800s and early 1900s, Sigmund Freud developed his landmark work regarding how childhood experiences and faulty parenting shape the mind (Boyd, 2018; Fromm, 2013). This began the movement toward scientific reasoning and understanding behaviors. Freud influenced researchers such as Carl Jung and Alfred Adler as well as other researchers who contributed to the fields of behaviorism, somatic treatments, and biology (Wedding & Corsini, 2020). With these new

developments, patients with psychiatric disorders began to receive needed psychiatric treatment and rehabilitation.

In 1946, the United States passed the National Mental Health Act, which resulted in the establishment of the National Institute of Mental Health or NIMH. In the second half of the 20th century, equality became a central tenet in mental health treatment. Many mental healthcare consumers became advocates and began to promote the rights of those with mental illness, working to demolish stigma, discrimination, and forced treatments.

In 1979, the National Alliance on Mental Illness, an advocacy group, was formed. Through the work of the alliance and other advocacy efforts, mental health patients were granted autonomy and began participating in their own care.

The 1990s were known as the *decade of the brain*, with focus placed on neuroscience and brain research.

It stimulated a worldwide growth of scientific research and advances, including the following:

- Research on genetic basis for mental illnesses.
- Mapping of the genes involved in Parkinson, Alzheimer's, and epilepsy.
- Discovery of the actions and effects of neurotransmitters and cytokines.
- Advancements in neuroimaging techniques that have increased our understanding of normal brain function and pathologic states (Halter, 2018).

In 1990, the Human Genome Project began to map the human genome. This 13-year project strengthened the theory that there are biological and genetic explanations for psychiatric conditions (https://www.genome.gov/human-genome-project). Although researchers have begun to identify genetic links to mental illness, research has yet to reveal the exact nature and mechanisms of the genes involved. It has been established, however, that psychiatric disorders can result from multiple mutated or defective genes.

EPIDEMIOLOGY

Epidemiology is the scientific study of the distribution (frequency, pattern) and determinants (causes, risk factors) of health-related states and events (not just diseases) in specified populations including neighborhoods, schools, cities, states, countries, and globally (https://www.cdc.gov/). Concepts related to epidemiology include *incidence* and *prevalence*. Applied to mental health, incidence is the number of new cases of a mental disorder in each period. Prevalence is the total number of cases in each population for a specific period. According to 2019 data from the National Institutes of Mental Health (NIMH), an estimated 51.5 million adults aged 18 or older (20.6%) in the United States have been diagnosed with mental illness. Lifetime prevalence estimates 49.5% of adolescents have been diagnosed with a mental disorder and 22.2% have had severe impairment (NIMH).

POLICY AND PARITY

The first Surgeon General's report on mental health was published in 1999. This landmark report, which was based on scientific literature and included a focus on mental health providers and consumers, concluded that mental health is fundamental to holistic health and that effective treatments for mental disorders are available.

In 2003, the President's New Freedom Commission on Mental Health recommended that the healthcare system needed to streamline care for those suffering from mental illness. This commission advocated for early diagnosis, prevention, and treatment and set forth new expectations for recovery and assistance for those experiencing mental illness to find housing and work.

In 2006, the Institute of Medicine (now the Health and Medicine Division of the National Academies) Committee on Crossing the Quality Chasm published Improving the Quality of Health Care for Mental and Substance Use Conditions. The *Quality Chasm* series highlights effective treatments and addresses large gaps in care, focusing on voluntary treatment. Additionally, this promotes a system that treats mental health issues separately from physical problems. A strong recommendation was made for equality in financial reimbursement and quality treatment. *The Mental Health Parity and Addiction Equity Act of 2008* (Office of the Federal Register, 2013) sought to improve the quality of treatments for those with mental illness by advocating mental health coverage at the same annual and lifetime benefit as any medical-surgical coverage (Centers for Medicare & Medicaid Services, n.d.). This Act required any business with more than 50 employees to have mental health coverage at the same level as medical-surgical coverage (Centers for Medicare & Medicaid Services, n.d.). This includes deductibles, copayments, coinsurance, out-of-pocket expenses, and treatment limitations. The requirements under the Act are applied indirectly to small group health plans in tandem with the Affordable Care Act's essential health benefit requirements (Centers for Medicare & Medicaid Services, n.d.).

PSYCHIATRIC AND MENTAL HEALTH NURSING

The psychiatric nurse *promotes mental health through the assessment, diagnosis, and treatment of human responses to mental health problems and psychiatric disorders* (American Nurses Association, 2014, p. 129). Psychiatric nursing integrates the use of self, neurobiological theories, and evidence-based practice in planning treatments. Nurses work in a variety of inpatient and outpatient settings with individuals and families across the lifespan who exhibit mental health needs. Specific activities of the psychiatric nurse are defined by the Psychiatric-Mental Health Nursing: Scope and Standards of Practice, published jointly by the American Nurses Association, the American Psychiatric Nurses Association, and the International Society of Psychiatric Mental Health Nurses (American Nurses Association, 2014).

Nurses encounter patients in crisis in many clinical settings. The crisis may be physical, emotional, mental, or spiritual. Regardless of the origin, these patients express a variety of feelings including hopelessness, helplessness, anxiety or anger, low self-esteem, and confusion. Many individuals act withdrawn, suspicious, depressed, hostile, or suicidal. Additionally, the individual may be intoxicated or withdrawing from alcohol or other substances. Knowledge of basic psychiatric concepts increases nursing competency in any clinical setting.

DSM-5 NOMENCLATURE FOR DIAGNOSES AND CLASSIFICATIONS

Blood tests, though useful for diagnosing many physical disorders, cannot diagnose all psychiatric disorders. Instead, healthcare practitioners base their diagnoses primarily on symptoms. Emil Kraepelin was the first healthcare provider to recognize and categorize patients' symptoms into mental disorders around the turn of the 20th century (Boyd, 2018).

Today, healthcare providers often use other forms of tests, such as genetic testing, computerized tomography, magnetic resonance imaging, and positron emission tomography, to detect changes in the brain and brain activity.

By 1880, researchers had developed seven classifications of mental illness: mania, melancholia, monomania, paresis, dementia, dipsomania, and epilepsy (APA, n.d.). By 1918, the need for uniformity in diagnoses drove the Committee on Statistics of the American Medico-Psychological Association, which later became the American Psychiatric Association (APA, 2013), to develop the first *Statistical Manual for the Use of Institutions for the Insane*. The purpose of this document was to gather statistical information from institutions regarding 22 known disorders. Following World War II, US Army psychiatrists expanded the diagnostic categories to better incorporate the types of problems veterans experienced as a result of combat (APA, n.d.).

In 1952, the APA published the first edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*. Since then, the APA has published new editions of the DSM every 5 to 10 years. In 2013, the APA released the fifth edition of the DSM, the most recent version (APA, 2013). The DSM-5 is the result of a 12-year revision process involving hundreds of professionals, field trials to demonstrate the reliability of the data, and public and professional review and comment (APA, 2013).

The purpose of the DSM-5 is to facilitate healthcare providers' diagnosis of mental disorders and development of individualized treatment plans (APA, 2013). The DSM-5 bases disorders on a continuum from mental health to mental illness. A mental disorder is defined in the DSM-5 as *a syndrome characterized by clinically significant disturbance in the individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning* (APA, 2013, p. 20). The definition also reflects the high level of disability or distress in occupational or other life activities that results from the mental disorder.

Some healthcare providers feel that the DSM-5's categorical classifications limit its use because individuals may not fit neatly into one specific category. Regardless, the DSM-5 serves as a guideline to assist practitioners in making sound clinical decisions. Diagnosis does not always imply etiology; therefore, using the DSM-5 to predict behavior or response to treatment is inappropriate (APA, 2013).

THEORIES RELATED TO PSYCHIATRIC AND MENTAL HEALTH NURSING

Mental health professionals base their work on assessments, behaviors, and theories. These are often described as explanations or hypotheses and tested for relevance and soundness. In mental health, theories are often borrowed from other disciplines and inspire treatments for the practice of psychiatric nursing.

Freud's psychoanalytic theory

Sigmund Freud, referred to as *the father of psychoanalysis*, revolutionized thinking about mental disorders (Townsend, 2019). His theories of personality structure, level of awareness, anxiety, the role of defense mechanisms, and stages of psychosexual development revolutionized the psychiatric world (Townsend, 2019). Although Freud started as a biological scientist, he changed his approach to conversational therapy. He concluded that talking about difficult issues involving intense emotions had the potential to heal problems that could cause mental illnesses. This led Freud to develop his psychoanalytic theory (https://pmhealthnp.com/pmhnp-topics/sigmund-freud-psychoanalytic-theory/).

Erikson's theory on the stages of human development

Erik Erikson, a developmental psychologist, emphasized the role of the psychosocial environment and expanded on Freud's psychoanalytic theory. The Eight Stages of Man, is organized by age and developmental conflicts:

1. Basic trust versus mistrust.
2. Autonomy versus shame and doubt.
3. Initiative versus guilt.
4. Industry versus inferiority.
5. Identity versus role confusion.
6. Intimacy versus isolation.
7. Generativity versus stagnation.
8. Ego integrity versus despair.

Analysis of behavior using Erikson's framework helps nurses to identify long term successful resolution of psychosocial development across the lifespan.

Harry Stack Sullivan's interpersonal theory

Interpersonal theories are the cornerstone of mental health nursing. Harry Stack Sullivan, an American-born psychiatrist, identified personality as an observable behavior within interpersonal relationships, which led to the development of his interpersonal theory. Sullivan believed that anxiety or painful feelings arise from insecurities or the inability to meet biological needs. All behaviors are designed to help individuals through interpersonal interactions by decreasing anxiety. Individuals are unaware that they act out behaviors to decrease anxiety and therapy can help the patient gain personal insight into these insecurities. He was the first to use the term *participant observer*, which refers to the idea that therapists must be part of the therapeutic session. Sullivan insisted that healthcare professionals should interact with patients as authentic human beings through mutual respect, unconditional acceptance, and empathy. Sullivan developed the concept of psychotherapeutic environments characterized by accepting the patient and the situation, which has become an invaluable treatment tool. Even today, many group psychotherapies, family therapies, and training programs use Sullivan's design of an accepting atmosphere (Halter, 2018).

Hildegard Peplau's theory of interpersonal relations

Hildegard Peplau, sometimes referred to as the *mother of psychiatric nursing*, published the theory of interpersonal relations in 1952, which became a foundation for modern psychiatric and mental health nursing (Townsend, 2019). The goal of interpersonal therapy is to reduce or eliminate psychiatric symptoms by improving interpersonal functioning (Sadock, & Ruiz, 2015). Sullivan's work greatly influenced Peplau. She developed the first systematic framework for psychiatric nursing, focusing on the nurse-patient relationship. Peplau established the foundation of professional practice for psychiatric nurses and continued working on psychiatric nursing theory and advancement of nursing practice throughout her career. She was the first nurse to identify mental health nursing as a specialty area with specific ideologies and principles, and the first to describe the nurse-patient relationship as the foundation for nursing practice (Boyd, 2018).

Peplau created a major shift from a care model focused on medical treatment to one based on the interpersonal relationship between nurses and patients. She further proposed that nurses are both participants and observers in the therapeutic treatment of patients. Her theory recognizes the *ability to feel in oneself the feelings experienced by another*; she identified this as *empathetic linkage* (Boyd, 2018). Another key concept, according to Peplau, is anxiety, which is an energy that arises when present expectations are not met (Boyd, 2018). Throughout her career, Peplau's goal was for nurses to care for the person and the illness.

B.F. Skinner's behavioral theory

Behavioral theories supply techniques that patients can use to modify or replace behaviors. This is an important concept in psychiatric nursing management and is the basis of several approaches that research has shown to be successful in altering specific behaviors. B. F. Skinner, a prominent behaviorist, researched *operant conditioning*, the process through which consequences and reinforcements shape behaviors. Behavioral therapy is grounded in the assumption that maladaptive behaviors can be changed, and positive and negative reinforcements can be used to help modify behavior.

Behavioral therapy is often used in treating people with phobias, alcoholism, and anxiety. Another type of behavioral therapy is modeling, in which the therapist or nurse role-plays specific behaviors so that the patient can learn through imitation. Role-playing allows the patient to practice modeled behaviors in a safe environment. Another form of behavioral therapy is systematic desensitization, which targets a patient's specific fears and proceeds in a step-by-step manner to alleviate those fears with the help of relaxation techniques (Keltner, 2018).

Aaron Beck's cognitive behavioral therapy

Whereas behaviorists focus on the belief that behaviors can be changed, other researchers focus on cognition or thoughts involved in behaviors. Aaron Beck developed cognitive behavioral therapy after working with depressed patients. Cognitive behavioral therapy is based on cognitive psychology and behavioral therapy. Beck believed that depression was the result of distorted thinking processes and negative self-concept (https://www.ncbi.nlm.nih.gov/books/NBK470241/). Using this approach, the nurse can help the patient identify negative thought patterns and then help the patient recondition these cognitive distortions into more appropriate beliefs that are based on facts (https://www.ncbi.nlm.nih.gov/books/NBK470241/).

Humanistic Theories

Humanistic theories focus on the potential and the free will of patients. These theories emphasize self-actualization, the highest potential and productivity that an individual can achieve in life. For example, Abraham Maslow believed that motivation is driven by a hierarchy of needs that leads to becoming the best person possible. This model allows the nurse to work with the patient to create an individualized care plan based on the current hierarchical needs of the patient https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4130906/.

THE STRESS-DIATHESIS MODEL

The Stress-Diathesis Model was originally developed to explain schizophrenia during the 1960s, but later adapted to study depression during the 1980s (Colodro-Conde, et.al, 2018). According to this model, stress activates certain vulnerabilities (diathesis), which predisposes the individual to psychopathology. This model has been criticized for its vagueness, yet these principles are used to understand other psychiatric disorders.

BIOLOGICAL MODEL

Mental health nurses also attend to the physical needs of psychiatric patients. The nurse may administer prescribed medication, nutrition, and hydration to ensure optimal physiological functioning of the patient. The biological model of mental illness focuses on the chemical, biological, and genetic makeup of mental illness. This model seeks to understand how the body and brain interact to create experiences and emotions, and how social, environmental, cultural, spiritual, and educational factors influence individuals (Halter, 2018). All the theories discussed in this section play a vital role in how the nurse cares for the patient with a mental health disorder.

Self-Assessment Quiz Question #1

Which best describes Aaron Beck's Contribution to the mental health profession?

a. Hierarchy of needs.
b. Cognitive behavioral therapy.
c. Empathetic linkages.
d. Operant conditioning.

ETHICAL, LEGAL, AND CULTURAL CONSIDERATIONS

The term *ethics* refers to an individual's beliefs about right and wrong and societal standards regarding right and wrong. Bioethics refers to ethical questions related specifically to healthcare (Halter, 2018).

Ethics are linked to cultural values. Societal standards and values can be determined only within a specific group. However, fundamental principles of ethics exist in all cultures and are inherent in all human beings. Understanding how cultures view mental illness and the accompanying patient symptoms can influence how decisions, particularly ethical decisions, are made. Nurses can be an instrumental part of effective decision making when cultural values and societal standards differ.

A thorough understanding of general ethical principles is necessary to make reasonable, fair, and sound judgments in providing care. Nurses who choose to work in the specialty of mental healthcare will encounter ethical questions on almost a daily basis. Issues such as autonomy, confidentiality, patient protection, therapeutic relationships, mental health competency, and mental health admissions are particularly complicated. To better guide the nurse in making ethical choices, an understanding of the American Nurses Association Code of Ethics and the five basic principles of bioethics is useful.

American Nurses Association Code of Ethics

The American Nurses Association (ANA) established an ethical standard for the nursing profession that guides ethical analysis and decision making (ANA, 2015). Ethics is a branch of philosophy where one reflects on morality, which is the person's character, values, and conduct in a particular situation (ANA, 2015).

The Code of Ethics is the foundation for nursing theory and practice where values and obligations shape the nursing profession (ANA, 2015). This living document changes based on nursing's social context, with a revision occurring at minimum every 10 years (ANA, 2015). The ANA Code divides ethical issues into nine provisions, based on general ethical principles:

- Provision 1
  - The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person, including self-determination (ANA, 2015).
- Provision 2
  - The nurse's primary commitment is to the patient, whether an individual, family, group, community or population (ANA, 2015).

- Provision 3
  - The nurse promotes, advocates for, and protects the rights, health, and safety of the patient (ANA, 2015).
- Provision 4
  - The nurse has authority, accountability, and responsibility for nursing practice, makes decisions, and takes action consistent with the obligation to promote health and to provide optimal care (ANA, 2015).
- Provision 5
  - The nurse owes the same duties to self as to others, including the responsibility to promote health and safety, persevere wholeness of character and integrity, maintain competence and continue personal and professional growth (ANA, 2015).
- Provision 6
  - The nurse, through individual and collective effort, establishes, maintains, and improves the ethical environment of the work setting and conditions and employment are conducive to safe, quality care (ANA, 2015).
- Provision 7
  - The nurse, in all roles and settings, advances the profession through research and scholarly inquiry, professional standards development, and the generation of both nursing and health policy (ANA, 2015).
- Provision 8
  - The nurse collaborates with other health professionals and the public to protect human rights, promote health diplomacy, and reduce health disparities (ANA, 2015).
- Provision 9
  - The profession of nursing, collectively through its professional organizations, must articulate nursing values, maintain the integrity of the profession and integrate principles of social justice into nursing and health policy (ANA, 2015).

The ANA Code may be viewed at no charge on the ANA website (https://www.nursingworld.org/coe-view-only).

Bioethical principles

Bioethics is a branch of ethics that studies the implications of biological and biomedical advances and can be considered a set of guiding principles for the nursing profession that go beyond right and wrong. Bioethical principles fall into five categories (Boyd, 2018; Halter, 2018). These principles are meant to be guidelines to help all clinicians in decision making.

- *Beneficence*: Clinicians have a duty to assist the patient to achieve a higher level of well-being. This concept encompasses kindness and generosity toward the patient in providing care. An example of this is changing healthcare policy or making sure a patient brought to the emergency department in severe pain gets medication as soon as possible.
- *Fidelity*: Healthcare providers have a duty to be honest and trustworthy. This concept includes loyalty, advocacy, and a commitment to the patient. An example of this is staying abreast of best practices in nursing or advocating for the patient to receive high-quality services. Another example is being faithful in your promises to check on a patient within a specific timeframe.
- *Autonomy*: The healthcare provider acknowledges the patient's right to make their own decision, even if the nurse disagrees with the decision. An example of this is a patient with cancer who refuses treatments that may prolong their life.
- *Justice*: Healthcare providers must recognize that all persons are entitled to equal treatment and quality of care. For example, it can be particularly difficult to provide emotional support and counseling equally to both the family harmed by an intoxicated driver and to the driver. Healthcare providers should strive to be nonjudgmental and fair to all patients, regardless of age, gender, race, sexual orientation, diagnosis, or any other differentiating characteristic.
- *Veracity*: The healthcare provider should always be truthful with the patient. This allows the patient to make informed decisions about their treatment. For example, talking to the patient about the side effects of medications is showing respect to the patient by being truthful.

Self-Assessment Quiz Question #2

Patients admitted to inpatient psychiatric units are scheduled for group therapy two times daily. Attendance is strongly encouraged, but not mandatory. Which ethical principle is demonstrated by this unit policy?

a. Autonomy.
b. Justice.
c. Beneficence.
d. Veracity.

IMPORTANT LEGISLATION IN MENTAL HEALTH

Section 1 of the 14th Amendment to the US Constitution adopted on July 9, 1868, states:

> *All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside. No state shall … deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws* (U.S. Constitution). The issue of liberty has been tested repeatedly in the courts in cases in settings where U.S. citizens have been held against their will, including in psychiatric institutions.

Keltner and Steele (2018) provide an overview of landmark legal decisions related to patients with psychiatric disorders. Historically, these nine rulings have had a major impact on the legal rights of patients with psychiatric disorders. A summary of each of these legal decisions is as follows:

> 1843 – The *M'Naghten rule* first identified a legal defense of not guilty by reason of insanity by stating that persons who do not understand the nature of their actions cannot be held legally responsible for those actions (https://www.law.cornell.edu/wex/m%27naughten_rule).
>
> 1965 – In *Griswold v. Connecticut*, The Supreme Court first recognized that a person has the right of marital privacy under the Constitution of the United States (https://www.law.cornell.edu/wex/griswold_v_connecticut_(1965)).
>
> 1966 – In *Rouse v. Cameron*, the courts found that a patient committed to an institution must be actively receiving treatment and not merely warehoused (https://casetext.com/case/rouse-v-cameron)
>
> 1968 – In *Meier v. Ross General Hospital*, a physician was found liable for the death of a hospitalized patient who committed suicide while under his care. The patient had a previous suicide attempt before the hospital stay. The physician was liable for failing in his *duty to warn* of the threat of suicide in this patient (https://caselaw.findlaw.com/ca-supreme-court/1822578.html)
>
> 1972 – In *Wyatt v. Stickney*, the entire mental healthcare system of Alabama was sued for an inadequate treatment program. The court ruled that each institution within the mental healthcare system must (1) stop using patients for hospital labor needs, (2) ensure a humane environment, (3) maintain minimum staffing levels, (4) establish human rights committees, and (5) provide the least restrictive environment possible for the patients (https://mentalillnesspolicy.org/legal/wyatt-stickney-right-treatment.html).

1976 – In the well-known case of *Tarasoff v. The Regents Of the University of California*, the parents of Tatiana Tarasoff sued the university following the 1969 death of their daughter at the hands of Prosenjit Poddar. Poddar had told his therapist that he planned to kill Tarasoff when she returned from summer break. Although the therapist had contacted the police, law enforcement released Poddar because he appeared rational. The court found that the therapist had a *duty to warn of threats of harm to others* and was negligent in not notifying Tarasoff of the threats that had been made against her (https://law.justia.com/cases/california/supreme-court/3d/17/425.html).

1979 – Patients at Boston State Hospital sought the right to refuse treatment in *Rogers v. Okin*. Based on the 1965 decision regarding the right of personal privacy, the court found that the hospital could not force nonviolent patients to take medication against their will. This ruling also included the directive that patients or their guardians must give informed consent before medications could be given (https://pubmed.ncbi.nlm.nih.gov/6134270/ and https://muse.jhu.edu/article/404046).

1983 – In *Rennie v. Klein*, a patient claimed a hospital violated his rights when he was forced to take psychotropic medications. The ruling again addressed the right to refuse treatment and the right to privacy, and it furthered the necessity of obtaining informed consent (https://pubmed.ncbi.nlm.nih.gov/11648483/).

1992 – *Foucha v. Louisiana* demonstrated that the nature of an ongoing psychiatric commitment must *bear some reasonable relation to the purpose for which the patient is committed* (Foucha v. Louisiana, 1992). When Foucha was first hospitalized, the indication was a patient who was considered mentally ill and dangerous. The ruling recognized that patients who are no longer mentally ill do not require hospitalization and that patients are not required to prove themselves to be no longer dangerous (https://www.law.cornell.edu/supct/html/90-5844.ZO.html).

Mental health laws have been created to protect patients with psychiatric disorders and regulate their care. These laws often vary by state. Check the Nurse Practice Act within the respective state of practice to determine state-level regulation.

MENTAL HEALTH AND DEINSTITUTIONALIZATION

The changes in mental healthcare over the years show a shift in care from institutionalization to community settings, also known as deinstitutionalization (Boyd, 2018). Deinstitutionalization was also significant because this shaped our current community and mental health treatment for many vulnerable individuals including the homeless and those with substance use disorders. During the era of state hospitals, mentally ill individuals were less likely to be chronically homeless. While deinstitutionalization was a noble concept, it was not well implemented. The lack of existing public health infrastructure left communities unprepared to manage those with chronic mental illness. Additionally, the arrival of inexpensive and accessible illicit drugs like crack cocaine, changed the face of communities and left those with mental illness even more vulnerable. The lack of affordable treatment for mental health disorders contributes to both individual and public health risk.

Two of the most important concepts in civil rights law are the writ of habeas corpus and the least restrictive alternative doctrine (Halter, 2018). The writ of habeas corpus pertains to holding people against their will. Psychiatric patients are included in this protection and they have the right not to be detained unless individual welfare is involved. Additionally, the least restrictive alternative doctrine states that a patient's autonomy must be upheld whenever possible (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2733575/pdf/behavan00025-0105.pdf). In practice it means that nurses need to try to manage patients' symptoms and behaviors with psychotherapeutic interventions (milieu management, communication, and behavioral approaches) first. If symptoms are not fully or adequately managed, nurses should document what was attempted and ineffective in order to move to more restrictive measures or levels of care (i.e. move up the treatment hierarchy to more restrictive approaches such as medications/chemical restraints, seclusion, and/or physical restraints). Each time a more restrictive measure is applied, documentation needs to support which lesser restrictive strategies were attempted and describe their lack of efficacy.

An understanding of civil rights and state regulations is important to patient care procedures. Admission of psychiatric patients can be voluntary or involuntary, but neither voluntary nor involuntary admission indicates the ability of the patient to make decisions (Halter, 2018). Admission procedures are in place to protect the patient and the public. Involuntary admission is used when patients are a danger to self or others or cannot take care of themselves. However, all patients are to be treated with respect and have the right to informed consent, the right to refuse medications, and the right to the least restrictive treatments (Boyd, 2018). Furthermore, the patient must be seen by a specified number of providers who confirm that the patient meets the criteria for involuntary admission.

THE CONSUMER BILL OF RIGHTS AND CONFIDENTIALITY

In 1997, President Clinton appointed the Advisory Commission on Consumer Protection and Quality in the HealthCare Industry. The Commission, co-chaired by Donna Shalala, secretary of the Department of Health and Human Services at the time, issued its final report, which included a Consumer Bill of Rights & Responsibilities. Of interest to psychiatric nurses is the section on confidentiality of health information. Patients with psychiatric disorders are expressly protected in the confidentiality of their records; practitioners may not share information with any third party without the express written consent of the patient or their legal guardian. The patient can withdraw consent to release information at any time.

CONSUMER BILL OF RIGHTS AND RESPONSIBILITIES

The Commission's consumer bill of rights consists of the following rights and responsibilities:

1. Access to Accurate, Easily Understood Information about health plans, facilities, and professionals to assist consumers in making informed health care decisions;
2. Choice of Health Care Providers that is sufficient to ensure access to appropriate high quality care. This right includes providing consumers with complex or serious medical conditions access to specialists, giving women access to qualified providers to cover routine women's health services, and ensuring continuity of care for consumers who are undergoing a course of treatment for a chronic or disabling condition;
3. Access to Emergency Services when and where the need arises. This provision requires health plans to cover these services in situations where a prudent layperson could reasonably expect that the absence of care could place their health in serious jeopardy;
4. Participation in Treatment Decisions including requiring providers to disclose any incentives -- financial or otherwise -- that might influence their decisions, and prohibiting gag clauses that restrict health care providers' ability to communicate with and advise patients about medically necessary options;
5. Assurance that Patients are Respected and Not Discriminated Against, including prohibiting discrimination in the delivery of health care services based on race, gender, ethnicity, mental or physical disability, and sexual orientation;
6. Confidentiality provisions that ensure that individually identifiable medical information is not disseminated and that provide consumers the right to review, copy, and request amendments to their medical records;
7. Grievance and Appeals Processes for consumers to resolve their differences with their health plans and health care providers -- including an internal and external appeals process; and
8. Consumer Responsibilities provisions that ask consumers to take responsibility by maximizing healthy habits, becoming involved in health care decisions, carrying out agreed-upon treatment plans, and reporting fraud.

Note. Adapted from the President's Advisory Commission. (1997). Consumer bill of rights and responsibilities. Retrieved from https://govinfo.library.unt.edu/hcquality/press/cborimp.html

In addition to the Consumer Bill of Rights, the Health Insurance Portability and Accountability Act (HIPAA) was enacted in 1996 and went into effect in 2003 (U.S. Department of Health and Human Services, 1996). This act was designed to protect patient health information more securely and has been a major force behind the use of electronic health records.

There are a few circumstances where confidentiality may be waived in mental health (U.S. Department of Health and Human Services, 2000). If the patient has made a direct threat against another person, the healthcare provider has a clear duty to warn the endangered individual (U.S. Department of Health and Human Services, 2000). If the patient has reported actual or suspected abuse (including molestation) or neglect of a minor child, the healthcare provider has an obligation to report this to the appropriate Child Protective Services division of the state's Office of Family and Children. A judge may also order documents (clinical records) to be turned over to the court for examination. A subpoena to appear in court does not constitute a judge's order to release information; it merely mandates the appearance of the subpoenaed individual. Violation of the confidentiality of a patient with a psychiatric illness in situations other than those outlined by law may subject the nurse to legal action and revocation of licensure. Most agencies have an acceptable form that identifies to whom information can be released, the date that the release is valid, and types of information that can be shared.

NURSING LIABILITY IN MENTAL HEALTH

The state nurse practice act (NPA) is the single most important piece of legislation for the nurse because it affects ALL facets of nursing practice. Each state has its own NPA for which the courts have jurisdiction. NPA's generally grant specific provisions on how nurses practice in a state and define 3 levels of nurses: LPNs, RNs, and APRNs with defined scopes of practice. The nurse practice act also established a state board of nursing. Its main purpose is to ensure enforcement of the act and protect the public.

Individuals who present themselves as nurses must be licensed. The National Council of State Boards of Nursing serves as a clearinghouse, further ensuring that nursing licenses are recorded and enforced in all states. Individual state boards of nursing develop and implement rules and regulations regarding the discipline of nursing. Most changes deal with modifications with rules and regulations rather than the act itself. Nurses must be advised of the provisions of the state's nurse practice act. Thus, what is acceptable in one state is not necessarily acceptable in another state.

The nurse has legal liability in the psychiatric setting when caring for patients (Boyd, 2018). *Torts* are wrongful acts that result in injury, loss, or damage and can be intentional or unintentional (Boyd, 2018). *Intentional torts* are voluntary acts that result in harm to the patient and include the following:

- *Assault* involves any action that causes an individual to fear being touched in any way without consent. Examples of this include making threats to restrain a patient or making threats to administer an injection for failure to cooperate.
- *Battery* involves harmful or unwarranted contact with a patient; actual injury may or may not occur. Examples of this include touching a patient without consent or unnecessarily restraining a patient.
- *False imprisonment* involves the unjustifiable detention of a patient. Examples of this include inappropriate use of a restraint or inappropriate use of seclusion

Unintentional torts are involuntary acts that result in harm to the patient and include the following:

- *Negligence* involves causing harm by failing to do what a reasonable and prudent person would do in a similar circumstance (anyone can be negligent). Examples of this include failing to erect a fence around a pool and a small child drowns or leaving a shovel on the icy ground and someone falls down on it and cuts their head.
- *Malpractice* is a type of negligence that refers specifically to healthcare professionals. An example of this includes a nurse who does not check the treatment orders and subsequently gives a medication that kills the patient.

CULTURAL CONSIDERATIONS IN MENTAL HEALTHCARE

Culture influences various aspects of mental health, including the recognition and expression of psychiatric symptoms, coping styles, community support, and the willingness to seek treatment. Cultural concepts of distress are recurrent, locality-specific patterns of aberrant behavior that are not linked to a specific diagnostic category in the *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (American Psychiatric Association, 2013). More impoverished communities have environmental risks such as a lack of access to healthy nutritious foods, clean soil, and clean air in urban areas. This may impact mental health via physiological/neurological impact and deficits, especially in vulnerable populations.

As of 2021, the percentage of the US population that self-identified as African American had grown to 13.4% (U.S. Census Bureau QuickFacts: United States). Although anyone can develop a mental health problem, African Americans may experience barriers to appropriate mental healthcare(National Alliance on Mental Illness, n.d.a). For example, the poverty rate among African Americans in 2020 was 19.4%, with 11.4 million people of all races living in poverty (Income and Poverty in the United States: 2020 [census.gov]). Poverty directly relates to mental healthcare access. The poverty rates in the African American community combined with provider bias and patient distrust of the health system can result in subpar mental health care for African Americans (NAMI: National Alliance on Mental Illness. In addition, the African American community has experienced increasing diversity because of immigration from Africa, the Caribbean, and Latin America. Mental healthcare providers need to understand this diversity and develop cultural competence (Boyd, 2018). Contributing to this cultural consideration is the estimation that over half of the prison population has a mental illness and that African Americans are five times more likely to be incarcerated than Whites (Mental Health America, n.d.; Sakala, 2014).

The Latin/Hispanic American population is rapidly growing, currently comprising 18.6% of the nation's total population (U.S. Census Bureau QuickFacts: United States). In 2020, 17.0% of Latin/Hispanic Americans were living in poverty. Rates of mental health disorders in this population are similar to those of non-Hispanic Caucasians, with some exceptions:

- Older Hispanic adults and Hispanic youths are more vulnerable to the stress associated with immigration and acculturation' and experience more anxiety, depression, and drug use than non-Hispanic youths.
- Depression in older Hispanic adults is closely correlated with physical illness; and suicide rates were about 50% that of non-Hispanic Whites, although suicide ideation and unsuccessful attempts were higher (State of Mental Health in America - 2020_0.pdf (mhanational.org).
- There is a higher incidence of post-traumatic stress disorder (PTSD) in Hispanic men, some of which may be attributable to social disorder experienced before immigration. As of 2020, there were 1.2 million Hispanic or Latinos who are US military veterans (U.S. Census Bureau QuickFacts: United States).
- The rates of substance use disorders are slightly lower in Hispanic women and slightly higher in Hispanic men. Hispanics are approximately twice as likely as Whites to die from liver disease, which could be associated with substance use (Hispanic Health | VitalSigns | CDC).

There are few Hispanic children in the child welfare system, but Hispanics are twice as likely as Whites to be incarcerated at some point in their lifetime (Sakala, 2014). The lack of Spanish-speaking mental healthcare providers has been a problem, likely causing fewer than 1 in 11 Hispanic individuals with a psychiatric disorder to seek treatment (Mental and Behavioral Health - Hispanics - The Office of Minority Health (hhs.gov)). Misdiagnosis is common and is often related to language barriers. Among Hispanics living in the United States, one in three do not speak English well (Hispanic Health | VitalSigns | CDC). Hispanic Americans are more likely to use folk remedies solely or as a complement to traditional care, and some may consult church leaders or healers for more traditional care (Hispanic/Latinx | NAMI: National Alliance on Mental Illness).

Asian Americans and Pacific Islanders comprise just over 20 million of the US population and are considered one of the fastest growing racial/ethnic groups within the United States (U.S. Census Bureau, 2020; Wyatt, Ung, Park, Kwon, & Trinh-Shevrin, 2015). By 2060, it is projected that 1 in 10 children in the United States will be Asian (Wyatt et al., 2015). There are numerous ethnic subgroups included in the Asian American/Pacific Islander demographic, with over 100 languages and dialects (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). Thirty-two percent of Asian Americans have difficulty accessing mental healthcare services because they do not speak fluent English (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). For example, older Asian Americans may not understand questions or the intent of a medical interview, and they may give affirmative answers to avoid confrontation. Asian Americans and Pacific Islanders are the least likely of any group to seek help with mental health issues (Hernandez, Nesman, Mowery, Acevedo-Polakovich, & Callejas, 2015). Although fewer mental health concerns are reported in this group, few epidemiological studies have included this population (Asian American/Pacific Islander Communities and Mental Health | Mental Health America (mhanational.org)). Asian Americans tend to exhibit somatic (physical) symptoms of depression more frequently than emotional symptoms (Boyd, 2018; Kalibatseva & Leong, 2011). The focus on physical symptoms and misdiagnosis serves as a barrier to mental healthcare for this population. Suicide rates within this population should be monitored closely by examining risk factors such as acculturation, family discrimination, social acculturalization, and discrimination (Boyd, 2018; Wyatt et al., 2015).

NURSING CARE IN MENTAL HEALTH

Standards of practice

The American Nurses Association's scope and standards of practice of psychiatric-mental health nursing *(Psychiatric-Mental Health Nursing Scope and Standards of Practice)* provides the foundation for the application of the nursing process to patients with psychiatric disorders (American Nurses Association, 2014). The *PMHNP Scope and Standards of Practice* also serves as a reference document for the National Council Nursing Licensure Examination (NCLEX) and many state nurse practice acts. The *PMHNP Scope and Standards of Practice* includes each step of the nursing process: assessment, diagnosis, planning, implementation, and evaluation.

When using the *PMHNP Scope and Standards of Practice*, the nurse should consider the individual's age, language, and culture. The nurse should also address each patient's developmental level. Note that the age and the developmental level may be incongruent in certain mental illnesses. Use age-appropriate communication techniques to establish a therapeutic alliance with both the patient and the family. Additionally, observations of behaviors and reactions are just as important as the conversation. Parents are often present during a child assessment. However, if abuse or neglect is suspected, it may be prudent to talk to the child or adolescent alone. In cases involving child sexual abuse or other uncomfortable issues, the nurse may need the assistance of a healthcare provider with advanced training to interview the child.

When working with adolescents, the therapeutic alliance may be hindered by concerns of confidentiality. Reassure the adolescent that conversations are confidential, and information is only

shared with team members, except in certain circumstances. In cases of suicidal or homicidal thoughts, sexual abuse, or other high-risk behaviors, the nurse must share the assessment information with other healthcare professionals and the parents. In fact, identifying risk factors in this age group is an important aspect of the assessment.

THE NURSING PROCESS IN MENTAL HEALTH

The physiological health exam and work-up is an initial step for thoroughly and accurately diagnosing and managing mental health conditions, including common screening labs and physical exams to rule out common medical issues that could be causing, mimicking, or contributing to mental health symptoms. Some physiological conditions present with psychiatric symptoms. Ensuring that the patient has a baseline physical assessment assist in the accurate diagnosis and appropriate treatment of all conditions, thus demonstrating the mind-body connection. Because of this link, the history and presenting symptoms of the patient are of utmost importance.

The nursing process is a systematic way of developing an individualized plan of care for those experiencing a disruption in mental health status. The traditional nursing process consists of performing a comprehensive assessment, formulating nursing diagnoses, developing a care plan, implementing selected nursing interventions, and evaluating the outcome or effectiveness of those interventions (Boyd, 2018). Most facilities have their own documentation that follows accepted guidelines for mental health assessment.

Assessment

Creating a therapeutic alliance is an important step in the holistic care of the patient. This connection provides an optimal setting for obtaining the psychosocial and psychiatric history. The first step is to obtain a thorough history of the patient, incorporating elements of current and past health problems, social issues affecting health, and cultural or spiritual beliefs that may support or interfere with prescribed healthcare treatments (Halter, 2018). The nurse should obtain the history in an environment conducive to effective communication between the nurse and the patient. Family members and significant others may or may not be present, or they may be present for a portion of the time and then be asked to step out to maintain the patient's confidentiality. Interviews should be conducted in a private conference room or patient's room (if inpatient or residential) rather than in a public area where others may overhear. If personal safety is a concern, the nurse may request another staff member to be present. The nurse should remove distracting elements such as a television or radio. If the nurse determines that the patient is too ill to be able to provide accurate information or that the interview process itself will be detrimental to the patient's health, then the nurse should obtain information from other reliable sources, such as family members, social workers, therapists, and primary healthcare providers (Boyd, 2018). Documentation of the source of information is important, particularly when the patient is unable to provide an accurate history. Although the psychiatric nurse may gather information from other sources, it is important that the nurse not disclose any information regarding the patient's status without the patient's written consent to avoid a breach in confidentiality.

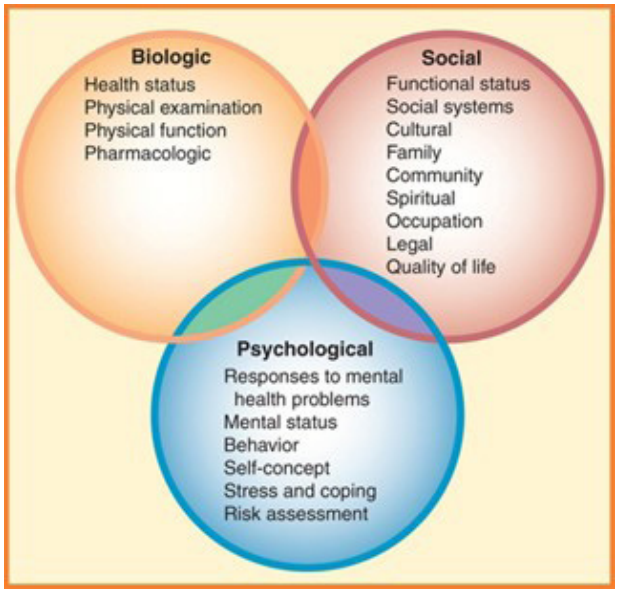
Nursing diagnosis and planning

Most healthcare facilities have an existing form to guide the nurse in data collection. The data collection process assists the nurse in developing a nursing diagnosis list. After identifying real and potential problems, the nurse develops written nursing diagnoses to address each problem. Nursing diagnoses are important in structuring appropriate, efficient nursing care while serving as a common language nursing team members. Prioritization is also based on Maslow's Hierarchy of needs so that physiological and safety needs that are outlined in nursing diagnoses will be addressed first. The nursing diagnosis drives the planning process in the care of patients with psychiatric-mental health disorders. Implementation of interventions is driven by goals established during the planning process. Short- and long-term goals must be observable, measurable (i.e., goals or outcomes that can be evaluated) and realistically attainable in the given time frame and setting. Identifying contributing factors and behavioral symptoms can directly lead to the development of short- and long-term goals that help evaluate progress. Interventions for this population will always include therapeutic communication and the mental status examination (Boyd, 2018).

The biopsychosocial framework

The biopsychosocial framework is a well-accepted, holistic model for organizing healthcare issues (Boyd, 2018). Three interdependent domains have separate treatment focus but interact to provide a framework for implementing nursing care through a systematic process.

The *biologic domain* is related to functional health patterns in mental health such as sleep, exercise, and nutrition. Pharmacologic principles in medication administration are related to neurobiological theories. The *psychological domain* contains the interpersonal dynamics that influence emotions, cognition, and behavior. This generates theories and research critical in understanding symptoms and responses in mental disorders. Therapeutic communication techniques exist in this domain, as there are many cognitive and behavioral approaches in patient care. The *social domain* accounts for the family and community influences in mental disorders. While these influences do not cause mental illness, manifestations and disorders are significantly affected by these factors.



Boyd, 2018

A comprehensive nursing assessment enables the nurse to make sound clinical judgments and plan appropriate interventions. Assessment skills in psychiatric nursing are essential in-patient care. Although data collection and assessment vary among clinical agencies, the psychiatric examination consists of two parts: the psychiatric history and the mental status exam. Patients are often reluctant to discuss mental illness because of the associated stigma. Clinical reasoning in nursing practice depends on critical thinking skills such as problem solving and decision making, where nurses must analyze, interpret, and evaluate biopsychosocial data in the context of the nursing process.

THE MENTAL STATUS EXAMINATION

The mental status examination is a structured means of evaluating the psychological, physical, and emotional state of a patient with a psychiatric disorder to facilitate appropriate healthcare treatments. The nurse may also identify significant problem areas to be addressed in the treatment plan. Mental status exams are an essential tool for evaluating the safety of the patient and caregivers. Although each healthcare facility may vary slightly in its approach, all mental status exams include the same basic elements. These include an assessment of the patient's appearance, behaviors, thoughts, and moods. These are called the ABC's of MSE: (1) A-appearance, (2) B- Behavior and (3) C- Cognition which includes mood, affect and speech. Speech is a reflection of cognition (https://psychscenehub.com/psychinsights/ten-point-guide-to-mental-state-examination-mse-in-psychiatry; Boyd, 2018).

Appearance

Appearance includes primarily objective data based on observations of the patient's general appearance. The nurse assesses the patient's overall hygiene and grooming, considering gender, apparent age, height/weight, dress, odors, and tattoos/piercings. Height and weight should be documented along with nutritional status. The nurse evaluates if the patient looks the stated age since chronological age may not be a reflection of the client's physical/mental status. For example, a patient appears in their 50s, but the actual age is 35, suggesting poor self-care or illnesses (Boyd, 2018).

Behavior

The patient's behavior should be noted during the interview. Consider any mannerisms, notable movements such as agitation, physical slowing (retarded movements), tics, or other abnormal movements. It is important for the nurse to be developmentally and culturally aware during the mental status examination. For example, American culture considers eye contact to be a sign of respect and attention, but other cultures deem eye contact as offensive, challenging, or arrogant (Boyd, 2018).

Mood and affect

Mood is subjective (whatever the patient states) so this must be asked directly (e.g., How is your mood?) and is typically documented in quotations (Mood is "happy"). Affect is objective data (the nurse's observations) based on clinical descriptors that take into account the tone, range, and quality, together with facial expressions and body language that reveal the emotional state or feelings of the person. Mood and affect do not necessarily have to be consistent or similar. For example, a patient may state that their mood is "fine" but through their presentation they are expressing significant difficulty in their emotions with anger, sadness, or depression. Affect is the facial expression, body language, voice, or tone that reveals the emotional state or feelings of a person (Boyd, 2018).

A *dysphoric mood* indicates that the patient is persistently depressed, lethargic, apathetic, or "down" and is usually accompanied by a depressed affect. However, the affect may also be described as anxious or flat, meaning that there is no facial expression of feelings. A *euphoric mood* is an elevated emotional state that may be associated with an affect that is giddy, cheerful, or excessively bright. A *labile affect* is one that is rapidly changing and unpredictable – the patient may be cheerful, then suddenly become enraged with little provocation or may burst into tears unexpectedly. A labile affect can accompany various psychiatric disease states such as depression or psychosis. Substance use can also affect the patient's mood in many ways, depending on the degree of intoxication, the substance used, and any withdrawal symptoms. Some medications can interfere with the physical expression of an emotion, resulting in a flat or blunted affect (Boyd, 2018).

Thought processes

Thought processes refer to the way thoughts are organized and structured. One can think of thought process as HOW one is thinking and thought content as WHAT they are thinking. Speech assessment reveals both. Normally, thoughts are logical, sequential, and easily understood by others (in the absence of a known speech or communication disorder). Patients with disorganized thoughts may respond to questions with nonsensical speech because speech often reflects the thought process. There may be difficulty in performing simple activities such as bathing or eating without assistance, even in the absence of a physical impairment. Patients may mix up or confuse medications when a structured system (such as a weekly pill dispenser) is not available. Thoughts can be rapid, racing, or slowed. Poverty of speech can occur where questions are answered with one or two words and patients may be unable to expand on responses or use their imagination. Thoughts can be either abstract or concrete (Boyd, 2018).

A patient's thought processes may also show flight of ideas, as in the following example: "I came here in an ambulance. I wish I had more money! Did you see that TV show about Pekingese dogs the other night?" When a patient is experiencing a flight of ideas, speech is often accelerated and thoughts are random, abruptly changing with little association between thoughts (Boyd, 2018). When assessing a patient's thought processes, the nurse might also note the phenomenon of word salad. In a word salad, the patient's statements have no logical connections, and the thoughts are jumbled – for example: "I don't. Here, he said. My house. Mouse. Spouse." The previous statement also serves as an example of clang association, which is a pattern of using words because they have similar sounds and not because of the actual meanings of the words. A patient may use neologisms or words that don't exist in the English language. Words such as "frugelzip" or "rappeliciosity" will have a meaning that is clear only to the patient.

Thought content

Thought content refers to what the patient is thinking about. Initially, it is helpful to assess preoccupations or obsessions about real-life events, such as finances, employment, or relationships (Boyd, 2018). Sometimes a patient can experience intrusive or ruminating thoughts. An intrusive thought is an unwelcome idea that occurs without conscious effort, and ruminative thoughts

are thoughts that seem *stuck* in the patient's mind. An obsessive patient may have ruminative thoughts that may be unusual, such as a desire to check the door repeatedly to ensure it is locked or the belief that germs may be everywhere. Obsessive thoughts will often lead to compulsive behaviors – such as ritualized handwashing – in part as an attempt to relieve intrusive thoughts and their accompanying anxiety. The nurse's role is to help the patient understand that these thought processes are irrational.

Thought content problems are of essential importance. *Hallucinations* are false sensory perceptions (Boyd, 2018). Auditory, visual, olfactory, gustatory, or tactile symptoms may be present. Auditory hallucinations, such as hearing voices, are the most common in psychiatric disorders (Boyd, 2018). Visual hallucinations are false visual perceptions, such as seeing people who are not present. Patients can also experience a tactile hallucination, known as a false perception of touch (Boyd, 2018). Tactile hallucinations can present as "hands touching me" or "bugs crawling on me" and can exist with psychological or medical conditions such as withdrawal. When caring for a patient experiencing hallucinations, it is important to remember that the brain perceives the reported sensation, meaning that to the patient, it is very real. It is important for the nurse to address hallucinations with the patient; however, nursing judgment on how to therapeutically address them is critical. Initially, pointing out that the hallucination does not exist may jeopardize the development of a secure nurse-patient relationship; however, rationalizing with and helping the patient reason are important elements in the progression of treatment.

Delusions are fixed false beliefs (Boyd, 2018). The patient experiencing a delusion is certain that something is true, even when there is no substantiating evidence to prove the belief. Paranoid patients may be frightened as they often believe they are being watched, monitored, or spied upon by others. These individuals may report cars following them or mysterious phone calls late at night. Occasionally, a patient with paranoia may fear being poisoned and refuse medications or food. Religious delusions can also occur where the patient may feel persecuted by demons or may be very excited about a special relationship with God or with angels. Careful assessment by the healthcare provider is important to determine a patient's baseline religious beliefs so as not to label a thought as delusional when it is a well-accepted belief for the patient. Somatic delusions are uncomfortable beliefs that there is something wrong with one's body (Boyd, 2018). For example, some patients may believe that their bowels are necrotic or dead or may believe that their brain is missing.

Other delusions may exist such as a belief that aliens are broadcasting signals, or a belief that loved ones have been replaced by clones. It is always essential to determine what feelings are elicited in the patient because of the delusional thoughts. Paranoid thoughts will drive fear and fight-or-flight responses. The patient may set up protective traps around the home to prevent others from entering. Religious delusions may be pleasant and make the patient feel special, or they may be so persecutory that the patient becomes depressed and suicidal. Somatic delusions can lead to excess visits to healthcare providers and may result in the label of "hypochondriac" for the patient.

Ideas of reference can also occur in which the patient may believe that all events in the environment are related to or about them (Boyd, 2018). Patients experiencing ideas of reference may believe that, when in a group setting, others are talking about or ridiculing them (Boyd, 2018). Sometimes, ideas of reference are associated with grandiosity, or the belief that one is especially important or powerful (Boyd, 2018). An elderly homemaker who suddenly believes herself to be the next Marilyn Monroe may be experiencing grandiosity. Grandiose patients attempt to convince others of their importance and may present with perceived rude or arrogant behavior patterns.

Cognition and memory

Cognitive abilities are the elements of thinking that determine attention, concentration, perception, reasoning, intellect, and memory (Boyd, 2018). Attention span is particularly important in evaluating the mental status because a decreased attention span often limits comprehension. Decreased concentration levels and distractibility may occur in patients with disorders that affect attention, as well as for those with depression and other mental health concerns.

The nurse can assess the patient's perception by asking open-ended questions that encourage description, such as "What makes you feel anxious?" (Boyd, 2018). Intellect is assessed through clinical assessment as well as intelligence testing (American Psychiatric Association, 2020). Intelligence quotients (IQs), as well as cognitive, social, and psychomotor capabilities, are assessed to determine intellectual function. Intellectual disabilities are categorized as mild, moderate, severe, or profound. Although IQ scores can serve as a parameter for these categories, the level of severity is determined by adaptive functioning (American Psychiatric Association, 2020).

An assessment of memory consists of three basic parts: immediate recall, recent memory, and remote memory (Boyd, 2018). A simple test of recall is to give the patient three items to remember and then 5 minutes later ask the patient to state those items. *Immediate recall* can be quickly determined by asking what a patient consumed for breakfast. *Recent memory* is recall of one to several days. Questions regarding family members' names or place of residence help assess recent memory. *Remote memory* is recalled from several days to a lifetime. Asking patients where they grew up, what their parents' names were, or where they went to school readily provides this information.

Memory assessments help in differentiating a thought disorder from a dementia disorder. Patients with a primary psychiatric disturbance may be delusional in their beliefs but extremely accurate in memory and recital of facts and dates. A patient with early dementia may lose some short-term memory first, progressing to the loss of immediate recall, then finally to long-term memory loss (Boyd, 2018). *Orientation* means that patients are aware of who they are (person), where they are now (place), the approximate time and date (time), and awareness of the circumstances (situation). A disoriented person may be suffering from a cognitive disorder, drug or alcohol use or withdrawal, or several physical or psychological health problems.

Insight and motivation

Insight refers to patients that demonstrate understanding of their illness and the steps necessary to treat or manage the illness. The determination of a patient's level of insight is often associated with treatment adherence. The goal is that understanding leads to adherence. Occasionally, nurses encounter patients who demonstrate good insight and knowledge, but continue to display nonadherence to recommended treatments. Nurses should ask these patients about barriers to treatment, such as financial constraints or concerns regarding health insurance. The stigma of having a psychiatric diagnosis may lead the patient to feel ashamed or angry. Anger may be causing the patient to intentionally deny and refuse adequate treatment. Hidden motivations, such as the defense mechanisms may also have a significant impact on the patient.

Judgment

Healthcare choices can reflect *judgment*. This can be a positive or negative reflection on an ability to reach a logical decision about a situation (Boyd, 2018). For example, the patient with diabetes who continues to consume a diet high in sugar is demonstrating poor judgment. Actions and behaviors are often signs of judgment capabilities. A manic patient may spend their life savings on a trip or a lottery ticket. However, once in the normal or melancholic state, the patient may have no memory of the incident. Proper evaluation of the mood state when the actions were carried out is an important part of the assessment. Conversely, the patient who recognizes that an increase in paranoia is a sign of decompensation and seeks out emergency treatment is demonstrating good judgment. A patient's insight, or awareness of their own feelings, relates to the ability to display logical judgment (Boyd, 2018). Assessing and understanding a patient's ability to make positive or negative choices is an important piece of planning effective mental healthcare.

Safety

Finally, an evaluation of safety is important in any mental status assessment. The essential areas to examine include safety of self and safety of others. The nurse should determine if the patient has thoughts or urges of intentional harm. When suicidal thoughts are noted, inpatient treatment must be considered. Assessing suicide risk consists of asking the patient about a suicide plan, suicidal intent, and the available means to harm oneself. A well-developed suicide plan with means at hand may necessitate forcing an involuntary hospital stay, whereas an impulsive episode of self-mutilating may be best treated by an intensive outpatient program with family supervision. For example, a hunter who thinks about shooting himself is at much higher risk than the office worker who doesn't own or have access to a gun. Determining the lethality of the means available is also essential.

Patients experiencing extreme emotional pain may also self-mutilate by cutting or burning their arms, legs, or other areas. Although this is not considered suicidal behavior, it is high-risk behavior that indicates significant emotional distress.

The nurse should also determine the degree of risk of harm to others. There are two distinct areas in which patients with a psychiatric disorder may lose their rights to confidentiality: a threat to harm or kill another person and the report of child or elder abuse (Halter, 2018; U.S Department of Health and Human Services, 2019). *Duty to warn is an obligation to warn third parties when they may be in danger from a patient* (Halter, 2018, p. 99; Duty to Warn). The nurse must use all means necessary to reasonably contact the individual at risk, including notifying the police. In most healthcare settings, there are policies to ensure the report is made accurately and documented appropriately. Across the United States, nurses are considered mandatory reporting agents when a patient offers knowledge of abuse, molestation, or neglect of vulnerable patients. The nurse is obligated to report this to the local Child Protective Services agency (Duty to Warn). However, there is a conflict between state and federal law when child abuse is revealed during drug and/or alcohol treatment, and a court order is required for disclosure (Halter, 2018). State laws vary and healthcare providers should be very clear on their respective state laws and facility policy in terms of confidentiality.

THE THERAPEUTIC RELATIONSHIP

Hildegard Peplau applied Sullivan's teaching to her own theory, which nurses still use today in practice. Peplau viewed the nurse-patient relationship as representative of the patient's relationship with other important people in their life (husband, wife, mother, father, etc.). By analyzing the dynamic between the self and the patient, the nurse draws inferences about how the patient interacts with others and helps the patient to develop insight into these behaviors to promote change. Furthermore, Peplau applied Sullivan's views on anxiety as a driving force behind behaviors and related these views to nursing practice and a patient's ability to perceive and learn. For example, mild anxiety promotes learning, whereas severe or panic levels of anxiety prevent learning and distort perceptions (Keltner, 2014, p. 87).

From her own research, Peplau developed the therapeutic model of the nurse-patient relationship and introduced this in 1952 in her book entitled *Interpersonal Relations in Nursing: A Conceptual Frame of Reference for Psychodynamic Nursing*. Today, this framework is relevant as a basis of nurse-patient relationships. The nurse performs several roles while engaged in the relationship, including advocate, teacher, role model, and healer. Peplau saw these roles as significant in each phase of the nurse-patient relationship, all of which overlap and work together to facilitate interventions. There are traditionally three phases in the therapeutic relationship: the initiation (orientation) phase, the working phase, and the termination phase (Edberg, Nordmark, & Hallberg, 1995). Peplau (1952) identified five phases: orientation, identification, exploitation, resolution, and termination.

In the orientation phase, the nurse establishes rapport and begins to discuss the parameters of the relationship. The nurse also collaborates with the patient to identify the problem and extent of intervention needed, and how the patient and the nurse will work together to find solutions (Jones & Bartlett Learning, n.d.). Here the nurse can discuss confidentiality while developing the plan of care. The nurse will also address termination of the relationship. This involves informing the patient that the interactions will take place over a specific period. This helps the patient plan for the termination phase so that complications are less likely to arise when the nurse-patient relationship ends. An example of an orientation-phase introduction is:

> *Good morning, Mr. Jamison. I am Chris and I will be your nurse while you are a patient. I would like to arrange a time to meet this morning to discuss how we will work together to develop the plan of care for the next week. Together we will develop strategies to manage your depression and we will continue to meet daily to evaluate what you have accomplished before you are discharged.*

In the working phase, identification, exploitation, and resolution take place. During identification, the patient begins to identify with the nurse independently, dependently, or interdependently (Jones & Bartlett Learning, n.d.). It is during identification that the nurse reinforces the understanding of the meaning of the patient's situation (Jones & Bartlett Learning, n.d.). During exploitation, the patient utilizes the nurse's services based on personal needs, and once needs are resolved during resolution, mature goals emerge (Jones & Bartlett Learning, n.d.). During this working phase, the patient can practice new techniques or behaviors to manage thoughts, feelings, and behaviors that have contributed to their symptoms and created problems in relationships, occupational functioning, or interpersonal well-being. These skills and strategies can be practiced within the safety of the inpatient, partial hospital, or outpatient environment. The nurse helps to promote problem-solving skills, self-esteem, and behavioral changes. Unconscious thoughts and behaviors may arise in the working phase. It is important to address lingering or past issues to aid in the resolution of present symptoms. The patient learns about *self*, develops coping mechanisms, and tests new behaviors. During this phase, transference and countertransference often occur. Transference takes place when the patient unconsciously displaces feelings for another onto the nurse (Boyd, 2018). Likewise,

countertransference can occur when the nurse's emotions may also be displaced onto the patient (Boyd, 2018). The nurse's self-awareness and ability to maintain healthy boundaries and remain patient focused are important elements of the nurse-patient relationship.

The termination phase is the final phase of the relationship. In this phase, the nurse and the patient discuss the goals and outcomes achieved, review coping skills, and determine how to incorporate new behaviors into life outside of the facility. Closure of the relationship occurs so that the patient and the nurse can move forward. However, this phase can elicit strong emotions of loss or abandonment. For the nurse, feelings of guilt can arise if the patient has not met all goals. It is not appropriate for the nurse to meet with the patient once discharged. The nurse can plan for discharge by recalling successes achieved with the patient and taking pride in helping the patient gain positive outcomes to date. The patient may experience feelings of abandonment which may be revealed in behavior or emotions. For example, the patient may avoid signing necessary papers or have sudden outbursts. The nurse may need to discuss the importance of the termination phase with the patient, help redirect the patient to reflect on successes achieved while working together, and refer the patient to the next level of care, if appropriate (https://psychscenehub.com/psychinsights/ten-point-guide-to-mental-state-examination-mse-in-psychiatry/).

THERAPEUTIC COMMUNICATION

Therapeutic communication and the therapeutic relationship are a significant part of mental health nursing. Hildegard Peplau reiterated this sentiment in her work many times, stating that understanding was central to the nurse-patient relationship (Ramesh, 2013). Therapeutic communication differs from social communication in that patient goals are the central focus of the interaction. The goal may be to solve a problem, examine self-defeating behaviors, or promote self-care. Additionally, therapeutic communication involves active listening and responding in a way that creates rapport and moves the patient toward the end goal.

Therapeutic communication involves trust, boundaries, empathy, genuineness, and respect for the patient, regardless of the patient's condition (Halter, 2018; Morgan & Townsend, 2019). Sometimes, recognizing an individual's behaviors and making statements can add to the assessment data and provide insight into the patient's current state. An example is "I notice you are pacing more today." Allow the patient to respond. Remember that no response from an individual provides further insight into the individual's state of mind.

One important aspect of therapeutic communication is the therapeutic use of self. This is when the nurse uses self-disclosure in a goal-oriented manner to promote trust and teach the patient how to view the feelings or actions of others (Riley, 2015). Use of self, however, should not reveal personal details. Effective use of self involves self-reflection, self-awareness, and self-knowledge. As in any nurse-patient interaction, it is important to remain objective and nonjudgmental while considering the patient's needs. Nonverbal communication can tell the nurse a lot about the patient. Awareness of how the patient gestures or moves while conversing is vital in determining verbal/nonverbal congruence. Sitting across from the patient with an open stance demonstrates openness and a willingness to listen. An angled position or sitting side by side can promote comfort. Additionally, the doorway should never be blocked; this promotes safety as well as prevents the patient from feeling trapped or confined (Boyd, 2018).

A general opening, such as asking how the patient slept, can help facilitate the conversation. Gradually start asking open-ended questions to encourage the patient to engage, such as "Tell me a little about what has been going on." If anxiety or nervousness is observed, the nurse may need to step back and alter the questions or provide encouraging statements such as *go on* or *tell me more about that*. Those types of statements confirm that the nurse is listening and is open to knowing more about the topic. *Why* questions can be perceived as challenging and judgmental (e.g., "Why would you do that?"). Reword the question so that the patient can answer without feeling belittled or betrayed. It is important to get as much of the patient's history as possible. However, this may be difficult if the patient has severe symptoms that may limit their ability to carry on a conversation. In that case, observation will take precedence in the interview.

Samples of therapeutic and nontherapeutic communication techniques are provided in Table 1. *Therapeutic and nontherapeutic communication techniques.* Each of these techniques will elicit responses that give the nurse insight into the patient's thoughts and emotions (Boyd, 2018). Use open-ended questions so that the patient can respond with more than a yes or no answer. Give the patient enough time to answer the question as well. Avoid using jargon or medical terminology (https://publichealth.tulane.edu/blog/communication-in-healthcare/).

Table 1. Therapeutic And Nontherapeutic Communication Techniques

Therapeutic	**Example**
Open-ended question	"How are you feeling?"
Offering self	"I'll sit here with you for a while."
Giving general leads	"Go on … you were saying."
Silence	Sitting quietly.
Active listening	Leaning forward, making eye contact, and being attentive.
Restating	"So, what you're saying is …"
Clarification	"I don't quite understand. Could you explain …"
Making observations	"I notice that you shake when you say that."
Reflecting feelings	"You seem sad."
Encouraging comparisons	"How did you handle this situation before?"
Interpreting	"It sounds like what you mean is …"
Nontherapeutic	**Example**
Closed-ended question	"Did you do this?"
Challenging	"Just what do you mean by that, huh?"
Arguing	"No. That's not true."
Not listening	Body turned away, poor eye contact.
Changing the subject	(Patient states he is sad.) "Where do you work?"
Being superficial	"I'm sure things will turn out just fine!"
Being sarcastic	"Well, that's not important or anything. Not!"
Using clichés	"All's well that ends well."
Being flippant	"I wouldn't worry about it."
Showing disapproval	"That was a bad thing to do."
Ignoring the patient	"Did anyone see the news today?"
Making false promises	"I'll make the doctor listen to you!"

(Boyd, 2018)

During the evaluative process, the nurse will assess the use of defense mechanisms that may indicate the need for ongoing revision of the plan of care. Consistent evaluation of goals and progress is integral for successful nursing care of the patient with a psychiatric-mental health disorder. Sigmund Freud, the grandfather of psychotherapy, believed that most psychiatric disturbances arise out of childhood experiences and the way human beings respond to their environment, and are based on unconscious drives or motivations (Halter, 2018). Freudian therapy, developed in 1936 and referred to as psychoanalysis, attempts to bring the unconscious into consciousness to allow individuals to work through past issues and develop insight into present behaviors. Although classic psychoanalysis as developed by Freud is rarely used today, Freud's understanding of anxiety as well as the unconscious mind are significant drivers in understanding the human response with defense mechanisms (Halter, 2018).

Any behavior or psychological strategies employed (often unconsciously) to protect a person (the real self or 'ego') from discomfort, uncomfortable emotions, anxiety, or tension that may result from unacceptable thoughts or feelings is considered a defense mechanism. Most individuals use defense mechanisms from time to time, but problems may occur when they are used exclusively or in place of healthier coping mechanisms. Therefore, recognition and nursing interventions focused on adaptive coping strategies should be implemented before working to replace the person's usual defense mechanisms. Defense mechanisms are behaviors that an individual uses to deal with stressors. Defense mechanisms can be beneficial and protective for the patient, or they can be counterproductive and maladaptive. Table 2. Defense mechanisms provides an overview of commonly utilized defense mechanisms; a brief discussion of some of these defense mechanisms follows (https://www.ncbi.nlm.nih.gov/books/NBK559106/)

Table 2. Defense Mechanisms

Defense Mechanism	Definition	Example
Repression	Involuntarily forgetting painful events.	A woman who was sexually abused as a child cannot remember that it occurred.
Suppression	Voluntarily refusing to remember events.	An emergency room nurse refuses to think about the child who is dying from injuries sustained in an auto accident.
Denial	Refusing to admit certain things to oneself.	An alcoholic man refuses to believe that he has a problem, in spite of evidence otherwise.
Rationalization	Trying to prove one's actions are justifiable.	A student insists that poor academic advice is the reason he cannot graduate on time.
Intellectualization	Using logic without feelings.	A father analyzes why his son is depressed without expressing any emotions of concern.
Identification	Attempting to model one's self after an admired other.	An adolescent tries to look and dress like his favorite musician to feel stronger and more in control.
Displacement	Discharging pent-up feelings (usually anger) on another.	A child who is yelled at by her parents goes outside and kicks the dog.
Projection	Blaming someone else for one's thoughts or feelings.	A jealous man states that his wife is at fault for his abuse of her.
Dissociation	Unconsciously separating painful feelings and thoughts from awareness.	A rape victim "goes numb" and feels like she is floating outside of her body.
Regression	Returning to an earlier developmental level.	A 7-year-old child starts talking like a baby after the birth of a sibling.
Compensation	Covering up for a weakness by overemphasizing another trait.	A skinny, nonathletic child becomes a chess champion.
Reaction formation	Acting exactly opposite to an unconscious desire or drive.	A man acts homophobic when he secretly believes he is gay.
Introjection	Taking on values, qualities, and traits of others.	A 12-year-old girl acts like her teacher when the teacher is out of the room.
Sublimation	Channeling unacceptable drives into acceptable outlets.	An angry woman joins a martial arts club and takes lessons.
Conversion	Converting psychiatric conflict into physical symptoms.	A lonely, elderly woman develops vague aches and pains all over.
Undoing	Trying to counteract or make up for something.	A man who yells at his boss sends her flowers the next day to "make up."

(Boyd, 2018)

Denial

Denial indicates an inability to believe or act on some type of news or information. This may be attributed to unconscious forces that override a person's rational thoughts or the premise that changing a behavior is more difficult and anxiety provoking than continuing the behavior. For example, a man with lung cancer may continue to smoke because quitting smoking may mean acknowledging a life-threatening illness, or a woman with alcoholism may continue to drink to avoid facing a dysfunctional marriage. Denial provides protection by allowing the psyche to slowly grasp traumatic events (e.g., death of a loved one), but it becomes maladaptive when the person can't move on. Understanding denial as a psychological process is important, especially when it may seem that a patient is not adhering to a plan of care (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Repression and suppression

Repression and suppression are defense mechanisms that are commonly confused with each other. In repression, a person cannot voluntarily recall a traumatic event such as a rape or terrorist attack (Halter, 2018). Only through therapy and sometimes hypnosis can the memories start to painfully resurface; when they do, the event will be as acutely distressful as if it had just happened. In suppression, a person chooses to ignore or forget painful events; however, when queried, they can instantly recall them (Halter, 2018). This can be very productive for the nurse in an emergency, when they are able to temporarily push aside personal feelings and reactions to deal with the crisis at hand (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Displacement

Displacement occurs in our everyday lives. For example, when a person has a bad day at work and goes home and takes it out on their spouse or children, displacement has occurred as the person has shifted their feelings away from the intended object (job, boss, etc.) and onto an innocent and unsuspecting other. Displacement can be the defense mechanism behind anger outbursts such as road rage (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Rationalizing

Rationalizing is the attempt to explain away situations while not taking responsibility for one's own actions. A senator who is arrested for taking gifts or money from lobbyists may try to rationalize this behavior by saying, *everyone does it, or that's the way you get business done* (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Identification

An adolescent who tries to emulate a respected authority figure is using identification. Identifying with others and trying to be like them is adaptive and useful when the role model is a positive influence (e.g., father, mother, minister), but it can be very maladaptive when the role model is a negative influence (e.g., gang leader, rock star with drug problems). The psychiatric nurse who understands the various defense mechanisms patients in emotional distress use will be able to develop a treatment plan that addresses the use of defense mechanisms and presents alternatives that are more conducive to mental health and improved quality of life (https://www.ncbi.nlm.nih.gov/books/NBK559106/).

Self-Assessment Quiz Question #3

Which best describes the meaning of defense mechanisms?

a. Behaviors used to deal with stressors.
b. False sensory perceptions.
c. Beliefs that lack substantiation.
d. Overall emotional state.

THERAPEUTIC APPROACHES IN MENTAL HEALTH

Milieu therapy

The word milieu means surroundings or environment; milieu therapy is also referred to as therapeutic community. Milieu therapy is a structuring of the environment in order to affect behavioral changes and improve the psychological health and functioning of the individual. The goal of milieu therapy is to manipulate the environment so that all aspects of a patient's hospital environment are considered therapeutic (Townsend, 2019). Within this setting, the patient is expected to learn adaptive coping, interaction, and relationship skills that can be generalized to other aspects of the patient's life. Although milieu therapy was originally developed for patients in the inpatient setting, these principles have been adapted for a variety of outpatient settings (https://easpublisher.com/media/articles/EASJNM_22_129-135.pdf)

Care of patients in the therapeutic milieu is directed by an interdisciplinary treatment team, but overall management is the responsibility of the nurse. The initial assessment is made by the nurse or psychiatrist and the comprehensive treatment is developed by the treatment team. Basic assumptions of milieu therapy include the opportunity for therapeutic intervention, the powerful use of peer pressure within the environment, and inappropriate behavior can be addressed as it occurs (Boyd, 2018).

There are certain conditions that promote a therapeutic community.

1. The patient is protected from injury from self or others.
2. The patient's physical needs are met.
3. Programming is structured, and routines are encouraged.
4. Staff members remain relatively consistent.
5. Emphasis is placed on social interaction among patients and staff.
6. Decision-making authority is clearly defined.
7. The patient is respected as an individual and is encouraged to express emotion
8. The patient is afforded opportunities for freedom of choice.
9. The environment provides opportunities for testing new behaviors.

(Townsend, 2019;
https://currentnursing.com/pn/milieu_therapy.html)

It is understood that basic physiologic needs are fulfilled, and safety is paramount. Within this environment, a democratic self-government exists through community group participation. This promotes member interaction and communication. The therapeutic milieu provides structure and consistent limit setting at a time when individuals need it the most. These elements provide an assessment of the patient's progress toward treatment goals. The nurse assumes responsibility for the overall management of the therapeutic milieu including assessment, safety and limit setting, medication administration, and education.

Effects of the environment can easily be understood by thinking about common events in one's own life. Going to a party may evoke a sense of festivity, joy, and excitement; going to a funeral can cause somber feelings of sadness; when walking into a quiet library, a person may feel the need to whisper and walk softly; and a starkly painted, tiled hospital room may lead us to feel fearful, anonymous, or disengaged. Even schools reflect environmental or milieu manipulation and effects (consider a Montessori-style school compared with a stricter military school). Inpatient psychiatric settings and residential settings are the most common places in which milieu therapy occurs. A patient who is disorganized, paranoid, or agitated responds better to an environment that is calm, well structured, and predictable, with staff persons who are pleasant in nature but consistent, directive, and firm.

Self-Assessment Quiz Question #4

The nurse is explaining milieu therapy to a group of students. What is the primary role of the nurse in milieu therapy?

a. Conducts individual, group and family therapy
b. Directs drama that portrays real life situations
c. Assumes responsibility for management of milieu
d. Focuses on rehabilitation and vocational training

Group therapy

Irvin Yalom, MD, has been highly influential in the development of group therapy. Dr. Yalom's first book, *The Theory and Practice of Group Psychotherapy* (1970), became a foundational text for many psychotherapists and advanced practice nurses interested in group therapy. Dr. Yalom postulated that when individuals are grouped together, certain characteristics of the individuals will emerge that are reflective of family-of-origin and childhood issues (1970). In therapy sessions with groups of people, these negative or destructive childhood events can be reworked and reframed, leading to healthier adult coping responses while the group members develop identities and go through phases.

In a counseling group setting, members can discuss stressors in a safe environment. The group often provides a sense of community and the feeling that the individual is not alone in dealing with their problems (Corey, Corey, & Corey, 2013). Dr. Yalom termed this concept universality (Yalom & Leszcz, 2014). Thus, universality, or the camaraderie sense of *we are all in this together*, serves to encourage trust and move the group into productivity. Individual group members grow and develop self-awareness through the relationships developed and feedback gathered from those around them (Corey et al., 2013).

Yalom's stages include orientation, conflict development, cohesion, and working (Yalom & Leszcz, 2014). There are many other theories regarding groups; although they may differ in certain ways, they all show how the group forms interpersonal relationships cohesively. The group leader recognizes what phase the group is in and helps facilitate progression toward the group's goals.

The best size for a therapy group is usually 6 to 12 members (Boyd, 2018). In larger groups, some members may be ignored or can more easily avoid participation. In smaller groups, the gatherings can turn into a series of individual therapy sessions with the group leader while everyone else watches. Training in facilitation of therapy groups is standard in graduate programs for advanced practice nurses, psychiatric and psychological master's programs, and clinical doctoral programs.

Psychoeducational groups

Psychiatric nurses are often responsible for facilitating psychoeducational groups in mental health settings, where there is a defined group leader and specific content or topics to be discussed. Topics are frequently based on developing skills important to daily living and maximizing the quality of life. Some topic examples include strategic management of symptoms, medication education, coping with stress, and relapse prevention. Psychoeducational groups emphasize group member interaction and participation, but they also emphasize learning new behaviors. The facilitator may organize hands-on activities and sometimes give homework assignments. Other non-nursing personnel may conduct psychoeducational groups; however, psychiatric nurses are in a unique position based on their education, training, and holistic approaches, to help bridge the gap between patients' physical and mental health. Psychoeducational groups may be larger than strictly therapeutic groups, although larger groups can be difficult to manage depending upon the personality mix of those attending (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7001357/).

Cognitive-behavioral therapy (Individual therapy)

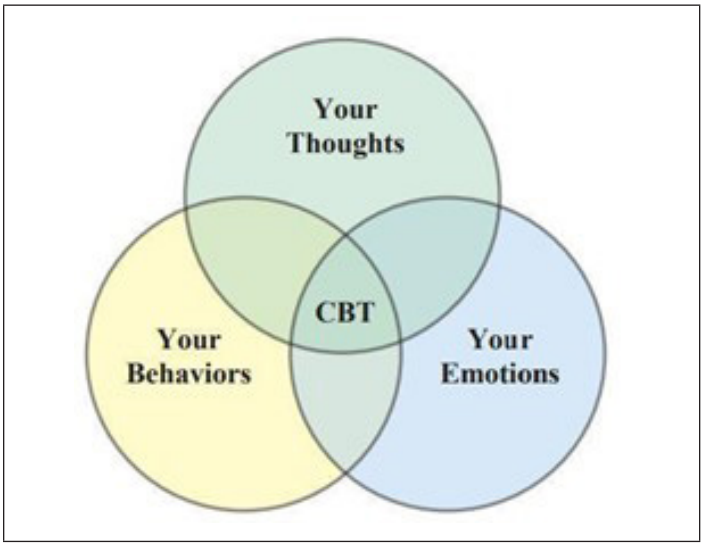
Cognitive-behavioral therapy (CBT), pioneered by Aaron Beck (1967) and Albert Ellis (1973), focused on the relationship between a patient's perceptions about events and the resultant feelings and behaviors. This cycle of thoughts that influence feelings and behaviors is demonstrated in this example:

> *Imagine you are driving down the interstate at 75 miles per hour. You check your rear-view mirror and see the flashing lights of a state trooper. Knowing that you are driving over the speed limit, you are certain you will be pulled over and given a traffic ticket. You think of the two glasses of wine you just consumed with dinner. "What if my blood alcohol level is too high? I can't be arrested! I would lose my job! They'll take away my nursing license!" Your palms get sweaty and your heart starts to race. Barely able to contain your panic, you swerve quickly into the right-hand lane without signaling and cut off a car coming up behind you. The car honks, you pull onto the shoulder, and finally stop. In dread, you look out the window for the trooper, who drives past you down the highway.*

In this example, the driver's thoughts of breaking the law by speeding and getting arrested for drunk driving cause the driver to feel anxious and panic, which results in erratic behavior and nearly causes an accident. Now consider this example:

> *Imagine yourself driving down the interstate. You check your mirror and see the flashing lights of a state trooper. You know you're driving over the speed limit, but so are many drivers around you. You think of the two glasses of wine you had with dinner, but you did eat a large portion and you don't feel drowsy – besides, that was several hours ago. You determine that the state trooper must be on the way to the scene of a crime or accident, so you signal a right turn, check your mirrors, and carefully pull over onto the shoulder of the road. The state trooper drives past you and you continue your journey.*

CBT is based on the supposition that behaviors are a result of distorted thinking about situations (Yalom & Leszcz, 2014). These distortions can take the shape of catastrophizing, which involves thinking that the worst that can possibly happen will happen or has happened; perceiving threats where none exist; thinking only of negative outcomes; or making over-generalizations. In anxiety disorders, fear is the driving force for distorted thoughts. These distorted thoughts impact feelings and lead to behaviors such as situational avoidance where objects or places may become a self-reinforcing behavior as the person has no additional life experience to combat the distorted thinking. Cognitive restructuring is used to help the patient examine their beliefs in more detail and to break down the resultant feelings and behaviors into A (antecedent), B (behavior), and C (consequence).



Exposure is a CBT technique that provokes the patient's anxiety over a feared idea or object in a controlled, supportive environment (Boyd, 2018). A person afraid of heights might be asked to work toward standing on a footstool for a minute or two in the clinician's office. Gradual exposure to the situation allows the patient to systematically desensitize to the stressor with tools to manage thoughts and feelings that arise when confronted with the feared stimulus. Flooding exposes the patient to the stressful object or idea all at once; although this technique can be used, trained clinicians should judiciously use it as it may produce panic symptoms. Skills training may also be employed in CBT. This specifically trains the individual based on their needs. Cognitive-behavioral techniques are useful with most psychiatric conditions and mental health states to improve mental flexibility and resilience, moving the person towards health on the health-illness continuum. Helping the patient to identify beliefs (true or false) about situations enables the patient to challenge the beliefs that are detrimental to recovery (McKay et al., 2015). Psychiatric nurses of all levels can utilize the basic skills of CBT in teaching their patients how to reframe distorted thoughts that lead to emotional turmoil and erratic behaviors.

Family therapy (Social theory)

Individuals with psychiatric, mental health, or behavioral problems often live in a family environment. Children and adolescents are still part of the family unit although the nature of "family" may differ in situations concerning foster care or residential treatment centers. Adults may live alone or with others, be married or single, and live with or without children of their own. Even adults who live alone often have significant family relationships with parents, children, or others. The concept of "family" is identified by the patient but usually involves other persons with whom the patient interacts on a frequent basis and in whom the patient has significant emotional investment.

Family therapy is based within the understanding that, although there is an identified patient, problems may arise out of dysfunctions within the system because the family is a unit and problems are relational to each other (Friedman, Bowden, & Jones, 2003; Sexton & Alexander, 2015). Family therapies focus on strengths of the individual patient and the family as a basis for treatment. Understanding how the family functions and relates to one another helps contribute information that is helpful in the development of a plan of care. Family therapy is complex, and master's or doctorate-level clinicians should be utilized for this type of intense treatment. The Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) offers specialized accreditation to marriage and family therapy programs; this encourages programs to continue monitoring and maintaining their rigor and development and demonstrates that programs are meeting industry standards and their own objectives (COAMFTE, n.d.)

Treating the family via emotional or cognitive methods allows problems to be addressed within the family dynamic; treating the patient apart from his or her family alone will not correct these systemic problems, and relapse is likely (Sexton & Alexander, 2015). Cognitive awareness (as in CBT) helps individuals and families recognize the cyclic nature of thoughts creating feelings, which create behaviors, which reinforce thoughts, and which continue circularly. Addressing this from a systems nature allows all members of the family unit to explore their role within this continuum and work toward healthier interactions simultaneously.

Community support groups (Social theory)

Many community support groups exist to help individuals who are experiencing specific mental health problems. Groups exist for gambling addiction, rape and sexual abuse support, bipolar disorder, depression, grief and bereavement, suicide, attention deficit disorder, PTSD, substance abuse, and many more. Support groups differ from therapy groups in several important ways. Support groups are a network of members with similar traits or characteristics; support groups are leaderless – they may have a nominated leader, but that person is also a victim or patient and a group member; support groups are not managed by a healthcare professional; support groups are free or have minimal cost; support groups may meet less frequently than therapy groups but for a longer period of time (years to indefinitely); and support groups are usually self-sustaining. If members lose interest, the group can't find a place to meet, or membership wanes, then the group may end (https://www.frontiersin.org/articles/10.3389/fpsyt.2021.714181/full).

The National Alliance on Mental Illness (NAMI) is the nation's largest grassroots support organization for families and persons affected by mental illness. Established in 1979, NAMI is a powerful lobbying force in Washington, DC, with affiliates in every state and more than 1,100 communities across the country. NAMI focuses on fighting against the stigma associated with mental illness and provides support for families and patients with psychiatric illnesses.

Self-Assessment Quiz Question #5

Which of the following is considered a support group?

a. Cognitive behavioral therapy.
b. Alcoholics Anonymous.
c. Family therapy.
d. Medication education.

BRAIN ANATOMY AND PHYSIOLOGY

Within the brain, several areas influence behaviors and are related to psychiatric-mental health disorders, such as the areas involved in mood, anger, and thoughts. Therefore, it is important for nurses to understand how the brain regulates mood and behaviors. The cortex, the outer surface of the brain, is associated with rational thinking (Halter, 2018). The orbitofrontal cortex, which is in the forehead, regulates sympathetic and parasympathetic signals and houses the executive functions (Norris, 2019). Examples of executive functions include decision making, organizing, and determining right from wrong. Additionally, the cortex is adjacent to other areas of the brain, connecting rational thought to mood.

Several other areas of the brain also have a role in psychiatric-mental health disorders. The frontal lobe, for example, is heavily involved in decision making. The parietal lobe integrates sensory and motor information. The occipital cortex is the vision center. The cerebellum works to create muscle tone, posture, and coordination. The temporal lobe is involved with memory, smells, sounds, and language. The hypothalamus regulates body temperature and metabolism, and research suggests that it plays a role in emotions. The pituitary gland regulates hormones, and the brainstem controls basic vital functions such as respiratory rate, heart rate, reflexes, and movement (Norris, 2019).

The limbic system, which is involved in emotions, has a central role in psychiatric-mental health disorders. The limbic system contains the amygdala, which regulates mood and emotions such as anger; the hippocampus, which regulates memory; and the anterior cingulate, which regulates sensations (Norris, 2019; Stahl, 2020). These areas all work together to compose emotions and the body's responses to emotions. There are millions of connections among these areas. These connections, or pathways of electrical impulses, allow parts of the brain to communicate with one another and respond to stimuli.

NEUROTRANSMITTERS

The presynaptic area located at one end of each neuron holds neurotransmitters. A neurotransmitter is a chemical that carries a message to another neuron. An electrical charge, usually powered by a sodium-potassium channel, causes a reaction from one end of the neuron to the other, releasing the neurotransmitter into the synapse like a gun firing (Norris, 2019; Stahl, 2020). The neurotransmitter then crosses the space or synapse between the neurons and attaches to a specific receptor on the postsynaptic cell. Once the neurotransmitter has delivered the message to the postsynaptic cell, it is released back into the synapse (Stahl, 2020). Once released, the neurotransmitter can be destroyed by specific enzymes or be taken back into the presynaptic area by a process called *reuptake* (Stahl, 2020).

Psychiatric-mental health treatment is based on enabling neurotransmitters with messages to attach to the postsynaptic neurons (Stahl, 2020). Each neurotransmitter attaches to a receptor like a key fitting into a lock. This causes a reaction in the neuron referred to as a *second messenger system*. These exchanges must happen several times before the goal of change in the neurons and brain occurs. Sometimes a message gets lost or is incorrectly transmitted. This can lead to emotional dysregulation and psychiatric symptoms (Stahl, 2020).

Dopamine, serotonin, and norepinephrine are the most important neurotransmitters in mental health. In addition, two amino acids, gamma-aminobutyric acid and glutamate, have a role in psychiatric-mental health, with each having its own effect on mood and behavior.

Dopamine

Dopamine is a neurotransmitter associated with psychosis and influences several areas of the brain. Dopamine regulates movement and coordination, emotions, and decision making. Decreased levels of dopamine can cause Parkinson's disease. Conversely, increased levels can lead to schizophrenia or mania (Stahl, 2020). Dopamine also stimulates the hypothalamus to release sex, thyroid, and adrenal hormones (Stahl, 2020). Antipsychotic medications aim to decrease symptoms of psychosis by enhancing the impact of dopamine on the postsynaptic cells.

Serotonin

Serotonin is a neurotransmitter found in the limbic system, the brain cortex, and the stomach. Research suggests that low levels of serotonin are implicated in depression, whereas excess levels have a role in anxiety, mania, aggression, and possibly schizophrenia. Serotonin is also associated with appetite, mood, aggression, libido, sleep, and arousal, as well as perception of pain (Stahl, 2020). Medications that support serotonin are the first line of action against depression and are components of some antipsychotic medications.

Norepinephrine

Norepinephrine is a neurotransmitter found in various parts of the brain and the brainstem. Norepinephrine regulates mood, cognition, perception, sleep, arousal, and cardiovascular status (Stahl, 2020). Excess levels can trigger a fight-or-flight response and long-term elevations are associated with mania and anxiety. When norepinephrine is depleted, depression can occur. Research suggests that norepinephrine plays a role in the chronic pain that can accompany depression. Medications that increase the messages or actions of receptors that involve norepinephrine are usually antidepressants.

Gamma-Aminobutyric Acid

Gamma-aminobutyric acid (GABA), an amino acid, is an inhibitory protein. It is concentrated in the frontal and temporal lobes of the brain, where it slows down activity. GABA works like a light switch, turning on and off other excitatory molecules (Stahl, 2020). When there is not enough GABA in the brain, anxiety can occur. Medications such as benzodiazepines aim to increase levels of GABA to slow down the brain activity involved in, for example, panic attacks and anxiety.

Glutamate

Glutamate is an excitatory amino acid that functions to open the calcium channel so that neurons fire faster (Stahl, 2020). This causes excitement in the brain. Researchers are currently investigating the role of glutamate in ADHD, anxiety disorders, depression, mania, and mood disorders (Stahl, 2020).

Self-Assessment Quiz Question #6

Dopamine is responsible for which of these symptoms?

a. Sleep.
b. Psychosis.
c. Arousal.
d. Catatonia.

PSYCHOPHARMACOLOGY AND THE BRAIN

Typically, medications that treat psychiatric-mental health disorders work by either increasing or decreasing the activity of neurotransmitter receptor systems in several ways (Stahl, 2020). For example, benzodiazepines aim to slow down brain activity, thus reducing anxiety, by increasing levels of GABA. It is important to remember that the change in the neurotransmitter system either facilitates or inhibits different functions in the brain. Medications can have a single specific target, such as serotonin reuptake inhibitors, or they can target multiple transporters, such as serotonin and norepinephrine reuptake inhibitors.

Simply stated, psychiatric medications block receptors or increase the number of neurotransmitters available for use, thus changing the message at the postsynaptic site. For example, consider a patient with depression who takes a selective serotonin reuptake inhibitor (SSRI). The medication increases the serotonin in the synapse, making more serotonin available for the receptors (Stahl, 2020). The message is sent via the postsynaptic cell and a second messenger to change the cell. The result is a decrease in depressed mood. Note that it might take several weeks of changes to this system for the desired health outcome to occur (Stahl, 2020).

Because neurons and the messages they carry are interrelated, even medications that target only one neurotransmitter can affect other neurotransmitters and messages. These alterations can cause changes in basic drives, sleep patterns, body movements, and autonomic functions (Stahl, 2020). These are side effects of medications affecting neurotransmission. For example, several psychotropic medications have the side effect of drowsiness. This occurs because the medication affects more than one neurotransmitter and message. Side effects are often the result of unintended changes in the neurotransmitter systems.

Classifications in psychopharmacology

Medications play a role in the treatment of nearly every psychiatric condition. For the purposes of this course, psychotropic medications are classified into seven broad categories: antidepressants, anti-anxiety agents (also called anxiolytics), antipsychotics and their "partners" anticholinergics (used to reverse some side effects), mood stabilizers, sedative-hypnotics, psychostimulants, and miscellaneous medications designed to reduce or prevent alcohol or drug dependence, including nicotine dependence (Stahl, 2021)

Complementary and alternative therapies in mental health

Herbals and dietary supplements have gained interest in Western cultures as people search for natural remedies. Many people feel that natural herbal remedies are healthier and safer overall than pharmaceutical drugs. The Food and Drug Administration (FDA) considers herbal supplements, vitamins, and other dietary supplements to be food sources and, as such, only monitors information on the product's label and does not regulate their manufacturing or usage. This can result in wide variances in the amount of active ingredient that may be available in a certain product; some products have even been found to contain no active ingredients after undergoing laboratory evaluation. Some herbal supplements have been used in the treatment of mental health conditions, as these products are available over the counter in many stores. Patients may seek information available on the Internet and then choose supplements based upon their understanding. The nurse should always assess the use of herbal and other supplements and educate patients about known mechanisms of action, side effects, and possible interactions with pharmaceutical drugs. It is important to review available research regarding supplements and use this evidence when providing patient education. The role of certain natural herbs in the treatment of psychiatric disorders is discussed below.

St. John's wort (*Hypericum perforatum*) is derived from the St. John's wort plant. It is primarily used to address depression. St. John's wort is thought to affect serotonin and monoamine oxidase inhibitors in the brain, similar to antidepressants. There are numerous studies that demonstrate reports of drug-to-drug interactions in patients who used St. John's wort while taking other medications (including prescribed antidepressants), so it is important that the nurse teaches patients not to combine this supplement with other medication, as it may increase the risk for serotonin syndrome.

Valerian root (*Valeriana officinalis*) is powdered and taken in a capsule form. It is believed to work on the gamma-aminobutyric acid (GABA) system to alleviate anxiety and treat insomnia. Valerian should not be taken with other central nervous system depressants (especially anesthetics, barbiturates, and benzodiazepines) because it can potentiate their effects. Side effects include headaches, uneasiness, dizziness, and, sometimes, excitability.

Kava kava (*Piper methysticum*) is a South Pacific oceanic herb with sedative, analgesic, and mild euphoria-inducing properties. Kava kava may act on GABA in a manner similar to benzodiazepines, and it does have drug-to-drug interaction effects with those products. Side effects of kava kava can include stomach disturbances, dizziness, and a temporary yellowing of the skin. A person with liver impairment or one who is a heavy alcohol user should never use kava kava because it has been linked with hepatotoxicity (Rivers, Xing, & Narayanapillai, 2016). Banned in some European countries, kava kava is still widely available for over the counter or Internet purchase in the United States, Australia, and New Zealand (Rivers et al., 2016).

Ginseng (*Panax ginseng*) is a stimulating herb that can produce energy similar to caffeine, meant to result in improved endurance and reduced fatigue. Jitteriness and nervousness can be side effects of this supplement, as can insomnia, hypertension, restlessness, and, possibly, mania.

Ginkgo biloba (*Ginkgo biloba*) has gained popularity for its theoretical ability to improve blood flow to the brain to promote alertness, mental sharpness, and memory; to treat fatigue and stress; and to improve endurance. Ginkgo biloba has antioxidant properties, reducing free radicals in the body that cause cellular death (Tulsulkar & Shah, 2013). Ginkgo biloba can interfere with blood clotting and reduce platelet action, leading to increases in bleeding times. It may interfere with anticoagulant therapy and should not be taken by patients with circulatory problems who are taking such medications such as Coumadin, Plavix, or aspirin. Side effects of ginkgo biloba include headaches, nausea, vomiting, stomach upset, and, occasionally, skin allergies (Izzo, Hoon-Kim, Radhakrishnan, & Williamson, 2016).

Chamomile preparations are often used in Europe to facilitate digestion, ease gas, and decrease cramping (Mahady, Wicks, & Bauer, 2017). It has been shown to be safe for children and is a first line of therapy in Germany for treating sensitive skin infants and young children (Mahady et al., 2017).

To address vitamin and mineral needs, a one-a-day multivitamin supplement for adults and a chewable daily supplement for children can be helpful. Iron deficiency is associated with fatigue and oral conditions such as stomatitis. Omega-3 fatty acids (fish oil, flaxseed oil) have shown positive benefits in treating behavioral problems (Bondi et al, 2014; Raine, Portnoy, Liu, Mahoomed, & Hibbeln, 2015). The fat-soluble vitamins A, D, and K can be dangerous in high doses. B-complex vitamins are associated with energy. Given with calcium, vitamin B6 has been shown to reduce premenstrual symptoms (Masoumi, Ataollahi, & Oshvandi, 2016). L-methylfolate (Deplin), a prescription medical food, is a derivative of folic acid (a B vitamin). It is a dietary supplement that has demonstrated effectiveness in enhancing the treatment of depression and is monitored by the FDA (Shelton, Manning, Barrentine, & Tipa, 2013).

Massage is the manipulation of the body's soft tissues to promote circulation and relaxation. There are numerous types of massage techniques, varying from light touch to deep muscle work and from specific to generalized body parts. Swedish massage is meant to provide relaxation and increase circulation; Shiatsu massage, influenced by Chinese medicine, is used by a specialized practitioner who applies pressure to acupoints on the body with the intention of increasing the life flow (or Japanese ki; Halter, 2018).

Reflexology, also called *zone therapy*, is the application of massage or pressure to the hands and feet to alleviate distress in different parts of the body. The theory of reflexology is that all of the body is represented in areas in the hands and feet, and thus stimulating these trigger points can eliminate distress in the related body system(s) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4624523/).

According to traditional Chinese medical theory, acupuncture points are situated along meridians (channels) in the body that align with a vital energy flow, the *Qi* (Halter, 2018). Illness or distress interrupts the Qi. Acupuncturists insert tiny filiform needles along the meridians to stimulate and readjust the energy flow. Practitioners diagnose which systems in the body are affected based on inspection, auscultation, olfactory senses, palpation, and taking a limited history of symptoms. Side effects to the treatment are generally mild and may include slight headaches, nausea, or pain in certain areas. In the Western hemisphere, a common use of acupuncture is for the treatment of pain (Halter, 2018 (https://www.sciencedirect.com/science/article/pii/S2213422021000883?via%3Dihub).

Hypnosis is a technique that induces a deep relaxation and calm, trance-like state of mind. The patient's focus of awareness becomes so restricted that external noise and distractions are no

longer present in the conscious mind. Hypnotherapy is practiced by highly trained clinicians, often psychologists, to achieve certain therapeutic goals with the patient, such as recovering memories lost through the defense mechanism of repression, learning to be less anxious when faced with anxiety-provoking situations, or reducing or eliminating undesirable behavior such as smoking. The patient undergoing hypnotherapy must be relaxed and receptive to the procedure (https://positivepsychology.com/hypnotherapy/).

Psychiatric nurses should familiarize themselves with the various modalities of psychotherapy, the medications used in the treatment of psychiatric illness, as well as the complementary and alternative therapies and the various somatic therapies used in the treatment of psychiatric disorders. Psychiatric nurses provide psychoeducational services to patients and their families and should have a thorough understanding of the treatment modalities commonly used in psychiatric practice.

Self-Assessment Quiz Question #7

Which complementary alternative medicine interferes with anticoagulants?

a. Chamomile.
b. Ginseng.
c. Ginkgo biloba.
d. St. John's wort.

Self-Assessment Quiz Question #8

Which complementary alternative medicine should be avoided in patients who report heavy alcohol use?

a. St. John's Wort.
b. Ginseng.
c. Valerian root.
d. Kava kava.

OTHER THERAPIES IN MENTAL HEALTH

Electroconvulsive therapy

Mental health professionals once used ECT, introduced in the 1930s, to treat a broad range of psychiatric disturbances (George et al., 2020). With strong advances and refinements in the field, professionals may still use ECT to treat certain conditions such as severe depression (major depression), mania, or psychosis (George, et. al, 2020). To perform ECT, the patient is given a short-acting sedative, followed by a muscle relaxant. The muscle relaxant prevents tonic-clonic jerking of the body caused by seizure activity that, historically, was the cause of physical injuries to the patient. After the patient is anesthetized, electrodes are placed on the sides of their head and an electrical stimulus that is sufficient to trigger a seizure is given. Ideally, the seizure activity lasts about 15 seconds (Townsend, 2014). Breathing is supported during the procedure by nurse anesthetists or anesthesiologists. The ECT session is repeated two to three times a week for 3 to 4 weeks and is often done on an outpatient basis (Townsend, 2019).

Providers usually use medications and therapy before deciding to use ECT. ECT has an effectiveness rate of approximately 60% to 70% in the treatment of depression (George, et. al, 2020). There are few contraindications to ECT; however, caution should be used in pregnancy, patients with cardiac conditions, or patients with intracranial pressure because of disease (Townsend, 2019). Side effects of ECT include memory loss and some confusion in recalling events right before and after the procedure. Some people complain of long-term memory and cognitive problems. Also, complications related to the use of anesthetics (allergic reaction, respiratory suppression) can occur.

Transcranial magnetic stimulation

Transcranial magnetic stimulation (TMS) is a noninvasive treatment for depression. The patient is exposed to electrical energy that is passed through a coil of wires to produce a powerful magnetic field (George, et. al, 2020). Magnetic waves pass through the brain and skull painlessly, while the patient remains awake for the procedure. It is most effective when administered for 40 minutes daily for 4 to 6 weeks. It is thought to work by stimulating nerve cells to produce the neurotransmitters that relieve depression. Side effects of TMS are few, with patients reporting only mild headaches. TMS cannot be used if the patient has implanted or permanent metal in the skull or brain (George, et. al, 2020).

Vagus nerve stimulation

Vagus nerve stimulation (VNS) is an adjunctive, long-term, invasive therapy for adult patients with serious and persistent depression (George, et. al, 2020). Most of these individuals have shown no improvement in condition after trials of four or more antidepressants before attempting VNS therapy. A VNS implant is a small, battery-powered device, similar to a cardiac pacemaker, that is surgically implanted subcutaneously under the skin of the upper left or right chest. Internally, a wire runs from the device to the vagus nerve, which then carries electrical impulses to the brain. These impulses are emitted every few minutes. The device is thought to work by electrically stimulating the production of neurotransmitters that are associated with depression treatment. The side effects of VNS include a tickle in the throat (may trigger a cough reflex), mild hoarseness or other voice changes, and, rarely, difficulty swallowing, shortness of breath, neck pain, and a prickling sensation in the skin.

Case study 1

Mrs. Jones was admitted as an involuntary patient to the psychiatric unit. She was brought to the emergency department by her daughter, who reported her mother was showing "new and bizarre" behaviors. She has a history of schizophrenia, which has been well controlled until this episode.

The psychiatric nurse begins the mental status exam of Mrs. Jones. The nurse notes that she is wearing a short dress that is on backwards. She appears disheveled and unkempt; she has not eaten any of her breakfast. Further, the nurse observes that Mrs. Jones has taken the blankets off the bed and laid them out on the floor. She has also taken the toilet paper and unrolled it into a pile on the floor.

When the nurse introduces herself, Mrs. Jones is at the window talking in nonsensical words. She is wringing her hands and appears to be fixated on something outside. She does not acknowledge the nurse.

Later, she turns around and exclaims, "Sally, I am so glad you are here. Tea is almost ready. Flubrubaroo?" She moves to the pile of blankets and stands in the middle of them, smiling at the nurse.

The nurse smiles and begins to talk to Mrs. Jones. The nurse explains again that she is a psychiatric nurse and is there to care for her. She states, "Oh no, dear, have you tokenitnd?"

The nurse notes that Mrs. Jones' affect is flat as she stares out at the window but animated when speaking in nonsensical words. The nurse asks her name. Suddenly, the patient turns to the nurse and starts talking very quickly, saying, "I know it is late. What was the dog's name again? I must go to the store. More milk."

Questions

1. Which components of the mental status examination can the nurse document from this interaction with Mrs. Jones?
2. How might you describe Mrs. Jones' affect?
3. How would you summarize the nurse's observation and evaluation of Mrs. Jones' thought processes?
4. What other health status information is helpful for the nurse to assess?

Responses

1. The psychiatric nurse can document Mrs. J's appearance, her behavior, and her affect, but not her mood. Documentation can also include thought processes and thought content. The psychiatric nurse is unable to assess Mrs. J's memory, cognition, insight, motivation, and judgment as well as her safety.
2. In addition to being flat and animated, Mrs. J's affect may also be described as anxious. Because her affect seems to be fluctuating, there may be an incongruence between her affect and behavior.
3. Word salad is a common finding and learners should be familiar with the term. Mrs. J's nonsensical and disorganized speech gives some indication of her thought processes. Her thought process appears to be confused. She exhibits word salad and her thought processes are disjointed and incoherent. Mrs. J's thought content is not clear as she does not respond coherently to the questions being asked.
4. It would be helpful for the psychiatric nurse to obtain information from the patient's daughter. What has Mrs. J been exhibiting at home? What is Mrs. J's baseline level of functioning? Were there any past episodes of self-harm or dangerous behavior? Over what period has this change in behavior occurred? Were there any triggers?

Case study 2

Donald is a 45-year-old male patient employed as a financial manager by a large bank. Because of economic downturns, there have not been as many opportunities to gain new business, which has led to fierce competition between financial managers.

Donald presents to his primary care provider's office reporting recent episodes of shortness of breath, sweating, anxiety, and the strong feeling that he is about to die. These symptoms started 3 months ago, occurring once or twice a week. Within the past few weeks, Donald reports he has experienced symptoms daily and he has begun to fear leaving his home because he is afraid that he will have another attack. His attendance at work has suffered and he reports that his supervisor told him that he might lose his job as a result. This has caused problems between him and his wife and she has started talking about leaving him to move back in with her parents.

An electrocardiogram, stress test, and laboratory testing are performed, all of which show normal results. Donald is prescribed alprazolam (Xanax) by his primary care provider and referred to the local mental health center for treatment. Once there, he meets with a therapist for a comprehensive assessment. Donald is diagnosed with panic disorder and agoraphobia. He is referred to the psychiatric nurse practitioner for a medication evaluation and treatment. The nurse practitioner recommends that Donald start taking sertraline (Zoloft), 50 mg daily, and that he uses the Xanax only as needed to avoid tolerance and dependency.

Questions

1. What are other therapies that are most likely to be beneficial for Donald?
2. Are there any ancillary services that could also be helpful to Donald?
3. Which recommendations regarding his relationship status with his wife could the nurse practitioner discuss with Donald?

Responses

1. Panic attacks and panic disorder are treatable and respond well to medications and therapy. Cognitive-behavioral therapy is indicated to help this patient learn to identify anxiety-provoking triggers and reframe how he thinks about these events. Relaxation training, such as guided imagery and mindfulness, could be helpful in teaching Donald a means of reducing the anxiety once it occurs.
2. Another recommendation for Donald would be to include regular daily exercise in his routine (aerobic or weightlifting) because exercise can have a significantly positive effect on panic disorder treatment.
3. Donald may wish to consider the need for marital therapy sessions to work on improving communication with his wife. If she is willing to participate in Donald's treatment plan, they may also want to join a National Alliance on Mental Illness (NAMI) support group to learn more about psychiatric disorders and the rights of individuals who have such disorders. Finally, mental and behavioral health problems are considered medical problems and are protected under the federal Family and Medical Leave Act of 1993. If Donald's symptoms increase and become more debilitating, the psychiatric nurse practitioner treating Donald can provide him with a work statement and absence excuse that should help to protect his employment status and prevent him from losing his job while he is receiving treatment.

Case study 3

Mr. Fisher is a young adult male patient who has been newly diagnosed with panic attacks. The psychiatric mental-health nurse working in the outpatient clinic meets with Mr. Fisher, who was recently prescribed benzodiazepine by the psychiatrist for his panic attacks. Mr. Fisher asks the nurse what it means to have "a chemical imbalance" in the brain. He also asks how the new medication will "fix" his panic attacks.

Questions

1. How should the nurse explain "a chemical imbalance" in the brain to Mr. Fisher?
2. How should the nurse describe how benzodiazepine medications work?

Responses

1. The psychiatric-mental health nurse should explain to Mr. Fisher that neurotransmitters are chemicals in the brain that form messenger systems between neurons to help the brain and body regulate functions (e.g., thinking, feeling) and react or behave. The nurse also explains that there are excitatory and inhibitory amino acids that assist in regulating these brain functions. The nurse describes that a person's emotions and behaviors are the result of the functioning of these chemicals carrying messages between the neurons and amino acids. When there is an imbalance among neurotransmitters, the messenger system receives too many or too few messages, impairing regulation.
2. The nurse should explain that, in a person with panic disorder, the function of GABA may be altered. Normally, GABA slows down other chemicals that are more excitatory. If GABA is not working correctly or at the correct level, there is no way to slow down the other chemicals. The result may be panic attacks. There are anti-anxiety medications, such as benzodiazepines, that aim to increase levels of GABA to help slow down brain activity; they decrease anxiety by changing how the chemicals in the brain communicate and work.

Healthcare Considerations

1. Therapeutic use of self is one of the foundations of mental health nursing.
2. An understanding of the mental health exam is fundamental to the diagnosis and treatment of mental illness.

Conclusion

The brain is an amazing organ that not only monitors changes in the external world but also regulates internal body functions. The brain initiates basic drives and controls contractions of muscles, internal organs, sleep cycles, moods, and emotions. Knowledge of how the brain works with regard to neurotransmission is an important aspect of understanding psychiatric-mental health disorders and the medications used to alleviate patient symptoms. Neurotransmitters carry specific messages from neuron to neuron to produce emotions and behaviors. Psychiatric-mental health medications work by altering these messenger systems. The neurotransmitters involved in mood and behavior include serotonin, norepinephrine, and dopamine. Through epidemiological research, healthcare providers can learn more about the prevalence of psychiatric and mental health disorders, as well as ways to identify persons who are at risk. This information becomes an important part of the nurse's assessment and identification of patients with psychiatric disorders. Recognizing an individual's behaviors and making statements can add to the assessment data and provide insight into the patient's current mental health state.

Assessing the patient, performing mental status assessments, identifying priority problems, developing goals and objectives, and developing evidence-based plans of care comprise the core steps of the systematic approach to caring for patients with psychiatric disorders. After these processes have taken place, the provision of relevant and appropriate nursing interventions follows. The therapeutic relationship is established during initial patient encounters, during the assessment and implementation of interventions during the nursing care planning process.

Psychiatric nurses who use therapeutic communication will be able to conduct effective, comprehensive mental status examinations that provide the information necessary to develop a comprehensive mental healthcare plan, regardless of practice setting.

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BASIC PSYCHIATRIC CONCEPTS

Self-Assessment Answers and Rationales

1. The correct answer is B.
Rationale: Aaron Beck developed cognitive behavioral therapy after working with depressed patients. Cognitive behavioral therapy is based on cognitive psychology and behavioral therapy.

2. The correct answer is A.
Rationale: The unit policy regarding voluntary patient participation in group therapy preserves the ethical principle of autonomy. The principle of autonomy presumes that individuals are capable of making independent decisions for themselves and that healthcare workers must respect these decisions. Beneficence refers to one's duty to benefit or promote the good of others. Justice reflects the nurse's duty to treat all patients equally. Veracity refers to the duty to be truthful (Boyd, 2018).

3. The correct answer is A.
Rationale: Defense mechanisms are behaviors that an individual uses to deal with stressors. Defense mechanisms can be beneficial and protective for the patient or they can be counterproductive and maladaptive.

4. The correct answer is C.
Rationale: The nurse assumes responsibility for the milieu. The nurse is responsible for the overall environment as well as assessment and medication administration. The therapist is primarily responsible for group and individual therapy in a traditional care model. Psychodrama uses role-play to express feelings. The occupational therapy assists the patient to develop independence in life skills. (Boyd, 2018)

5. The correct answer is B.
Rationale: Many community support groups exist to help individuals who are experiencing specific mental health problems. Groups exist for gambling addiction, rape and sexual abuse support, bipolar disorder, depression, grief and bereavement, suicide, attention deficit disorder, Tourette's disorder, substance use disorders, and many more.

6. The correct answer is B.
Rationale: Dopamine is a neurotransmitter associated with psychosis and influences several areas of the brain.

7. The correct answer is C.
Rationale: Ginkgo biloba can interfere with blood clotting and reduce platelet action, leading to increases in bleeding times. It may interfere with anticoagulant therapy and should not be taken by patients with circulatory problems who are taking such medications such as Coumadin, Plavix, or aspirin.

8. The correct answer is D.
Rationale: :A person with liver impairment or one who is a heavy alcohol user should never use kava kava because it has been linked with hepatotoxicity (Rivers, Xing, & Narayanapillai, 2016)

Crisis Resource Management for Healthcare Professionals

3 Contact Hours

Release Date: January 31, 2022 **Expiration Date:** January 31, 2025

Faculty

Pamela Corey MSN, EdD, RN, CHSE, has been a registered nurse since 1984 with a clinical background in pediatrics, pediatric critical care, and neonatal critical care. She has a master's in nursing education and a Doctorate in Education. Her specialty area includes simulation-based education, and she is certified as a Healthcare Simulation Educator. Her dissertation was on adult and pediatric team training and crisis resource management. Pamela developed and implemented code team training at a major teaching hospital utilizing CRM techniques to prepare staff for safe and efficient responses to emergent situations within the hospital setting.

Pamela Corey has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
Scott Tilton MSN, AGACNP-BC, CCRN, is a board-certified adult-gerontology acute care nurse practitioner with a clinical background in emergency medical services, trauma critical care, neurocritical care, and rotor-wing transport. He works as an advanced practice provider in a cardiovascular intensive care unit that specializes in the resuscitation of patients recovering from cardiac surgery and those requiring mechanical support or extracorporeal membrane oxygenation (ECMO). As he pursues his Doctorate in Nursing, his clinical interests are point of care ultrasound training and standardizing the response to ECMO clinical emergencies within the intensive care unit.

Scott Tilton has disclosed that he has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
Brad Gillespie, PharmD, is trained as a clinical pharmacist, Dr. Brad Gillespie has practiced in an industrial setting for the past 25+ years. His initial role was as a Clinical Pharmacology and Biopharmaceutics reviewer at FDA, followed by 20 years of leading Early Development programs in the pharma/biotech/nutritional industries. In addition to his industrial focus, he remains a registered pharmacist and enjoys mentoring drug development scientists and health professionals, leading workshops, and developing continuing education programs for pharmacy, nursing, and other medical professionals.

Brad Gillespie has disclosed that he has no significant financial or other conflicts of interest pertaining to this course.

Course overview

Understanding Crisis Resource Management (CRM) and utilization of the concepts within team emergent responses can improve patient outcomes. The course will outline CRM concepts and demonstrate the application within emergent situations in healthcare. CRM concepts discussed will include leadership and followership, role identity and clarity; effective communication strategies; situational awareness; resource allocation; and dynamic decision making. Physicians, advanced practice providers, nurses, respiratory therapists, pharmacists, and other health team members should understand CRM to improve their performance in emergent team responses and ultimately improve patient outcomes. CRM framework is also applicable in medical and environmental emergent situations where teams work together to ensure patient safety.

Learning objectives

After completing this course, the learner will be able to:

- Examine the history of crisis resource management (CRM) and its application in healthcare.
- Examine the major realms of the CRM framework and how they are incorporated in team responses.
- Compare the communication techniques used in CRM.
- Examine resource allocation during an emergent event.
- Apply the process of dynamic decision making in an emergent situation.
- Demonstrate the importance of role clarity in team management through case study analysis.

How to receive credit

- Read the entire course online or in print which requires a 3-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

Accreditations and approvals

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Individual state nursing approvals

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Activity director

June D. Thompson, DrPH, MSN, RN, FAEN, Lead Nurse Planner

Disclosures

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Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

The ability to respond to an emergency in a timely and efficient manner is essential for all healthcare professionals regardless of their practice setting. However, many may lack formal training and education in best practices for dealing with various emergencies that can occur in professional settings. Patient outcomes improve when healthcare providers work efficiently as a team.

Crisis resource management (CRM) is a set of behaviors derived from evidence-based practice that aims to promote safety, improve teamwork behaviors, and decrease the incidence of adverse events during an emergency response (Alsabri et al., 2020; Fanning et al., 2013). Healthcare providers in all areas of practice can be responders to critical events involving medical or environmental emergencies and benefit from learning about CRM concepts and applying them to their practice.

The purpose of this course is to provide evidence-based knowledge on CRM principles and how healthcare providers can utilize these concepts within their practice setting and effectively respond to an emergent situation as part of a team. Cardiac arrest, anaphylaxis, fire, weather emergencies, and mass casualty disasters are situations where CRM knowledge can improve patient safety and outcomes. This course is designed for nurses, Licensed Independent Providers (LIP) such as medical doctors, physician assistants, and nurse practitioners, pharmacists, respiratory therapists, and support staff practicing at all levels and in all practice settings. Those who incorporate CRM principles during an emergency will understand role identification; the purpose of clear, concise communication; situational awareness; and dynamic decision-making for an effective, coordinated response.

History of crisis resource management

There are many industries where staff preparedness for an infrequent event can prevent adverse events. The aviation industry was the first to use the concept of "crew resource management" to train and prepare all airline employees for an aviation disaster. Aviation research from the '70s and '80s demonstrated that many adverse events were related to human error in communication, awareness of the situation, and delegation and workload management (Helmreich & Fousbee, 1993). This research led to specific pilot and airline staff training that incorporated simulations of rare events requiring the use of technical skills and cockpit/crew resource management behaviors. Each session was followed by a debriefing that reviewed the performance of the individual and the team and reinforced the concepts.

Healthcare is another area where a lack of knowledge in responding to rare events can cause adverse outcomes. While the aviation industry was exploring human factors, the healthcare industry, specifically anesthesiologists, also explored behaviors and performance in high-acuity, low-volume events. High acuity – low volume events are those emergent critical situations that occur infrequently, but staff need to respond to competently. Through analysis and debriefings of actual patient events, it was discovered that even experienced physicians lacked the optimal knowledge and skills necessary for effectively managing

a crisis (Gaba et al., 2001). As this topic gained more attention through continued analysis of unexpected adverse events that negatively impacted patient outcomes, it was revealed that all teams who responded in crisis situations needed to be educated and trained in the behaviors that lead to improved and effective responses. Although crisis resource management (CRM) in healthcare first started in complex areas, such as operating rooms and emergency departments, these skills apply to all healthcare team members. For example, educational programs that focus on CRM and team interactions have been used in obstetrics training for emergent delivery and maternal cardiac arrest (Bracco et al., 2018). CRM training has improved team dynamics and performance in pediatric rapid response teams (Siems et al., 2017) and improves leadership, problem-solving, situational awareness, and communication in trauma and emergency teams (Parsons et al., 2018).

CRM is defined as a set of behaviors that can reduce adverse events during emergencies when combined with skills and evidenced-based knowledge (Corey & Canelli, 2018). When teams incorporate teamwork and communication interventions in response to emergencies, this core set of behaviors results in an effective and improved response, including improved patient safety and a reduction in adverse events (Alsabri et al., 2020; Moffatt-Bruce et al., 2017). Knowledge of these behaviors can assist the healthcare provider who responds to the inevitable crises that occur in all areas of practice.

Evidence-based practice! Crisis resource management (CRM) is a set of behaviors derived from evidence-based practice that can decrease the incidence of adverse events during an emergency response (Fanning et al., 2013). Teamwork and communication training and interventions improve patient safety to improve patient outcomes by reducing adverse events, including medical errors (Alsabri et al., 2020).

Self-Assessment Quiz Question #1

Aviation research from the '70s and '80s found that many adverse events were related to:
a. Mechanical failure.
b. Weather.
c. Human Factors.
d. Terrorism.

THE CRM FRAMEWORK

High-acuity and low-volume crises are areas where healthcare providers have historically demonstrated gaps in knowledge and practice necessary to respond efficiently and effectively. The Institute of Medicine report "To Err is Human: Building A Safer Health System," published in 2000, prompted health systems to look at internal response processes, identify areas where human factors could cause patient harm, and strategize for implementing training and systems improvements to prevent further harm (Kohn et al., 2000). In the aftermath of this report, the healthcare education field started exploring ways to teach all healthcare disciplines the necessary skills and behaviors to reduce preventable adverse outcomes. CRM training became one method to increase knowledge and skill for those responders to high-acuity, low-volume clinical situations. By definition, a low volume crisis, such as a hospital evacuation, rarely occurs but involves extreme risk to the patient.

Components of the CRM framework

There are multiple components in the CRM framework that, when combined and implemented, lead to an effective team response. The behaviors are classified in multiple realms:

- Team management - Leadership and followership, role clarity, and workload distribution.
- Communication - Task-oriented and information sharing.
- Resource allocation and environmental awareness.
- Dynamic decision-making.
- Cognitive aids.

The team management realm of behaviors includes identifying the situation leader, identifying other responding team members, and clarifying roles among all who are on the responding team. Also included in this realm are workload distribution of all the tasks needed (what needs to be done and who will do it) and the ability to get help promptly. When all responding team members are aware of the importance of these behaviors, there is cohesiveness to the response. Effective, concise communication, including information sharing, are behaviors that allow for safe and effective team responses. There are multiple communication techniques used during team responses that allow members to communicate needs and address inquiries effectively.

Situational or environmental awareness requires that the healthcare provider anticipates and plans for all possible trajectories. Knowledge of the environment and the ability to effectively mobilize resources allows all members of the responding team to perform at their highest level. Utilization of these behaviors reduces delays in care, leading to the ability to improve outcomes.

Another integral concept within the CRM framework is making decisions in a dynamic and evolving situation. The behaviors specific to this concept include awareness of the situation and using that knowledge to identify and use all available information in real-time decision-making. Within this concept, a key behavior taught in CRM education is to avoid fixation. Fixation is a situation in which a specific idea is the only driving decision-making concept. When a team gets fixated on one aspect of the response, there is an increased potential for an adverse response. Teams need to be aware of all factors influencing the situation. Fixation can delay the correct treatment because of misdiagnosis or the missing of key data to drive decisions and cause adverse patient outcomes.

The final concept includes the use of cognitive aids. Some examples of cognitive aids that will be discussed later include advanced cardiac life support (ACLS) algorithms, emergency medication dose cards, and prepared evacuation plans. These tools can assist all healthcare team members in remembering specific information without relying on memory during an intensely stressful moment. Knowing what aids are available and familiarity with the content is valuable during an emergency, allowing staff to respond more effectively (Goldhaber-Fiebert & Howard, 2013). When all the concepts and behaviors are trained together, teams can respond to the best of their abilities, and patient outcomes are improved.

Self-Assessment Quiz Question #2

The team management realm of the CRM framework includes identifying the leader, identifying other team members and:
a. Clarifying roles.
b. Rotating roles.
c. Allocating resources.
d. Coordinating data.

Team management

The team management realm includes the behaviors that assist the responding team in having a coordinated, effective response that leads to an outcome. The main concepts are leadership and followership, role clarity, workload distribution, and requesting timely help.

What defines a team? A team is a group where individuals bring varied strengths, and a common goal can be attained when combined. Teams can be permanent/ dedicated or temporary. Some hospitals have dedicated code response teams where they train together and master their skills as a team. Many hospitals have temporary code response teams where the team comes

together to resolve the issue (cardiac or respiratory arrest; city wide disaster responses). These temporary teams often cannot train together. An element of both categories of teams is that all the necessary skills be present to achieve a positive outcome.

Leadership refers to the need for one distinct leader for the emergency response team. The leader directs the team throughout the emergent event toward the common goal. For cardiac arrest teams, the goal is successful resuscitation; in disaster management, it is the safe evacuation of all in the disaster's path; in a fire, it may be the safe removal of patients and extinguishing the fire. The goal will vary depending on the exact situation. In CRM, the leader is considered an oversight role, not an active participant; the leader decides, prioritizes, and delegates to the team members the tasks to be completed to achieve the desired outcome (Fanning et al., 2013). The leader coordinates team members' activities by ensuring that the team has the resources needed, communicates clearly, and acknowledges that directions are understood and changes in goal attainment are shared in real-time (Gangaram et al., 2017). Leaders are encouraged to also empower all team members to speak up with any pertinent information they have that can assist in patient care and decision making.

The leader can be determined by skill set or institutional hierarchy. In medical situations such as a cardiac arrest, the leader is usually a physician or licensed independent provider (LIP), such as a nurse practitioner authorized to implement ACLS care. In some institutions, the leader may be the most experienced provider present but could also be a provider-in-training with an experienced provider or supervisor providing close supervision and support. The most critical point of leadership is that there must be one clearly identified person in charge. The leader needs to state this when assuming the role so all those responding are aware. Team training courses teach leadership skills emphasizing how to clearly articulate that they are filling the leadership role. For example, the leader declares in a loud voice, "I am Dr. Jones, and I will be leading this code blue." This statement clarifies for all involved who is in charge.

For any team with a leader, there must be followers. What defines the role of followers in an emergency? Followers also have distinct responsibilities based on their roles. The leader will direct all team responders in the follower role, and the roles will vary depending on the type of response. In a cardiac arrest, responders perform different standardized roles to administer ACLS protocols: performing cardiopulmonary resuscitation (CPR); assessment of pulses; timing of tasks; medication administration; performing medical procedures; and documentation/scribing of the event. For a fire, the roles may include extinguishing the fire, removing patients, activating the emergency response (911, code red, etc.), or shutting off the main oxygen. During a weather emergency, the responsibilities include ensuring adequate staffing, securing replacement staff, utility, and facility management, and troubleshooting issues that may arise. All followers should be adequately trained and competent to fulfill their roles; for example, skilled in using a fire extinguisher or appropriately licensed and knowledgeable for the role. For example, pharmacists are the knowledge experts on medications; from administration to ensuring that the medications are used appropriately during a cardiac arrest.

Role clarity, which is when responders are aware of their responsibilities during the emergent situation, is necessary to organize the team and minimize chaos. Roles may be assigned by a leader, self-assigned by the team member, or designated by a specific skill set. The leader must know that all essential roles are filled by a competent team member. These roles are dynamic depending on the emergent situation and the responding staff.

The leader must clearly identify who specifically should be performing a role/task. When a leader states, "can someone please monitor the patient's pulse" there can be confusion on who should be completing the task, leading either one person, four people, or no one (if everyone assumes that someone else filled the role) to monitor the pulse. The leader must specifically identify someone by name or by some descriptor. It is common that temporary formed responding teams may not know each other by name, especially in rarer emergencies such as disasters. For example, if you state, "Can you in the red sweater please write down all the patients that we send to the evacuation unit?" The person in the red sweater must then close the communication loop by acknowledging that they received the message. These small steps will help reduce confusion in chaotic situations and prevent delays in achieving the common goal.

Occasionally the roles are defined by the task being performed. Most cardiac arrest teams include a respiratory therapist and an anesthesiologist, who position themselves at the patient's head during the response. For example, some hospitals have standardized locations for where each responder should stand during a cardiac arrest in relation to the patient. When a standard role map is used in an institution, the leader can assess visually when a role is not filled and reassign someone to that task.

Workload distribution addresses the performance of multiple critical tasks that must be completed simultaneously. The leader is responsible for ensuring that all delegated tasks occur effectively by those most competent for the role. Workload distribution includes appropriate role delegation in an ever-changing emergent situation. Role delegation is not intuitive for many healthcare providers and is one reason why CRM behaviors are taught and practiced (Fanning et al., 2013). Leaders must continuously reassess the situation and confirm that the tasks are performed by the most competent person present at the time. Leaders also must consider the need to adjust roles within the emergency. Reassigning staff when a person's skill set may be better utilized in a different role falls to the leader. If a nurse is needed during a cardiac arrest to administer medications, the leader may ask the medical student who is BLS-certified to perform cardiac compressions and move the nurse to the nursing specific role. If the leader is the only provider competent in a specific task, then the role of the leader must be filled by another competent provider during the time the leader is otherwise occupied. This may occur when the leader is the only one present to perform a procedure such as a needle decompensation of a pneumothorax. The leader should ask another physician to assume the role of leader. For example, "Dr. Jones, can you assume the role of leader, while I perform this procedure." By stating this out loud, the entire team is aware that the leadership of the situation has changed. The leader understands that the concentration needed to perform the procedure precludes him from monitoring the entire team response.

The final concept under teamwork is requesting help in a timely manner. The hesitation in calling for help has been shown to increase adverse outcomes (Leonard et al., 2004; Ozekcin et al., 2015). Barriers to calling for help include personal (I may come across as not being smart), interpersonal (the person needed may have yelled at the leader in the past), cultural (I am in charge, and it is my job; SWAPNet, 2018). Calling for help early allows for the arrival of others who can offer second opinions, extra hands to complete all the tasks, and skilled team members to fill specialty roles.

One example of improved patient outcomes is the initiation of rapid response teams (RRT) to respond to situations immediately once a clinician suspects a subtle or noticeable decline in patient status. Hospitals that utilize RRT responses demonstrate improved patient outcomes by intervening before the patients experience cardiac or respiratory arrests (Jackson, 2017). An important skill is knowing when to call for help and which level of response is needed.

Many institutions have an internal disaster and emergency response plan. In today's changing world, there is a need for emergency responses of healthcare teams, for situations such as natural disasters (earthquakes, hurricanes, tornadoes), mass casualty events (train derailments, plane crashes, mass shootings, terrorist attacks) and infectious disease epidemics (COVID, Ebola). Internal disasters include events such as a power outage, infant abduction, or a combative patient. The Joint Commission requires hospitals receiving Medicare and Medicaid reimbursements to have established disaster planning and health system readiness, for disaster management (Al Harthi et al., 2020; Lagan et al., 2017). Plans can be developed

locally at the institution level or the state, county, and city-wide level. Leadership at all levels will provide direction to individual responders in disasters that involve more than one institution. The City of Boston instituted many levels of disaster responses during the Boston Marathon bombing. Each hospital that had casualties implemented its disaster plan, and the city itself implemented a city- and statewide response to move all injured to appropriate facilities.

Self-Assessment Quiz Question #3

What must be done to ensure effective leadership if the leader is the only person competent to perform a procedure?

a. The charge nurse must verify the credentials of the leader to perform the procedure.
b. All team members are consulted to choose the new leader.
c. The leader must identify a replacement leader and announce the change in leadership to the team.
d. The leader continues in the leadership role while performing the procedure.

Staff education on their role in various scenarios is necessary to assess and respond to the situation appropriately. Often, emergency response teams are activated when current resources may not provide the bandwidth to accomplish the necessary tasks. Local staff nurses must understand when to call for assistance and the appropriate level of help needed. The level of help will vary depending on intrinsic factors, such as the situation itself, location, time of day, levels of experience of caregivers/responders, situational complexity and institutional limitations. For example, a teaching hospital may have more resources available during the day when attending MDs and more support services are present. At night, resources are scarcer, often consisting of less experienced staff, and a call for help should be initiated sooner to allow for resource mobilization. Several persons should be trained in each role to allow for absences during an emergency situation.

Some institutions have layers of responses, and all staff must be educated on the appropriate response at a given time.

When a patient is decompensating, does the situation require a response from a physician, a rapid response level team, or the full response for an impending life-threatening event? This varies depending on the institution's policies and responding teams available. For example, if a patient is having increased work of breathing and the institution's rapid response activation brings a respiratory therapist and critical care nurse, this may be the appropriate team. However, if an imminent airway collapse occurs, the need for an anesthesiologist would require the activation of the cardiac arrest team, which includes the anesthesiologist, respiratory therapist, and critical care nurses. In the event of a disaster, the call for assistance may extend to external resources given the extent of the crisis. Knowledge of the institution's policies on when to utilize internal versus external resources is important.

Evidence-based practice! Since the implementation of rapid response teams, a level of team activations called at the first sign of patient decompensation, there has been a demonstrated decrease in cardiac arrests (Jackson, 2017). Implementation of a special team to respond to patients presenting with signs of sepsis has been shown to reduce mortality rates from sepsis (Simon et al., 2021).

Healthcare Professional Consideration: Responders to an emergent event need to either verbally state their role in the response or solicit from the leader what their role should be.

Self-Assessment Quiz Question #4

Emergency response teams are often called when current resources may not provide the bandwidth to accomplish the tasks needed. Therefore, local healthcare professionals must understand when to call for assistance and:

a. The location of the nearest telephone.
b. The level of help needed.
c. The increased cost to the patient.
d. When the family typically visits.

Communication

Communication is vital in any situation where multiple responders converge to remedy a situation. Human error is a common contributing factor in communication failures during emergent situations. When an error leads to an adverse event, a root cause analysis may be performed. A root cause analysis is the process used by an institution to find the cause of an adverse event and identify potential solutions. Root cause analyses of adverse events related to emergent situations often find either a lack of or ineffective communication as the cause. Emergent situations, by nature, are often chaotic. Often, multiple conversations occur simultaneously as responders attempt to either obtain or share pertinent information. Research on the effective attributes for team leaders ranks communication as the most important aspect in the successful management of an event (Mo et al., 2018). A leader's ability to communicate needs/directions concisely with closed-loop techniques increases success (El-Shafy et al., 2018). Closed-loop communication is the technique when the person making the request clearly states all elements of the request to a specific person who confirms that the request is received and, after completing the task, states it back to the leader or person who initially gave the request. A leader shouting orders into the room without identifying the recipient can lead to unattended tasks or over-allocation of resources to one task, leaving another important role unattended. For medication requests, the best practice is to request the medication, including all pertinent elements – medication, dose, concentration, and route. The person preparing and administering the medication should restate the medication, dose, concentration, and route to prevent errors. It is also important for medication administration to verify that the medication is still needed before administration as most emergent responses are dynamic, and the patient's condition may have changed.

One example of effective closed-loop communication is the following exchange between the Licensed Independent Provider (LIP) and the nurse treating a patient who is experiencing an anaphylaxis type event:

LIP: Nurse, please prepare a dose of epinephrine 0.3mg of the 1mg in 1 mL, for IM administration.

Nurse: Preparing epinephrine 1 mg./ mL 0.3 mg for IM administration.

Nurse: Epinephrine 0.3 mg is ready to be administered IM. Do you want me to administer now?

LIP: What is the concentration?

Nurse: 1 mg in 1 mL.

Physician: Yes. Please administer now.

Nurse: Epinephrine 0.3 mg of 1 mg/1 mL has been administered IM at 3:10 p.m.

Documenter records time of administration: Epinephrine (1mg/1 mL) a dose of 0.3 mg IM administered at 3:10 p.m.

In the example above, all the elements of a safe medication administration were addressed during the exchange, preventing an error of the wrong dose, concentration, or route. Epinephrine is one medication that is prepared based on concentration and administered differently depending on the situation – anaphylaxis versus cardiac arrest and supplies on hand.

Closed-loop communication should also be used when asking for tasks to be accomplished. For example, when needing to assign a new role:

Leader: I need someone to contact the cardiac cath lab. Joe, can you contact them?

Joe (*medical student*): Yes.

Joe (*after calling cardiac cath lab*): I called the cardiac cath lab and they stated they want us to call back when patient is stable to travel.

Leader (*acknowledging receipt of message*): Thank you, Joe.

Another form of communication used in CRM is known as "state of the response." The state of the response involves the relay of information between the leader and team members on the activities and status of the response. These communications occur at frequent intervals and provide the team with the specifics on what has occurred, allowing the team members who arrive at different times to be updated on what has happened and the current status. The state of the response communication can also be used to solicit input from any team member on tasks completed or ideas on future interventions.

The following is an example of this state of the response, or state of the union, communication by the leader during a cardiac arrest:

MD Leader: "We are at 4 minutes. Patient Doe was found unresponsive and pulseless. CPR was initiated at that time; initial rhythm was identified as PEA (pulseless electrical activity). One dose of epinephrine administered at 2 minutes. We are now going to reassess the cardiac rhythm and pulse; CPR will continue if rhythm unchanged. We will explore the H's & T's to identify the cause of the PEA. Does anyone have anything to add?"

RN: I sent the morning chemistry and the lab just called. The potassium is critically low at 2.2.

MD Leader: Thank you, let's consider hypokalemia as part of the issue and initiate some treatment. Pharmacist, can you prepare for an infusion of potassium? Also, we need to check magnesium level and should anticipate replenishing that as well."

During a cardiac arrest caused by PEA, the best way to treat the PEA is to identify the cause. The causes of PEA arrest are often referred to as the H's & T's.

H's	T's
• Hypovolemia.	• Tension pneumothorax.
• Hypoxia.	• Tamponade, cardiac.
• Hydrogen ion (acidosis).	• Toxins.
• Hypoglycemia.	• Thrombosis-pulmonary.
• Hypo/Hyperkalemia.	• Thrombosis-coronary.
• Hypothermia.	• Trauma.

In this case, the nurse added that lab abnormalities potentially caused the situation. This technique allows for controlled conversations to occur among the team in a succinct way so that important information is not lost in the chaos of an emergent situation. Also, the summarization of events, and the naming of the situations like PEA for a rhythm or active shooter for an environmental response, gives all responders a shared mental model of the situation. All cardiac arrest team members usually have ACLS knowledge and know that the PEA algorithm is different from the ventricular fibrillation algorithm.

Those in an environmental response know that an active shooter response differs from a fire response. In each situation, the leader may eventually become a person from outside the institution, such as the fire chief or the police responders. Attention to their instructions can be lifesaving.

Experienced leaders may state something such as, "I am going to summarize the events so far; please keep performing your assigned tasks while I speak." This prevents the disruption of crucial tasks but gains all members' attention. This open sharing of information allows all members to actively be involved despite any preconceived hierarchy.

Some institutions have a process called "stop the line" or CUS (concerned, uncomfortable, safety issue) in their emergent response procedures to give all members of the team a chance to pause actions if they feel something unsafe may be occurring (Cammarano et al., 2016; Hunt, et al., 2007). An example of this may be ordering a medication for a situation that is not appropriate (an allergy, incorrect dose, or misidentification of the cardiac rhythm) to prevent an adverse outcome. "Stop the line"/CUS should trigger a conversation where the leader explains the rationale for a specific action or clarifies the action. Stopping the line is a critical method of communication for nurses, who often have knowledge and experience in emergent situations, but may feel restricted in speaking out in a hierarchical team setting with those they perceive to have higher authority. An example may be in a teaching institution where the relatively inexperienced MD leader orders a dose of medication that is incorrect, and the experienced pharmacist responding to the situation states that the correct dose of that medication in this situation is different.

Universal time-outs in the operating room and procedural settings were developed to equalize all team members around patient safety (Van et al., 2017). By stopping to check for the accuracy of the surgical site, correct procedure, and patient identification, serious errors may be prevented. Universal time-out procedures are an important safety process that allows for conversations that impact patient safety during critical situations when a patient may not be able to speak for themselves. This process allows all involved to speak up and raise concerns and is supported by the Joint Commission in the National Patient Safety Goals as a safety component helpful in reducing wrong patient and wrong side procedures (Gonzalez et al., 2018).

Self-Assessment Quiz Question #5

What form of communication allows any responder to an emergent situation to pause action for clarification?

a. Shared mental model.
b. Equal hierarchy.
c. Stop the line.
d. Closed-loop communication.

During a time of chaos, as in emergency responses, all responders must be aware of what they are communicating. During emergencies, a type of common communication that can occur is termed "collateral communication." Collateral communication occurs when important conversations happen among multiple team members and may or may not be necessary for the situation's outcome. An example of an important conversation may be one between the RT and anesthesiologist on the difficulty of placing the endotracheal tube.

Anesthesiologist: I have the tube in place, but I did not have clear visualization of the vocal cords, are you meeting resistance in bagging?

RT: I am meeting some resistance. I am going to check breath sounds. (RT listens to the chest and abdomen).

Anesthesiologist: Are they equal?

RT: There are diminished sounds on the left. You may be in the main stem.

Anesthesiologist: I am going to pull this ET out and retry. Prepare AMBU ventilate.

This conversation may impact the situation and should be shared with the leader:

Anesthesiologist: We had difficulty with the first attempt at intubation. We are going to try again after re-oxygenation.

Leader: Thank you for the update. Can you maintain the airway?

Anesthesiologist: Yes, bag mask ventilation is effective.

Leader: Let me know when you secure the airway.

Another example is the conversation between the nurse and the pharmacist about the calculations for a drug dosage.

RN: The leader wants us to prepare a dopamine infusion at 5mcg/kg/min.

Pharmacist: The standard concentration of this infusion is in the code cart and is 400mg in 250 mL. Will you be administering via the infusion pump?

RN: Yes, I will be using the smart infusion pump medication programming.

This conversation does not need to be shared with the leader but is necessary for the responder's role. The participants must assess collateral conversations as to their necessity and whether they need to be brought to the entire team and leader's attention.

Patient safety is the goal in emergent situations, and effective communication skills directly impact patient outcomes. Closed-loop communication combined with verbal read back of medication and procedural orders from the leader ensures that the entire team is aware of the progression of care in an often-chaotic situation. Followers are integral members of the response team, and their communication throughout the situation can add to successful outcomes and reduction of adverse events.

Evidence-based practice! Universal time-outs are an example of safe communication practices that ensure all systems are in place to prevent adverse outcomes. These protocols allow for equalization of all team members in providing for patient safety (Van et al., 2017).

Healthcare Professional Consideration: Healthcare providers must ensure that all verbal orders for interventions and medications are communicated in a closed-loop format, using a verbal read-back format to the ordering provider to verify the correct order.

Self-Assessment Quiz Question #6

The participants must assess collateral conversations regarding their necessity and:
a. Whether or not they delayed treatment.
b. If they need to be documented.
c. If the patient's family should be included.
d. Whether they should be brought to the leader's attention.

Resource allocation and environmental awareness

Knowledge of the environment is crucial for effectively managing an emergency. All team members who respond or can be involved in an emergency must know where equipment, medications, or supplies are located and how to use them. Many institutions provide the orientation to environments at the start of employment; however, periodic refresher training is essential. All staff should learn where the crash/code cart is for cardiac arrest response. Staff should be aware of the location of fire extinguishers and oxygen shut-off valves in case of a fire, as this is necessary for effective responses and part of their role. Healthcare providers in hospital and non-hospital settings should know the evacuation route, fire safety plan, and medical emergency equipment (AED, for example). All staff should also be aware of the internal and external disaster plans and their roles in the response. Knowing how to access response teams is another component of resource allocation. Knowledge includes understanding how the response team activation changes at different times (weekends, holidays, and off-shift times).

CRM behaviors include anticipation and planning for all potential outcomes of an emergent situation. An example of the variable nature of CRM is how the response to a cardiac arrest within a hospital has different steps than a similar situation in an outpatient or other setting. Outpatient cardiac arrests or medical emergencies may include the stabilization for external transport. Staff must know the steps to follow in these low-volume, high-acuity situations. For example, staff in an outpatient setting should know the procedure for contacting the ambulance service – is the policy to call them directly or activate the community 911 service? Training for this type of situational response should include earlier activation to enhance better patient outcomes in the hospital setting.

Resource allocation includes the appropriate use of trained and untrained personnel and the use of all available equipment. An example of using untrained staff may be asking the clinic's non-medically trained receptionist to go to the main entrance and show the EMS responders to the correct room. Inadequate use of available resources is a significant cause of adverse events in healthcare in CRM research (Abualenain, 2018). Team members' knowledge of how to access the resources and understanding potential barriers or reasons for personnel or equipment delays can make a difference in patient outcomes.

Self-Assessment Quiz Question #7

Knowledge of the protocols for responding to a fire is an example of:
a. Collateral communication.
b. Shared mental model.
c. Closed loop communication.
d. Resource allocation.

Dynamic decision-making in a crisis

Dynamic decision-making occurs when decisions are made related to the information presented and responses to actions performed and environmental factors. These complex decisions must occur in real-time and are influenced by the experience level of the decider (Edwards, 1962). The elements of dynamic decision-making include situational awareness, implementation of all available resources, use of cognitive aids, and avoiding fixation errors. Responding to an emergency is stressful, and the stress and urgency can impact the ability to function effectively during the situation. When the responder uses all available resources during a crisis, it improves their ability to make effective decisions during an ever-changing event (Fanning et al., 2013). This section will explore the concepts of dynamic decision-making as used in team settings.

A team, as defined by Salas (1992), is "two or more people who interact dynamically, interdependently and adaptively toward a common and valued goal/object/mission, who each have been assigned specific roles or functions to perform, and who have a limited lifespan of membership" (p. 4). Teams that respond to codes, rapid response, medical emergencies, and disasters all fit this description. The teams must function effectively to meet the shared goal. Each individual who is part of a team in healthcare brings their specialty-specific knowledge and training to the situation to achieve the desired outcome. The leader of the team uses knowledge of the individual members' skills to achieve a positive patient outcome.

Situational Awareness

An individual's situational awareness is the perception of critical information and data from the environment based on both past experiences and expectations. Each team member must be able to perform their specific tasks. The information utilized during the situational awareness process comes from the person's working memory, leading them to decide on the actions best suited to the event at hand (Salas et al., 2017). When applying situational awareness to a team, the process becomes more complex as both communication and information sharing affect all members present. As the central point person, the leader integrates all the data collected from the members and then communicates to the team their decision-making process to achieve the shared goal. The process is dynamic as there is a constant reassessment of the situation and adjustment of actions based on the data perceived. An example of this would be sharing of information related to a patient's current status during a pulse check during a cardiac arrest.

RN: Patient is still without pulse and lab just called up a potassium of 2.1.

MD: The current rhythm is still PEA.

Leader: Thank you, please continue CPR. We have given 2 rounds of Epi. Prepare for the third dose, and given the potassium, let's prepare to administer some potassium, Pharmacy do you have some suggestions?

The leader in this example gathered information, summarized, and dynamically decided an action based on the information shared. This leader also demonstrated the use of expert knowledge in formulating the plan.

Self-Assessment Quiz Question #8

The implementation of available resources, situational awareness, and use of cognitive aids are concepts utilized in what process?

a. Stop the line.
b. Dynamic decision-making.
c. State of the union.
d. Collateral communication.

Situational awareness in healthcare is enhanced when team members notice the subtle cues presented and reassess these cues to prioritize actions specific to the situation (Fanning et al., 2013). An example is when a team is responding to a medical emergency of a person found unresponsive in a lobby located in the building where the diabetic and nutrition clinic is located, and the team leader uses data to evaluate the situation. This dialogue represents the clinical team's use of situational awareness:

Security guard: I did not see anyone nearby when I walked into the lobby and called the alert. It does not appear that this man was assaulted.

RN: When I arrived, I found this person on the ground, unresponsive to touch and voice, low respirations and heart rate of 50. There is no one who knows this person.

MD: Do we know if this person is wearing any medical condition alerts? Perhaps they are a diabetic since we are in the same building as the clinic. Nurse can you support respirations and security can you call for transport to ED?

RN: No alert bracelet is on the patient.

Security: There is a prescription bottle in this pocket for oxycodone.

MD: Okay, let's reconsider what may be happening. Nurse, can you get a blood sugar, monitor respirations, and consider the possibility of an overdose of narcotics? Let's get him to the ED so we can give Narcan.

The MD leader needed to adapt to new information presented and adjust actions to the situation. In this example, the lack of a medical alert bracelet and discovering a prescription bottle steers the physician from further assessment for critical alterations in blood sugar levels to potential opioid overdose. Medical dynamic decision-making uses patient observations of patient presentation and status and incorporating new data into making the appropriate decisions. Continued adaptation is necessary as priorities and interventions will constantly change throughout the situation.

Members of the Royal College of Physicians and Surgeons in Canada (2017) have produced a comprehensive document on CRM in which they have divided the concept of situation awareness into three levels, including their corresponding definitions and potential risks (see Table 1). Level One is attention to diagnostic cues and prioritizing those cues most relevant to the situation. A practiced clinician will successfully hone in on essential cues based on experience and retain the relevant ones while disregarding less important or irrelevant ones. In this process, one must avoid fixation and overlooking other relevant cues that will aid in decision-making and potential alternative diagnoses. Level Two is synthesizing all cues, critically thinking about, and integrating, all presenting information to understand the situation completely. Novice clinicians will be less capable of pulling cues and information together to gain a comprehensive picture of the patient situation. These skills emerge and evolve with experience. Level Three of situational awareness, which builds upon the previous two, is a prediction of outcomes. This process entails pulling together relevant cues, patient history, and clinician experience to predict what happens next. Again, more experienced clinicians will draw on their prior experiences and knowledge to minimize errors in prognosis and continue to react to new information and cues as they arise.

Table 1. The Three Levels of Situation Awareness

Level	Pros	Cons
One: Recognition of Cues	• Attention is focused more quickly on important cues. • Irrelevant cues are discarded to facilitate more efficient decision-making.	• Attentional blindness or fixation errors can cause premature cognitive closure because of reliance on assumptions and/or prior knowledge.
Two: Synthesis of Cues	• Prior experience and knowledge is used to more quickly and efficiently synthesize information.	• Tendency to favor common and easily retrievable patterns may result in misdiagnosis.
Three: Prediction	• Future events can be anticipated and planned for (i.e., being proactive rather than reactive). • Additional resources can be prepared earlier in the treatment sequence.	• Errors in predication can result in under- or over-cautious responses.

Note. Adapted from Brindley, P.G., & Cardinal, P. (2017). *Optimizing crisis resource management to improve patient safety and team performance: A handbook for all acute care health professionals*. Royal College of Physicians and Surgeons of Canada.

Resources

Responders to a crisis must rely on multiple facets of information, including memory, past experiences, and established standards of care, to provide the necessary interventions during the emergency. Each team member needs to be able to obtain and process the information to prioritize care. Information sources used in an emergency include medical records (hard copies and electronic for past medical history, laboratory data, current hospitalization data) and internal and external internet resources (policies and procedures, protocols, medication guidelines, and standards of care). The leader may assign a responder to research data from these resources; a skilled leader may often ask a less technically skilled staff member to perform this task. Medical students at a code may be asked to review the patient's record for lab results or pertinent history. The leader should know the non-technically skilled person's knowledge level and ensure that the person assigned this task understands the context. When assigning the task of looking for pertinent lab values, the leader may need to provide guidance- "please look for all abnormal electrolyte values and report back". Leaders of other members may need to provide more direction to the less experienced staff. The leader in the example above stipulated that they wanted a review of recent electrolytes for the potential diagnosis of cardiac arrhythmia.

Cognitive aids

Using cognitive aids is a common practice in emergent situations. Cognitive aids are tools developed to assist in decision-making during a crisis, and their purpose is to provide pertinent information necessary to formulate a plan of action related to the context of the situation. Cognitive aids ensure consistent delivery of evidence-based care based on research and practice, and teams that use them have more appropriate, efficient decision-making (Goldhaber-Fiebert et al., 2016). Cognitive aids used in emergencies have been established for life-saving protocols, including BLS, ALCS, and PALS (pediatric advanced life support), malignant hyperthermia protocols, surgical safety checklists for the ORs, and OB hemorrhage and emergent C-section pathways (Alidina et al, 2018).

Cognitive aids must be evidence-based and approved by the institution as best clinical practice or standard of care. Some cognitive aids are well-known and accepted; for example, all the American Heart Association (AHA) protocols for life support and advanced life support. They are updated based on evidence-based research every five years, with the last update occurring in 2015 (Hazinski et al., 2015; Merchant et al., 2020). Most institutions accept these algorithms for responding to cardiac arrests.

The individual institution can develop other cognitive aids. An example is a map of where responders are expected to stand when responding to a cardiac arrest. The "Where Do I Stand" figure was developed by a large academic medical center and shows the key roles of responders and their functional position centered on the patient. The figures provide a visual representation of responders and can assist other team members to notice if any members are absent, allowing someone to assume the role. The anesthesiologist and respiratory therapist deal with the airway and always stand at the head of the bed. The pharmacist and medication nurse stand at the code cart to prepare the medications. If the event is documented within the electronic medical record, the nurse or scribe who records the event will be at the computer.

Where do I stand diagram for code blue responders at Jones Medical Center. CPR represents three staff who alternate every 2 minutes. Code Whisperer supports code leader. Defibrillator is located on code cart, but is placed so code leader can view monitor screen at all times. If family present, they are supported by social worker, Clergy or nurse manager.

Notice on this figure (Corey, 2016) that there is also a role called the "code whisperer." This institution has a person assigned to support the leader. The institution is an academic facility, and often less senior and inexperienced staff may act as the leader in an emergency. The code whisperer may be a more senior or experienced staff member with a cognitive aid such as the AHA ACLS card, providing cues and protocols to the leader of the event.

Evidence-based practice! ACLS, BLS, and PALS are cognitive aids developed and updated every 5 years by the American Heart Association to assist a responder in life-threatening events such as cardiac arrest, choking, and pediatric emergencies (Merchant et al., 2020).

Healthcare Professional Consideration: Health Care providers, in their role in a response, collect data through assessment of the patient. It is imperative that pertinent data is shared with the leaders of the response so that timely decisions can be made incorporating all the data points.

Self-Assessment Quiz Question #9

"Where Do I Stand" is an example of a:
a. Cognitive aid.
b. Response algorithm.
c. Mnemonic device.
d. National response tool.

Fixation errors

Situational awareness, necessary for managing a crisis, requires the team to be cognizant of what is going on in the immediate environment. Fixation errors occur when a team member stalls on only one aspect or detail and may miss other pertinent data, and there is a failure to change the course of action without consideration of any new information (Fioratou et al., 2010). Fixation can be related to tasks or diagnosis (SWAPNet, 2018). There are three main types of fixation errors: *This and only this;* **Everything but this; and Everything is OK** (Ortega, 2018).

This and only this is the inability to see any other possible solutions to a situation except the one the person is doing. An example is when a leader may believe that the patient's symptom of desaturation is related to an airway issue (misplaced endotracheal tube) when the issue may be circulatory collapse. The interventions for these causes are very different. Time spent focused on the airway and reinserting a perfectly functioning airway while not focusing on the low perfusion and shock state could negatively affect the patient's outcome. Communication to the leader on new information is critical in preventing this type of fixation error (Ortega, 2018). This type of error can be avoided by the leader stating what they see as the cause or diagnosis during the state of the response updates and then allowing other respownders to provide input.

The **Everything but this** fixation error is when the responder pursues irrelevant data and does not choose the best course of action for the issue (Miller et al., 2014). An example is when, after inserting an endotracheal tube, the anesthesiologist meets resistance when ventilating the patient and explores the possibility of tube misplacement, rather than that of a foreign body, pneumothorax, or chest wall rigidity. The time spent reinserting the tube caused the patient to be hypoxic longer than necessary and delayed searching for the actual cause of the desaturation. This error is often seen when a provider has less experience in the presented situation. Communication among team members and asking the team for input allows the entire group to play a part in the decision-making on a course of action for this type of error.

The final type of fixation error is **Everything is OK**. This is when an abnormal finding is attributed to an artifact or the failure to recognize signs of deterioration (Fanning et al., 2013). For example, the vital sign finding of low oxygen saturation is attributed to a detached probe when the patient may be in

respiratory arrest or recycling the BP because no blood pressure was registered. Utilizing assessment data from multiple sources can prevent this error. For example, in this situation, a clinician should be assessing the respiratory rate and effort as well as using the cardiac/respiratory monitoring systems. All three of the fixation errors can cause delays in treatment and increased mortality and morbidity. Using team members for alternate solutions is one strategy in preventing or identifying fixation errors early. Another strategy is to conduct team training that includes examples of these errors in a simulated event and to have the team members practice the communication techniques of closed-loop, state of the response, and stop the line.

Evidence-based practice! Fixation errors are something that crisis responders want to avoid. A fixation error is failure to change course of action without considering any new information (Fioratou et al., 2010). There are three main types of fixation errors: The and only this; Everything but this, and Everything is OK (Ortega, 2019).

Self-Assessment Quiz Question #10

The fixation error of not being able to see any other possible solution to a situation is known as:
1. This and only this.
2. Everything but this.
3. Everything is OK.
4. Where Do I Stand?

SPECIALTY TEAM MEMBER ROLES

Nursing

There are multiple roles for nursing in a crisis. The role will depend on the situation, whether it is medical in nature or a response to an environmental issue. The roles in a medical response will be related to a nurse's professional scope of practice as designated by the Board of Registration in the state of practice. Nurses who practice at advanced levels, such as nurse practitioners, may function at the higher level as a licensed independent practitioner. Typical roles for the staff nurse in a hospital-based cardiac arrest response include the bedside nurse, medication nurse, scribe, and circulator. Nurses in outpatient facilities, school nurses, prison nurses, or nurses in extended-care facilities may be expected to carry out extended CPR and disaster management roles according to established protocols. However, limited resources in these environments do not allow nurses to function beyond their legal scope of practice.

The patient's nurse should always stay in the room with the patient. This nurse knows the patient's history, most recent baseline state before any change in status, and may also have a relationship with the patient and family and can offer the additional relevant information as a result. For example, in response to a suspected active acute stroke, the bedside nurse will likely know the last well time, what medications the patient is on, and when they last had something to eat or drink. This can also apply to the outpatient setting, where the staff member or family member who is most familiar with the person having an emergency remains at their side to detail the events leading up to the situation.

Medication administration is one major nursing role during a crisis. Medication administration is within the scope of practice for nurses under LIP orders. Nurses in this role must practice closed-loop communication and verbally read back to verify the order given and understand the typical medications they are administering. Nurses in outpatient settings will need to know common situations that may occur in their setting and what the institution has on hand to assist the patient. For example, in an outpatient day surgery setting, the nurses would be trained for anesthesia-related emergencies or post-operative recovery situations. They would be familiar with narcotic reversal medications and medicines used for airway situations under the direction of the anesthesiologist. All nurses who work in inpatient or outpatient areas where medications are administered should also be aware of the treatment for severe allergic reactions, common medications used for them, dosing, and administration methods.

As administrators of medication, nurses should be aware of the resources available for them in this role. Pharmacists are also resources for medication storage, preparation, dosing, and administration. Medication guidelines may be stored with the emergency equipment/go-bag or available links for online resources. Some institutions have internal medication guidelines for their code teams on the crash/code cart. Others rely on commercial resources like the Broselow tape, which lists by color and weight the medication doses and equipment sizes for pediatric patients (DeBoer et al., 2005) or the AHA's ACLS, PALS, NRP (Neonatal Resuscitation Program) algorithm cards.

The scribe documents all the care and data during an emergent situation, including the time of treatments, medications, actions, and other important information, such as vital signs and patient assessments. There is often a scribe during situations such as fire and environmental disasters where patients are evacuated. To accurately account for the safety of all patients, there must be a record of all patients leaving the impacted unit and arriving safely to the planned evacuation unit. The scribe in this situation will also document the departure and arrival of all personnel and visitors.

In hospital settings, the nursing leadership will fulfill the role of bed manager. For medical emergencies, they will ensure that the patient is in the unit to provide the correct level of care. For environmental emergencies, they may oversee the relocation of affected patients with respect to the patient's acuity and staff resources. Decisions for the transfer of patients that are necessary for internal or external disasters are made by nursing management. Immediate rescue of patients may be made by the nurse first responding.

Pharmacists and respiratory therapists

Another resource that may be available in the hospital setting for code responses is a pharmacist. When a pharmacist is a code team responder, there has been a reduction in medication errors during resuscitation (Bolt et al., 2015; Ferguson et al., 2019). Pharmacists should be comfortable using the emergent drug systems on the code/crash cart and have a familiarity with the preparation of emergency medications.

When a pharmacist is part of the stroke response team, their knowledge of the preparation and administration of tPa is useful to the quick response of treatment for the patient. Respiratory Therapists have a specialized role of assisting in maintaining a patent airway partnering with the anesthesiologist. They provide bag-mask ventilation, assist with endotracheal intubation and support.

Pharmacists and Respiratory therapists will need to know the standards and regulations of both the institution and state where practicing related to their specific role in responding to an emergency.

Case study #1

Sarah is a nurse working in a subacute care facility. She has been working there for slightly over one year. Today she has a typical patient assignment and has also assumed the charge nurse role of her 25-bed unit. She is working with two other nurses: Jane, an LPN studying for her RN license and Ken, a per diem RN employee; and three nursing assistants: Dotty, a long-term employee in the nursing assistant role; Jeanne, a new nursing assistant who started less than a month ago; and Helen, a nursing student who works per diem as a nursing assistant. It is the 11 p.m. to 7 a.m. shift on a weekend night. The patients are

all stable, and the shift has been uneventful so far. At around 3 a.m., there is a burning odor coming from the kitchen area on the unit. Helen yells out that the coffee maker is on fire and that the flames are all over the table in the middle of the room. She runs into the hall and leaves the kitchen door open.

As the charge nurse, Sarah knows that she has a lead role in this emergency and has responsibilities related to fires. She cannot remember the specifics of her responsibilities but recollects that there is a manual on the unit at the nurse's station that has the disaster plans. As she runs to the desk, the R.A.C.E mnemonic immediately comes to mind. The following dialogue starts among the team:

Sarah calls out to Helen: Is the fire small enough to use a fire extinguisher on?

Helen: No, it is all over the room.

Sarah: Helen, please shut the door.

Sarah: Can someone call 911? Let's all shut the patient doors.

Jane and Ken start running down the hall shutting doors. Dotty and Jeanne also start closing all the other doors. Sarah runs for the extinguisher. It is another minute before Sarah realizes that the call to activate 911 did not occur. At the same moment, Ken realizes that no one activated the fire alarm and pulls the alarm. Smoke is starting to fill the hallway near the kitchen.

Jane: Do you think we need to move the residents in the two rooms near the kitchen?

Sarah: I think we might need to. Where do we move them to?

Jeanne: In orientation, they told me that there is an evacuation route for each unit, and it should be located at the nursing station.

Dotty hears this and runs to get the evacuation plan.

The night supervisor arrives after hearing the fire alarm and, realizing that there is a fire, asks what the situation is. Sarah immediately tells the night supervisor that they smelled smoke and Helen noticed the fire in the kitchen. The fire was too big to extinguish, so they closed the doors to all the rooms and pulled the fire alarm. She explains that they were just deciding if they need to move the residents in the rooms near the kitchen and where to move them.

Question:
What actions in the above scenario would be classified as components of CRM?

Discussion:
The scenario in the case study included the following components of CRM:

- **Leadership**: Sarah realized that she was the charge nurse and had a role as leader in situations such as a fire on the unit per the institution protocol.
- **Role assignment**: Sarah was aware as the charge nurse/ leader that she needed to make sure that certain roles were filled to complete the necessary tasks. She assigned Helen to close the door to the kitchen, and asked that other tasks be attended too, such as calling 911 and shutting patient doors.
- **Communication**:
  - ***Closed loop***: Sarah initiated closed loop communication with Helen, asking her specifically if the fire was too large for the extinguisher, and, based on her response, assigning her the additional task of closing the kitchen door.
  - ***State of the union***: Sarah demonstrated a state of the union communication when she filled the nursing supervisor in on what actions had occurred up to that point in a succinct manner.
- **Resource allocation**:
  - ***Cognitive aids***: Sarah remembered that there were resources available for her to use during this type of emergency. She remembered that there was a manual for fires, the R.A.C.E. mnemonic, and Jeanne mentioned there was an evacuation plan for the unit.
  - ***Human resources***: Sarah delegated tasks and assessments to all the members of her team that were present during the emergency.
- **Situational awareness**: Sarah was aware that there was a situation and she needed to be a leader, assigning tasks and anticipatory planning for further escalation (need for evacuation of certain residents). She used data given to her from the team members — the inability to contain the fire and the potential risk to some of the patients located close to the fire – to further her decision-making.

Question:
What could have been done differently in the above scenario to improve the response to the emergency?

Discussion:
Areas for improvement based on the different components of CRM:

- **Leadership**: Sarah realized she was the leader, but she did not explicitly state this to her coworkers, who had varying levels of experience and may not have been aware that the charge nurse assumed leadership during an on-unit crisis.
- **Role assignment**: Sarah assigned Helen a specific role, and herself the role of getting the fire extinguisher. She should have delegated this to a team member. She did not explicitly state who should call 911 or shut all the patient doors, and her staff responded by all moving to close doors and no one called 911. She also did not assign anyone to pull the fire alarm, which may have alerted internal responders sooner. Without naming a specific person to carry out an important task, the task may not be completed at all or in a timely manner.
- **Communication**:
  - ***Closed-loop***: Sarah should have used closed-loop technique to ensure her role assignment was conveyed. By making eye contact or asking the person if they understood her ask, the loop would be closed. Any person completing a task must close the loop by stating that the task is completed. Sarah also should have verified, verbally, that someone called 911 if she did not get confirmation from the person assigned.
  - ***State of the union***: If Sarah had done a brief state of the union with her staff earlier, she likely would have realized more quickly there was an evacuation plan for the unit. She should have asked at the end of the state of the union, "Does anyone have anything to add?" Jeanne would have then mentioned the evacuation plan.
- **Resource allocation**:
  - ***Cognitive aids***: The institution where this fire occurred had a mnemonic tool (cognitive aid) to follow in case of a fire.
  - ***R.A.C.E.***: The R stands for Remove or Rescue. There was no one in the room of the fire to remove or rescue. However, nearby patients and those with respiratory compromise may need evacuation. A is for activation. Sarah did ask for activation – calling 911 – but did not assign someone which resulted in a delay, and she did not assign anyone to pull the fire alarm. C is for contain. Sarah did have Helen contain the fire to the kitchen by closing the door. E is for extinguish/evacuation. The decision that the fire was too large to extinguish was explored and made early. Sarah was in the process of deciding on evacuation when the supervisor arrived, discussing the need to move some at-risk residents with Jeanne and Dotty and remembering and obtaining the evacuation plan (cognitive aid).
  - ***Equipment***: In this scenario, specific equipment that team members would need to know how to use include timely use of the fire extinguisher, knowledge of the different types and when to deploy and use the correct one. The fire was considered too large for a fire extinguisher, but Sarah ran for the extinguisher later in

her response. Also, how to activate help for a fire, by locating and pulling the fire alarm.
    - ***Human resources***: Sarah did not immediately call for the internal human resource available to her – the nursing supervisor who has expertise to help her make decisions.
- ***Situational awareness***: As the leader, Sarah needed to be aware of a lot of information. She needed to free herself from task completion which distracted her from noticing changes in the situation and adapting as needed to ensure safety on the unit. An actual fire in a health care institution is a low volume high acuity event. All staff should participate in drills and review their role in such an event.

Case study #2

Theresa is a nurse on a medical surgical unit in a community hospital. She has been a nurse for over three years and only recently started working at this hospital. She has been trained in BLS and ACLS. She is working with three other nurses and two nursing assistants. On this weekend day shift, the hospitalist just arrived on the unit to see a patient that Theresa's coworker, Liz, is worried about.

Liz's patient is an elderly woman with pneumonia and heart disease. She has had increased work of breathing and her oxygen saturation has dropped to 90% on 2 liters by nasal cannula. Before the physician gets to the room, Liz calls out that her patient is unresponsive.

Theresa tells the unit coordinator to call a code blue and grabs the crash cart on her way to the room. She tells John, the nursing assistant, to remain on the floor and direct the response team to the patient's room when they arrive, and then to answer any call lights from other patients.

When she gets to the room, Liz is performing cardiac compressions and telling the physician that the patient desaturated as low as 68% and was gasping right before she became unresponsive and pulseless. The physician has his ACLS card open in his hand to refer to.

He verbally states that he will be in charge, and then asks Theresa to prepare epinephrine and the defibrillator. Theresa tells the other nurse, Jo, to put the backboard under the patient and then place the defibrillator pads on the patient.

Some of the responding code team members enter the room (ICU MD, pharmacist, and medical students). The physician leader begins directing code team members. He points to the medical ICU MD and says, "Can you assess the pulse and monitor the heart rhythm as soon as the defibrillation pads are attached?" The ICU MD nods assent. He then points to the first medical student and says, "Can you relieve the RN and continue compressions, changing at least every 2 minutes?" The medical student states he will. The physician then addresses Liz. "Liz, can you document please?" Lastly, he speaks to the second medical student. "Can you relieve the other med student as needed in administering compressions?"

The respiratory therapist (RT) and anesthesiologist arrive in the room.

***MD leader**: "Can you, Respiratory and Anesthesia, secure the airway and manage ventilation?"*

RT confirms task assignment heard with a nod at the leader.

Anesthesiologist: "What is the patient history and situation?"

***MD leader**: "The patient is 80 years old with worsening respiratory distress and became unresponsive and pulseless. Compressions were started. We are approaching 2 minutes. We will assess rhythm and defibrillate if necessary and administer epinephrine. Does anyone have anything to add?"*

No one adds anything. Jo places pads on the patient and turns on the defibrillator.

***MD leader**: "Two minutes. Let's pause compressions and switch compressors."*

***MD leader** (speaking to the ICU MD monitoring the patient's pulse): "Is there is a pulse?"*

***ICU MD**: "There is still no pulse."*

***MD leader** (looking at the defibrillator screen): "The rhythm indicates VF. Please prepare to defibrillate. Resume compressions."*

Jo turns the defibrillator to manual mode and asks the MD leader: "How much do you want me to set the defibrillator for?"

***MD leader**: "200 joules. Pharmacy and Theresa can you prepare 1 mg of epinephrine (1 mg/10mL) for IV push?" I also want to prepare a dose of Amiodarone.*

***Jo**: "Defibrillator is ready to deliver. Do you want me to proceed?"*

***MD leader**: "Yes, clear the patient and deliver the shock."*

***Jo** (delivers shock): "Clear please, shock was delivered."*

Liz documents the time of shock.

***MD leader** (to med student): "Please continue compressions."*

The nursing supervisor arrives and states that she will work on obtaining an ICU bed. The anesthesiologist and respiratory therapist are having a whispered discussion at the head of the bed. The anesthesiologist is having trouble seeing the vocal cords and placing the endotracheal tube. He is getting ready to make a third attempt. The RT ventilates the patient between attempts. The MD leader notices that there is a conversation between the two and asks the RT if there is a problem. The anesthesiologist then states that he is having difficulty securing an airway.

The MD leader asks RT to continue bag mask ventilations after clarifying that bag mask ventilations are effective. The leader then asks the ICU MD if he would be able to attempt to intubate the patient if needed, should resuscitation continue. The ICU MD responds that he can attempt if needed.

The pharmacist and Theresa are also having a conversation at the code cart on the dose of epinephrine. They refer to the guidelines of ACLS medications located on the crash cart for dosing. The pharmacist then prepares the epinephrine bristojet for administration. The pharmacist hands the prepared epinephrine to Theresa stating that it is 1mg in 10 ml for IV push. Theresa then states that she has 1 mg of 1mg/10mL epinephrine ready to administer. MD states to administer the epinephrine dose. Theresa administers, and states "epinephrine 1 mg administered." Liz documents the time administered. One and half more minutes pass. The MD leader asks the compressor to pause and assesses the cardiac rhythm. "There is return of spontaneous circulation evidenced by a pulse," states the MD on pulse. Rhythm is stated to be bradycardia at a rate of 50. The MD leader then says, "Let's stabilize and see if we can get this patient into the ICU."

Question

What examples of communication were demonstrated in this case study?

Discussion

Communication techniques demonstrated:

- **Closed-loop communication**: This was effectively demonstrated throughout the case study. The MD leader, Pharmacist and Theresa demonstrated this during the entire process of epinephrine preparation and administration. It was also demonstrated in the defibrillation sequence when the MD leader was in communication with Jo.
- **State of the union**: The MD leader used this technique to summarize the situation after members of the response team arrived and the anesthesiologist inquired about what was occurring. In addition, the MD leader included an ask from the team for additional input. Later in the case study, the MD leader again summarized a brief statement of current situation and what the plans were going forward.

- **Collateral communication**: There was an example of collateral communication between the RT and the anesthesiologist. Their conversation about the inability to secure the airway was important to the overall care of the patient. This needed to be shared with the MD leader. The MD leader demonstrated situational awareness in that he was aware that the anesthesiologist had not confirmed a secure airway and there was a discussion occurring at the head of the patient's bed. Theresa and the pharmacist also had a conversation, but the MD leader did not need to be involved as they were utilizing cognitive aids to solve their dilemma of dosing of the Epinephrine. If the medication had been needed, they would need to ask in closed loop format the dose required from the MD and then dose prepared before administration for verification by the leader.

Question
What other team roles were demonstrated in this case study?

Discussion
Other Team roles demonstrated in the case study:
- **Anesthesiologist**: Secured the airway through endotracheal tube placement in collaboration with the Respiratory Therapist.
- **Respiratory Therapist**: maintained the airway providing ventilation.
- **Bedside nurse**: Liz, the nurse caring for the patient, filled this role and appropriately remained in the room, and performed cardiac compressions.
- **Medication nurse**: Theresa filled this role and prepared and administered the epinephrine.
- **Pharmacist**: Assisted in preparation of medication and as a resource for doses of medication.
- **Circulating nurse**: Jo filled this role. She placed the patient on the backboard and prepared the patient for defibrillation. She also administered the electrical shock.
- **Scribe**: This role was filled also by Liz. She documented the situation by recording times of treatments, and medications that were administered throughout the code.
- **Bed manager**: The nursing supervisor facilitated obtaining a bed for the patient in a higher level of care to which the patient would be transferred following the resuscitation.

Question
What are some other examples of CRM other than communication demonstrated in the case study?

Discussion
Other examples of CRM within the case study:
- **Identification of a leader**: The MD leader assumed the role and stated out loud that he was assuming this role; he also communicated this with all staff responding to the emergency response call.
- **Role assignment**: Some team members began assuming tasks while others were directed to tasks. Liz started with compressions but was relieved of this role when more staff responded to the situation. The MD acknowledged that as an RN, Liz's talents may be better utilized elsewhere on the team. The MD leader assigned other less skilled members (medical students) to assist with the compressions. The RT and anesthesiologist fulfilled the task of maintaining the patient's airway as appropriate to their clinical skill set. The MD leader potentially reassigned airway management to the ICU MD as needed when he was aware of complications. Theresa also assigned roles by asking Jo to place a backboard under the patient and place defibrillator pads on the patient. Theresa also assigned the unit coordinator to guide the responding team members and asked the nursing assistant to call a code and monitor patient call lights. The pharmacist assumed a role at the code cart in preparation of medications.
- **Cognitive aids**: The MD leader was using an ACLS evidence-based algorithm card as a cognitive aid to guide his management of the situation and all interventions. The pharmacist and Theresa used an emergency medication guideline for dose verification.
- **Situational awareness**: The MD leader did not perform any tasks but maintained close observation of all activities taking place including the patient's status throughout. He used clear communication and noticed when the airway team was having an issue. He anticipated that there may be a need for another form of action, by asking the ICU MD if he was able to secure the airway if needed. The MD leader or the anesthesiologist could have become fixated on the failed intubation attempt but did not. The MD leader remained focused on the next timely steps by asking Liz if she was ready to administer epinephrine and the next 2-minute pulse check.

Conclusion

Crisis resource management is a concept that all healthcare providers should understand and know when and how to employ its elements during an emergency. This concept has been adapted and refined from other industries to provide a framework for effective and efficient management of crisis situations. Healthcare providers are often responders in medical emergencies and environmental disasters, and knowledge of CRM behaviors is vital for safe practice and efficient responses. Healthcare providers can serve as responders to an event as team members and team leaders. The ability to effectively communicate data, instructions, and delegation of tasks is a priority in ensuring minimal adverse outcomes and patient safety. The healthcare provider should understand the CRM components such as delegation, resource utilization, effective communication techniques, and the use of cognitive aids. They should be aware of the protocols, policies, and procedures for emergency responses in any care setting in which they work. Training and practice drills on how to respond to an emergency using the CRM framework helps prepare all care team members to respond to emergencies and maximize patient safety and outcomes.

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CRISIS RESOURCE MANAGEMENT FOR HEALTHCARE PROFESSIONALS

Self-Assessment Answers and Rationales

1. The correct answer is C.
Rationale: Most aviation disasters were related to human error in communication, situation awareness, delegation, and managing workload.

2. The correct answer is A.
Rationale: Role clarity is necessary to organize the team and minimize chaos.

3. The correct answer is C.
Rationale: The leader's only responsibility should be leading the situation; when the leader's attention is divided, crucial details can be missed.

4. The correct answer is B.
Rationale: Many institutions have multiple levels of assistance available and calling for the most appropriate level of help at the right time leads to the best patient outcomes.

5. The correct answer is C.
Rationale: Stop the line allows all responders to have opportunities to alert the team to issues and pause actions for clarification.

6. The correct answer is D.
Rationale: Responders involved in discussions during an emergency need to assess the importance of their conversation. They should only share information that is relevant for the leader to be aware of and that can impact the situation and eventual outcome.

7. The correct answer is D.
Rationale: Resource allocation is the knowledge of resources available in an emergent event and the internal protocols, such as internal responses to a fire and how to use the equipment.

8. The correct answer is B.
Rationale: Dynamic decision-making is a process where an individual makes informed decisions based on an awareness of the situation, implementing the resources available and supported in knowledge by cognitive aids.

9. The correct answer is A.
Rationale: The "Where do I Stand" is an institutional internal cognitive aid that assists cardiac event responders in knowing where they should stand so that the leader is aware of their role and discipline.

10. The correct answer is A.
Rationale: The thought that the issue causing the situation can only be attributed to one specific cause and no other cause is explored, potentially causing delay in interventions.

Course Code: ANCCUS03CR

Diabetes Prevention and Management for Healthcare Professionals

5 Contact Hours

Release Date: November 16, 2021 **Expiration Date:** November 16, 2024

Faculty

Adrianne Avillion, D.Ed, RN, is an accomplished nursing professional development specialist and healthcare author. She earned a doctoral degree in adult education, an MS in nursing from Penn State University, and a BSN from Bloomsburg University. Dr. Avillion has held a variety of nursing positions as a staff nurse in critical care and physical medicine and rehabilitation settings, as well as numerous leadership roles in professional development. She has published extensively and is a frequent presenter at conferences and conventions devoted to the specialty of continuing education and nursing professional development. Dr. Avillion owns and is the CEO of Strategic Nursing Professional Development, a business that specializes in continuing education for healthcare professionals and consulting services in nursing professional development.

Adrianne Avillion has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Mary C. Ross, Ph.D., RN, is an experienced nursing clinician and educator. She has clinical expertise in nursing and various medical-surgical areas. Dr. Ross has had numerous research grants, and multiple publications and presentations. In addition to a BSN and an MSN, she has a doctorate in nursing.

Mary C. Ross has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

Diabetes is a significant health problem in the United States and throughout the world. It is imperative that the healthcare community take aggressive steps to reduce the number of Americans who have the disease and to promote more effective treatment so that persons with diabetes can enjoy their maximum quality of life. This education program presents information on both the impact of the disease and how to provide effective healthcare professional interventions to those affected.

Learning objectives

Upon completion of the course, the learner should be able to:

- Discuss the incidence and prevalence of diabetes mellitus.
- Explain the financial and societal impact of diabetes mellitus.
- Describe the normal anatomy and physiology of the pancreas.
- Differentiate among the different types of diabetes mellitus.
- Discuss the pathologies of the different types of diabetes mellitus.
- Explain the screening guidelines for diabetes mellitus.
- Identify risk factors for the development of diabetes mellitus.
- Describe the presenting clinical manifestations of each type of diabetes mellitus.
- Explain the process of diagnosing diabetes mellitus.
- Describe strategies for the management of diabetes mellitus.
- Identify the potential complications of diabetes mellitus.
- Describe healthcare professional interventions when caring for persons with diabetes mellitus.
- Discuss the educational needs of diabetic patients and their families.

How to receive credit

- Read the entire course online or in print which requires a 5-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

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Individual state nursing approvals

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Activity director

Shirley Aycock, DNP, RN, Executive Director of Quality and Accreditation

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All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

According to the National Diabetes Statics Report, 2020, 34.2 million Americans, just over 1 in 10, have diabetes. Of these 34.2 million people, 7.3 million, or 21.4%, are undiagnosed (Centers for Disease Control and Prevention (CDC), 2020c; 2020d). The World Health Organization (WHO) reports that in 2019 an estimated 1.5 million deaths were directly caused by diabetes (WHO, 2021). The numbers of people who have diabetes continue to increase at alarming rates. It is critical that healthcare professionals aggressively pursue identification of persons who have, and who are at risk for, developing diabetes, and intervene to facilitate not only treatment, but prevention efforts (CDC, 2020c; 2020d).

INCIDENCE AND PREVALENCE OF DIABETES MELLITUS

Diabetes mellitus (DM) is a chronic endocrine disease characterized by impaired glucose regulation that occurs when the pancreas fails to produce adequate amounts of insulin or when the patient's body is unable to effectively utilize the insulin that is produced (Ignatavicius et al., 2018; WHO, 2021).

Approximately 304.2 million Americans have diabetes. Data indicate that (CDC, 2020c; 2020d):

- An estimated 10.5% of the United States (US) population are dealing with diabetes.
- About 26.9 million people have been diagnosed. This figure includes 26.8 million adults.
- A significant number of these people, 7.3 million or 21.4%, are undiagnosed.
- A total of 88 million people 18 years of age and older have prediabetes. This figure represents 34.5% of the adult US population.
- For persons 65 years of age and older, 24.2 million people have prediabetes.

Healthcare Professionals Consideration: An estimated 1.5 million world-wide deaths were directly caused by diabetes in 2019 (WHO, 2021). Healthcare professionals must increase their efforts in the recognition, treatment, and prevention of diabetes mellitus.

Diabetes is also a leading cause of death in the United States. According to the most recent data available on the CDC website (2021d), the following are the leading causes of death in the United States.

1. Heart disease: 659,041
2. Cancer: 599,601
3. Accidents (unintentional injuries): 173,040
4. Chronic lower respiratory diseases: 156,979
5. Stroke (cerebrovascular diseases): 150,005
6. Alzheimer's disease: 121,499
7. Diabetes: 87,647
8. Nephritis, nephrotic syndrome, and nephrosis: 51,565
9. Influenza and pneumonia: 49,783
10. Intentional self-harm (suicide): 47,511

Key findings of the National Diabetes Statistics Report 2020 regarding incidence and prevalence include (CDC, 2020d;2020e; 200f):

- 34.2 million Americans—just over 1 in 10—have diabetes.
- 88 million American adults—approximately 1 in 3—have prediabetes.
- New diabetes cases were higher among non-Hispanic blacks and people of Hispanic origin than non-Hispanic Asians and non-Hispanic whites.
- For adults diagnosed with diabetes:
  - New cases significantly decreased from 2008 through 2018.
  - The percentage of existing cases was highest among American Indians/Alaska Natives.
  - 15% were smokers, 89% were overweight, and 38% were physically inactive.
  - 37% had chronic kidney disease (stages 1 through 4); and fewer than 25% with moderate to severe chronic kidney disease (stage 3 or 4) were aware of their condition.
- New diagnosed cases of type 1 and type 2 diabetes have significantly increased among US youth.
- For ages 10 to 19 years, incidence of type 2 diabetes remained stable among non-Hispanic whites and increased for all others, especially non-Hispanic blacks.
- The percentage of adults with prediabetes who were aware they had the condition doubled between 2005 and 2016, but most continue to be unaware.

More people are developing type 1 and type 2 diabetes during youth, and racial and ethnic minorities continue to develop type 2 diabetes at higher rates. Likewise, the proportion of older people in our nation is increasing, and older people are more likely to have a chronic disease like diabetes. By addressing diabetes, many other related health problems can be prevented or delayed.

Prevalence and incidence according to age, race, and ethnicity

Age

According to the National Diabetes Statistics Report 2020, (CDC, 2020c; 2020d;2020e):

- About 34.2 million people of all ages had diabetes mellitus.
- The percentage of adults (18 years of age or older) with diabetes increased with age.
- About 34.1 million adults 18 years of age or older) had diabetes.
- The highest percentage was 26.8% among persons 65 years of age or older.
- An estimated 4.9 million adults between the ages of 18 and 44 had diabetes.
- An estimated 14.8 million people between the ages of 45 and 64 had diabetes.
- An estimated 14.3 million people over the age of 65 had diabetes.

Incidence and trends among children and adolescents.

According to the National Diabetes Statistics Report 2020 (CDC, 2020c; 2020d; 2020e):

- 18,291 children and adolescents younger than age 20 years with type 1 diabetes.
- 5,758 children and adolescents age 10 to 19 years with type 2 diabetes.
- During 2011–2015, non-Hispanic Asian and Pacific Islander children and youth had the largest significant increases in incidence of type 1 diabetes.
- During 2011–2015, non-Hispanic Asian and Pacific Islander children and youth had the largest significant increases in incidence of type 1 diabetes.
- Among US children and adolescents aged 10 to 19 years (CDC, 2020c; 2020d; 2020e):
- For the entire period 2002–2015, overall incidence of type 2 diabetes significantly increased.
- During the 2002–2010 and 2011–2015 periods, changes in incidence of type 2 diabetes were consistent across race/ethnic groups. Specifically, incidence of type 2 diabetes remained stable among non-Hispanic whites and significantly increased for all others, especially non-Hispanic blacks.

Evidence-based practice! Research data shows that the number of younger people with diabetes is significant and continues to increase (CDC, 2020c; 2020d; 2020e). It is therefore essential that nurses identify those at risk and provide patient/family education regarding risk factors for the disease and how to modify these risk factors as appropriate.

Racial and ethnic differences (Prevalence of diagnosed diabetes)

Among the US population overall, crude estimates for 2018 were (CDC, 2020c; 2020d; 2020e):

- 26.9 million people of all ages—or 8.2% of the US population—had diagnosed diabetes.
- 210,000 children and adolescents younger than age 20 years—or 25 per 10,000 US youths— had diagnosed diabetes. This includes 187,000 with type 1 diabetes.
- 1.4 million adults aged 20 years or older—or 5.2% of all US adults with diagnosed diabetes—reported both having type 1 diabetes and using insulin.
- 2.9 million adults aged 20 years or older—or 10.9% of all US adults with diagnosed diabetes—started using insulin within a year of their diagnosis.

Among US adults aged 18 years or older, age-adjusted data for 2017–2018 indicated the following (CDC, 2020c; 2020d; 2020f):

- Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%).
- American Indians/Alaska Natives had the highest prevalence of diagnosed diabetes for women (14.8%).
- American Indian/Alaska Native men had a significantly higher prevalence of diagnosed diabetes (14.5%) than non-Hispanic black (11.4%), non-Hispanic Asian (10.0%), and non-Hispanic white (8.6%) men.
- Among adults of Hispanic origin, Mexicans (14.4%) and Puerto Ricans (12.4%) had the highest prevalence, followed by Central/South Americans (8.3%) and Cubans (6.5%).
- Among non-Hispanic Asians, Asian Indians (12.6%) and Filipinos (10.4%) had the highest prevalence, followed by Chinese (5.6%). Other Asian groups had a prevalence of 9.9%.
- Among adults, prevalence varied significantly by education level, which is an indicator of socioeconomic status. Specifically, 13.3% of adults with less than a high school education had diagnosed diabetes versus 9.7% of those with a high school education and 7.5% of those with more than a high school education.

Prevalence of prediabetes in adults

Data regarding prediabetes in adults show that (CDC, 2020c; 2020d; 2020e):

- An estimated 88 million adults aged 18 years or older had prediabetes in 2018.
- Among US adults aged 18 years or older, crude estimates for 2013–2016 were: 34.5% of all US adults had prediabetes, based on their fasting glucose or A1C level (Table 3).
- 10.5% of adults had prediabetes based on both elevated fasting plasma glucose and A1C levels.
- 15.3% of adults with prediabetes reported being told by a health professional that they had this condition.
- Among US adults aged 18 years or older, age-adjusted data for 2013–2016 indicated:
- A higher percentage of men (37.4%) than women (29.2%) had prediabetes.
- Prevalence of prediabetes was similar among all racial/ethnic groups and education levels.

Incidence of newly diagnosed diabetes in adults

Among US adults aged 18 years or older, crude estimates for 2018 were (CDC, 2020c; 2020d; 2020e):

- 1.5 million new cases of diabetes—or 6.9 per 1,000 persons—were diagnosed.
- Compared to adults aged 18 to 44 years, incidence rates of diagnosed diabetes were higher among adults aged 45 to 64 years and those aged 65 years and older.
- Among US adults aged 18 years or older, age-adjusted data for 2017–2018 indicated that non-Hispanic blacks (8.2 per 1,000 persons) and people of Hispanic origin (9.7 per 1,000 persons) had a higher incidence compared to non-Hispanic whites (5.0 per 1,000 persons).

Evidence-based practice! The rate of new cases of diabetes in youths younger than 20 years of age increased in the US between 2002 and 2015, with a 4.8% increase per year for type 2 diabetes and a 1.9% increase per year for type 1 diabetes (CDC, 2020g). These findings indicate that education regarding prevention and recognition of diabetes in youth must be provided with increased effectiveness, as well as aggressive efforts to prevent development whenever possible.

Self-Assessment Quiz Question #1

Among U. S. adults 18 years of age and older indicated that prevalence of diagnosed diabetes was highest among:

a. American Indians/Alaska Natives.
b. People of Hispanic origin.
c. Non-Hispanic blacks.
d. Non-Hispanic Asians.

FINANCIAL AND SOCIETAL IMPACT OF DIABETES MELLITUS

The momentous financial and societal impact of diabetes continues to increase at an alarming rate. Federal, state, and local governments (and ultimately the US taxpayer) bear the brunt of costs related to diabetes. The American Diabetes Association (ADA) gives as an example that Medicare's diabetes-related burden increased as the prevalence of diabetes increased (O'Connell & Manson, 2019).

According to the CDC, diabetes is the most expensive chronic condition in the US. A summary of these expenses includes (CDC, 2021c):

- The total annual cost of diabetes is $327 billion. An additional $90 billion is spent on reduced productivity.
- One dollar out of every four dollars in US healthcare costs is spent on caring for people with diabetes.
- The total economic cost of diabetes rose 60% from 2007 to 2017.
- Sixty-one percent of diabetes costs are for people 65 years of age or older. These costs are mainly paid by Medicare.
- An estimated 48% to 64% of lifetime medical costs for a person with diabetes are for complications related to diabetes, such as heart disease and stroke.

Medical costs are not the only costs related to diabetes. The stress of chronic illness can impact interpersonal relationships. It can impact the person's ability to work, which may have significant economic impact on the family income. Financial burdens are interrelated with psychological issues that impact persons dealing with diabetes. Medical bills, loss of work time, and inability to actively participate in work and social activities can all have s significant adverse impact on patients, their families, and their employers. Dealing with a chronic illness can lead to significant stress, which can adversely impact ability to function effectively at work, home, and school and interfere with interpersonal relationships. Therefore, the costs of diabetes include monetary, societal, and interpersonal factors. The impact on society includes overextended health services, increased public assistance programs for financially stressed families, and the societal burden of mental health care and rehabilitation for those with complications resulting from diabetes (CDC, 2021c; O'Connell, 2019).

The cost of medications used in the treatment of diabetes continues to increase at alarming rates. The price of insulin, for example, has increased 1,200% since 1996 (Kumok, 2021).

The estimated economic cost of glucose-lowering drugs is $57.6 billion per year in the U.S. in 2015–2017 (15–20% of the estimated annual cost for all prescription drugs in the U.S.). The cost of such drugs can cause a financial burden and have a devastating impact on people without health insurance and people whose insurance imposes high deductibles—the people least able to afford the high cost of diabetes drugs. This means that the high cost of diabetes drugs has important implications for both public policy and social justice (Taylor, 2020a).

Members of an Insulin Access and Affordability Working Group (Cefalu, (2018) made the following recommendations to help lower the cost of insulin. These recommendations may also be applied to other drugs used in the treatment of diabetes. Examples include (Cefalu, (2018):

- Providers, pharmacies, and insurers should discuss the cost of insulin preparations (and other drugs) with patients to help them understand the advantages, disadvantages, and financial impact of potential insulin preparations and those of other diabetes medications.
- Providers should prescribe the lowest-priced medications that effectively and safely achieve treatment goals.
- Researchers should study the comparative effectiveness and cost-effectiveness of the various insulins.
- Organizations such as the (ADA) should:
    - Advocate for access to affordable medications for all people who have diabetes.
    - Develop and regularly update clinical guidelines or standards of care based on scientific evidence for prescribing medications.
    - Make information about the advantages, disadvantages, and financial implications of medications easily available to people with diabetes.

NORMAL ANATOMY AND PHYSIOLOGY OF THE PANCREAS

It is not possible to comprehend the pathophysiology of diabetes without an understanding of normal pancreatic functioning. The pancreas is a triangular shaped organ, about six to 10 inches long, located in the curve of the duodenum (the first portion of the small intestine from the stomach to the jejunum). The pancreas plays critical roles in both the digestive process and the process that regulates blood sugar (The Pancreas Center, n.d.; Willis, 2018).

The pancreas is surrounded by various other organs: the small intestine, liver, and spleen. It has three sections. The wide part, referred to as the head of the pancreas, is positioned toward the center of the abdomen. The middle section is called the neck and the body of the pancreas. The thin end of the organ is referred to as the tail and extends to the left side (Johns Hopkins Medicine, n.d.; The Pancreas Center, n.d.; Willis, 2018).

The pancreas is surrounded by several major blood vessels: the superior mesenteric artery, the superior mesenteric vein, the portal vein, and the celiac axis, which supply blood to the pancreas and many other abdominal organs (The Pancreas Center, n.d.).

Exocrine function of the pancreas

The pancreas contains exocrine glands, which produce enzymes that are essential to the process of digestion (The Pancreas Center, n.d.). Acinar cells make up most of the pancreas and are responsible for the regulation of the exocrine functions of the gland (Willis, 2018).

Below is a summary of the exocrine function of the pancreas (The Pancreas Center, n.d.):

- Food enters the stomach.
- Pancreatic juices flow into a system of ducts that terminate in the primary pancreatic duct.
- The pancreatic duct joins with the common bile duct to form the ampulla of Vater located in the duodenum.
- The common bile duct produces bile. Pancreatic juices and bile flow into the duodenum and facilitate the digestion of fats, carbohydrates, and proteins.

Endocrine function of the pancreas

The endocrine function of the pancreas focuses on hormone secretion. The endocrine cells of the pancreas are islet cells, or islets of Langerhans. These islet cells exist as clusters of cells that are scattered among the acinar cells. They consist of alpha, beta, and delta cells, which produce the following essential hormones (Johns Hopkins Medicine, n.d.a.; The Pancreas Center, n.d.; Willis, 2018):

- Glucagon: Glucagon is produced by the alpha cells. It raises blood glucose levels by causing the breakdown of glycogen to glucose.
- Insulin: Insulin is produced by beta cells. Insulin's primary function is to reduce blood glucose levels by triggering the conversion of glucose to glycogen.
- Somatostatin: Delta cells are responsible for the production of somatostatin. Somatostatin inhibits the release of growth hormone (GH), corticotrophin, and some other hormones.

Under normal conditions, a small amount of insulin is constantly secreted by the pancreas. Insulin secretion increases in response to increases in blood glucose levels. Insulin triggers the conversion of glucose to glycogen. Glycogen is stored primarily in the liver and in skeletal muscle (Johns Hopkins Medicine, n.d.; The Pancreas Center, n.d.; Willis, 2018).

When blood glucose levels are low such as between meals or during or immediately following exercise, alpha cells are stimulated to release glucagon. Glucagon causes the liver to release glycogen, which is then converted to glucose. Glucose travels through the blood stream to the cells of the body where it is converted to energy to maintain body functioning (Johns Hopkins Medicine, n.d.a.; The Pancreas Center, n.d.; Willis, 2018).

Maintaining normal blood glucose levels is essential to the ability of key organs—including the brain, liver, and kidneys—to function properly (Johns Hopkins Medicine, n.d; The Pancreas Center,

n.d.; Willis, 2018). However, the normal blood glucose range is rather narrow. Blood glucose levels are regulated by an internal feedback mechanism that involves the pancreas and the liver (Willis, 2018).

The following blood glucose test results indicate normal findings (Pagana et al., 2019).

From the ages of two to adulthood:
- Fasting (no caloric intake for at least eight hours): 70 to 110 mg/dL or <6.1 mmol/L.
- Casual (any time of day regardless of food intake): <200 mg/dL (11.1 mmol/L).

Children <2 years of age:
- 60 to 100 mg/dL or 3.3 to 5.5 mmol/L.

When normal blood glucose levels are not maintained, the impact can be devastating on an individual's health and wellness.

To effectively provide healthcare services for persons who have diabetes, healthcare professionals must understand both normal pancreatic functioning and the pathophysiology associated with the disease. To do this, it is essential to differentiate among the different types of diabetes, all of which have different pathologies.

Self-Assessment Quiz Question #2

The endocrine function of the pancreas focuses on:

a. The production of enzymes essential to the process of digestion.
b. The production of bile.
c. Hormone secretion.
d. Alpha cell production of insulin.

THE DIFFERENT TYPES OF DIABETES MELLITUS

Health care professionals and health care consumers are arguably most familiar with type 1 and type 2 diabetes. But there are other types of diabetes with which nurses must be familiar (Rebar et al., 2019).
- Type 1: The body is unable to produce adequate amounts of insulin.
- Type 2: There is resistance to insulin or abnormal insulin secretion.
- Secondary diabetes: This form of diabetes develops because of, or secondary to, another disease or condition.
- Gestational diabetes: This occurs in pregnant women who have never had diabetes.

The primary focus of this educational program is on type 1 and type 2 diabetes, but the issue of other types of diabetes is also quite important. Therefore, it will be discussed before delving into type 1 and type 2 diabetes.

The term secondary diabetes refers to specific types of diabetes because of other causes (ADA, 2021b). Some of the most common causes of secondary diabetes include (Khardori, 2021c; Rebar et al., 2019):
- Physical or emotional stress, which may cause prolonged increases in levels of the stress hormone cortisol, epinephrine, glucagon, and growth hormone (GH). These increases, in turn, raise the blood glucose level and place more demands on the pancreas.
- Use of adrenal corticosteroids, hormonal contraceptives, and other types of drugs that antagonize the effects of insulin.
- Diseases of the pancreas that destroy pancreatic beta cells, such as pancreatic cancer, pancreatitis, and cystic fibrosis.
- Hormonal syndromes that interfere with the secretion of insulin, such as pheochromocytoma.
- Hormonal syndromes that cause peripheral insulin resistance, such as Cushing syndrome.
- Some medications, such as estrogens, phenytoin, and glucocorticoids.

Gestational diabetes

Gestational diabetes occurs in women who have never had diabetes mellitus but have high blood glucose levels during pregnancy (Mayo Clinic, 2020c). This condition develops in a fairly high number of women. In the US, an estimated 10% of women who are pregnant develop gestational diabetes (Dansinger, 2019a). Healthcare professionals are becoming increasingly concerned about the occurrence of gestational diabetes. Thus, the following more detailed information is provided.

Etiology of Gestational Diabetes

As a result of hormonal changes associated with pregnancy, nearly all women experience some amount of impaired glucose intolerance. Although blood sugar may be higher than normal, it is not high enough to be diagnosed as diabetes mellitus. During the third trimester of pregnancy, these hormonal changes put women at higher risk for gestational diabetes. Hormonal changes can interfere with the appropriate action of insulin, which leads to insulin resistance (American Diabetes Association, 2021d; Dansinger, 2019a).

During pregnancy, certain placental hormones help to shift nutrients from the mother to the fetus. Other placental hormones help prevent hypoglycemia in the pregnant woman. As pregnancy advances, such hormones can lead to progressive impaired glucose intolerance (elevated blood glucose levels). Usually, the woman's pancreas is able to compensate for these elevated levels by producing about three times the normal amount of insulin. If the pancreas is not able to produce adequate amounts of insulin, blood glucose levels rise, and gestational diabetes occurs (Dansinger, 2019a).

Risk Factors for Development of Gestational Diabetes

Several factors increase the risk for the development of gestational diabetes (Dansinger, 2019a; Mayo Clinic, 2020c):
- Being overweight or obese
- Being a member of a high-risk ethnic group such as Hispanic, Black, Native American, African American, Pacific Islander, Alaska native, Native American, or Asian
- Being older than 25 years of age
- Having impaired glucose tolerance or impaired fasting blood glucose levels. This means that blood glucose levels are high but not high enough to be diagnosed as diabetes mellitus.
- Having gestational diabetes during a previous pregnancy
- Having a family history of gestational diabetes
- Having polycystic ovary syndrome or other condition that is associated with insulin abnormalities
- Previously giving birth to a baby that weighed over 9 pounds
- Previously giving birth to a stillborn baby or one that had birth defects
- Having had a miscarriage
- Having hypertension, elevated cholesterol, or heart disease

Complications

Gestational diabetes may increase the risk of (Mayo Clinic, 2020c):
- Hypertension
- Preeclampsia
- Development of diabetes in the future
- Need for a surgical delivery (C-section)

Diagnosis of Gestational Diabetes

The ADA (2021b) has published the following recommendations for gestational diabetes mellitus screening.
- Test for undiagnosed prediabetes and diabetes at the first prenatal visit in those with risk factors using standard diagnostic criteria.
- Test for gestational diabetes mellitus at 24-28 weeks of gestation in pregnant women not previously found to have diabetes.
- Test women with gestational diabetes mellitus for prediabetes or diabetes at 4-12 weeks postpartum, using the 75-g oral glucose tolerance test and clinically appropriate nonpregnancy diagnostic criteria.
- Women with a history of gestational diabetes mellitus should have lifelong screening for the development of diabetes or prediabetes at least every three years.
- Women with a history of gestational diabetes mellitus found to have prediabetes should receive intensive lifestyle interventions and/or metformin to prevent diabetes.

The steps of an oral glucose tolerance include (Pagana et al., 2018):

1. Obtain fasting blood and urine specimens. The patient should fast for 12 hours before the test.
2. Administer a prescribed oral glucose solution of 75-100 g for pregnant women. Note that the ADA recommends using 75 g solution.
3. Instruct patient to drink the entire glucose solution.
4. Instruct patient not to eat or drink anything except water during the testing period.
5. Obtain a venous blood sample at 30 and 60 minutes and then hourly.
6. Collect urine specimens hourly.
7. Monitor the patient for dizziness, sweating, and weakness.

Screening tests may vary slightly depending on the patient's healthcare provider. General results include (Mayo Clinic, 2020c; Pagana et al., 2019):

- Initial glucose challenge test: This challenge test is done first. It is a one-hour test that involves drinking a glucose solution and having blood glucose levels assessed. A blood sugar level of 10 mg per deciliter (mg/dL) or 10.6 millimoles per liter indicates gestational diabetes. A blood glucose level below 140 mg/dL is usually considered normal. A higher-than-normal blood glucose level means that the glucose tolerance test should be performed.
- Follow-up glucose tolerance testing: If at least two of the blood glucose readings are higher than normal, a diagnosis of gestational diabetes is made.

Management of Gestational Diabetes

The goal of treatment for gestational diabetes is to keep blood glucose levels equal to those of pregnant women who do not have gestational diabetes (ADA, 2021d).

Management of gestational diabetes includes the following initiatives (ADA,2021d; Dansinger, 2019a; Mayo Clinic, 2020c; WebMD, 2017a):

- Teach patients and family members (as appropriate) how to monitor blood glucose levels. Monitoring should be done four times per day, before breakfast and two hours after meals. Some patients require checking glucose levels before meals as well.
- Teach patients and family members (as appropriate) how to monitor urine for ketones.
- Initiate a dietary consultation for the development of an appropriate diet. Explain to patients and family members the importance of following prescribed dietary plans. A healthy diet focuses on fruits, vegetables, whole grains, and lean proteins.
- Help patients to develop medically approved exercise regimens.
- Teach patients to monitor their weight.
- If needed, teach patients about any hypoglycemic medications, including insulin, that are prescribed.
- Monitor blood pressure and initiate prescribed actions such as exercise and reduction of salt intake. As appropriate, teach patient and family members how to monitor blood pressure.
- Teach patients to keep a careful written record of their blood glucose levels and results of urine monitoring—including the time readings were obtained and how readings relate to dietary intake, exercise, and stress—and blood pressure readings if monitoring blood pressure at home. Instruct patients to bring a copy of these written records with them to all health care appointments.
- Teach patients stress reduction techniques such as meditation and deep breathing exercise as appropriate.

Most pregnant women are concerned about the possible effects of gestational diabetes on their unborn children. Fortunately, gestational diabetes affects the mother relatively late in her pregnancy, when the majority of the baby's organs have been formed, but while the baby is still growing. Gestational diabetes is not associated with the types of birth defects in infants whose mothers had diabetes mellitus before pregnancy (Dansinger, 2019a; Mayo Clinic, 2020c).

Unfortunately, untreated, or inadequately controlled gestational diabetes can harm the fetus. The pancreas works "overtime" to produce insulin in the presence of gestational diabetes, but the insulin does not reduce blood glucose levels. Insulin does not cross the placenta, but glucose does. Thus, the unborn child is exposed to high blood glucose levels. In response to these elevated levels, the unborn baby produces additional insulin, receives more energy, and stores the "extra" energy as fat. Additional stores of fat can lead to macrosomia, a condition in which the baby is abnormally large before birth. Adverse effects of macrosomia include damage to the baby's shoulders during birth, low blood glucose levels because of the extra insulin production, respiratory distress, and jaundice. These infants are also at higher risk for obesity as children and at risk for type 2 diabetes as adults. Thus, it is essential that all pregnant women be screened for gestational diabetes and, if a diagnosis of diabetes is found, treated appropriately and promptly (Dansinger, 2019a; Mayo Clinic, 2020c).

About six weeks after delivery, the mother's blood glucose levels usually return to normal because the placenta, which was responsible for producing the hormones that led to insulin resistance, is no longer in the body. Blood glucose levels will be monitored to ensure that they have returned to normal. Some health care providers recommend an oral glucose tolerance test 6 to 12 weeks after delivery to screen for diabetes mellitus (Dansinger, 2019a; Mayo Clinic, 2020c).

Evidence-based practice! Women who have had gestational diabetes have a 50% chance of developing type 2 diabetes within 10 to 20 years of delivery (Dansinger, 2019a). Therefore, they should work to reduce this risk by maintaining an ideal body weight, following a healthy diet, and exercising regularly.

Self-Assessment Quiz Question #3

ADA recommendations for gestational diabetes screening include all of the following EXCEPT:

a. Pregnant women not previously found to have diabetes should be screened for gestational diabetes at the first prenatal visit.
b. Women with a history of gestational diabetes mellitus should have lifelong screening for the development of diabetes at least every three years.
c. A blood glucose level of 140 mg/dL is considered normal.
d. The initial glucose challenge test is done before the glucose tolerance test.

TYPE 1 DIABETES: ETIOLOGY AND PATHOPHYSIOLOGY

Type 1 diabetes occurs when the beta cells of the pancreas are destroyed or suppressed. This results in failure of the pancreas to release insulin and inadequate transport of glucose (Rebar et al., 2019). The prevalence of diagnosed type 1 diabetes in 2016 was 0.55%, or 1.3 million adults. This is significantly less than the prevalence of diagnosed type 2 diabetes, which was 8.6%, or 21.0 million adults (Morr, 2018).

Immune mediated types of type 1 diabetes, an autoimmune attack on beta cells occurs. This results in an inflammatory response in the pancreas (insulitis). Antibodies may be present for considerable time before the development of symptoms. In fact, by the time the disease is symptomatic, 80% of the beta cells are deactivated. Some experts believe that the beta cells are not destroyed, but instead they are disabled and may be able to be reactivated (Rebar et al., 2019).

Healthcare Professional Consideration: Type 1 diabetes is divided into idiopathic and immune-mediated types. In idiopathic diabetes (referred to as type 1b diabetes) there is nearly complete insulin deficiency. There is no evidence of autoimmunity (Kalyani, 2017; Rebar et al., 2019). Healthcare professionals must be aware of the various types of diabetes to recognize them and to provide safe and appropriate care. Screening and patient education are critical elements of care. Clinical Practice Guidelines are constantly being updated and should be followed for effective care. The Centers for Medicare & Medicaid Services (CMS) sets reimbursement rates for Medicare providers and generally pays them according to approved guidelines.

Latent autoimmune diabetes (LADA)

Latent autoimmune diabetes in adults (LADA) is characterized by a slow progression of autoimmune reaction against the pancreas. Some experts recognize LADA as a form of type 1 diabetes, while others do not. LADA occurs because of an inadequate production of insulin. However, LADA does not require insulin administration for several months up to years after diagnosis is made (Castro, 2021).

Following are characteristics of LADA (Castro, 2021):

- People are usually over the age of 30 when the disease is diagnosed.
- The pancreas produces some insulin initially
- LADA is often misdiagnosed with type 2 diabetes because the patients are older at diagnosis and some insulin production is still evident.
- Initially, LADA is managed with diet, weight reduction as needed, exercise, and oral medications as needed. But insulin is eventually needed because the pancreas gradually loses its ability to produce insulin.

Research is underway regarding LADA and the best way to manage treatment. Health care providers with expertise in all forms of diabetes should direct treatment initiatives (Castro, 2021).

TYPE 2 DIABETES: PATHOPHYSIOLOGY AND ETIOLOGY

Type 2 diabetes is an impairment of the way the glucose is regulated and used by the body. A chronic condition, type 2 diabetes can lead to disorders of the circulatory, nervous, and immune system (Mayo Clinic, 2021g). The following are general characteristics of type 2 diabetes (Mayo Clinic, 2021g Santos-Longhurst, 2020):

- The disease is caused by a combination of insulin resistance and insulin deficiency. Some people develop the disease predominantly because of insulin resistance, whereas others are affected predominantly by deficient insulin secretion but have little insulin resistance.
- About 90% to 95% of people with diabetes have type 2 diabetes.
- Type 2 diabetes has a strong hereditary component.
- Its onset is typically slow and insidious
- Type 2 diabetes is significantly less common in children and young adults than in older adults. But the number of children with type 2 diabetes is increasing because of the prevalence of overweight children.
- Although some people with this type of diabetes may need insulin, they are still categorized as having type 2 diabetes.

Pathophysiology

Under normal conditions, insulin molecules bind to body cell preceptors. Insulin activates cell portals to open allowing glucose to enter the cells where it is then converted to energy. Insulin decreases the amount of glucose in the blood. As the blood glucose level decreases, so does the amount of insulin secreted by the pancreas (Mayo Clinic, 2021g).

In type 2 diabetes, the cells develop a resistance to insulin. This inhibits the ability of glucose to enter the cells. If glucose cannot enter the cells, the cells fail to receive enough energy. Blood glucose levels increase, and organs are damaged throughout the body (Mayo Clinic, 2021g).

Etiology

Type 2 diabetes is mainly the result of two interrelated issues (Mayo Clinic, 2021g):

- Muscle, fat, and hepatic cells become insulin-resistant and are unable to function efficiently.
- The pancreas is not able to manufacture adequate amounts of insulin to appropriately manage blood glucose levels.

Several environmental and lifestyle factors play a role in the development of type 2 diabetes. The aging process, alcohol consumption, smoking, lack of exercise, and obesity have all been found to be related to the development of diabetes (Mayo Clinic, 2021g). Obesity seems to have an impact on disease development. Obesity, especially visceral fat obesity, leads to a decrease in muscle mass and an increase in insulin resistance (Mayo Clinic, 2021g; Taylor, 2020b).

Research has shown that a number of factors contribute to an increase in the amount of visceral fat in the body (Mayo Clinic, 2021g; Taylor, 2020b):

- Disorders of the nervous or endocrine systems that lead to an increase in cortisol and abnormalities in the secretion of sex hormones.
- Smoking
- Increased intake of alcohol
- Overeating, particularly an excessive intake of simple sugars
- Decreased energy consumption because of insufficient exercise
- Genetic influences
- The aging process

PREDIABETES

Prediabetes is sometimes referred to as a "wake-up call" that the development of diabetes may be imminent. About 84 million Americans over the age of 20 have prediabetes, but 90% of these people do not know that they have it. (Dansinger, 2019b; Mayo Clinic, 2020d). Lifestyle modifications—including weight loss, implementing an exercise regimen, and following a healthy diet—are strongly recommended to prevent prediabetes from progressing to type 2 diabetes (Dansinger, 2019b; Mayo Clinic, 2020d).

With a diagnosis of prediabetes, patients must be counseled regarding diet, exercise, and weight loss. Patients may also need antidiabetic agents (Mayo Clinic, 2020d).

Healthcare Professional Consideration: Prediabetes is a significant risk factor for developing type 2 diabetes and cardiovascular disease (Dansinger, 2019b; Mayo Clinic, 2020d). Risk factors for the risk of developing prediabetes are the same as for type 2 diabetes, which will be discussed later in this education program.

SCREENING GUIDELINES

Type 1 diabetes

At this time, there is a deficit of accepted and clinically validated screening programs outside of research settings. The ADA recommends considering referring relatives of those with type 1 diabetes for islet autoantibody testing for risk assessment in the setting of a clinical research study. (ADA, 2021b).

Current ADA (2021b) recommendations include:

- Screening for type 1 diabetes risk with a panel of islet autoantibodies is currently recommended in the setting of a research trial or can be offered as an option for firs-degree family members of a proband with type 1 diabetes. The proband is the first individual to be studied in a family.
- Persistence of autoantibodies is a risk factor for clinical diabetes and may serve as an indication for intervention in the setting of a clinical trial.

Prediabetes and type 2 diabetes

The 2021 ADA screening guidelines list the same recommendations for both prediabetes and type 2 diabetes. These include (ADA, 2021b):

- Screening for prediabetes and type 2 diabetes with an informal assessment of risk factors or validated tools should be considered in asymptomatic adults.
- Testing for prediabetes and/or type 2 diabetes in asymptomatic people should be considered in adults of any age with overweight or obesity (BMI ≥25 kg/m2 or ≥23 kg/m2 in Asian Americans) and who have one or more additional risk factors for diabetes
- Testing for prediabetes and/or type 2 diabetes should be considered in women with overweight or obesity planning pregnancy and/or who have one or more additional risk factor for diabetes.
- For all people, testing should begin at age 45 years.
- If tests are normal, repeat testing carried out at a minimum of 3-year intervals is reasonable, sooner with symptoms.
- To test for prediabetes and type 2 diabetes, fasting plasma glucose, 2-h plasma glucose during 75-g oral glucose tolerance test, and A1C are equally appropriate.
- In patients with prediabetes and type 2 diabetes, identify and treat other cardiovascular disease risk factors.
- Risk-based screening for prediabetes and/or type 2 diabetes should be considered after the onset of puberty or after 10 years of age, whichever occurs earlier, in children and adolescents with overweight (BMI ≥85th percentile) or obesity (BMI ≥95th percentile) and who have one or more risk factor for diabetes.
- Patients with HIV should be screened for diabetes and prediabetes with a fasting glucose test before starting antiretroviral therapy, at the time of switching antiretroviral therapy, and three to six months after starting or switching antiretroviral therapy. If initial screening results are normal, fasting glucose should be checked annually.

RISK FACTORS

Risk factors for the development of type 1 diabetes

A number of risk factors are associated with the development of type 1 diabetes (American Heart Association, 2021; Mayo Clinic, 2020a):

- Family history
- Exposure to a viral illness
- Presence of autoantibodies
- Geography (Some countries, including Finland and Sweden, have higher rates of type 1 diabetes)

Risk factors for the development of type 2 diabetes

There are several risk factors related to the development of type 2 diabetes mellitus. These risk factors are classified as nonmodifiable and modifiable.

Nonmodifiable risk factors

The following risk factors are nonmodifiable; in other words, they cannot be changed (American Heart Association, 2021; CDC, 2021b; Mayo Clinic, 2020a):

- Age: Risk increases with age. This increase seems to begin at the age of 40
- Race and ethnicity: Some racial and ethnic groups have a higher incidence of type 2 diabetes than others. These include:
  - African Americans
  - Asian-Americans
  - Latino/Hispanic-Americans
  - Native Americans
  - Pacific Islander descent
- Family history: A person's chances of developing type 2 diabetes increases if immediate or even extended family members have the disease.
- History of gestational diabetes: Women who have gestational diabetes have a greater risk of developing prediabetes and type 2 diabetes. Having given birth to a baby that weighs more than 9 pounds also increases risk.

Healthcare Professional Consideration: Although research has shown that certain risk factors cannot be modified, healthcare professionals must still include them in patient/family education and be aware of such factors that increase the risk for development of diabetes.

Modifiable risk factors

The following risk factors are those that can be modified or changed to decrease risk of developing type 2 diabetes.

Overweight/Obesity

Being obese or overweight is one of the greatest risk factors for type 2 diabetes. Because obesity is increasing among children and adolescents, type 2 diabetes is affecting more and more young people (American Heart Association, 2021; Taylor, 2020b).

The body mass index, or BMI, is the standard to determine overweight and obesity. BMI is a person's weight in kilograms divided by the square of height in meters. According to CDC, the following BMI measures indicate underweight, normal, overweight, and obesity (CDC, 2021a):

- Underweight: BMI is < 18.5
- Normal: BMI is 18.5 to <25
- Overweight: BMI is 25.0 to <30
- Obese: BMI is 30.0 or higher

Fortunately, even a small loss of weight can have a significant impact on health and longevity. Lifestyle modifications to achieve weight loss include the following:

- Reduction in caloric intake: Patients should work with their health care providers, including a clinical dietician as necessary, to implement a well-balanced diet that will facilitate weight loss (Ignatavicius et al., 2018).
- Increase in physical activity: The American Heart Association (2021) and CDC, 2020a) publishes the following physical activity guidelines for adult Americans:
  - Two hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity every week and muscle strengthening activities that work all major muscle groups two or more days a week OR

- Seventy-five minutes of vigorous-intensity aerobic activity every week and muscle strengthening activities that work all major muscle groups two or more days a week.

Moderate-intensity aerobic activity is defined as exercising hard enough to increase heart rate and break a sweat. Examples include walking fast, water aerobics, riding a bicycle on level ground, and pushing a lawn mower. Vigorous-intensity aerobic activity is defined as exercising hard enough to breathe hard and fast and increase heart rate significantly. Examples include jogging, running, swimming laps, riding a bicycle rapidly or on hills, and playing basketball. Physical activity can be spread out so that it is not done all at once. However, physical activity should be sustained for at least 10 minutes at a time (American Heart Association, 2021; CDC, 2021b).

Elevated blood glucose
An elevated blood glucose level significantly increases the risk of diabetes as well as for cardiovascular disease and stroke. The American Diabetes Association recommends using one of three testing methods (American Diabetes Association, 2021b; National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), 2018e):
1. A1C test
2. Fasting plasma glucose (FPG)
3. Oral glucose tolerance test (OGTT)

Hypertension
Hypertension is a modifiable risk factor for diabetes as well as for cardiovascular disease and stroke. Hypertension is defined as a consistent systolic pressure of 130 mmHg or higher or diastolic pressure of 80 mmHg or higher. For persons who do not have diabetes, blood pressure should be evaluated at each regular health care provider visit or at least once every two years if it is less than 120/80 mmHg. For patients who have diabetes, blood pressure should be measured at each regular health care provider visit or as often as needed (CDC, 2020b; Ignatavicius et al., 2018).

Abnormal lipid metabolism
Abnormalities in cholesterol levels can contribute not only to cardiovascular disease but also to the development of diabetes mellitus. The desired goals of cholesterol levels for adults are as follows (Mayo Clinic, 2021a):
- LDL: below 70 mg/dL for people who have heart disease or diabetes; below 100 mg/dL for people at risk of heart disease; and 100 to 129 mg/dL near optimal if there is no heart disease but high if there is heart disease.
- HDL: greater than 60 mg/dL
- Triglycerides: less than 150 mg/dL
- Total cholesterol: less than 200 mg/dL

Physical inactivity
Physical inactivity contributes to overweight and obesity, cardiovascular disease, malignancies, diabetes, and many other adverse medical conditions. Participating in a regular physical exercise routine can increase insulin sensitivity, improve lipid levels, reduce blood pressure, reduce weight, lower the risk of cardiovascular disease, and improve blood glucose management in type 2 diabetes (Ignatavicius et al., 2018).

Smoking
Smoking is a significant risk factor for the development of type 2 diabetes and makes the disease harder to control after its development. Smokers are 30% to 40% more likely to develop type 2 diabetes than nonsmokers. People who smoke are more likely than nonsmokers to have trouble managing the disease (CDC, 2021e).

Medications
Such medications as glucocorticoids, thiazide diuretics, and atypical antipsychotics increase the risk of diabetes (American Diabetes Association, 2021b).

Healthcare Professional Consideration: Healthcare professionals need to be aware of the significance of metabolic syndrome. Metabolic syndrome is a group of conditions (hypertension, elevated blood glucose levels, excess amounts of body fat around the waist, and abnormal cholesterol level) that exist in conjunction with one another and increase the risk of cardiac disease, stroke, and diabetes. Taking steps to alter the impact of modifiable risk factors for diabetes can delay or possibly prevent the occurrence of serious health conditions (Mayo Clinic, 2020a). Assessing diabetic patients should include indicators for metabolic syndrome. Cholesterol level and blood pressure should be monitored at least yearly for obese patients at risk of diabetes.

Self-Assessment Quiz Question #4

When counseling patients about modifiable risk factors for diabetes, it is important to explain that:

a. A person is considered overweight of the BMI is 18.5 to <25.
b. Adults should engage in 60 minutes of moderate-intensity aerobic activity every week.
c. The desired HDL is less than 150 mg/dL.
d. Smokers are 30% to 40% more likely to develop type 2 diabetes than non-smokers.

PRESENTING CLINICAL SIGNS AND SYMPTOMS OF DIABETES MELLITUS

Many of the signs and symptoms of type 1 and type 2 diabetes are the same. There are, however, some differences. It is important for healthcare professionals to recognize all clinical manifestations of the disease and to know which of those signs and symptoms are more prevalent in one of the two types.

Clinical manifestations of type 1 diabetes mellitus

Type 1 diabetes is found most often in children. But the disease can also develop in adults. Patients with type 1 diabetes generally report an abrupt onset of symptoms. Following are the classic symptoms of type 1 diabetes (Khardori, 2021a; 2021b):
- Polyuria: production of abnormally large amounts of urine that is dilute
- Polydipsia: abnormally great thirst
- Polyphagia: excessive appetite or excessive feelings of hunger
- Unexplained weight loss

Polyuria is caused by osmotic diuresis secondary to hyperglycemia. Severe nocturnal enuresis (bedwetting) secondary to polyuria suggests type 1 diabetes in young children. Polyphagia develops to dehydration and hyperosmolar status (Khardori, 2021a; 2021b).

Following are other clinical manifestations of type 1 diabetes mellitus (Khardori, 2021a; 2021b):
- Weight loss occurs despite experiencing excessive appetite and hunger. This is caused by water depletion and a catabolic state with reduction in glycogen, proteins, and triglycerides.
- Fatigue and weakness may occur secondary to muscle wasting caused by a catabolic state of insulin deficiency, hypovolemia, and hypokalemia.
- Muscle cramping is caused by electrolyte imbalance.
- Blurred vision is a result of osmotic swelling of the lens, which alters its normal focal length.

Type 1 diabetes may also cause gastrointestinal (GI) disturbances (Khardori, 2021a; 2021b):
- Nausea, abdominal pain, and changes in bowel movements: these signs and symptoms may accompany acute diabetic ketoacidosis.
- Right upper quadrant pain because of acute fatty liver.
- Persistent GI disturbances, which may be caused by abdominal causes of diabetic ketoacidosis.

The onset of symptomatic type 1 diabetes may be abrupt. The first evidence of the disease may be the occurrence of ketoacidosis (Khardori, 2021a; 2021b).

Diabetic ketoacidosis (DKA)

DKA occurs most often in patients with type 1 diabetes and/or those less than 65 years of age, although it can occur with type 2 diabetes as well. DKA is an acute complication of hyperglycemic crisis. DKA is precipitated by acute insulin deficiency. Such deficiency can be caused by illness; stress; infection; and, in insulin-dependent patients, failure to take insulin (Ignatavicius et al., 2018; Mayo Clinic, 2020b; Rebar et al., 2019).

Without adequate amounts of insulin, which allow the cells to take in glucose to convert it to energy, glucose accumulates in the blood. The body begins to break down fat as an alternative fuel. When this happens, toxic acids known as ketones build up in the blood. Without treatment, DKA can result in coma or death (Ignatavicius et al, 2018; Mayo Clinic, 2020b).

The signs and symptoms of DKA usually develop rapidly, often within 24 hours. Patients experience polyuria, polydipsia, nausea, vomiting, abdominal pain, weakness or unusual fatigue, shortness of breath, fruity-scented breath, and confusion. Blood testing shows hyperglycemia and high levels of ketones in the urine (Mayo Clinic, 2020b; Rebar et al., 2019).

Because untreated DKA can be fatal, patients experiencing the signs and symptoms should seek emergency medical help. Emergency treatment usually includes insulin therapy, electrolyte replacement because inadequate amounts of insulin can reduce various electrolyte levels, and fluid replacement to correct dehydration (Mayo Clinic, 2020b).

Risk factors for DKA include having type 1 diabetes and frequently missing insulin doses. (Mayo Clinic, 2018g).

Persons with diabetes mellitus, especially those with type 1 diabetes, should work with their health care providers to manage conditions that trigger DKA. Following are examples of such conditions (Mayo Clinic, 2020b):

- Infections and illnesses: Infections and illnesses can cause the body to produce higher levels of adrenaline or cortisol, both of which are antagonistic to insulin. Common conditions that trigger DKA are pneumonia and urinary tract infections.
- Inadequate insulin therapy: Missing insulin treatments or taking inadequate amounts of insulin can trigger DKA.
- Miscellaneous problems: High fever, surgery, physical or emotional trauma, or alcohol or drug abuse, especially cocaine, can trigger DKA.

Healthcare Professional Consideration: It is imperative that healthcare professionals assess the knowledge of patients and families regarding the signs and symptoms of DKA, what causes it, and what to do about it. Parents may want to discuss the symptoms of DKA with their diabetic child's teachers, especially if the child participates in sports.

Self-Assessment Quiz Question #5

A patient is at risk for developing DKA if which of the following problems exist:

a. Excessive insulin.
b. Hypothermia.
c. Prediabetes.
d. Urinary tract infection.

CLINICAL MANIFESTATIONS OF TYPE 2 DIABETES MELLITUS

Until recently, it was believed that if diabetes occurred in childhood, it was type 1 diabetes. Now it is known that children also develop type 2 diabetes. As obesity in children increases, so does the incidence of type 2 diabetes in that population (Dansinger, 2021a). Therefore, it is important to identify risk factors and work with patients of all ages to reduce the risk of developing type 2 diabetes. It is also important to be alert to the clinical manifestations of the disease realizing that it can affect all age groups.

It can take years for the signs and symptoms of type 2 diabetes to become evident. Following are clinical manifestations of untreated diabetes (Ignatavicius et al., 2021; Mayo Clinic, 2021g):

- Polyuria and polydipsia: Excessive buildup of glucose in the blood stream causes fluid to move from the cells into the bloodstream to maintain homeostasis. This increases thirst and fluid intake casing an increase in dilute urine production.
- Polyphagia: When cells fail to receive adequate amounts of glucose for energy production, muscles, and organs experience energy depletion. This triggers intense hunger as the body attempts to obtain nourishment and energy.
- Weight loss: Even though patients may be eating more because of intense hunger, weight loss can occur. This is because the body is using alternative fuel sources in muscle and fat because it cannot metabolize glucose. Calories are lost as glucose is excreted in urine.
- Blurred vision: As glucose levels increase in the blood stream, fluid may be pulled from the lenses of the eyes to restore homeostasis. This can interfere with the ability of the eyes to focus, thus causing blurred vision.
- Fatigue: When cells are deprived of glucose and the ability to create energy, weakness, fatigue, and irritability can occur.
- Slow-healing cuts, lacerations or wounds, or frequent infections: Type 2 diabetes interferes with the body's ability to heal and to resist infections.
- Areas of darkened skin: Areas of darkened skin, called acanthosis nigricans, are dark velvety patches of skin in the folds and creases of the body. They are usually noted in the neck and axilla.

Healthcare Professional Consideration: Thirst mechanisms function less efficiently in elderly persons. So older adults may not report polydipsia when relaying signs and symptoms (Ignatavicius et al., 2018).

Diabetic hyperglycemic hyperosmolar syndrome (HHS) is a complication of type 2 diabetes. HHS is characterized by extremely high blood glucose levels without the presence of ketones, extreme dehydration, and decreased levels of consciousness. The kidneys attempt to rid the body of excess amounts of glucose in the blood by increasing urinary output. Without adequate fluid replacement, dehydration occurs. Additionally, dehydration makes the blood more concentrated with sodium, glucose, and other substances. This condition is known as hyperosmolarity and causes the body to withdraw fluid from other body organs (including the brain) to restore balance. Electrolyte balances are disturbed as well. If blood glucose levels are not returned to normal, an ongoing cycle of hyperglycemia and dehydration occurs that can lead to coma and even death (Ignatavicius et al. 2018; MedlinePlus, 2021a).

The goals of treatment are to correct dehydration, restore fluid and electrolyte balance, and control blood glucose levels. Intravenous fluids containing appropriate amounts of various electrolytes are administered as well as insulin via the venous route. Untreated, HHS may lead to shock, thrombosis formation, cerebral edema, and lactic acidosis (Ignatavicius, Workman, & Rebar, 2018; MedlinePlus, 2021a).

DIAGNOSIS OF DIABETES MELLITUS

Diabetes may be diagnosed based on plasma glucose criteria, either the fasting plasma glucose (FPG) value or the 2-hour plasma glucose (2-hour PG) value during a 75-g oral glucose tolerance test (OGTT), or A1C criteria (ADA, 2021b).

The ADA (2021b) diagnostic criteria include:

- A fasting plasma glucose (FPG) level >126 ng.dL (7.0 mmol/L), or
- A 2-hour plasma glucose level >200 mg/dL (11.1 mmol/L) during a 75-g oral glucose tolerance test (OGTT) or

- A random plasma glucose > 200 mg/dL (11.1 mmol/L) in a patient with classic symptoms of hyperglycemia or hyperglycemic crisis.

Details about the various tests used in the diagnostic process follow.

Random (casual) plasma glucose test

This test can be performed at any time of day when severe diabetic symptoms develop. Diabetes is diagnosed when the blood glucose is >200 mg/dL (ADA,2021n).

Fasting plasma glucose (FPG)

FPG assesses fasting blood glucose levels. Fasting is defined as not have anything to eat or drink except water for at least eight hours before the test. The test is typically performed first thing in the morning before breakfast. (ADA, 2021n).

FPG results are (ADA, 2021n):
- Normal: Less than 100 mg/dL
- Prediabetes: 100 mg/dL to 125 mg/dL
- Diabetes: 126 mg/dL or higher

Oral glucose tolerance test (OGTT)

An OGTT is performed to assess insulin response to glucose loading. A fasting blood sugar is obtained before the ingestion of an oral glucose solution, and blood samples are drawn at specifically timed intervals. The oral glucose solution should contain the equivalent of 75 g anhydrous glucose dissolved in water (ADA, 2021a; Pagana et al., 2019).

Results from the OGTT are (ADA, 2021a):
- Normal: less than 140 mg/dL.
- Prediabetes: 140 mg/dL to 199 mg/dL
- Diabetes: 200 mg/dL or higher

Patient care considerations and patient teaching include the following important factors (Pagana et al., 2019; Rebar et al, 2019):
- The patient should follow their usual diet and exercise regimen for three days before the test.
- The patient must be instructed to fast for 12 hours before the OGTT.
- Certain drugs may be withheld before testing based on the recommendations of the patient's health care provider. Examples of drugs that can interfere with test results are hormonal contraceptives, salicylates, diuretics, phenytoin, and nicotinic acid.
- Fasting blood and urine specimens are obtained.
- An oral glucose solution is administered that consists of 75 g of glucose or dextrose for patients who are not pregnant or 100 g for pregnant patients. The patient must drink the entire glucose solution. The amount of glucose in solution is based on body weight for pediatric patients.
- During the OGTT, the patient must not use tobacco or ingest coffee or tea because these substances cause physiological stimulation. They must be told not to eat or drink anything during the testing period except for the oral glucose solution provided by the test administrator—except for water, which the patient is encouraged to drink.
- A venous blood sample is collected at 30- and 60-minutes post-ingestion of the glucose solution and at hourly intervals thereafter.
- Urine samples are collected at hourly intervals.
- During the period of testing, the patient should be monitored for dizziness, sweating, weakness, and giddiness, which are usually transient and self-limiting.

A1C test

The A1C test is a blood test used to obtain information about a patient's average blood glucose over the past three months. The A1C is used in the diagnosis of type 2 diabetes and prediabetes and is the primary test used for diabetes management (NIDDK, 2018e).

The A1C test does not require fasting. Blood can be drawn at any time of day, thus making it more convenient than some other testing options. The test may also be used during the first health care pregnancy visit to determine if the woman had undiagnosed diabetes before becoming pregnant. After that, the oral glucose tolerance test (OGTT) or the glucose challenge test is used to test for gestational diabetes (NIDDK, 2018e; Pagana et al., 2019).

The A1C test is based on attachment of glucose to hemoglobin in red blood cells. Although red blood cells are continually forming and dying, they typically live for approximately three months. The A1C can reflect blood glucose levels over the previous three months. Reported as a percentage, the higher the percentage, the higher the blood glucose levels have been (NIDDK, 2018e).

Results of the A1C are (2021n):
- Normal: Less than 5.7%
- Prediabetes: 5.7 to 6.4%
- Diabetes: 6.5% or higher

Recommendations from the ADA include (2021n):
- Assess glycemic status (A1C or other glycemic measurement) at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control).
- Assess glycemic status at least quarterly, and as needed, in patients whose therapy has recently changed and/or who are not meeting glycemic goals.

Healthcare Professional Consideration: Because A1C reflects average glucose status over several months, it has significant predictive value for diabetes complications. A1C testing should be performed routinely in all patients who have diabetes (ADA, 2021e).

Following are the A1C-range recommended goals (ADA, 2021e):
- An A1C goal for many nonpregnant adults of <7% (53 mmol/mol) without significant hypoglycemia is appropriate.
- If using ambulatory glucose profile/glucose management indicator to assess glycemia, a parallel goal is a time in range of >70% with time below range <4%.
- Based on provider judgment and patient preference, achievement of lower A1C levels than the goal of 7% may be acceptable, and even beneficial, if it can be achieved safely without significant hypoglycemia or other adverse effects of treatment.
- Less stringent A1C goals (such as <8% [64 mmol/mol]) may be appropriate for patients with limited life expectancy, or where the harms of treatment are greater than the benefits.
- Reassess glycemic targets over time based on the criteria specific to various age groups.

Table 1. Explanation of Results of Diabetes Screenings

Test	Normal	Prediabetes	Diabetes
A1C	Less than 5.7%	5.7% to 6.4%	6.5% or higher
Fasting plasma glucose	Less than 100 mg/dL	100 mg/dL to 125 mg/dL	126 mg/dL or higher
Oral glucose tolerance test	Less than 140 mg/dL	140 mg/dL to 199 mg/dL	200 mg/dL or higher

Compiled from: (ADA, 2021b; 2021e; 2021n)

Self-Assessment Quiz Question #6

When teaching a patient about the random plasma glucose test, it is important to explain that:

a. The test should be performed first thing in the morning.
b. The random plasma glucose test requires that the patient fast for 8 hours before the test.
c. The test is performed when severe diabetic symptoms develop.
d. Diabetes is diagnosed when the blood glucose is > 150 mg/dL.

MANAGEMENT OF DIABETES MELLITUS

Management of diabetes mellitus focuses on glycemic control and prevention and reduction of complications. Successful management depends on a team approach that involves physicians, nurse practitioners, nurses, dieticians, pharmacists, and mental health professionals who have expertise in diabetes mellitus management. The most critical members of the team are patients and families who are ultimately responsible for adhering, or helping loved ones to adhere to, the treatment regimen (ADA, 2021l).

Glycemic control

Glycemic control is assessed by the A1C measurement, continuous glucose monitoring (CGM), and self-monitoring of blood glucose (SMBG). Rationale for these tests includes (ADA, 2021e; 2021m):

- A1C reflects average glycemia over about a period of three months. This test is the primary test for the assessment of glycemic control and has strong predictive value for diabetic complications.
- CGM: CGM plays an important role in the assessment of the effectiveness and safety of treatment in many patients with type1 diabetes, including the prevention of hypoglycemia and in selected patients with type 2 diabetes.
- SMBG: SMBG can be used with self-management and medication adjustment, especially in persons who are taking insulin.

Recommendations for glycemic assessment are (ADA, 2021e):

- Assess glycemic status (A1C or other glycemic measurement) at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control).
- Assess glycemic status at least quarterly, and as needed, in patients whose therapy has recently changed and/or who are not meeting glycemic goals.

Self-monitoring blood glucose (SMBG)

SMBG is essential to effective diabetes management. Individual patients' needs and goals guide SMBG frequency and timing. Research findings have shown that in patients who have type 1 diabetes, there is a correlation between greater SMBG frequency and lower A1C (American Diabetes Association, 2021e).

Continuous glucose monitoring (CGM)

Most of the people who use CGM have type1 diabetes. Research is now underway to learn how CGM might help people who have type 2 diabetes. A healthcare provider's prescription is needed to obtain CGM systems (NIDDK, 2021f).

CGMs are approved for use by adults and children. Some models may be used for children as young as two years of age. CGM may be recommended if the patient (NIDDK, 2021f):

- Is on intensive insulin therapy (also referred to as tight blood sugar control)
- Has hypoglycemia unawareness (Hypoglycemia unawareness occurs when the patient does not feel or recognize the signs or symptoms of hypoglycemia; patients who have frequent episodes of hypoglycemia may no longer experience hypoglycemia's usual warning symptoms).
- Often experiences episodes of elevated or low blood glucose

CGM has evolved swiftly in terms of both accuracy and affordability. This means that many patients have data available to assist with both self-management and assessment by healthcare providers (ADA, 2021e).

The ADA (2021e) makes the following recommendations for glucose assessment by continuous glucose monitoring.

- Standardized, single-page glucose reports from continuous glucose monitoring (CGM) devices with visual cues, such as the ambulatory glucose profile (AGP), should be considered as a standard printout for all CGM devices.
- Time in range (TIR) is associated with the risk of microvascular complications, should be an acceptable end point for clinical trials moving forward, and can be used for assessment of glycemic control. Additionally, time below target (,70 and ,54 mg/dL [3.9 and 3.0 mmol/L]) and time above target (.180 mg/dL [10.0 mmol/L]) are useful parameters for reevaluation of the treatment regimen.

CGM systems use a tiny sensor that is inserted under the skin to check glucose levels in tissue fluid. The sensor remains in place for several days to a week and then is replaced. A transmitter relays information about glucose levels via radio waves from the sensor to a wireless monitor (NIDDK, 2021f).

Advantages of a CGM system include (NIDDK, 2021f):

- An alarm can sound when glucose levels are too high or too low
- Meals, physical activity, and medicines can be noted in a CGM device, as well as glucose levels
- Data can be downloaded to a computer or smart device to improve visibility of glucose trends
- CGM systems offer better management of daily glucose levels
- There are fewer hypoglycemic emergencies with the use of a CGM
- With a CGM, fewer finger sticks are needed

CGM has limitations, as well as advantages. These limitations include (NIDDK, 2021f):

- Most CGM models cannot be used to make treatment decisions unless the CGM reading is confirmed by doing a finger-stick glucose test.
- A CGM is more expensive than using a standard glucose meter. Patients should check their insurance plans or Medicare to see what costs are covered.

Insulin pumps

Most people with type 1 diabetes should be treated with multiple daily injections of prandial insulin and basal insulin or continuous subcutaneous insulin infusion. Most people with type 1 diabetes should use rapid-acting insulin analogs to reduce hypoglycemia risk (ADA 2021k).

Patient/family education regarding pharmacological management with insulin should include matching prandial insulin doses to carbohydrate intake, premeal blood glucose levels, and anticipated physical activity. Individuals with type 1 diabetes who have been successfully using continuous subcutaneous insulin infusion should have continued access to this therapy after they turn 65 years of age (ADA, 2021k).

Hundreds of thousands of people of all ages throughout the world are using an insulin pump for diabetes mellitus management. First used by patients with type 1 diabetes, some persons with type 2 diabetes use them as well. (Stoppler, 2018).

Insulin pumps are about the size of a small cell phone and are computerized. Insulin pumps provide a constant stream of insulin so that fewer needle sticks are required. Pumps are a good option for children or anyone else who has trouble remembering to administer their insulin injections (Cleveland Clinic, 2021).

Insulin pumps may be especially useful for people who (Cleveland Clinic, 2021):

- Experience delays in the absorption of food
- Are active and may want to pause insulin doses when exercising
- Have severe reactions to hypoglycemia
- Have diabetes and are planning a pregnancy

Traditional insulin pumps transport insulin from a chamber within the pump via tubing to a site on the skin that is connected to a smaller flexible plastic cannula. The cannula is a few millimeters long and delivers the insulin underneath the skin (Cleveland Clinic, 2021).

Insulin patch pumps also use a cannula beneath the skin. However, the insulin delivery chamber and the cannula are part of one pod that "sits" in the skin with an adhesive patch. The patch can be directly placed on the stomach or arm. There is no external tubing, and it is controlled wirelessly via a handheld controller (Cleveland, Clinic, 2021).

There are both advantages and disadvantages of insulin pumps. Advantages include:

- Consistent, adjustable insulin delivery
- Fewer insulin injections
- Flexibility and privacy
- Improved blood glucose levels
- Improved lifestyle freedom and flexibility

Risks or complications of insulin pumps include (Cleveland Clinic, 20210:

- Setting up the pump incorrectly
- Costing more than injections
- Problems hiding the tubing or pump with non-patch styles (Cleveland, Clinic, 2021)

Artificial Pancreas Device System

The Artificial Pancreas Device System is a system of devises that closely mimics the functioning of a healthy pancreas. Most of these systems consist of a continuous glucose monitoring system, and an insulin infusion pump. A blood glucose device is used to calibrate CGM. A computer-controlled algorithm connects the CGM and insulin pump to facilitate ongoing communication between the two devices (Food and Drug Administration (FDA), 2018).

An artificial pancreas device system replaces manual blood glucose testing and the use of insulin injections. The system monitors blood glucose levels 24-hours a day. The system can be monitored remotely (e.g., by parents or healthcare professionals) (NIDDK, 2021f).

There are three categories of artificial pancreas device systems. These include:

1. Threshold suspend device systems (also called low glucose suspend systems): This type of system temporarily suspends insulin delivery when the glucose level falls to or approaches a low glucose threshold. Its purpose is to reduce the severity of or reverse hypoglycemia.
2. Insulin-only system: This system "achieves a target glucose level by automatically increasing or decreasing the amount of insulin infused based on the CGM values.
3. Bi-hormonal control system: This device "achieves a target glucose level by using two algorithms to instruct an infusion pump to deliver two different hormones—one hormone (insulin) to lower glucose levels and another (such as glucagon) to increase blood glucose levels. The bi-hormonal system mimics the glucose-regulating function of a healthy pancreas more closely than an insulin-only system (FDA, 2017).

Research continues regarding the development of artificial pancreas device systems. To date, the FDA has approved two systems. These are (Tenderich, 2020).

- Medtronic MiniMed 670G: This is a hybrid closed-loop system.
- Control-IQ from Tandem Diabetes Care: This system combines Tandem's touchscreen insulin pump with the Dexcom CGM and a smart algorithm for the purpose of auto-adjusts for high and low blood glucose levels and automatic corrections for unexpected highs.

Insulin

Typical blood glucose levels targets are to keep daytime blood glucose levels before meals between 80 and 130 mg/dL (4.44 to 7.2 mmol/L) and after meal results to no higher than 180 mg/dL (10 mmol/L), two hours after eating (Mayo Clinic, 2021f).

Persons with type 1 diabetes typically need lifelong insulin therapy. There are many types of insulin therapy and include:

- Short-acting (regular) insulin
- Rapid acting insulin
- Intermediate-acting (NPH) insulin.
- Long-acting insulin (Mayo Clinic, 2021f)

Examples of the various types of insulin include (Mayo Clinic, 2021f):

- Short-acting: Humulin R and Novolin R
- Rapid-acting: Glulisine (Apidra), insulin lispro (Humanlog), and insulin aspart (Novolog)
- Intermediate-acting: Insulin NPH (Novolin N, Humulin N0
- Long-acting: Insulin glargine (Lantus, Toujeo Solostar), insulin detemir (Levemir), and insulin degludec (Tresiba)

Inhaled insulin is available as a rapid-acting insulin. Inhaled insulin is contraindicated in patients with chronic lung disease and is not recommended in patients who smoke or who recently stopped smoking. All patients require spirometry evaluation to identify potential lung disease before and after starting inhaled insulin therapy (ADA, 2021k).

Self-Assessment Quiz Question #7

Pharmacological therapy for the treatment of diabetes includes which of the following interventions?

a. Administration of inhaled insulin is contraindicated in patients who smoke.
b. Administration of Lantus is the preferred initial pharmacological agent for patients with type 2 diabetes.
c. Incorporating manual blood glucose testing in conjunction with an artificial pancreas system.
d. Using inhaled insulin is available as a long-acting insulin.

Pharmacologic therapy for type 2 diabetes

The FDA (2021k) makes the following recommendations for pharmacologic therapy for type 2 diabetes.

- Metformin is the preferred initial pharmacologic agent for the treatment of type 2 diabetes.
- Once initiated, metformin should be continued as long as it is tolerated and not contraindicated; other agents, including insulin, should be added to metformin.

- Early combination therapy can be considered in some patients at treatment initiation to extend the time to treatment failure.
- The early introduction of insulin should be considered if there is evidence of ongoing catabolism (weight loss), if symptoms of hyperglycemia are present, or when A1C levels (>10% [86 mmol/mol]) or blood glucose levels (≥300 mg/dL [16.7 mmol/L]) are very high.
- A patient-centered approach should be used to guide the choice of pharmacologic agents. Considerations include effect on cardiovascular and renal comorbidities, efficacy, hypoglycemia risk, impact on weight, cost, risk for side effects, and patient preferences.
- Among patients with type 2 diabetes who have established atherosclerotic cardiovascular disease or indicators of high risk, established kidney disease, or heart failure, a sodium–glucose cotransporter 2 inhibitor or glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular disease benefit is recommended as part of the glucose-lowering regimen independent of A1C and in consideration of patient-specific factors.
- In patients with type 2 diabetes, a glucagon-like peptide 1 receptor agonist is preferred to insulin when possible.
- Recommendation for treatment intensification for patients not meeting treatment goals should not be delayed.
- The medication regimen and medication-taking behavior should be reevaluated at regular intervals (every 3–6 months) and adjusted as needed to incorporate specific factors that impact choice of treatment.
- Clinicians should be aware of the potential for over-basalization with insulin therapy. Over-basalization is titration of basal insulin beyond an appropriate dose to achieve glycemic targets. Clinical signals that may prompt evaluation of over-basalization include basal dose more than ?0.5 IU/kg, high bedtime-morning or post-preprandial glucose differential, hypoglycemia (aware or unaware), and high variability. Indication of over-basalization should prompt reevaluation to further individualize therapy.

Non-pharmacologic diabetes management

Nutrition

Nutrition therapy is recommended for all patients with type 1 and type 2 diabetes. For those patients who are overweight or obese, modest weight loss may provide significant clinical benefits such as improved glucose control and lipid levels and reduction in blood pressure, especially early in the course of the disease (ADA, 2021h).

Evidence-based practice! Research suggests that there is a benefit to eating protein or protein and vegetables before eating the carbohydrate portion of a meal (ADA, 2021h). healthcare professionals should collaborate to ensure patients and families have access to planning the best meal options for persons with diabetes.

The goal of a good nutrition plan is to get the nutrients needed while keeping blood glucose levels within target range. The patient's goals, tastes, preferences, lifestyle, and medications should be considered when meal planning (CDC, 2021f).

According to the CDC (2021f) a good meal plan will:
- Include more non-starchy vegetables, such as broccoli, spinach, and green beans.
- Include fewer added sugars and refined grains such as white bread, rice, and pasta with less than two grams of fiber per serving.
- Focus on whole foods instead of highly processed foods as much as possible.

The CDC (2021f) recommends using a plate method as part of the meal planning process. Patients should consider a nine-inch dinner plate and:
- Fill half of the plate with non-starchy vegetables, such as salad, green beans, broccoli, cauliflower, cabbage, and carrots.
- Fill one-quarter of the plate with a lean protein, such as chicken, turkey, beans, tofu, or eggs.
- Fill one-quarter of the plate with carb foods such as grains, starchy vegetables (peas, potatoes), rice, pasta, fruit, and yogurt. A cup of milk counts as a carb food.
- Choose water or a low-calorie drink such as unsweetened tea to go with a meal.

Many people appreciate having a guide as to what constitutes a "portion" of a particular nutrient. The CDC (2021f) offers the following suggestions for estimating portion size.
- Three ounces of meat, fish, or poultry: Palm of hand (no fingers)
- One ounce of meat or cheese: Thumb tip to base
- One cup or one medium fruit: Fist
- One to two ounces of nuts or pretzels: Cupped hand
- One Tablespoon: Thumb tip (tip to first joint)
- One teaspoon: Fingertip (tip to first joint)

Physical activity

Being overweight or obese is linked to a vast number of medical problems, including heart disease and cancer. Proper nutritional intake and physical activity not only help patients to achieve weight goals but also have a positive impact on diabetes. Exercise may also have a positive effect for depression associated with the consequences of the need for diabetes management.

As previously noted, the American Heart Association (2021) recommends:
- At least 150 minutes per week of moderate-intensity aerobic physical activity;
- Or 75 minutes per week of vigorous-intensity aerobic physical activity (or a combination of the two);
- And muscle-strengthening exercises at least two days per week.

People who have diabetes must monitor their physical activity in relation to their glycemic levels. For example, exercise can lead to hyperglycemia or hypoglycemia depending on its intensity, timing, duration, and type of physical activity (ADA 2021h).

People who take insulin or oral pharmacological agents are at risk for hypoglycemia if insulin dose or carbohydrate intake is not adjusted with exercise. Exercise regimens should be planned with the healthcare team. The ADA (n.d.) recommends following the 15-15 rule:
- Check blood sugar
- If the reading is 100mg/dL or lower have 15-20 grams of carbohydrate. Examples include four glucose tablets, one glucose gel tube, four ounces of juice ore regular soda, or one tablespoon of sugar or honey.
- Check blood sugar again after 15 minutes. If it is still below 100 mg/dL another servicing of 15 grams of carbohydrate is needed.
- Repeat these steps every 15 minutes until blood sugar is at least 100 mg/dL.

Smoking cessation

All patients should be advised not to use any tobacco products or e-cigarettes. Nonsmokers should be advised not to use e-cigarettes. Smoking cessation should be a routine part of diabetes management (American Heart Association, 2021).

Psychosocial care

Mental health and well-being are important to general health and wellness and can impact the patient's or family's ability to implement diabetes treatment. The physical and emotional stress that can accompany a chronic health problem can put the patient and her family at risk for mental health problems (ADA, 2021o; Grygotis, 2016).

Psychosocial screening and follow-up treatment include attitudes about illness; expectations for management and outcomes; affect/

mood; quality of life experiences and expectations; financial, social, and emotional resources; and psychiatric history. Patients should also be routinely screened for such issues as depression and diabetes-related distress, anxiety, eating disorders, and impairment of cognitive functioning (ADA, 2021o; Grygotis, 2016).

Support groups for diabetics may offer some therapeutic value. In addition, group exercise such as yoga, workout groups, or swimming exercise classes can provide both psychosocial support and a physical benefit for weight loss and improved cardiovascular condition. Meditation, pet therapy, behavioral therapy, and religious support may be of interest to some patients. Antidepressant medication may be considered if needed (ADA, 2021o; Grygotis, 2016).

Hypoglycemia prevention

Hypoglycemia is the primary factor limiting the glycemic management of type 1 and insulin-treated type 2 diabetes. It is imperative that nurses and other members of the health care team instruct patients and families how to recognize signs and symptoms of hypoglycemia, identify situations that increase their risk for hypoglycemia such as fasting, during or after intense exercise, and during sleep. They must be taught to balance insulin use, carbohydrate intake, and exercise to prevent and reduce hypoglycemic episodes (ADA, 2021e).

Immunizations

There are several recommendations for adults who have diabetes mellitus (ADA, 2021c).

- Provide routinely recommended vaccinations for adults with diabetes by age. Children should also receive routine vaccinations by age.
- Administer Hepatitis B vaccine for persons less than 60 years of age. For persons over 60 healthcare providers should be consulted.
- Administer HPV vaccine to persons 26 years old and under. Persons between the ages of 27-45 years may also be vaccinated after consulting with their healthcare providers.
- Administer influenza vaccine to all patients annually. All patients should be advised not to receive live attenuated influenza vaccine.
- Administer pneumonia PPSV23 pneumovax to persons 19-64 years of age. Persons 65 and older should receive a second dose at least five years from prior pneumovax vaccine.
- There are no recommendations for the administration of pneumonia (PCV13 Prevnar) to persons 19-64 years of age. For persons 65 and older who are not immunocompromised, have a cochlear implant, or cerebrospinal fluid leak, decisions must made in conjunction with their healthcare providers.
- Administer tetanus, diphtheria, pertussis (TDAP) to all adults with a booster every 10 years. All adult pregnant women should have an extra dose of this vaccine.
- Administer Zoster vaccine to all persons 50 years of age or older (two-dose Shingrix even if previously vaccinated).
- COVID vaccinations for all patients, as permitted by age.

Obesity management

Overweight and obesity contribute to a myriad of health problems. There is significant evidence that managing obesity can delay the progression from prediabetes to type 2 diabetes and may contribute to successful management of type 2 diabetes (ADA, 2021j).

The ADA (2021j) recommends that BMI be calculated and documented at all patient visits. Additional recommendations state that overweight and obese patients should participate in a regimen of diet, physical activity, and behavioral therapy to achieve >5% weight loss. Furthermore, such interventions should be individualized to the patient. After weight loss goals have been achieved, diet, physical activity, and behavioral therapy should be continued to maintain weight loss and achieve treatment goals.

Healthcare Professional Consideration: It is important that patients' medication regimens be evaluated for their impact on weight. This evaluation should include all the medications the patient takes: prescription drugs, over-the-counter supplements, and herbal preparations. If necessary, weight loss medications may be prescribed to help lose weight. Potential benefits of these medications should be weighed against potential risks and side effects (ADA, 2021j). Patients should be cautioned not to take any weight loss products without prior consultation with their health care providers.

Metabolic surgery

Metabolic surgery is the phrase used to describe surgery and procedures that treat metabolic diseases, especially type 2 diabetes (ADA, 2021j). Bariatric surgery that aims to treat comorbid conditions, such as diabetes mellitus associated with obesity, is called as metabolic surgery. Metabolic surgery is usually limited to patients with a body mass index (BMI) >35. The surgeon typically connects one end of the stomach to an opening in the new stomach pouch. After this surgery, when you eat, food bypasses most of the stomach and the first part of the small intestines. That makes this surgery both restrictive and malabsorptive.

Following are recommendations and suggestions for metabolic surgery (ADA, 2021j).

- Recommend metabolic surgery as an option for the treatment of type 2 diabetes in appropriate surgical candidates with BMI > 40 kg/m2 (BMI >37.5 kg/m2 in Asian Americans and in adults with BMI 35.0-39.9 kg/m2 (32.5-37.4 kg/m2 in Asian Americans.
- Suggest metabolic surgery as an option for adults with type 2 diabetes and BMI 30.0 to 34.9 kg/m2, (27.5 to 32.4 kg/m2 in Asian Americans, if hyperglycemia is inadequately controlled despite appropriate medical intervention.
- Metabolic surgery should be done in health care facilities that perform high-volume numbers of such surgeries and where multidisciplinary teams experienced in metabolic surgery work.
- Provide long-term support and monitoring of patients who have undergone metabolic surgery according to national and international standards.
- Perform a comprehensive mental health evaluation before surgery.
- Postpone surgery in patients with histories of alcohol abuse, substance abuse, depression, suicidal ideation, and other mental health concerns until these issues have been adequately addressed.
- Evaluate the need for ongoing mental health services to help with medical and psychosocial changes post-surgery.

Research has shown that metabolic surgery leads to "superior glycemic control and reduction of cardiovascular risk factors in obese patients with type 2 diabetes compared with various lifestyle/medical interventions" (ADA, 2021j).

Pancreas transplant

A pancreas transplant is performed to implant a healthy pancreas from a deceased donor into a patient with diabetes. Almost all pancreas transplants are done to treat cases of type 1 diabetes and are usually reserved for those patients with serious diabetes complications because side effects of transplantation are significant. The pancreas must be meticulously matched to the recipient and is transported in a cooled solution that preserves the organ for up to approximately 15 to 20 hours. Once a pancreas becomes available, it must be transplanted into a recipient within 18-24 hours. Pancreas transplant is often done in conjunction

with a kidney transplant or after successful kidney transplantation in persons whose kidneys have been damaged by diabetes. The average waiting time for a pancreas transplant is about 23 months. The average wait for a simultaneous kidney-pancreas transplant is about 13 months (Mayo Clinic, 2019; MedlinePlus, 20121b).

Candidates for a pancreas transplant typically have type 1 diabetes, along with kidney damage, nerve damage, or eye problems, or other complications. Transplant candidates usually have diabetes that is out of control despite medical treatment. Some people who have type 2 diabetes may be candidates for transplant if they have both low insulin resistance and low insulin production (Johns Hopkins Medicine, 2021).

About 10% of all pancreas transplants are performed in people with type 2 diabetes. This is generally because of the patients' having both low insulin resistance and low insulin production (Mayo Clinic, 2019).

Surgical pancreatic transplant takes about three hours. If done in conjunction with a kidney transplant, the combined surgery takes about six hours. The patient's diseased pancreas is not removed during the surgery. The donor pancreas is usually placed in the right lower part of the abdomen, and blood vessels from the new pancreas are attached to the patient's blood vessels. The donor duodenum is attached to the patient's intestine or bladder (MedlinePlus, 2019).

- The following are complications associated with the transplant surgery (Mayo Clinic, 2019).
- Hemorrhage
- Blood clots
- Infection
- Hyperglycemia
- Urinary tract infections
- Failure of the donated pancreas
- Rejection of the donated pancreas

Following a pancreas transplant the patient must take medications for the rest of his life to help prevent rejection of the donor pancreas. Such medications have several side effects (Mayo Clinic, 2019):

- Thinning of bones
- Elevated cholesterol
- Hypertension
- Skin sensitivity
- Fluid retention
- Weight gain
- Swollen gums
- Acne
- Excessive hair growth

Before transplantation, patients are evaluated both physically and mentally. Patients must be able to cope with and adhere to lifelong medical follow-up, the need to take medications to help prevent organ rejection for the rest of their lives, and the ability to cope with side effects of medications needed after transplantation (Mayo Clinic, 2019; MedlinePlus, 2021b18b)

Self-Assessment Quiz Question #8

All of the following immunization recommendations for adults who have diabetes mellitus are accurate EXCEPT:

a. Administer influenza vaccine to all patients annually.
b. The TDAP vaccine should not be administered to pregnant women.
c. All persons 50 years of age or older should receive the two-dose Shingrix vaccine.
d. The HPV vaccine should be given to persons 26 years old and under.

Case study: Jeremy Wilson

Jeremy is a 16-year-old high-school student who has a history of hard-to-control type1 diabetes. Jeremy is struggling to live what he calls "a normal life like my friends." Because of the seriousness of his condition he, his parents, and his healthcare providers agree that he is a candidate for pancreas transplant.

Question 1: How long will it take to obtain a pancreas for transplantation?

Discussion:
The average wait time for a pancreas transplant is about 23 months. The pancreas must be meticulously matched to the recipient and is transported in a cooled solution that preserves the organ for up to approximately 15 to 20 hours. Once a pancreas becomes available, it must be transplanted into a recipient within 18-24 hours. Jeremy needs to know about the waiting period for a pancreas. It may be a difficult waiting period as he is anxious to live "a normal life." Jeremy, and his family, may benefit from counseling as they wait and in preparation for undergoing, and living with, transplantation.

Question 2: What happens during the transplant procedure?

Discussion
Surgical pancreatic transplant takes about three hours. If done in conjunction with a kidney transplant, the combined surgery takes about six hours. The patient's diseased pancreas is not removed during the surgery. The donor pancreas is usually placed in the right lower part of the abdomen, and blood vessels from the new pancreas are attached to the patient's blood vessels. The donor duodenum is attached to the patient's intestine or bladder

Question 3: Why is a mental health examination needed before transplant surgery?

Discussion
Before transplantation, patients are evaluated both physically and mentally. Patients must be able to cope with and adhere to lifelong medical follow-up, the need to take medications to help prevent organ rejection for the rest of their lives, and the ability to cope with side effects of medications needed after transplantation

PREVENTION AND MANAGEMENT OF COMPLICATIONS OF DIABETES

The possibility of complications must be addressed with patients and families. Healthcare professionals must not only monitor patients but also teach patients and families to recognize signs and symptoms of complications and how to adhere to treatment regimens for complications if they occur.

The CDC identifies the following risk factors for diabetes-related complications (CDC, 2020c):

Smoking

- 21.6% were tobacco users based on self-report or levels of serum cotinine.
- 15.0% reported current cigarette smoking.
- 36.4% had quit smoking but had a history of smoking at least 100 cigarettes in their lifetime.

Overweight and obesity

- 89.0% were overweight or had obesity, defined as a body mass index (BMI) of 25 kg/m2 or higher.

Specifically:

- 27.6% were overweight (BMI of 25.0 to 29.9 kg/m2)
- 45.8% had obesity (BMI of 30.0 to 39.9 kg/m2)
- 15.5% had extreme obesity (BMI of 40.0 kg/m2 or higher)

Physical inactivity

- 38.0% were physically inactive, defined as getting less than 10 minutes a week of moderate or vigorous activity in each physical activity category of work, leisure time, and transportation.

A1C

- 50.0% had an A1C value of 7.0% or higher

Specifically:
- 22.3% had an A1C value of 7.0% to 7.9%
- 13.2% had an A1C value of 8.0% to 9.0%
- 14.6% had an A1C value higher than 9.0%
- 16.3% of adults aged 18–44 years had A1C levels of 10% or higher, compared to 12.7% of those aged 45–64 years and 4.3% of those aged 65 years or older.

High blood pressure

- 68.4% had a systolic blood pressure of 140 mmHg or higher or diastolic blood pressure of 90 mmHg or higher or were on prescription medication for their high blood pressure.

High cholesterol

- 43.5% had a non-HDL level of 130 mg/dL or higher

Specifically:
- 22.4% had a non-HDL level of 130 to 159 mg/dL
- 11.2% had a non-HDL level of 160 to 189 mg/dL
- 9.9% had a non-HDL level of 190 mg/dL or higher

Cardiovascular disease

Prevention and management of complications of diabetes are important strategies for the promotion of health and wellness among those persons with diabetes mellitus. Cardiovascular disease (CVD) is the major cause of morbidity and mortality for persons who have diabetes as well as the largest contributor to both direct and indirect costs of diabetes. Research has shown that controlling individual cardiovascular risk factors helps prevent or slow CVD development in people with diabetes (ADA, 2021a).

Hypertension

Hypertension is a significant problem among people with diabetes and is a major risk factor for cardiovascular disease. There are generally three categories of blood pressure (CDC, 2020b):

1. Normal: systolic is less than 120 mmHg; diastolic is less than 80 mmHg.
2. Prehypertension: systolic is 120 to 139 mmHg; diastolic is 80 to 89 mmHg.
3. Hypertension: systolic is 140 mmHg or higher; diastolic is 90 mmHg or higher.

Persons who have elevated blood pressure should have blood pressure confirmed by using multiple readings and on separate days to diagnose hypertension. Additionally, all patients with hypertension and diabetes should monitor their blood pressure at home (American Diabetes Association, 2021a).

In pregnant patients with diabetes and pre-existing hypertension, blood pressure targets of 110-135/85 mmHg are suggested (ADA, 2021a).

The ADA (2021a) Standards of Medical Care in Diabetes recommends the following treatment initiatives for blood pressure control in persons with diabetes (American Diabetes Association, 2021a):

- Blood pressure should be measured at every routine clinical visit. Patients found to have elevated blood pressure (≥140/90 mmHg) should have blood pressure confirmed using multiple readings, including measurements on a separate day, to diagnose hypertension.
- All hypertensive patients with diabetes should monitor their blood pressure at home.
- For patients with diabetes and hypertension, blood pressure targets should be individualized through a shared decision-making process that addresses cardiovascular risk, potential adverse effects of antihypertensive medications, and patient preferences.
- For individuals with diabetes and hypertension at higher cardiovascular risk (existing atherosclerotic cardiovascular disease [ASCVD] or 10-year ASCVD risk ≥15%), a blood pressure target of <130/80 mmHg may be appropriate if it can be safely attained.
- For individuals with diabetes and hypertension at lower risk for cardiovascular disease (10-year atherosclerotic cardiovascular disease risk <15%), treat to a blood pressure target of <140/90 mmHg.
- In pregnant patients with diabetes and preexisting hypertension, a blood pressure target of 110–135/85 mmHg is suggested in the interest of reducing the risk for accelerated maternal hypertension and minimizing impaired fetal growth.
- For patients with blood pressure >120/80 mmHg, lifestyle intervention consists of weight loss when indicated, a Dietary Approaches to Stop Hypertension (DASH)-style eating pattern including reducing sodium and increasing potassium intake, moderation of alcohol intake, and increased physical activity.
- Patients with confirmed office-based blood pressure ≥140/90 mmHg should, in addition to lifestyle therapy, have prompt initiation and timely titration of pharmacologic therapy to achieve blood pressure goals.
- Patients with confirmed office-based blood pressure ≥160/100 mmHg should, in addition to lifestyle therapy, have prompt initiation and timely titration of two drugs or a single-pill combination of drugs demonstrated to reduce cardiovascular events in patients with diabetes.
- Treatment for hypertension should include drug classes demonstrated to reduce cardiovascular events in patients with diabetes. ACE inhibitors or angiotensin receptor blockers are recommended first-line therapy for hypertension in people with diabetes and coronary artery disease.
- Combination drug therapy is generally required to achieve blood pressure targets. However, combinations of ACE inhibitors and angiotensin receptor blockers and combinations of ACE inhibitors or angiotensin receptor blockers with direct renin inhibitors should not be used. These combinations increase the risk of hypotension, hyperkalemia, and renal impairment.
- An ACE inhibitor or angiotensin receptor blocker, at the maximum tolerated dose indicated for blood pressure treatment, is the recommended first-line treatment for hypertension in patients with diabetes and urinary albumin-to-creatinine ratio ≥300 mg/g creatinine or 30–299 mg/g creatinine. If one class is not tolerated, the other should be substituted.
- For patients treated with an ACE inhibitor, angiotensin receptor blocker, or diuretic, serum creatinine/estimated glomerular filtration rate and serum potassium levels should be monitored at least annually.
- Patients with hypertension who are not meeting blood pressure targets on three classes of antihypertensive medications (including a diuretic) should be considered for mineralocorticoid receptor antagonist therapy.

The DASH (Dietary Approaches to Stop Hypertension) diet focuses on fruits, vegetables, whole grains, and other foods that are deemed to be heart healthy and low in fat, cholesterol, and sodium. DASH also emphasizes intake of fat-free or low-fat dairy products, fish, poultry, and nuts. The intake of red meats, sweets, added sugars, and sugar-containing beverages is reduced. DASH

is rich in nutrients, protein, and fiber (Mayo Clinic, 2020e; 2021c). This diet has been shown to help diabetic patients lose weight and maintain a more stable blood sugar.

Salt should be limited. Foods that are low in sodium and contain no added salt should be chosen. Salt should not be on the table during meals. No more than one teaspoon of salt per day should be consumed (Mayo Clinic, 2020e; 2021c).

Patients who smoke should be referred to smoking cessation programs. Smoking constricts and damages blood vessels and increases hypertension risk (Mayo Clinic, 2021c).

Finally, patients must be instructed in stress management techniques. Relaxation training, deep breathing exercises, guided imagery, and exercise all have been shown to facilitate stress reduction. Equally important is to help patients identify stressors in their lives and how to deal with them. For example, financial issues may prove to be significant stressors. The costs of a chronic illness, even with insurance coverage, can place a financial burden on patients and families. Relaxation techniques may be helpful, but patients may also need referral to financial counseling or resources that may be able to help defray the cost of medications and other treatments (Mayo Clinic, 2021c).

Lipid management

Lifestyle modifications that focus on weight loss if needed, dietary changes as needed (reduce intake of saturated fat, trans fat, and cholesterol; increase intake of n-3 fatty acids, fiber, and plant stanols/sterols), and glycemic control are central to lipid management (American Diabetes Association, 2021a).

The American Diabetes Association (2021a) offers the following recommendations for lipid management:

- For adults not taking lipid-lowering therapy, obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every 5 years thereafter if younger than 40 years of age. Testing may be done more frequently as needed.
- A lipid profile should be obtained at the start of lipid-lowering therapy 4 to 12 weeks after starting therapy or when there is a change in dosage and annually thereafter.
- In adults not taking statins or other lipid-lowering therapy, it is reasonable to obtain a lipid profile at the time of diabetes diagnosis, at an initial medical evaluation, and every five years thereafter if under the age of 40 years, or more frequently if indicated.
- For patients with diabetes aged 40–75 years without atherosclerotic cardiovascular disease, use moderate-intensity statin therapy in addition to lifestyle therapy.
- For patients with diabetes aged 20–39 years with additional atherosclerotic cardiovascular disease risk factors, it may be reasonable to initiate statin therapy in addition to lifestyle therapy.
- In patients with diabetes at higher risk, especially those with multiple atherosclerotic cardiovascular disease risk factors or aged 50–70 years, it is reasonable to use high-intensity statin therapy.
- In adults with diabetes and 10-year atherosclerotic cardiovascular disease risk of 20% or higher, it may be reasonable to add ezetimibe to maximally tolerated statin therapy to reduce LDL cholesterol levels by 50% or more.
- For patients of all ages with diabetes and atherosclerotic cardiovascular disease, high-intensity statin therapy should be added to lifestyle therapy.
- For patients with diabetes and atherosclerotic cardiovascular disease considered very high risk using specific criteria, if LDL cholesterol is ≥70 mg/dL on maximally tolerated statin dose, consider adding additional LDL-lowering therapy (such as ezetimibe or PCSK9 inhibitor). Ezetimibe may be preferred because of lower cost.
- For patients who do not tolerate the intended intensity, the maximally tolerated statin dose should be used.
- In adults with diabetes aged >75 years already on statin therapy, it is reasonable to continue statin treatment.
- In adults with diabetes aged >75 years, it may be reasonable to initiate statin therapy after discussion of potential benefits and risks.
- Statin therapy is contraindicated in pregnancy.
- For patients with fasting triglyceride levels ≥500 mg/dL, evaluate for secondary causes of hypertriglyceridemia and consider medical therapy to reduce the risk of pancreatitis.
- In adults with moderate hyper-triglyceridemia (fasting or non-fasting triglycerides 175–499 mg/dL), clinicians should address and treat lifestyle factors (obesity and metabolic syndrome), secondary factors (diabetes, chronic liver or kidney disease and/or nephrotic syndrome, hypothyroidism), and medications that raise triglycerides.
- In patients with atherosclerotic cardiovascular disease or other cardiovascular risk factors on a statin with controlled LDL cholesterol but elevated triglycerides (135–499 mg/dL), the addition of icosapent ethyl can be considered to reduce cardiovascular risk.
- Statin plus fibrate combination therapy has not been shown to improve atherosclerotic cardiovascular disease outcomes and is generally not recommended.
- Statin plus niacin combination therapy has not been shown to provide additional cardiovascular benefit above statin therapy alone, may increase the risk of stroke with additional side effects, and is generally not recommended.

Antiplatelet agents for the management of CVD

Research findings indicate that aspirin has been shown to help reduce cardiovascular morbidity and mortality in patients who are high risk and who have had previous heart attack or stroke. However, its overall benefit in primary prevention among adults with no previous cardiovascular events (heart attack or stroke) is controversial for patients with or without a history of diabetes. Aspirin is not recommended for persons at low risk of ASCVD (men and women younger than 50 years of age with no other major ASCVD risk factors). This is because the low potential benefit is outweighed by the risks for bleeding (American Diabetes Association, 2021a).

Following are recommendations regarding aspirin therapy (American Diabetes Association, 2018j):

- Use aspirin therapy (75 to 162 mg/day) as a secondary prevention strategy for persons with diabetes and a history of ASCVD.
- Use clopidogrel (75 mg/day) for those patients with ASCVD and documented aspirin allergy.
- The use of dual antiplatelet therapy (low-dose aspirin and a P2Y12 inhibitor) is deemed reasonable for a year after an acute coronary syndrome and may have benefits beyond one year.
- Long-term treatment with dual antiplatelet therapy should be considered for patients with prior coronary intervention, high ischemic risk, and low bleeding risk to prevent major adverse cardiovascular events.
- Combination therapy with aspirin plus low-dose rivaroxaban should be considered for patients with stable coronary and/or peripheral artery disease and low bleeding risk to prevent major adverse limb and cardiovascular events.
- Aspirin therapy (75 to 162 mg/day) may be considered as a primary prevention strategy for those patients with type 1 or type 2 diabetes who have increased cardiovascular risk.

Screening and treatment recommendations for cardiovascular disease

The American Diabetes Association (2021a) does not recommend routine screening for coronary artery disease in asymptomatic patients if ASCVD risk factors are treated. Investigations for coronary artery disease should be considered if any of the following is present:

- Unexplained dyspnea
- Chest discomfort
- Carotid bruits
- Transient ischemic attack
- Stroke
- Claudication
- Peripheral arterial disease
- Electrocardiogram abnormalities

Following are recommendations for treatment of coronary heart disease for patients with diabetes (American Diabetes Association, 2021a):

- Among patients with type 2 diabetes who have established atherosclerotic cardiovascular disease or established kidney disease, a sodium–glucose cotransporter 2 inhibitor or glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular disease benefit is recommended as part of the comprehensive cardiovascular risk reduction and/or glucose-lowering regimens.
- In patients with type 2 diabetes and established atherosclerotic cardiovascular disease, multiple atherosclerotic cardiovascular disease risk factors, or diabetic kidney disease, a sodium–glucose cotransporter 2 inhibitor with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events and/or heart failure hospitalization.
- In patients with type 2 diabetes and established atherosclerotic cardiovascular disease or multiple risk factors for atherosclerotic cardiovascular disease, a glucagon-like peptide 1 receptor agonist with demonstrated cardiovascular benefit is recommended to reduce the risk of major adverse cardiovascular events.
- In patients with type 2 diabetes and established heart failure with reduced ejection fraction, a sodium–glucose cotransporter 2 inhibitor with proven benefit in this patient population is recommended to reduce risk of worsening heart failure and cardiovascular death.
- In patients with known atherosclerotic cardiovascular disease, particularly coronary artery disease, ACE inhibitor or angiotensin receptor blocker therapy is recommended to reduce the risk of cardiovascular events.
- In patients with prior myocardial infarction, β-blockers should be continued for 3 years after the event.
- Treatment of patients with heart failure with reduced ejection fraction should include a β-blocker with proven cardiovascular outcomes benefit, unless otherwise contraindicated.
- In patients with type 2 diabetes with stable heart failure, metformin may be continued for glucose lowering if estimated glomerular filtration rate remains >30 mL/min/1.73 m2 but should be avoided in unstable or hospitalized patients with heart failure.

Diabetic neuropathy

Diabetic neuropathy is a group of nerve disorders caused by diabetes mellitus. Over the course of time, nerve damage can occur throughout the body. Some persons have no symptoms of nerve damage, but others may feel pain, tingling, or numbness in the hands, arms, feet, and legs. Neuropathy can occur in every organ system throughout the body (NIDDK, n.d).

The following persons are at highest risk for diabetic neuropathy (Mayo Clinic, 2021b):

- Those who are overweight
- Those who are hypertensive
- Those who have elevated cholesterol
- Those who have advanced renal disease
- Those who drink large amounts of alcohol
- Those who smoke

The American Diabetes Association (2021i) advocates the following screenings and treatments:

- Assess all patients for diabetic peripheral neuropathy beginning at diagnosis of type 2 diabetes and five years after the diagnosis of type 1 diabetes. After these initial assessments, patients should be evaluated at least annually.
- Include a careful history and assessment of either temperature or pinprick sensation as part of the assessment for distal symmetric polyneuropathy.
- Assess for signs and symptoms of autonomic neuropathy in patients who have microvascular complications.
- Optimize glucose control to prevent or delay the development of neuropathy or to slow its progression.
- Assess and treat patients to reduce pain related to diabetic peripheral neuropathy and symptoms of autonomic neuropathy.
- Prescribe either pregabalin or duloxetine as initial pharmacologic treatments for neuropathic pain in diabetes.

There are four types of diabetic neuropathy (NIDDK, n.d.):

1. Peripheral
2. Autonomic
3. Proximal
4. Focal

Peripheral Diabetic neuropathy

Peripheral neuropathy is the most common type of diabetic neuropathy. The areas of the body most affected are the feet and legs. Rarely, other areas of the body—the arms, abdomen, and back—may be affected by peripheral neuropathy. Nerve damage can lead to a loss of sensation in the feet and legs placing the patient at significant risk for foot problems. Injuries, lesions, blisters, and sores on the feet may go unnoticed because of a lack of sensation. Infection can easily occur, and if not treated promptly, the infection can spread to the bone. Such infections may lead to amputation of toes, feet, and lower limbs. Many amputations can be prevented with meticulous skin care and swift recognition and treatment of infections (Dansinger, 2021b; Mayo Clinic, 2021e; NIDDK, 2018).

Common symptoms of diabetic peripheral neuropathy are tingling (resembling a "pins and needles" sensation), numbness (which can become permanent), burning (especially in the evening), and pain. Discomfort related to these symptoms may be reduced or controlled when blood glucose levels are under control (NIDDK, 2018c).

Painful diabetic neuropathy may be treated with oral medications (NIDDK, 2018c):

- Tricyclic antidepressants and other types of antidepressants as appropriate
- Anticonvulsants
- Skin creams, patches, or sprays (e.g., lidocaine)

Healthcare professionals must instruct patients and families in skin care, especially the care of the feet, because the nerves to the feet are the longest in the body and are the nerves most often impacted by neuropathy. Education should include the following instructions (Dansinger, 2021b; Mayo Clinic, 2021e):

- Clean the feet daily using warm, not hot, water and a mild soap. Do not soak the feet. Dry the feet gently but thoroughly with a soft towel, paying special attention to the skin between the toes.
- Apply gentle, non-perfumed lotion to the feet if they are dry. Do not put lotion between the toes.
- Inspect the feet and toes every day for cuts, blisters, redness, sores, calluses, or other problems. Use a mirror to check the bottom of the feet. If any abnormalities are noted, notify a health care provider immediately. Rigorous attention to leg and foot ulcers may include debridement, hyperbaric oxygen therapy, or intensive would care.
- Go to a podiatrist, if possible, to avoid injuring the toes when toenails need to be trimmed.
- Never go barefoot. Wear properly fitting shoes or slippers at all times to protect the feet from injuries. Shoes should not be tight; the toes should be able to move when wearing them. New shoes should be broken in gradually by wearing them for only an hour at a time initially.
- Examine shoes and slippers before putting them on, including feeling the insides. This is done to be sure that shoes and slippers are free from tears, sharp edges, or objects that might damage the feet.
- Participate in regular, gentle exercise. Routines such as yoga and tai chi might be of benefit.
- Stop smoking.
- Eat healthy meals.
- Avoid excessive amounts of alcohol.
- Monitor blood glucose levels per health care provider instructions.

Autonomic diabetic neuropathy

Autonomic neuropathy is damage to the nerves that are responsible for the control of the internal organs. Autonomic neuropathy can lead to problems in the cardiovascular, digestive, and renal systems. It can also cause sexual dysfunction, vision

problems, and alterations in the function of the sweat glands (NIDDK, 2018a).

Heart and Blood Vessel Impact of Autonomic Neuropathy
Damage to the nerves of the cardiovascular system adversely affects the body's ability to adjust blood pressure and heart rate. This can lead to orthostatic hypotension, dizziness, lightheadedness, or fainting. Damage to the nerves that control heart rate can lead to tachycardia instead of normal increases and decreases in heart rate in response to body functions, stress, and physical activity (NIDDK, 2018a).

Patients must be taught to avoid changing position too quickly, especially from a lying to a sitting or standing position. Wearing elastic stockings may be helpful, and physical therapy can be useful when dealing with muscle weakness or loss of coordination. Heart healthy interventions such as smoking cessation, lipid management, blood pressure control, exercise, and diet may help to decrease the development or progression of heart and blood vessel autonomic neuropathy (NIDDK, 2018a).

Digestive System Autonomic Neuropathy.
Following are common symptoms of digestive autonomic neuropathy (NIDDK, 2018a):
- Bloating
- Diarrhea
- Constipation
- Difficulty swallowing
- Feeling full after eating only a small amount of food
- Loss of appetite
- Nausea
- Vomiting
- Fecal incontinence

Treatments include dietary changes and medications to treat symptoms of constipation, diarrhea, fecal incontinence, and gastroesophageal reflux (NIDDK, 2018a).

Urinary Tract Involvement
Nerve damage can cause incomplete emptying of the bladder and increase the likelihood of urinary tract infections. Patients may also experience incontinence and increased urination at night (NIDDK, 2018a).

Patients are encouraged to drink plenty of fluids to help prevent infections. Because they may not be able to sense when their bladders are full, patients may implement a regular schedule of voiding such as every four hours (NIDDK, 2018a).

Sexual Organs Involvement
Autonomic neuropathy can gradually decrease sexual response in men and women even though sex drive may be unchanged. Men may be unable to have or unable to maintain an erection or have dry or reduced ejaculations. Women may have difficulty becoming aroused or achieving orgasm or experience a decrease in vaginal lubrication that can lead to painful intercourse (NIDDK, 2018a).

Treatment of erectile dysfunction in men begins with testing to rule out hormonal causes. To treat erectile dysfunction caused by neuropathy, medications that increase blood flow to the penis may be prescribed. Some medications are oral; others are injected into the penis or inserted into the urethra at the tip of the penis. Other interventions include the use of mechanical vacuum devices to increase blood flow to the penis or surgical implantation of an inflatable or semirigid device in the penis (Dansinger, 2021b; Ignatavicius et al., 2018; NIDDK, 2018a).

For women, the use of vaginal lubricants, estrogen creams, suppositories, and rings or medications to help reduce symptoms and facilitate arousal may be prescribed (Dansinger, 2021b; Ignatavicius et al., 2018; NIDDK, 2018a).

Self-Assessment Quiz Question #9

When counseling patients about autonomic diabetic neuropathy, healthcare professionals must know that:

a. The impact on heart and blood vessels can lead to orthostatic hypotension or fainting.
b. This type of neuropathy has no impact on sexual functioning.
c. It is important to limit fluid intake.
d. The use of elastic stockings is contraindicated.

Focal diabetic neuropathy

Focal diabetic neuropathy can appear suddenly. It affects specific nerves most often in the head, torso, or leg (NIDDK, 2018b).

Focal diabetic neuropathy may cause the following problems (NIDDK, 2018b):
- Double vision
- Aching behind one eye
- Bell's palsy (paralysis on one side of the face)
- Difficulty focusing the eyes

Focal diabetic neuropathy is unpredictable as well as being painful and is seen most often in older patients with focal neuropathy who tend to develop nerve compressions, also called entrapment syndromes. Carpal tunnel syndrome, which causes numbness and tingling of the hand and sometimes muscle weakness and pain, is a common example of such compression. Other nerves that are vulnerable to entrapment may cause pain on the outside of the shin or the inside of the foot (NIDDK, 2018b).

Diabetic retinopathy

Diabetic retinopathy is the most common diabetic eye disease and a leading cause of blindness in American adults. Initially, diabetic retinopathy may not cause any symptoms or only mild vision disturbances. However, the complication can eventually result in blindness (Mayo Clinic, 2021b; National Eye Institute, 2019).

The American Diabetes Association (2021i) recommends that to slow progression of diabetic retinopathy, patients should optimize glycemic control, blood pressure, and serum lipid control.

Diabetic retinopathy has four stages (Dansinger, 2021c):
1. Mild non-proliferative retinopathy: Microaneurysms occur, which are small areas of balloon-like swelling in the blood vessels of the retina.
2. Moderate non-proliferative retinopathy: Some blood vessels that provide nourishment to the retina are blocked.
3. Severe non-proliferative retinopathy: More and more blood vessels are blocked. Several areas of the retina are deprived of their blood supply, and they transmit messages to the body to grow new, additional blood vessels to supply nourishment.
4. Proliferative retinopathy: New blood vessels grow in an attempt to nourish the retina. This condition is referred to as proliferative retinopathy. These new blood vessels are fragile and abnormal and grow along the retina and along the surface of the clear vitreous gel that fills the inside of the eye. Because the walls of the abnormal vessels are so thin and fragile, they leak blood causing severe vision loss and even blindness.

It is rare to have signs and symptoms of the disease during early stages of diabetic retinopathy. However, as the disease progresses, symptoms may include the following Mayo Clinic, 2021b; National Eye Institute, 2019):
- Spots or dark strings floating in the visual field (commonly referred to as floaters)
- Blurred vision
- Dark or empty areas in vision
- Vision loss
- Problems with color perception

The American Diabetes Association (2021i) recommends that adults with type 1 diabetes have their first eye exam within five years of diagnosis. Persons with type 2 diabetes should get the initial eye exam soon after receiving a diagnosis. After the initial exam. The ADA recommends that all people with diabetes get an annual eye exam. Patients who have no evidence of retinopathy for one or more annual eye exams and glycemia is well controlled, then screening every one to two years may be considered.

The early stage of diabetic retinopathy may not require treatment. However, as the disease progresses, treatment is generally needed. Proliferative diabetic retinopathy requires prompt treatment (Mayo Clinic, 2021b).

Focal laser treatment
Also known as photocoagulation, focal laser treatment can stop or slow the leakage of blood or fluid in the eye. This procedure is performed in the office setting or at an eye clinic and is generally done in a single session. Vision may be blurry for a day after the procedure, and the patients may see small spots in their visual field for several weeks (University of Michigan Health, 2020).

Scatter laser treatment
Also known as panretinal photocoagulation, this treatment can shrink abnormal blood vessels. Also performed in an office or eye clinic setting, this procedure involves treating affected areas with scattered laser burns. The burns cause the abnormal blood vessels to shrink and scar. Scatter laser treatment is usually done in two or more sessions and causes blurred vision for about a day after the procedure. Some loss of peripheral vision or night vision after undergoing the procedure is possible (University of Michigan Health, 2020).

Vitrectomy
A vitrectomy is performed to remove blood from the middle of the eye (vitreous) as well as any scar tissue that is pulling on the retina. A vitrectomy is performed in a surgical center or hospital using local or general anesthesia. A tiny incision is made in the eye through which scar tissue and blood are removed and replaced with a saline solution to maintain the normal shape of the eye. A gas bubble may be placed in the cavity of the eye to help reattach the retina. If so, the patient may need to remain prone (face down) for several days until the gas bubble dissipates. An eye patch is worn, and medicated eye drops instilled for a few days or weeks. Vitrectomy may be followed or accompanied by laser treatment (Johns Hopkins Medicine, n.d.b).

Nursing Considerations: Patients treated with Scatter Laser procedures or vitrectomy may be extremely anxious for the fear of both pain and the possible complete loss of vision. Coaching, information about the procedures, and possible pre-mediation for anxiety should be considered. Patients required to remain prone for extended periods may also present nursing care challenges for eating and elimination.

Diabetic nephropathy

Diabetic nephropathy refers to damage to the kidneys caused by diabetes. Not all diabetics develop diabetic nephropathy. Diabetics who are at higher risk for its development include persons with hypertension, elevated cholesterol, smoking history, and uncontrolled blood glucose (ADA, 2021i).

Diabetic nephropathy does not produce symptoms in its early stages. Therefore, testing urine for the presence of albumin is very important so that kidney damage can be detected as soon as possible. Early kidney damage may be reversed (ADA, 2021g; 2021i).

Symptoms, when they appear, are not particularly specific. Fluid retention and edema, loss of sleep, loss of appetite, nausea and vomiting, weakness, and trouble concentrating are reported (ADA, 2020g; 2021i).

The primary treatment for diabetic nephropathy is to lower blood pressure. ACE inhibitors are recommended for most people who have hypertension, diabetes, and renal disease. Cholesterol and triglyceride levels must also be controlled; statins are generally prescribed (ADA, 2021g; 2021i).

As with most complications, the best way to prevent diabetic nephropathy is to control blood glucose levels. Blood pressure management, a healthy diet, regular physical exercise, and adhering to prescribed medication schedules are all extremely important. A low protein diet may be recommended (ADA, 2021g; 2021i).

Self-Assessment Quiz Question #10

All of the following statements pertaining to diabetic nephropathy are true EXCEPT:

a. Risk factors for the development of diabetic nephropathy include hypertension, smoking, and elevated cholesterol.
b. Diabetic nephropathy produces symptoms even in its early stages.
c. Symptoms of diabetic nephropathy are not particularly specific.
d. The primary treatment for diabetic nephropathy is to lower blood pressure.

Resources

There are a number of resources that may be helpful for patients, families, and healthcare professionals.

- American Association of Diabetes Educators https://journals.lww.com/nursing/Fulltext/2019/11000/Online_resources_for_patients_with_diabetes.19.aspx
- American Diabetes Association https://www.diabetes.org/resources
- Association of Diabetes Care & Education Specialists https://www.diabeteseducator.org/living-with-diabetes
- Centers for Disease Control and Prevention https://www.cdc.gov/diabetes/professional-info/index.html
- DiabetesCare.net http://www.diabetescare.net/resources
- Johns Hopkins Medicine https://www.hopkinsmedicine.org/gim/faculty-resources/core_resources/Patient%20Handouts/

Conclusion

Diabetes mellitus is a chronic disease that affects millions of people of all ages in the United States and around the world. It has the potential to cause complications that can affect all facets of a person's life as well as placing significant financial burden on patients, families, and society. But by adhering to individualized treatment regimens that rely on pharmacological therapy, diet, exercise, and healthy lifestyle habits, persons with diabetes can lead long, productive lives.

It is important to note that patients and families need a significant amount of education to carry out prescribed management interventions. They also need emotional support and referrals to mental health professionals as needed. The health care community must remember that dealing with a chronic illness places a great deal of stress not only on patients and loved ones but also on society as a whole. The costs of a chronic disease can be overwhelming. Sick time away from work can impact employers and work colleagues.

Effective management of diabetes also helps to prevent or reduce the occurrence of complications associated with the disease. Complications can range from mild inconveniences to serious consequences, including kidney failure, vision loss, and cardiovascular disease. The importance of taking every possible step to control blood glucose levels cannot be overemphasized.

But achieving and maintaining such control can be a challenge. The constant need to monitor blood glucose levels, exercise, monitor one's weight, and adhere to dietary mandates can be frustrating. The realization that such lifestyle mandates are lifelong can make some people disregard treatment recommendations. Thus, it is important that ongoing support and encouragement are provided by the health care team.

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Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: Prevalence of diagnosed diabetes was highest among American Indians/Alaska Natives (14.7%), people of Hispanic origin (12.5%), and non-Hispanic blacks (11.7%), followed by non-Hispanic Asians (9.2%) and non-Hispanic whites (7.5%).

2. The correct answer is C.
Rationale: The endocrine function of the pancreas focuses on hormone secretion. The endocrine cells of the pancreas are islet cells, or islets of Langerhans. These islet cells exist as clusters of cells that are scattered among the acinar cells. They consist of alpha, beta, and delta cells.

3. The correct answer is A.
Rationale: Pregnant women not previously found to have diabetes should be tested for gestational diabetes mellitus at 24-28 weeks of gestation.

4. The correct answer is D.
Rationale: Smoking is a significant risk factor for the development of type 2 diabetes and makes the disease harder to control after its development. Smokers are 30% to 40% more likely to develop type 2 diabetes than nonsmokers. People who smoke are more likely than nonsmokers to have trouble managing the disease.

5. The correct answer is D.
Rationale: Infections and illnesses can cause the body to produce higher levels of adrenaline or cortisol, both of which are antagonistic to insulin. Common conditions that trigger DKA are pneumonia and urinary tract infections.

6. The correct answer is C.
Rationale: This test can be performed at any time of day when severe diabetic symptoms develop. Diabetes is diagnosed when the blood glucose is >200 mg/dL.

7. The correct answer is A.
Rationale: Inhaled insulin is contraindicated in patients with chronic lung disease and is not recommended in patients who smoke or who recently stopped smoking.

8. The correct answer is B.
Rationale: Administer tetanus, diphtheria, pertussis (TDAP) to all adults with a booster every 10 years. All adult pregnant women should have an extra dose of this vaccine.

9. The correct answer is A.
Rationale: Damage to the nerves of the cardiovascular system adversely affects the body's ability to adjust blood pressure and heart rate. This can lead to orthostatic hypotension, dizziness, lightheadedness, or fainting.

10. The correct answer is B.
Rationale: Diabetic nephropathy does not produce symptoms in its early stages. Therefore, testing urine for the presence of albumin is very important so that kidney damage can be detected as soon as possible. Early kidney damage may be reversed

Course Code: ANCCUS05DM

Ethical and Legal Issues in Nursing Practice

7 Contact Hours

Release Date: September 2, 2022

Expiration Date: September 2, 2025

Faculty

Margaret-Ann Carno, PhD, MBA, MJ, PNP-AC/PC, ATSF, FAANDr, is an educator, practitioner, and researcher. Her passions are healthcare law, regulations, and research regulations. She obtained a master's in jurisprudence from Loyola University Chicago, School of Law, with a concentration in Health Law. She regularly teaches on these subjects.

Margaret-Ann Carno has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Peer reviewer:
James Stowe, JD, RN, is both a nurse and attorney, obtaining his Nursing degree from Auburn University and Juris Doctor from Samford University, Cumberland School of Law. He practiced in the legal field, concentrating in part on medical claims, before returning to hospital administration. He is currently the director of a large emergency department.

James Stowe has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

Legal issues in nursing are based on legislation, practice standards, and licensure. Ethical issues, on the other hand, are often based on subjective values of "right" and "wrong." The purpose of this course is to help nurses deal with many of the ethical issues they face in their professional practice, as well as legal considerations that may impact ethical issues of patient care.

***Author's Note**: This education program is not a substitute for, nor is it intended to be, legal/ethical counseling or legal/ethical advice. For specific legal/ethical advice pertaining to you and your practice, consult appropriate legal authorities or ethical experts.*

Learning objectives

After completing this course, the learner will be able to:

- Describe how nursing scope of practice and standards of professional nursing practice govern nursing.
- Explain how state nurse practice acts define and describe nursing practice.
- Describe how the act of delegation is encompassed in the nurse practice act.
- Correlate nursing professional boundaries with appropriate nursing practice.
- Discuss legal and ethical implications of nursing practice.
- Describe professional guidelines for use of social media.
- Discuss how a just culture impacts nursing.

How to receive credit

- Read the entire course online or in print which requires a 7-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- If requested, provide required personal information and payment information.
- Complete the MANDATORY Course Evaluation.
- Print your Certificate of Completion.

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Colibri Healthcare, LLC, provider # 50-4007, reports course completion results within 1 business day to CE Broker. If you are licensed in Arkansas, District of Columbia, Florida, Georgia, Kentucky, Michigan, Mississippi, New Mexico, North Dakota, South Carolina, or West Virginia, your successful completion results will be automatically reported for you.

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Dakota Board of Nursing, Provider #50-4007; South Carolina Board of Nursing, Provider #50-4007; and West Virginia Board of Registered Nurses, Provider #50-4007. This CE program satisfies the Massachusetts States Board's regulatory requirements as defined in 244 CMR5.00: Continuing Education.

Activity director

June D. Thompson, DrPH, MSN, RN, FAEN, Lead Nurse Planner

Disclosures

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Course verification

All individuals involved have disclosed that they have no significant financial or other conflicts of interest pertaining to this course. Likewise, and in compliance with California Assembly Bill No. 241, every reasonable effort has been made to ensure that the content in this course is balanced and unbiased.

INTRODUCTION

Nursing practice is guided by three major pillars: ethical concepts, professional standards, and laws/regulation to ensure safe and professional nursing practice. A nurse must know and understand all three of these guiding pillars. A nurse will be held to these guiding pillars and lack of knowledge or understanding will not be an excuse if something happens to a patient. This course will first describe ethical concepts that influence nursing practice, then examine professional standards, most of which are based on specific ethical concepts. Finally, laws and regulations will be discussed. By the end of the course the nurse will have a better understanding of the three pillars that guide nursing practice.

BASIC ETHICAL CONCEPTS FOR NURSES

Ethics can be defined as the philosophic area of study of values, actions, and choices to determine what is right and wrong. It is a system of value actions and involves reasoning, analysis, questions, and judgments to help differentiate between right and wrong. Beliefs about what constitutes ethical behavior vary widely among healthcare professionals (Wacko Guido, 2020). In nursing there are ethical concepts to understand. While there are several concepts and theories, the main concepts for nurses to understand are: 1) autonomy, 2) beneficence, 3) nonmaleficence, 4) informed consent (which will be discussed later in the course), 5) veracity, and 6) justice.

Autonomy
The first ethical concept for nurses to know is autonomy. This is in relation to the patient's decision making over their own body. Although this seems easy enough, underlying autonomy are the additional components of agency, self-determination, independence, and liberty (Wacko Guido, 2020). Agency can be thought of as the ability to take responsibility for one's actions, which includes the ability to critique one's actions. This also ties into self-determination, meaning that a person must be able to access the information, understand the information, and then act upon the information. Agency and self-determination can require a high cognitive level of function, which may or may not be present in an ill patient. When a patient is ill, the ability to exert independence may be compromised as the usual supports and familiar environment are not available. Independence is the ability to follow one's own values. Finally, liberty is the ability to make choices without coercion or manipulation from others. When nurses are caring for patients, liberty can be impacted. For example, the patient may not want to disagree with the providers or family may be impressing their wishes on the patient. Given all these separate components of autonomy, it is up to the nurse to ensure to the best of their ability that the patient is truly autonomous (Wacko Guido, 2020).

Beneficence
The ethical concept of beneficence is not just to prevent or to do no harm (which will be discussed in nonmaleficence), but to actually act in a way that provides benefit to the patient (Varkey, 2021). Beneficence can be considered the basis of healthcare (Wacko Guido, 2020). The act of "doing good" can be many different acts. This includes providing care (even if painful and extensive, if the expected outcome will improve quality and potentially quantity of a patient's life) and not providing "extraordinary care" (such as when a patient wishes to die without advanced life support' Wacko Guido, 2020). Defining what is "good" is the main stumbling block with this concept (Wacko Guido, 2020). What one patient or nurse would define as beneficence, another patient or nurse may not.

Nonmaleficence
The term nonmaleficence means to do no harm, which includes not causing pain or suffering, not depriving others of life, and not incapacitating (Varkey, 2021). The meaning also includes not imposing harm to a patient. With most care a detriment (risk)/ benefit analysis is conducted, even if it is only in the mind of the nurse/ healthcare provider (Wacko Guido, 2020). An example of this would be wound care. Wound care can be painful (immediate harm/risk), however, by caring for the wound, the patient will have a better outcome (benefit). Thus, the immediate

"harm" (pain) is outweighed by the long-term outcome of improved healing of the wound.

Veracity
Veracity means to tell the truth (Wacko Guido, 2020). A nurse is obligated to provide truthful answers to patients and families' questions in an understandable manner. Also, a nurse is obligated to inform the patients and families what is not known at this time related to the care received. Veracity can be violated in a number of ways, two of which are telling of falsehoods and not providing all the information concerning alternatives to treatment. The third way is not usually thought of, but it is the use of medical terms and jargon that the patient or family does not understand. All information provided to patients and caregivers needs to be in a format that is understood. Providing information using more patient-centered language can assist with meeting this ethical principle. Also having the patient and family describe in their own words the information provided can help clarify any misconceptions and misunderstandings that may be present (Wacko Guido, 2020).

Fidelity
Fidelity is the principle of keeping any promises or commitments made to the patient and family (Wacker, 2019). This is one of the core principles of the nurse-patient relationship. Nurses should not make promises they cannot reasonably keep. An example if this would be telling a patient they will be pain free after a procedure, however complications arise that supersede this promise, such as hemodynamic instability or finding the medication regime which will keep the patient pain free when the initial regime is not keeping the patient pain free (Wacko Guido, 2020).

Justice
Treating all patients equally and fairly is the definition of justice (Varkey, 2021). This also includes treating all patients appropriately. All patients should be offered equal access to treatment. Justice recognizes the basic dignity of all patients the nurse provides care for (Wacko Guido, 2020).

Self-Assessment Quiz Question #1

A patient asks a nurse to explain the side effects of a medication. The nurse accurately does this. Which ethical principle is the nurse working under?
a. Veracity.
b. Justice.
c. Autonomy.
d. Nonmaleficence.

Case study 1

Susan is a new RN on an oncology floor. She is caring for an 88-year-old woman who has undergone several tests for night sweats and weight loss. The patient is very alert and mentally intact. The test results have shown that the woman has Acute Myeloid Leukemia (AML), which in adults has a very poor prognosis. Her two adult children do not want their mom to know the diagnosis and want every possible treatment to be given to their mom. They ask Susan not to answer any of their mother's questions about the diagnosis or treatment that she is going to receive. Susan is distressed by this request.

Question:
1. If Susan honors the children's request, which, if any, ethical principles are Susan violating?

Discussion:
1. Susan would be violating 1) autonomy, 2) beneficence, 3) nonmaleficence, and 4) veracity. The patient has the right to determine what will happen to their body (autonomy). The woman has the right to choose if she wants treatment or not, and if she wants treatment, what type. Susan is obligated to "do good for the patient." How could she being doing "good" for the patient (beneficence) if the patient does not know why the treatment is being given. Also, Susan is obligated to do no harm (nonmaleficence). Given the side effects of treatment, Susan could be doing harm that the patient does not want. Finally, Susan will most likely be lying to the patient and violating truth-telling or veracity. Every patient has a right to know what is going on with their medical care and determine what type of medical care to receive.

NURSING CODE OF ETHICS

The American Nurses Association (ANA) has taken these basic ethical concepts and incorporated them in the Code of Ethics for Nurses. The following summary highlights and paraphrases critical points of the ANA's Code of Ethics for Nurses (American Nurses Association, 2015). It is meant to serve as a brief introduction. For detailed information about the code, access the ANA website at https://www.nursingworld.org/coe-view-only.

The code is divided into nine provisions (American Nurses Association, 2015).

1. **The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person.** Nurses must practice with compassion and respect for all patients regardless of social or economic status, personal attributes, or the nature of health problems. Inherent in this provision is an emphasis on respect for the worth, dignity, and human rights of all persons. A person's worth is not influenced by disease, disability, functional status, or nearness to death. All patients have the moral and legal right to determine their course of care. This is also referred to as self-determination and forms the basis for informed consent in healthcare.
2. **The nurse's primary commitment is to the patient, whether that is defined as an individual, family, group, community, or population**. The primary commitment is to promote the best interests of the patient. Nurses must examine their own beliefs and values to identify any conflicts between their beliefs and values and those of the patient's. Nurses must work to resolve such conflicts in the best interests of the patient.
3. **Nurses must promote, advocate, and work to protect the health, safety, and rights of the patient**. This means that nurses must guard the privacy and confidentiality of the patient as well as protect patients participating in healthcare research. Part of the protection aspect of this provision includes basic education and continuing education standards. For example, nurse educators must ensure that basic competencies are achieved. Nursing professional development specialists, in conjunction with nurses, must work to ensure that continuing education activities are designed and implemented to facilitate ongoing competency of licensed nurses. Nurses must also actively participate in the development of policies and review mechanisms designed to promote patient safety. Finally, nurses must be alert to instances of inappropriate or questionable practice and report such behavior to appropriate higher authorities within the employing institution or agency or to an appropriate external authority.
4. **Nurses are responsible for their individual nursing practices, including the appropriate delegation of tasks, to ensure optimum patient care**. This means that RNs are responsible not only for their own actions but also retain accountability for tasks that are delegated. Nurses should be aware of and adhere to the six "rights" of delegation (this is discussed later in this course).

5. **Nurses owe the same duties to themselves as to others**. They have a responsibility to preserve their integrity and safety, to maintain competence, and to continue their personal and professional growth. Competence includes having knowledge relevant to the current scope and standards of nursing practice, changing issues, concerns, controversies, and ethics. It also requires a commitment to lifelong learning.
6. **Nurses must recognize that the healthcare environment and conditions of employment are essential to optimum patient care and maximal employee performance**. Therefore, nurses must participate in the establishment, maintenance, and improvement of healthcare environments and conditions of employment.
7. **Nurses are obligated to advance the profession of nursing**. They should do so by developing, maintaining, and implementing professional standards in clinical, administrative, and educational practice.
8. **Nurses must collaborate with other healthcare professionals and the public to promote community, national, and international efforts to meet health needs**. As part of this collaborative responsibility, nurses must recognize that this country and the world are filled with cultural diversity and avoid impinging their personal cultural values upon others.
9. **The nursing profession (as represented by professional associations and their members) is responsible for the communication and affirmation of the values of the profession to its members**. This is accomplished by articulating the values of nursing, maintaining the profession's integrity and that of its practice, and shaping social policy.

These ethical provisions must be incorporated into the legal realm of nursing practice. It is important that nurses have knowledge of basic legal principles and how to incorporate those principles into nursing practice.

NURSING SCOPE OF PRACTICE AND STANDARDS OF PROFESSIONAL NURSING PRACTICE

The International Council of Nurses (ICN;2022) defines nursing as encompassing "autonomous and collaborative care of individuals of all ages, families, groups, and communities, sick or well, and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled, and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy, in patient and health systems management, and education are also key nursing roles."

The American Nurses Association defines nursing as:

> *"Nursing integrates the art and science of caring and focuses on the protection, promotion, and optimization of health and human functioning; prevention of illness and injury; facilitation of healing; and alleviation of suffering through compassionate presence. Nursing is the diagnosis and treatment of human responses and advocacy in the care of individuals, families, groups, communities, and populations in recognition of the connection of all humanity"* (ANA, p. 9, 2021).

In the United States, there are three levels of nursing practice:
1. Registered nurse (RN).
2. Advanced practice registered nurse (APRN).
3. Licensed practical nurse (LPN).

The ANA describes RNs as forming the backbone of healthcare provision in the United States (American Nurses Association, 2019). The association identifies the following key responsibilities of the RN (American Nurses Association):

- Performs physical exams and obtains health histories before making critical decisions.
- Provides health promotion, counseling, and education.
- Administers medications, provides wound care, and carries out a multitude of personalized interventions.
- Coordinates care in collaboration with a large array of healthcare professionals.

The licensed practical nurse, known as licensed vocational nurse (LVN) in California and Texas, complements the healthcare team by providing basic and routine care consistent with their education and under the supervision of an RN, APRN, or MD (American Nurses Association, 2019).

Key responsibilities of the licensed practical nurse include the following (American Nurses Association, 2019):
- Checks vital signs and looks for signs that health is deteriorating or improving.
- Performs basic nursing functions such as changing bandages and wound dressings.
- Ensures patients are comfortable, well fed, and hydrated.
- Administers medications in some settings.

Self-Assessment Quiz Question #2

Which of the following can be delegated to an LPN?
a. Assessment and physical exam.
b. Initial education on medications.
c. Changing a bandage.
d. Coordinating care.

SCOPE OF PRACTICE

What is scope of practice?
The ANA describes nursing scope of practice as an explanation of the who, what, where, when, why, and how of nursing practice. Furthermore, scope of practice delineates what the law allows based on specific education, training, experience, and licensure (American Nurses Association, 2021).

Nursing consideration: Nurses must know not only their own scope of practice but also the scope of practice of others, such as LPNs and nursing assistants, to whom they delegate tasks. RNs who delegate tasks are still accountable for that delegation in terms of its safety and appropriateness.

Determining the scope of practice

How can nurses determine if an action is within their scope of practice? First, they must review appropriate standards, laws, and rules of nursing practice. They must know the content of their state's nurse practice act and what their licenses allow them to do (American Nurses Association, 2021a; Wacker Guido, 2020).

Step 1
Clarify what skills, education, and training are needed to perform an action. Nurses should ask themselves the following questions:
- Is this action allowable by law according to legal standards and the nurse practice act in my state?
- If so, does the employing healthcare facility have policies and procedures that provide guidance for its performance?
- Do I have the necessary skills, experience, and training to perform this action?
- Am I competent to perform this action? If in doubt, nurses must seek help from a supervisor or peer who is competent in this action. Nurses must remember that once a patient assignment is accepted, they are responsible for fulfilling it safely and competently.

Step 2
Realize that what may be common practice (e.g., "We've always done it this way") may not necessarily be legal or in the best interests of the patient. For example: suppose a highly experienced LPN has been allowed to perform physical assessments independent of, and without collaboration with, an RN. This has been going on for years. However, in some states, this is beyond the legal scope of practice for LPNs. An RN who continues to delegate this action to LPNs is accountable for this illegal practice. Delegating tasks outside the scope of practice can be potential grounds for disciplinary action against both the LPN who performed the assessment and the RN who inappropriately delegated the task. It may also be the basis for a malpractice lawsuit if a patient is harmed as a result of such an action.

Step 3
Determine if the action taken is one that a reasonably prudent nurse with similar education, training, and experience would do; if a valid order for the task has been written by a physician, physician assistant, or APRN; and if the nurse in question has demonstrated competency in the skill and behavior required and has documentation of such competency. For example: Suppose a nurse is asked to counsel a patient regarding pregnancy prevention. This patient has received a diagnosis of schizophrenia and is not currently controlled with antipsychotic medication. The nurse has not worked with patients with schizophrenia and is unsure how to assess comprehension or how to adequately communicate with this patient. Nurse colleagues say, "Just do the best you can."

What should the nurse do?
In this situation, the nurse must seek help from a supervisor or another appropriate source of assistance such as a mental health specialist. Lack of competency in working with mental health patients is as much a concern as if they were asked to perform a specific motor skill procedure with which they are unfamiliar.

Nursing consideration: All nurses must be sure to act within their scope of practice and within their experience and training. If nurses are asked to do something that is within the legal scope of their nursing practice, but their training and experience have not prepared them to perform this action safely and competently, they should not do it (Wacko Guido, 2020). They should seek help from a nurse who can safely and competently perform the action. They also need to seek training opportunities so that they can achieve competency in performing new procedures.

STANDARDS OF PROFESSIONAL NURSING PRACTICE

The standards of professional nursing practice focus on facilitating the delivery of safe and effective nursing care. Most, if not all, state boards of nursing describe standards and scope of practice related to their nurse practice acts.

But what exactly are standards of professional nursing practice? Standards of professional nursing practice consist of the critical thinking model referred to as the nursing process and the ANA's Standards of Professional Performance. The standards for professional nursing practice describe those duties and responsibilities that all RNs must be able to fulfill safely and competently regardless of the setting of their practice or their specialty.

Nursing consideration: Professional nursing associations such as the American Association of Critical Care Nurses have developed scope and standards of practice pertaining to their respective specialties. Such standards generally build upon the ANA's Nursing Scope and Standards of Practice. Nurses must be aware of such scope and standards and practice within their respective specialties.

ANA STANDARDS OF PROFESSIONAL NURSING PRACTICE

The Standards of Professional Nursing Practice are "authoritative statements of duties that all registered nurses, regardless of role, population, or specialty are expected to perform competently." These standards are subject to formal, periodic review and revision. Competencies, which may be evidence of standard compliance, accompany each standard (American Nurses Association, 2021a).

The following is a summary of the highlights of the ANA Standards of Practice (American Nurses Association, 2021). Note that this is only a brief summary. Nurses should access the ANA website for further information on obtaining a copy of Nursing: Scope and Standards of Practice (4th ed.) at http://www.nursingworld.org/

Standard 1: Assessment

"The registered nurse collects pertinent data and information relative to the healthcare consumer's health or the situation." Competencies related to this standard focus on methods of data collection, including the incorporation of physical, psychosocial, environmental, emotional, cognitive, sexual, cultural, age-related, spiritual, and economic factors and engages interprofessional team members in data collection collaboration. The nurse also assesses the impact of family dynamics on the healthcare consumer's health and wellness and identifies enhancements and barriers to effective communication based on personal, cognitive, physiological, psychosocial, literacy, financial, and cultural considerations. The nurse engages the healthcare consumer, family, significant others, and interprofessional team members in holistic, culturally sensitive data collection and integrates knowledge from current local, regional, national, and global health initiatives and environmental factors into the assessment process (ANA, 2021a, Kindle Location 1773-1780).

Standard 2: Diagnosis

"The registered nurse analyzes assessment data to determine actual or potential diagnoses, problems, and issues." The diagnosis standard competencies focus on using assessment data to identify and prioritize nursing diagnoses (not medical diagnoses). The nurse will identify actual or potential risks to the healthcare consumer's health and safety or barriers to health, which may include but are not limited to, interpersonal, systematic, cultural, socioeconomic, or environmental circumstances. The nurse also uses assessment data, standardized classification systems, technology, and clinical decision support tools to articulate actual or potential diagnoses, problems, and issues. They identify the healthcare consumer's strengths and abilities, including but not limited to support systems, health literacy, and engagement in self-care. The nurse then verifies the diagnoses, problems, and issues with the healthcare consumer and interprofessional colleagues and prioritizes diagnoses, problems, and issues based on mutually established goals to meet the needs of the healthcare consumer across the health–illness continuum and the care continuum. Nurses document diagnoses, problems, strengths, and issues in a manner that facilitates the development of the expected outcomes and collaborative plan (ANA, 2021a., Kindle Location 1831-1833).

Standard 3: Outcomes Identification

"The registered nurse identifies expected outcomes for a plan individualized to the healthcare consumer or the situation." Competencies concentrate on engaging the entire healthcare team, including patients and families, in the identification of realistic outcomes. The nurse engages with the healthcare consumer, interprofessional team, and others to identify expected outcomes and collaborates with the healthcare consumer to define expected outcomes, integrating the healthcare consumer's culture, values, and ethical considerations. From this information, the nurse formulates expected outcomes derived from assessments and diagnoses. They then integrate evidence and best practices to identify expected outcomes and develop expected outcomes that facilitate coordination of care. The nurse next identifies a time frame for the attainment of expected outcomes, documents expected outcomes as measurable goals, and identifies the actual outcomes in relation to expected outcomes, safety, and quality standards. If needed, the nurse then modifies expected outcomes based on the evaluation of the status of the healthcare consumer and situation (ANA, 2021a, Kindle Location 1864-1872).

Standard 4: Planning

"The registered nurse develops a plan that prescribes strategies to attain expected, measurable outcomes." Competencies involve developing an individualized, holistic, evidence-based plan of care in partnership with the patient, family, and interprofessional team. The RN develops an individualized, holistic, evidence-based plan in partnership with the healthcare consumer, family, significant others, and interprofessional team And designs innovative nursing practices that can be incorporated into the plan. The RN prioritizes elements of the plan based on the assessment of the healthcare consumer's level of safety needs to include risks, benefits, and alternatives. The RN establishes the plan priorities with the healthcare consumer, family, significant others, and interprofessional team and advocates for compassionate, responsible, and appropriate use of interventions to minimize unwarranted or unwanted treatment, and healthcare consumer suffering, or both. The RN includes strategies designed to address each of the identified diagnoses, health challenges, issues, or opportunities. These strategies may include but are not limited to maintaining health and wellness; promotion of comfort; promotion of wholeness, growth, and development; promotion and restoration of health and wellness; prevention of illness, injury, disease, complications, and trauma; facilitation of healing; alleviation of suffering; supportive care; and mitigation of environmental or occupational risks. The RN incorporates an implementation pathway that describes an overall timeline, steps, and milestones. The RN provides for the coordination and continuity of care and identifies cost and economic implications of the plan. The RN develops a plan that reflects compliance with current statutes, rules and regulations, and standards and modifies the plan according to the ongoing assessment of the healthcare consumer's response and other outcome indicators. The RN documents the plan using standardized language or recognized terminology (ANA, 2021a, Kindle location 1898-1913).

Standard 5: Implementation

"The registered nurse implements the identified plan." Competencies include use of evidence-based practice and partners with the healthcare consumer to implement the plan. Demonstrates caring behaviors to develop therapeutic relationships. Provides care that focuses on the healthcare consumer. Advocates for the needs of diverse populations across the life span. Uses critical thinking and technology solutions to implement the nursing process to collect, measure, record, retrieve, trend, and analyze data and information to enhance healthcare consumer outcomes and nursing practice. Partners with the healthcare consumer to implement the plan in a safe, effective, efficient, timely, and equitable manner. Engages interprofessional team partners in implementation of the plan through collaboration and communication across the continuum of care. Uses evidence-based interventions and strategies to achieve mutually identified goals and outcomes specific to the problem or needs. Delegates according to the health, safety, and welfare of the healthcare consumer. Delegates after considering the circumstance, person, task, direction or communication, supervision, and evaluation, as well as the state nurse practice act (ANA, 2021a; Kindle location 1945-1954).

Standard 5A: Coordination of Care

"The registered nurse coordinates care delivery." Competencies focus on coordinating care with the interprofessional team. "Collaborates with the healthcare consumer and the interprofessional team to help manage healthcare based on mutually agreed-upon outcomes. Organizes the components of the plan with input from the healthcare consumer and other stakeholders. Manages the healthcare consumer's care to reach mutually agreed-upon outcomes. Engages healthcare consumers in self-care to achieve preferred goals for quality of life" (ANA, 2021a, Kindle Location 1993-1997)

Standard 5B: Health Teaching and Health Promotion

"The registered nurse employs strategies to promote health and a safe environment." RN competencies focus on effective patient/family education. Provides opportunities for the healthcare consumer to identify needed health promotion, disease prevention, and self-management topics such as: - Healthy lifestyles - Self-care and risk management - Coping, adaptability, and resiliency. Uses health promotion and health teaching methods in collaboration with the healthcare consumer's values, beliefs, health practices, developmental level, learning needs, readiness and ability to learn, language preference, spirituality, culture, and socioeconomic status. Uses feedback from the healthcare consumer and other assessments to determine the effectiveness of the employed strategies. Uses technologies to communicate health promotion and disease prevention information to the healthcare consumer (ANA, 2021a, Kindle Locations 2031-2038).

Standard 6: Evaluation

"The registered nurse evaluates progress toward attainment of goals and outcomes." Competencies concentrate on conducting ongoing, criterion-based evaluation of patient goals and outcomes. "Uses applicable standards and defined criteria (e.g., Quality and Safety Education for Nurses [QSEN], Quadruple Aim, Institute for Healthcare Improvement [IHI]). Conducts a systematic, ongoing, and criterion-based evaluation of the goals and outcomes in relation to the structure, processes, and timeline prescribed in the plan. Collaborates with the healthcare consumer, stakeholders, interprofessional team, and others involved in the care or situation in the evaluation process. Determines, in partnership with the healthcare consumer and other stakeholders, the person-centeredness, effectiveness, efficiency, safety, timeliness, and equitability of the strategies in relation to the responses to the plan and attainment of outcomes. Uses ongoing assessment data, other data and information resources and benchmarks, research, and meta-analysis for the analytic activities to revise the diagnoses, outcomes, plan, implementation, and evaluation strategies as needed. Documents the results of the evaluation. Reports evaluation data in a timely fashion. Shares evaluation data and conclusions with the healthcare consumer and other stakeholders to promote clarity and transparency in accordance with state, federal, organizational, and professional requirements" (ANA, 2021a, Kindle Location 2066-2077).

Standard 7: Ethics

"The registered nurse practices ethically." Competencies focus on the integration of the Code of Ethics for Nurses and Interpretive Statements (ANA, 2015). "Demonstrates that every person is worthy of nursing care through the provision of respectful, person-centered, compassionate care, regardless of personal history or characteristics. (Beneficence) Advocates for healthcare consumer perspectives, preferences, and rights to informed decision-making and self-determination. (Respect for autonomy) Demonstrates a primary commitment to the recipients of nursing and healthcare services in all settings and situations. (Fidelity) Maintains therapeutic relationships and professional boundaries. Acts to prevent breaches to privacy and confidentiality. Safeguards sensitive information within ethical, legal, and regulatory parameters. (Non-maleficence). Identifies ethics resources within the practice setting to assist and collaborate in addressing ethical issues. Integrates principles of social justice in all aspects of nursing practice. (Justice)" (ANA, 2021a, Kindle Location 2105-2113).

Standard 8: Advocacy

The registered nurse: Champions the voice of the healthcare consumer. Recommends appropriate levels of care, timely and appropriate transitions, and allocation of resources to optimize outcomes. Promotes safe care of healthcare consumers, safe work environments, and sufficient resources. Participates in healthcare initiatives on behalf of the healthcare consumer and the systems(s) where nursing happens. Demonstrates a willingness to address persistent, pervasive systemic issues. Empowers all members of the healthcare team to include the healthcare consumer in care decisions, including limitation of treatment and end of life. Embraces diversity, equity, inclusivity, health promotion, and healthcare for individuals of diverse geographic, cultural, ethnic, racial, gender, and spiritual backgrounds across the life span. Develops policies that improve care delivery and access for underserved and vulnerable populations (ANA, 2021a, Kindle Location 2149-2158).

Standard 9: Respectful and Equitable Practice

"The registered nurse practices with cultural humility and inclusiveness." Competencies include providing care which is respectful, equitable and empathetic. "Demonstrates respect, equity, and empathy in actions and interactions with all healthcare consumers. Respects consumer decisions without bias. Participates in life-long learning to understand cultural preferences, worldviews, choices, and decision-making processes of diverse consumers. Reflects upon personal and cultural values, beliefs, biases, and heritage. Applies knowledge of differences in health beliefs, practices, and communication patterns without assigning value to the differences. Addresses the effects and impact of discrimination and oppression on practice within and among diverse groups. Uses appropriate skills and tools for the culture, literacy, and language of the individuals and population served. Communicates with appropriate language and behaviors, including the use of qualified healthcare interpreters and translators in accordance with consumer needs and preferences" (ANA, 2021a, Kindle location 2198-2206).

Standard 10: Communication

The registered nurse: "Assesses one's own communication skills and effectiveness. Demonstrates cultural humility, professionalism, and respect when communicating. Assesses communication ability, health literacy, resources, and preferences of healthcare consumers to inform the interprofessional team and others. Uses language translation resources to ensure effective communication. Incorporates appropriate alternative strategies to communicate effectively with healthcare consumers who have visual, speech, language, or communication difficulties. Uses communication styles and methods that demonstrate caring, respect, active listening, authenticity, and trust. Conveys accurate information to healthcare consumers, families, community stakeholders, and members of the interprofessional team. Advocates for the healthcare consumer and their preferences and choices when care processes and decisions do not appear to be in the best interest of the healthcare consumer. Maintains communication with interprofessional team members and others to facilitate safe transitions and continuity in care delivery. Confirms the recipient of the communication heard and understands the message. Contributes the nursing perspective in interactions and discussions with the interprofessional team and other stakeholders. Promotes safety in the care or practice environment, disclosing and reporting concerns related to potential or actual hazards or deviations from the standard of care. Demonstrates continuous improvement of communication skills" (ANA, 2021a, Kindle Location 2236-2251).

Standard 11: Collaboration

The registered nurse: "Partners with the healthcare consumer and key stakeholders to advocate for and effect change, leading to positive outcomes and quality care. Treats others with dignity and respect in all interactions. Values the expertise and contribution of other professionals and key stakeholders. Uses the unique and complementary abilities of all members of the interprofessional team to optimize attainment of desired outcomes. Articulates the nurse's role and responsibilities within the interprofessional team. Uses appropriate tools and techniques, including information systems and technologies, to facilitate discussion and team functions in a manner that protects dignity, respect, privacy, and confidentiality. Promotes engagement through consensus building and conflict management. Uses effective group dynamics and strategies to enhance performance of the interprofessional team. Partners with all stakeholders to create, implement, and evaluate plans. Role models the development of shared goals, clear roles, mutual trust, effective communication, efficient processes, and measurable outcomes within the interprofessional team" (ANA, 201a, Kindle location 2273-2284).

Standard 13: Education

The registered nurse: seeks knowledge and competence that reflects current nursing practice and promotes futuristic thinking". Competencies include "Identifies learning needs based on the various roles assumed and associated requisite nursing knowledge. Participates in continuing professional development activities related to nursing and interprofessional knowledge bases and professional topics. Seeks experiences that reflect current practice to maintain and advance knowledge, skills, abilities, and judgment in clinical practice or role performance. Maintains current knowledge and skills relative to the role, population, specialty, setting, and local or global health situation. Commits to lifelong learning through critical thinking, self-reflection, and inquiry for personal growth and learning. Advocates through formal consultations or informal discussions to address issues in nursing practice, demonstrating an application of education and knowledge. Identifies modifications or accommodations needed in the delivery of education based on the learner's needs. Shares educational findings, experiences, and ideas with peers and interprofessional colleagues. Mentors nurses new to their roles for the purpose of ensuring successful

enculturation, orientation, competence, and emotional support. Supports acculturation of nurses new to their roles by role modeling, encouraging, advocating, and sharing pertinent information relative to optimal care delivery. Facilitates a work environment supportive of ongoing education of healthcare professionals and interprofessional colleagues. Maintains a professional portfolio that provides evidence of individual competence and lifelong learning. Seeks professional or specialty certification" (ANA, 201a, Kindle location 2343-2361).

Standard 15: Quality of Practice

"The registered nurse contributes to quality nursing practice." Competencies include nursing practice is safe, effective, efficient, equitable, time, person-centered and includes evidence to improve nursing outcomes. "Ensures that nursing practice is safe, effective, efficient, equitable, timely, and person-centered. Incorporates evidence into nursing practice to improve outcomes. Uses creativity and innovation to enhance nursing care. Recommends strategies to improve nursing care quality. Collects data to monitor the quality of nursing practice. Contributes to efforts to improve healthcare efficiency. Provides critical review and evaluation of policies, procedures, and guidelines to improve the quality of health care" (ANA, 2021a, Kindle Location 2426-2431).

Standard 16: Professional Practice Evaluation

"The registered nurse evaluates one's own and others' nursing practice." Competencies include: "Engages in self-reflection and self-evaluation of nursing practice on a regular basis, identifying areas of strength as well as areas in which professional growth would be beneficial. Adheres to the guidance about professional practice as specified in the Nursing: Scope and Standards of Practice and the Code of Ethics for Nurses with Interpretive Statements. Ensures that nursing practice is consistent with regulatory requirements pertaining to licensure, relevant statutes, rules, and regulations. Influences organizational policies and procedures to promote interprofessional evidence-based practice. Provides evidence for practice decisions and actions as part of the evaluation process. Seeks feedback regarding one's own practice from healthcare consumers, peers, colleagues, supervisors, and others. Provides peers and others with constructive feedback regarding their practice or role performance. Takes action to achieve learning needs and goals identified during the evaluation process. Documents the evaluative process, strategies used, and next steps to enhance one's own practice" (ANA, 2021a, Kindle Location 2475-2486).

ANA RECOGNITION OF A NURSING SPECIALTY

In addition to the ANA's Nursing: Scope and Standards of Practice, many specialty nursing organizations have also developed their own scope and standards of practice. These standards often use the ANA's Nursing: Scope and Standards of Practice as a foundation for the development of specialty standards. Nurses practicing in various specialties—such as critical care, nursing professional development, cardiovascular nursing, psychiatric-mental health, medical-surgical nursing, and many others—need to be aware of these standards as well.

In 2021, the ANA published American Nurses Association Recognition of a Nursing Specialty, Approval of a Specialty Nursing Scope of Practice Statement, Acknowledgment of Specialty Nursing Standards of Practice and Affirmation of Focused Practice Competencies (American Nurses Association, 2021b). This document noted that specialization involves focusing on nursing practice in a specific field and "encompasses a specified area of discrete study, research, and practice as defined and recognized by the profession." It includes criteria for recognition as a nursing specialty and the process for attaining such recognition.

An example of a specialty nursing scope of practice is the American Association of Critical Care Nurses (AACN) "Scope and Standards for Progressive and Critical Care Nursing Practice". The standards state: "Standards of clinical practice describe a competent level of nursing practice, while standards of professional performance address the professional activities and behaviors expected of progressive and critical care RNs. All standards include performance expectations, or competencies, that describe how progressive and critical care nurses may demonstrate competent practice and build on the American Nurses Association's (ANA's) document: Nursing: Scope and Standards of Practice (2015)" (AACN, 2019, p2).

The AACN standards are then broken down into **Practice**:

- Standard1: Assessment.
- Standard 2: Diagnosis.
- Standard 3: Outcomes Identification.
- Standard 4: Planning.
- Standard 5: Implementation.
- Standard 6: Evaluation.

Standards for **Professional Performance**:

- Standard 1 Quality of Practice.
- Standard 2: Professional Practice Evaluation.
- Standard 3: Education.
- Standard 4: Communication.
- Standard 5: Ethics.
- Standard 6: Collaboration.
- Standard 7: Evidence-Based practice/research/clinical inquiry.
- Standard 8: Resource Utilization.
- Standard 9: Leadership.
- Standard 10 Environmental Health (AACN, 2019).

Most other professional nursing organizations also have scope and standards of practice. Some examples are: Emergency Nurses Association, Oncology Nurses Association, and the Academy of Medical-Surgical Nurses. A nurse would be wise to obtain the scope and standard for where they work, in addition to the ANA scope and standard.

NURSE PRACTICE ACTS

Nurse practice acts legally govern nursing practice by establishing and enforcing standards that regulate nursing practice. Each state has its own nurse practice act (NPA) defined by state legislature that defines the scope of nursing within that individual state. Although NPAs have many commonalities, they vary from state to state. The federal government has not established jurisdiction over nursing practice. Therefore, each state has legislated its own NPA and nurses are responsible for adhering to the NPA in the state or states in which they practice (Wacko Guido, 2020).

Nursing consideration: The National Council of State Boards of nursing (NCSBN) is a useful resource for nurses wanting to broaden their understanding of nursing standards and nurse practice acts. NCSBN is a not-for-profit organization whose members include the boards of nursing in the 50 states, the District of Columbia, and 4 US territories. NCSBN is the medium through which boards of nursing act and counsel together to provide regulatory excellence for public health, safety, and welfare. It can be accessed at https://www.ncsbn.org/index.htm

The state nurse practice act is an important piece of legislation affecting nursing practice within each state (Wacko Guido, 2020). Nurses are accountable under the legal provisions of their state's nurse practice act and must adhere to these legal mandates when practicing nursing. All states and territories in the United States have enacted NPAs (Wacko Guido, 2020).

Each nurse practice act is enforced by each state's board of nursing (BON). As noted, the specifics among NPAs vary from state to state, but all NPAs describe the following common items (Wacko Guido, 2020):

- Qualification for licensure.
- Nursing titles that are allowed to be used.
- Scope of practice.
- Actions that can or will happen if the nurse does not follow the nursing law (grounds for disciplinary action).
- Definitions.
- Authority, power, and composition of a BON.

Nursing consideration:
Why are Licenses Important: To quote Dr. Julie Socjalski "You do not become a registered nurse because you pass the NCLEX®. Yes, you need to pass it, but that's because a recognized authority, the state board, has been empowered to determine the qualifications for you to sit for licensure as a registered nurse. Your opportunity to become licensed as a registered nurse is something that has been granted by the public. It is, in fact, an agreement with the public. The public has deemed that the practice of nursing is something of such value, something of such significance, something that embodies such expert knowledge, something where they engage with you in their most vulnerable state, that they have decided to establish an agreement with you, your license, that allows you to minister your best to them. It is not something to take lightly, but rather something that calls you to recognize your practice as a sacred commitment to the public (NCSBN, 2018c).

Here is an example of parts of a nursing practice act from New York State:

§6901. Definitions.
As used in section sixty-nine hundred two:

1. "Diagnosing" in the context of nursing practice means that identification of and discrimination between physical and psychosocial signs and symptoms essential to effective execution and management of the nursing regimen. Such diagnostic privilege is distinct from a medical diagnosis.
2. "Treating" means selection and performance of those therapeutic measures essential to the effective execution and management of the nursing regimen, and execution of any prescribed medical regimen.
3. "Human Responses" means those signs, symptoms and processes which denote the individual's interaction with an actual or potential health problem.

§6902. Definition of practice of nursing.

1. The practice of the profession of nursing as a registered professional nurse is defined as diagnosing and treating human responses to actual or potential health problems through such services as case finding, health teaching, health counseling, and provision of care supportive to or restorative of life and well-being, and executing medical regimens prescribed by a licensed physician, dentist or other licensed health care provider legally authorized under this title and in accordance with the commissioner's regulations. A nursing regimen shall be consistent with and shall not vary any existing medical regimen.
2. The practice of nursing as a licensed practical nurse is defined as performing tasks and responsibilities within the framework of case finding, health teaching, health counseling, and provision of supportive and restorative care under the direction of a registered professional nurse or licensed physician, dentist or other licensed health care provider legally authorized under this title and in accordance with the commissioner's regulations.

§6903. Practice of nursing and use of title "registered professional nurse" or "licensed practical nurse".
Only a person licensed or otherwise authorized under this article shall practice nursing and only a person licensed under section sixty-nine hundred four shall use the title "registered professional nurse" and only a person licensed under section sixty-nine hundred five of this article shall use the title "licensed practical nurse". No person shall use the title "nurse" or any other title or abbreviation that would represent to the public that the person is authorized to practice nursing unless the person is licensed or otherwise authorized under this article.

§6904. State board for nursing.
A state board for nursing shall be appointed by the board of regents on recommendation of the commissioner for the purpose of assisting the board of regents and the department on matters of professional licensing and professional conduct in accordance with section sixty-five hundred eight of this title. The board shall be composed of not less than fifteen members, eleven of whom shall be registered professional nurses and four of whom shall be licensed practical nurses all licensed and practicing in this state for at least five years. An executive secretary to the board shall be appointed by the board of regents on recommendation of the commissioner and shall be a registered professional nurse registered in this state.

§6905. Requirements for a license as a registered professional nurse.
To qualify for a license as a registered professional nurse, an applicant shall fulfill the following requirements:

1. **Application**: file an application with the department.
2. ***Education**: have received an education, and a diploma or degree in professional nursing, in accordance with the commissioner's regulations, and in order to continue to maintain registration as a registered professional nurse in New York state, have attained a baccalaureate degree or higher in nursing within ten years of initial licensure in accordance with the commissioner's regulations. The department, in its discretion, may issue a conditional registration to a licensee who fails to complete the baccalaureate degree but who agrees to meet the additional requirement within one year. The fee for such a conditional registration shall be the same as, and in addition to, the fee for the triennial registration. The duration of such conditional registration shall be for one year and may be extended, with the payment of a fee, for no more than one additional year, unless the applicant can show good cause for non-compliance acceptable to the department. Any licensee who is notified of the denial of a registration for failure to complete the additional educational requirements and who practices as a registered professional nurse without such registration may be subject to disciplinary proceedings pursuant to section sixty-five hundred ten of this title.
   * NB Effective June 18, 2019.
3. **Experience**: meet no requirement as to experience.
4. **Examination**: pass an examination satisfactory to the board and in accordance with the commissioner's regulations.
5. **Age**: be at least eighteen years of age.
6. **Citizenship**: meet no requirement as to United States citizenship.
7. **Character**: be of good moral character as determined by the department.
8. **Fees**: pay a fee of one hundred fifteen dollars to the department for admission to a department conducted examination and for an initial license, a fee of forty-five dollars for each reexamination, a fee of seventy dollars for an initial license for persons not requiring admission to a department conducted examination, and a fee of fifty dollars for each triennial registration period (http://www.op.nysed.gov/prof/nurse/article139.htm).

As one can see, in this example, the term RN is defined, what RNs are allowed to do is detailed, and exactly what constitutes the New York State Board of Nursing and the requirements of education are listed. At the writing of this course, no other state required a bachelor's degree (in this case, 10 years after graduating with an associate degree or a diploma) for the practice of Nursing.

Compare this to California:
ARTICLE 2. Scope of Regulation [2725 - 2742]
(Article 2 added by Stats. 1939, Ch. 807.)

2725.

(a) In amending this section at the 1973–74 session, the Legislature recognizes that nursing is a dynamic field, the practice of which is continually evolving to include more sophisticated patient care activities. It is the intent of the Legislature in amending this section at the 1973–74 session to provide clear legal authority for functions and procedures that have common acceptance and usage. It is the legislative intent also to recognize the existence of overlapping functions between physicians and registered nurses and to permit additional sharing of functions within organized health care systems that provide for collaboration between physicians and registered nurses. These organized health care systems include, but are not limited to, health facilities licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code, clinics, home health agencies, physicians' offices, and public or community health services.

(b) The practice of nursing within the meaning of this chapter means those functions, including basic health care, that help people cope with difficulties in daily living that are associated with their actual or potential health or illness problems or the treatment thereof, and that require a substantial amount of scientific knowledge or technical skill, including all of the following:
  (1) Direct and indirect patient care services that ensure the safety, comfort, personal hygiene, and protection of patients; and the performance of disease prevention and restorative measures.
  (2) Direct and indirect patient care services, including, but not limited to, the administration of medications and therapeutic agents, necessary to implement a treatment, disease prevention, or rehabilitative regimen ordered by and within the scope of licensure of a physician, dentist, podiatrist, or clinical psychologist, as defined by Section 1316.5 of the Health and Safety Code.
  (3) The performance of skin tests, immunization techniques, and the withdrawal of human blood from veins and arteries.
  (4) Observation of signs and symptoms of illness, reactions to treatment, general behavior, or general physical condition, and (A) determination of whether the signs, symptoms, reactions, behavior, or general appearance exhibit abnormal characteristics, and (B) implementation, based on observed abnormalities, of appropriate reporting, or referral, or standardized procedures, or changes in treatment regimen in accordance with standardized procedures, or the initiation of emergency procedures.

(c) "Standardized procedures," as used in this section, means either of the following:
  (1) Policies and protocols developed by a health facility licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code through collaboration among administrators and health professionals including physicians and nurses.
  (2) Policies and protocols developed through collaboration among administrators and health professionals, including physicians and nurses, by an organized health care system which is not a health facility licensed pursuant to Chapter 2 (commencing with Section 1250) of Division 2 of the Health and Safety Code.

  The policies and protocols shall be subject to any guidelines for standardized procedures that the Division of Licensing of the Medical Board of California and the Board of Registered Nursing may jointly promulgate. If promulgated, the guidelines shall be administered by the Board of Registered Nursing.

(d) Nothing in this section shall be construed to require approval of standardized procedures by the Division of Licensing of the Medical Board of California, or by the Board of Registered Nursing.

(e) No state agency other than the board may define or interpret the practice of nursing for those licensed pursuant to the provisions of this chapter or develop standardized procedures or protocols pursuant to this chapter, unless so authorized by this chapter, or specifically required under state or federal statute. "State agency" includes every state office, officer, department, division, bureau, board, authority, and commission.

(Amended by Stats. 2003, Ch. 640, Sec. 5. Effective January 1, 2004.)

2725.1.

(a) Notwithstanding any other provision of law, a registered nurse may dispense drugs or devices upon an order by a licensed physician and surgeon or an order by a certified nurse-midwife, nurse practitioner, or physician assistant issued pursuant to Section 2746.51, 2836.1, or 3502.1, respectively, if the registered nurse is functioning within a licensed primary care clinic as defined in subdivision (a) of Section 1204 of, or within a clinic as defined in subdivision (b), (c), (h), or (j) of Section 1206 of, the Health and Safety Code.

(b) No clinic shall employ a registered nurse to perform dispensing duties exclusively. No registered nurse shall dispense drugs in a pharmacy, keep a pharmacy, open shop, or drugstore for the retailing of drugs or poisons. No registered nurse shall compound drugs. Dispensing of drugs by a registered nurse, except a certified nurse-midwife who functions pursuant to a standardized procedure or protocol described in Section 2746.51 or a nurse practitioner who functions pursuant to a standardized procedure described in Section 2836.1, or protocol, shall not include substances included in the California Uniform Controlled Substances Act (Division 10 (commencing with Section 11000) of the Health and Safety Code). Nothing in this section shall exempt a clinic from the provisions of Article 13 (commencing with Section 4180) of Chapter 9.

(c) Nothing in this section shall be construed to limit any other authority granted to a certified nurse-midwife pursuant to Article 2.5 (commencing with Section 2746), to a nurse practitioner pursuant to Article 8 (commencing with Section 2834), or to a physician assistant pursuant to Chapter 7.7 (commencing with Section 3500).

(d) Nothing in this section shall be construed to affect the sites or types of health care facilities at which drugs or devices are authorized to be dispensed pursuant to Chapter 9 (commencing with Section 4000).

(Amended by Stats. 2012, Ch. 460, Sec. 1. (AB 2348) Effective January 1, 2013.)

2725.2.

(a) Notwithstanding any other provision of law, a registered nurse may dispense self-administered hormonal contraceptives approved by the federal Food and Drug Administration (FDA) and may administer injections of hormonal contraceptives approved by the FDA in strict adherence to standardized procedures developed in compliance with subdivision (c) of Section 2725.

(b) The standardized procedure described in subdivision (a) shall include all of the following:

(1) Which nurse, based on successful completion of training and competency assessment, may dispense or administer the hormonal contraceptives.
(2) Minimum training requirements regarding educating patients on medical standards for ongoing women's preventive health, contraception options education and counseling, properly eliciting, documenting, and assessing patient and family health history, and utilization of the United States Medical Eligibility Criteria for Contraceptive Use.
(3) Demonstration of competency in providing the appropriate prior examination comprised of checking blood pressure, weight, and patient and family health history, including medications taken by the patient.
(4) Which hormonal contraceptives may be dispensed or administered under specified circumstances, utilizing the most recent version of the United States Medical Eligibility Criteria for Contraceptive Use.
(5) Criteria and procedure for identification, documentation, and referral of patients with contraindications for hormonal contraceptives and patients in need of a follow-up visit to a physician and surgeon, nurse practitioner, certified nurse-midwife, or physician assistant.
(6) The extent of physician and surgeon supervision required.
(7) The method of periodic review of the nurse's competence.
(8) The method of periodic review of the standardized procedure, including, but not limited to, the required frequency of review and the person conducting that review.
(9) Adherence to subdivision (a) of Section 2242 in a manner developed through collaboration with health care providers, including physicians and surgeons, certified nurse-midwives, nurse practitioners, physician assistants, and registered nurses. The appropriate prior examination shall be consistent with the evidence-based practice guidelines adopted by the federal Centers for Disease Control and Prevention in conjunction with the United States Medical Eligibility Criteria for Contraceptive Use.
(10) If a patient has been seen exclusively by a registered nurse for three consecutive years, the patient shall be evaluated by a physician and surgeon, nurse practitioner, certified nurse-midwife, or physician assistant prior to continuing the dispensation or administration of hormonal contraceptives.

(c) Nothing in this section shall be construed to affect the sites or types of health care facilities at which drugs or devices are authorized to be dispensed pursuant to Chapter 9 (commencing with Section 4000).

(Added by Stats. 2012, Ch. 460, Sec. 2. (AB 2348) Effective January 1, 2013.)

2725.3.

(a) A health facility licensed pursuant to subdivision (a), (b), or (f), of Section 1250 of the Health and Safety Code shall not assign unlicensed personnel to perform nursing functions in lieu of a registered nurse and may not allow unlicensed personnel to perform functions under the direct clinical supervision of a registered nurse that require a substantial amount of scientific knowledge and technical skills, including, but not limited to, any of the following:
(1) Administration of medication.
(2) Venipuncture or intravenous therapy.
(3) Parenteral or tube feedings.
(4) Invasive procedures including inserting nasogastric tubes, inserting catheters, or tracheal suctioning.
(5) Assessment of patient condition.
(6) Educating patients and their families concerning the patient's health care problems, including post discharge care.
(7) Moderate complexity laboratory tests.

(b) This section shall not preclude any person from performing any act or function that he or she is authorized to perform pursuant to Division 2 (commencing with Section 500) or pursuant to existing statute or regulation as of July 1, 1999.

(Added by Stats. 1999, Ch. 945, Sec. 2. Effective January 1, 2000.)

2725.4.

Notwithstanding any other provision of this chapter, the following shall apply:

(a) In order to perform an abortion by aspiration techniques pursuant to Section 2253, a person with a license or certificate to practice as a nurse practitioner or a certified nurse-midwife shall complete training recognized by the Board of Registered Nursing. Beginning January 1, 2014, and until January 1, 2016, the competency-based training protocols established by Health Workforce Pilot Project (HWPP) No. 171 through the Office of Statewide Health Planning and Development shall be used.

(b) In order to perform an abortion by aspiration techniques pursuant to Section 2253, a person with a license or certificate to practice as a nurse practitioner or a certified nurse-midwife shall adhere to standardized procedures developed in compliance with subdivision (c) of Section 2725 that specify all of the following:
(1) The extent of supervision by a physician and surgeon with relevant training and expertise.
(2) Procedures for transferring patients to the care of the physician and surgeon or a hospital.
(3) Procedures for obtaining assistance and consultation from a physician and surgeon.
(4) Procedures for providing emergency care until physician assistance and consultation are available.
(5) The method of periodic review of the provisions of the standardized procedures.

(c) A nurse practitioner or certified nurse-midwife who has completed training and achieved clinical competency through HWPP No. 171 shall be authorized to perform abortions by aspiration techniques pursuant to Section 2253, in adherence to standardized procedures described in subdivision (b).

(d) It is unprofessional conduct for any nurse practitioner or certified nurse-midwife to perform an abortion by aspiration techniques pursuant to Section 2253 without prior completion of training and validation of clinical competency.

(Added by Stats. 2013, Ch. 662, Sec. 2. (AB 154) Effective January 1, 2014.)

2725.5.

This chapter does not prohibit:

(a) Gratuitous nursing of the sick by friends or members of the family.

(b) Incidental care of the sick by domestic workers or by persons primarily employed as housekeepers as long as they do not practice nursing within the meaning of this chapter.

(c) Domestic administration of family remedies by any person.

(d) Nursing services in case of an emergency. "Emergency," as used in this subdivision includes an epidemic, pandemic, or other public disaster.

(e) The performance by a person of the duties required in the physical care of a patient or carrying out medical orders prescribed by a licensed physician, provided the person shall not in any way assume to practice as a professional, registered, graduate, or trained nurse.

(Amended by Stats. 2021, Ch. 628, Sec. 5. (AB 1532) Effective January 1, 2022.)

2727.5.
A person licensed under this chapter who in good faith renders emergency care at the scene of an emergency which occurs outside both the place and the course of that person's employment shall not be liable for any civil damages as the result of acts or omissions by that person in rendering the emergency care.

This section shall not grant immunity from civil damages when the person is grossly negligent.
(Amended by Stats. 1984, Ch. 1391, Sec. 2.)

2728.
If adequate medical and nursing supervision by a professional nurse or nurses is provided, nursing service may be given by attendants, psychiatric technicians, or psychiatric technician interim permittees in institutions under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health or the Department of Corrections and Rehabilitation. Services so given by a psychiatric technician shall be limited to services which he or she is authorized to perform by his or her license as a psychiatric technician. Services so given by a psychiatric technician interim permittee shall be limited to skills included in his or her basic course of study and performed under the supervision of a licensed psychiatric technician or registered nurse.

The Director of State Hospitals, the Director of Developmental Services, and the State Public Health Officer shall determine what shall constitute adequate medical and nursing supervision in any institution under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health.

Notwithstanding any other provision of law, institutions under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services may utilize graduates of accredited psychiatric technician training programs who are not licensed psychiatric technicians or psychiatric technician interim permittees to perform skills included in their basic course of study when supervised by a licensed psychiatric technician or registered nurse, for a period not to exceed nine months.
(Amended by Stats. 2012, Ch. 24, Sec. 1. (AB 1470) Effective June 27, 2012.)

2728.5.
Except for those provisions of law relating to directors of nursing services, nothing in this chapter or any other provision of law shall prevent the utilization of a licensed psychiatric technician or psychiatric technician interim permittee in performing services used in the care, treatment, and rehabilitation of mentally ill, emotionally disturbed, or developmentally disabled persons within the scope of practice for which he or she is licensed or authorized in facilities under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or licensed by the State Department of Public Health, that he or she is licensed to perform as a psychiatric technician, or authorized to perform as a psychiatric technician interim permittee including any nursing services under Section 2728, in facilities under the jurisdiction of the State Department of State Hospitals or the State Department of Developmental Services or subject to visitation by the State Department of Public Health.
(Amended by Stats. 2012, Ch. 24, Sec. 2. (AB 1470) Effective June 27, 2012.)

2729.
Nursing services may be rendered by a student when these services are incidental to the course of study of one of the following:
(a) A student enrolled in a board-approved prelicensure program or school of nursing.
(b) A nurse licensed in another state or country taking a board-approved continuing education course or a post-licensure course.
(Amended by Stats. 1978, Ch. 212.)

2730.
If he does not represent or hold himself out as a professional nurse licensed to practice in this State and if he has an engagement, made in another State or country, requiring him to accompany and care for a patient temporarily residing in this State during the period of such engagement, a nurse legally qualified by another State or country may give nursing care to such patient in this State.
(Repealed and added by Stats. 1939, Ch. 807.)

2731.
This chapter does not prohibit nursing or the care of the sick, with or without compensation or personal profit, when done by the adherents of and in connection with the practice of the religious tenets of any well recognized church or denomination, so long as they do not otherwise engage in the practice of nursing.
(Repealed and added by Stats. 1939, Ch. 807.)

2732.
No person shall engage in the practice of nursing, as defined in Section 2725, without holding a license which is in an active status issued under this chapter except as otherwise provided in this act.

Every licensee may be known as a registered nurse and may place the letter "R.N." after his name.
(Amended by Stats. 1976, Ch. 1053.)

2732.05.
(a) Every employer of a registered nurse, every employer of a registered nurse required to hold any board-issued certification, and every person acting as an agent for such a nurse in obtaining employment, shall ascertain that the nurse is currently authorized to practice as a registered nurse or as a registered nurse pursuant to a board-issued certification within the provisions of this chapter. As used in this section, "board-issued certification" includes, but is not limited to, certification as a nurse practitioner, nurse practitioner with a furnishing number, nurse anesthetist, nurse midwife, nurse midwife with a furnishing number, public health nurse, clinical nurse specialist, or board listed psychiatric mental health nurse.
(b) Every employer of a temporary licensee or interim permittee and every person acting as an agent for a temporary licensee or interim permittee in obtaining employment shall ascertain that the person is currently authorized to practice as a temporary licensee or interim permittee.
(c) As used in this section, the term "agent" includes, but is not limited to, a nurses registry and a traveling nurse agency.

Examination by an employer or agent of evidence satisfactory to the board showing the nurse's, licensee's, or permittee's current authority to practice under this chapter, prior to employment, shall constitute a determination of authority to so practice.

Nothing in this section shall apply to a patient, or other person acting for a specific patient, who engages the services of a registered nurse or temporary licensee to provide nursing care to a single patient.
(Amended by Stats. 2007, Ch. 588, Sec. 37. Effective January 1, 2008.)

2732.1.
(a) An applicant for license by examination shall submit a written application in the form prescribed by the board. Upon approval of the application, the board may issue an interim permit authorizing the applicant to practice nursing pending the results of the first licensing examination

following completion of his or her nursing course or for a maximum period of six months, whichever occurs first.

If the applicant passes the examination, the interim permit shall remain in effect until a regular renewable license is issued by the board. If the applicant fails the examination, the interim permit shall terminate upon notice thereof by first-class mail.

(b) The board upon written application may issue a license without examination to any applicant who is licensed or registered as a nurse in a state, district or territory of the United States or Canada having, in the opinion of the board, requirements for licensing or registration equal to or higher than those in California at the time the application is filed with the Board of Registered Nursing, if he or she has passed an examination for the license or registration that is, in the board's opinion, comparable to the board's examination, and if he or she meets all the other requirements set forth in Section 2736.

(c) Each application shall be accompanied by the fee prescribed by this chapter for the filing of an application for a regular renewable license.

The interim permit shall terminate upon notice thereof by first-class mail, if it is issued by mistake or if the application for permanent licensure is denied.

(Amended by Stats. 1994, Ch. 26, Sec. 57.5. Effective March 30, 1994.)

2733.

(a) (1)

(A) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (k) of Section 2815, the board may issue a temporary license to practice professional nursing, and a temporary certificate to practice as a certified public health nurse for a period of six months from the date of issuance.

(B) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (d) of Section 2838.2, the board may issue a temporary certificate to practice as a certified clinical nurse specialist for a period of six months from the date of issuance.

(C) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (e) of Section 2815.5, the board may issue a temporary certificate to practice as a certified nurse-midwife for a period of six months from the date of issuance.

(D) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (d) of Section 2830.7, the board may issue a temporary certificate to practice as a certified nurse anesthetist for a period of six months from the date of issuance.

(E) Upon approval of an application filed pursuant to subdivision (b) of Section 2732.1, and upon the payment of the fee prescribed by subdivision (p) of Section 2815, the board may issue a temporary certificate to practice as a certified nurse practitioner for a period of six months from the date of issuance.

(2) A temporary license or temporary certificate shall terminate upon notice thereof by certified mail, return receipt requested, if it is issued by mistake or if the application for permanent licensure is denied.

(b) Upon written application, the board may reissue a temporary license or temporary certificate to any person who has applied for a regular renewable license pursuant to subdivision (b) of Section 2732.1 and who, in the judgment of the board has been excusably delayed in completing their application for or the minimum requirements for a regular renewable license, but the board may not reissue a temporary license or temporary certificate more than twice to any one person.

(c) The board shall prominently display on the front page of its website the availability of temporary licenses and certificates pursuant to this section.

(Amended by Stats. 2021, Ch. 628, Sec. 6. (AB 1532) Effective January 1, 2022.)

2734.

Upon application in writing to the board and payment of the biennial renewal fee, a licensee may have his license placed in an inactive status for an indefinite period of time. A licensee whose license is in an inactive status may not practice nursing. However, such a licensee does not have to comply with the continuing education standards of Section 2811.5.

(Added by Stats. 1976, Ch. 1053.)

2736.

(a) An applicant for licensure as a registered nurse shall comply with each of the following:

(1) Have completed such general preliminary education requirements as shall be determined by the board.

(2) Have successfully completed the courses of instruction prescribed by the board for licensure, in a program in this state accredited by the board for training registered nurses, or have successfully completed courses of instruction in a school of nursing outside of this state which, in the opinion of the board at the time the application is filed with the Board of Registered Nursing, are equivalent to the minimum requirements of the board for licensure established for an accredited program in this state.

(3) Not be subject to denial of licensure under Section 480.

(b) An applicant who has received his or her training from a school of nursing in a country outside the United States and who has complied with the provisions of subdivision (a), or has completed training equivalent to that required by subdivision (a), shall qualify for licensure by successfully passing the examination prescribed by the board.

(Amended by Stats. 1992, Ch. 1289, Sec. 21. Effective January 1, 1993.)

2736.1.

(a) The course of instruction for an applicant who matriculates on or after September 1, 1985, shall include training in the detection and treatment of alcohol and chemical substance dependency.

(b) The course of instruction for an applicant who matriculates on or after January 1, 1995, shall include training in the detection and treatment of client abuse, including, but not limited to, spousal or partner abuse. The requirement for coursework in spousal or partner abuse detection and treatment shall be satisfied by, and the board shall accept in satisfaction of the requirement, a certification from the chief academic officer of the educational institution from which the applicant graduated that the required coursework is included within the institution's required curriculum for graduation.

(Amended by Stats. 1993, Ch. 1234, Sec. 5. Effective January 1, 1994.)

2736.5.

(a) (1) The board shall adopt regulations to require that, on and after January 1, 2022, all continuing education courses for licensees under this chapter contain curriculum that includes the understanding of implicit bias.

(2) Beginning January 1, 2023, continuing education providers shall ensure compliance with paragraph (1). Beginning January 1, 2023, the board shall audit continuing education providers, pursuant to Section 2811.5.

(b) Notwithstanding the provisions of subdivision (a), a continuing education course dedicated solely to research or other issues that does not include a direct patient care component is not required to contain curriculum that includes implicit bias in the practice of nursing.
(c) In order to satisfy the requirements of subdivision (a), continuing education courses shall address at least one or a combination of the following:
    (1) Examples of how implicit bias affects perceptions and treatment decisions of licensees, leading to disparities in health outcomes.
    (2) Strategies to address how unintended biases in decision-making may contribute to health care disparities by shaping behavior and producing differences in medical treatment along lines of race, ethnicity, gender identity, sexual orientation, age, socioeconomic status, or other characteristics.

(Added by Stats. 2019, Ch. 417, Sec. 3. (AB 241) Effective January 1, 2020.)

2736.6.
The board shall determine by regulation the additional preparation in nursing, in a school approved by the board, which is required for a vocational nurse, licensed under Chapter 6.5 (commencing with Section 2840) of this division, to be eligible to take the examination for licensure under this chapter as a registered nurse. The board shall not require more than 30 units in nursing and related science subjects to satisfy such preparation.
(Added by Stats. 1969, Ch. 1541.)

2737.
An applicant for a license authorizing him to practice nursing in this State under this chapter, upon the filing of his application shall pay the fee required by this chapter.
(Repealed and added by Stats. 1939, Ch. 807.)

2738.
The board shall hold not less than two examinations each year at such times and places as the board may determine.
(Amended by Stats. 1953, Ch. 1174.)

2740.
Examinations shall be written, but in the discretion of the board may be supplemented by an oral or practical examination in such subjects as the board determines. All examinations shall be conducted by such persons and in such manner and under such rules and regulations as the board may prescribe.

The board shall finally pass or reject all applicants. Its actions shall be final and conclusive and not subject to review by any court or other authority.
(Added by Stats. 1939, Ch. 807.)

2741.
An application for reexamination shall be accompanied by the fees prescribed by this chapter.
(Amended by Stats. 2005, Ch. 621, Sec. 38. Effective January 1, 2006.)

2742.
The board shall issue a license to each applicant who passes the examination and meets all other licensing requirements. The form of the license shall be determined in accordance with Section 164. (California Legislative Information, n.d.)

As one can see, the California Nurse Practice act is much more detailed in describing what a nurse can and cannot do, than the New York State NPA. For example, issues of delegation are contained in the California nurse practice act, whereas in New York state this information is not readily available on the BON and Office of Professions website. On the other hand, New York State protects the title "Registered Professional Nurse", whereas California does not.

Nursing consideration: Ignorance of the law as it relates to the NPA in a nurse's state is never an excuse for failing to follow its mandates. Nurses can find the mandates by logging on to the website of their state board of nursing. The National Council of State Boards of nursing at https://www.ncsbn.org/index.htm has information about how to access all state boards of nursing in the United States.

Self-Assessment Quiz Question #3

Who enforces a nursing practice act?
a. American Nurses Association.
b. Specialty nursing practice groups.
c. International Council of Nurses.
d. Boards of Nursing.

COMMON VIOLATIONS OF NURSE PRACTICE ACTS

The National Council of State Boards of Nursing list the following as Violations of Nurse Practice Acts (NCSB, 2022a). Please note this is not an inclusive list but examples.

Practice Related
- Failure to assess changes in condition.
- Failure to implement appropriate or ordered interventions.
- Failure to accurately document assessment information or nursing care provided.
- Failure to follow the "Five Rights" of drug administration (right patient., right time and frequency, right dose, right route of administrations and right drug.

Drug Related
- Misappropriation of medications intended for clients.
- Failure to document or falsely document that medications were administered to clients.
- Engagement in intemperate use of medications causing impairment.
- Attempting to obtain drugs by communicating or presenting unauthorized prescriptions to pharmacies.

Boundary Violations
- Sharing stories of personal challenges to entice gifts or money from clients.
- Establishing gratifying relationships with current or former clients.
- Sexual misconduct.
- Touching the patient or having the patient touch the nurse in a sexual way.

Abuse
- Hitting, slapping threats and verbal assailments.

Fraud
- Over statement of credentials of experience.
- Claiming unworked hours or visits on payroll.
- Falsely documenting care or procedures when related to payment.
- Submitting inaccurate billing records to defraud insurance companies.

Self-Assessment Quiz Question #4

Which of the following is a violation of a nurse practice act according to NCSBN?
a. Following the Five Rights of Medication Administration.
b. Accurately documenting care.
c. Failure to refuse some cupcakes from a family member when you did not ask.
d. Stating you have a certification when it has just expired.

NURSE LICENSURE COMPACT (NLC)

To be able to provide nursing care where it is needed and to decrease the need for many different state-issued RN licenses, the NCSBN developed the *Nurse Licensure Compact* which began in 2000 (Oyeleve, 2019). Historically, each state had its own rules and regulations for RN practice, and requirements for sitting for licensure exams. For nurses who wanted to work in different states, the nurse had to meet the individual state requirements and apply for a license. This required a lot of time, energy, and money for nurses. This also prevented state BONs from disciplining a nurse who harmed a patient working remotely from another state. Finally, in 1995, the Pew Commission reported all 50 states entry into practice requirements were not standardized (Oyeleve, 2019).

In 2000, the first states to pass legislation and agree to the NLC were Maryland, Texas, Utah and Wisconsin. Not all states and nurses were in agreement with this. There were concerns related to different state regulations for practice (not just licensure), state sovereignty on who could practice in the state, and public safety. Another concern was some inconsistencies between requirements, especially related to past criminal issues, where some states would bar a candidate for license and those listed in the NLC (Oyeleve, 2019).

Even though there were issues and concerns with the NLC, states did join. However, in 2015 when the North Carolina BON and state legislature were thinking about joining, there were ongoing concerns. The NLC did not guarantee competency of the nurses between the different states (Oyeleve, 2019). Given this issue, the Nation Council of State Boards of Nursing examined all the concerns and developed the Enhanced Nursing Licensure Compact (eNLC). The eNLC was designed to replace the NLC with requirements that would address issues raised and improve confidence. The eNLC went into effect in July 2017 with a final implementation date in January, 2018 to allow nurses with NLCs to apply for eNLCs (Oyeleve, 2019).

The eNLC has uniform requirements and federal background checks for any nurse applying for an eNLC if their state is a member. The eNLC also standardized key disciplinary provisions among all the member states and required reporting of all disciplinary actions against a nurse within the eNLC (Oyeleve, 2019).

The following are the uniform requirements:

1. Meets the requirements for licensure in the home state (state of residency).
2. (a) Has graduated from a board-approved education program; or (b) Has graduated from an international education program (approved by the authorized accrediting body in the applicable country and verified by an independent credentials review agency).
3. Has passed an English proficiency examination (applies to graduates of an international education program not taught in English or if English is not the individual's native language).
4. Has passed an NCLEX-RN® or NCLEX-PN® Examination or predecessor exam.
5. Is eligible for or holds an active, unencumbered license (i.e., without active discipline).
6. Has submitted to state and federal fingerprint-based criminal background checks.
7. Has not been convicted or found guilty, or has entered into an agreed disposition, of a felony offense under applicable state or federal criminal law.
8. Has no misdemeanor convictions related to the practice of nursing (determined on a case-by-case basis).
9. Is not currently a participant in an alternative program.
10. Is required to self-disclose current participation in an alternative program.
11. Has a valid United States Social Security number (National Council of State Boards of Nursing, n.d.a).

What does the eNLC mean for RNs? Besides the requirements above, the RN who is applying for an eNLC is also required to do the following:

1. On all application forms for multistate licensure in a party state, an applicant shall declare a primary state of residence.
2. A nurse who changes primary state of residence to another party state shall apply for a license in the new party state when the nurse declares to be a resident of the state and obtains privileges not ordinarily extended to nonresidents of the state.
3. A nurse shall not apply for a single state license in a party state while the nurse holds a multistate license in another party state (National Council of State Boards of Nursing, 2021).

What it *does* allow nurses to do is practice across borders in other eNLC states, practice telenursing in all eNLC states, quickly respond to disasters in all eNLC states, and allow nurse educators with an eNLC to teach via distance education in all eNLC states (National Council of State Boards of Nursing, n.d.b).

THE BON AND DISCIPLINARY CASES

Most nurses are competent individuals whose primary goal is to provide safe, appropriate nursing care that enhances patient outcomes. However, when problems arise with a nurse's performance, a complaint may be filed with the BON, which is responsible for reviews and action regarding complaints. The BON may act only if sufficient evidence exists that the nurse violated state laws or regulations (National Council of State Boards of Nursing, 2022b).

Nursing consideration: In any given year there are over 12,000 nurses with adverse actions against them reported to the National Practitioner Data Bank. The National Practitioner Data Bank is managed by the US department of Health & Human Services (2022).

What types of disciplinary action can be taken by a BON? The BON may act to impose such actions as the following (National Council of State Boards of Nursing, 2022b):

- Fines.
- Civil penalties.
- Public reprimand or censure for minor violations of the NPA.
- Referral to an alternative-to-discipline program for practice monitoring and recovery support. This may be offered to nurses with drug or alcohol dependence, or another type of mental or physical condition.
- Mandated monitoring, remediation, education, or other provisions established to meet the needs of specific situations.
- Limitations on practice such as restricting roles, the practice setting, and/or hours that may be worked.

Nursing consideration: The actions taken by the BON are considered public information. Some BONs, believing that it is in the public interest to publicize actions taken against nurses, communicate actions via such means as newsletters and websites (National Council of State Boards of Nursing, 2022b).

Rules and position statements

Nurses should also be aware of BON rules, regulations, and position statements. BONs have the authority to develop administrative rules to clarify laws. Rules must be consistent with the NPA, but cannot go beyond the law. For example, an NPA may mandate that nurses' practice safely and competently, and a rule related to this mandate may specify a plan for ongoing continuing education so that nurses achieve and maintain their competency.

Position statements are a means of providing direction for nurses on issues relevant to nursing practice and consumer safety. Position statements do not have the force of law, but are designed to act as education resources that help licensed nurses and other interested persons in determining safe, appropriate, and legal practice (Texas Board of Nursing, 2022). Examples of position statements include death pronouncements, carrying out orders from physician assistants, and performance of laser therapy by RNs. Position statements are generally posted on the BON website for review by nurses and the public.

Delegation

Delegating patient-care responsibilities to another RN, LPN/LVN, or unlicensed assistive personnel such as nursing assistants often triggers legal and ethical questions among those nurses doing the delegating. Delegation is an important responsibility. To properly delegate a task, the nurse must know the skills and knowledge level of the delegatee and that the task being delegated falls within the delegatee's scope of practice (National Council of State Board of Nursing and American Nurses Association, 2019.).

Even though the RN may delegate a task, they retain responsibility for the conduct and actions of delegatees. RNs cannot delegate their own accountability. They retain responsibility for the patient care delivered by the LPNs and nursing assistants (National Council of State Board of Nursing and American Nurses Association, 2019).

However, this does not mean that delegatees do not have responsibility and accountability for their own actions. It is important to remember that delegatees still maintain responsibility and accountability for their own actions.

Nursing consideration: It is the RNs responsibility to check the NPA in their states to determine which tasks may and may not be delegated.

The "Rights" of delegation

Safe and appropriate delegation of tasks requires that the RN adhere to "rights" of delegation. The American Nurses Association and the National Council of State Boards of Nursing have published guidelines for delegation (American Nurses Association & National Council of State Boards of Nursing, 2019):

- **Right task**: "The activity falls within the delegatee's job description or is included as part of the established written policies and procedures of the nursing practice setting. The facility needs to ensure the policies and procedures describe the expectations and limits of the activity and provide any necessary competency training."
- **Right circumstance**: "The health condition of the patient must be stable. If the patient's condition changes, the delegatee must communicate this to the licensed nurse, and the licensed nurse must reassess the situation and the appropriateness of the delegation."
- **Right person**: "The licensed nurse, along with the employer and the delegatee, is responsible for ensuring that the delegatee possesses the appropriate skills and knowledge to perform the activity."
- **Right directions and communication**: "Each delegation situation should be specific to the patient, the licensed nurse, and the delegatee. The licensed nurse is expected to communicate specific instructions for the delegated activity to the delegatee; the delegatee, as part of two-way communication, should ask any clarifying questions. This communication includes any data that need to be collected, the method for collecting the data, the time frame for reporting the results to the licensed nurse, and additional information pertinent to the situation. The delegatee must understand the terms of the delegation and must agree to accept the delegated activity. The licensed nurse should ensure that the delegatee understands that she or he cannot make any decisions or modifications in carrying out the activity without first consulting the licensed nurse."
- **Right supervision and evaluation**: "The licensed nurse is responsible for monitoring the delegated activity, following up with the delegatee at the completion of the activity, and evaluating patient outcomes. The delegatee is responsible for communicating patient information to the licensed nurse during the delegation situation. The licensed nurse should be ready and available to intervene as necessary. The licensed nurse should ensure appropriate documentation of the activity is completed."

Case study #2

Charlotte is a newly licensed RN. One of the LPNs under her supervision has many years of nursing experience and is quite resentful: "Why do I have to take orders from this new kid? I've been a nurse longer than she's been alive!" Charlotte does her best to not only be friendly, but also to adhere to the scope and standards of practice for both RNs and LPNs. On one particularly busy day, the LPN insists that she can handle the arrival of a postoperative patient without any help. The patient is young and healthy and underwent surgical intervention for a compound fracture of the left femur. Charlotte knows that it is her responsibility to conduct assessments, but she is especially busy with several patients whose conditions are deteriorating. At the end of their shift, the LPN remarks, "That guy with the compound fracture sure is a whiner. He's complaining about a cough and chest pain. He had a bad cold before surgery, so what does he expect!" Alarmed, Charlotte and the charge nurse for the oncoming shift rush to check on the patient, who is found to be cyanotic and unresponsive. He is rushed to the critical care unit with a diagnosis of fat embolism.

Nursing consideration: Nurses who practice in more than one state should know the scope of practice and the NPA in each state in which they practice or hold licensure.

Questions

1. Who is accountable for this lack of proper patient care?
2. How could this have been avoided?
3. Which of the "rights" of delegation were violated?

Discussion

Both Charlotte and the LPN are accountable for the lack of proper patient care. As the RN, Charlotte is the person who needs to conduct the assessment. If she was "too busy" because her other patients were deteriorating, she should have gone to the charge nurse and either asked for another RN to be assigned to the new patient, or ask the charge nurse to assess the patient, which could have prevented the patient from deteriorating. The LPN, while experienced, does not have the authority to conduct an assessment on a patient. The LPN should have not offered to assess the patient, as she should have known this was not part of her scope of practice. The LPN should have let Charlotte know the patient was experiencing signs and symptoms that were not associated with a normal post-operative course (chest pain and short of breath), no matter who did the assessment. LPNs are required to report to the supervising RN any changes in a patient's vital signs. The principles of delegation that were violated were all of them. Charlotte delegated a task (assessment) that was not in the scope of practice of the LPN. Because of this Charlotte did not know if the patient was stable, and the principles state that only stable patients may be delegated to LPNs. There also seemed to be a breakdown in communication from Charlotte's part in what to delegate. Finally, there was no supervision on Charlotte's part. The LPN also has not followed the rights of delegation. The LPN accepted an assignment for which she may not have been qualified for and

did not alert Charlotte to changes in the patient's status (or out of normal signs and symptoms for postoperative course). Thus, every right of delegation was violated.

INTERNAL POLICIES AND STANDARDS

Each healthcare institution sets the policies and procedures for that particular institution. These polices cannot expand standards of practice as stated in the state's nurse practice act. However, an institution can set narrower limits on practice of the RN. These polices usually include education, experience, and other directives that explain the scope of practice for the RN (Wacko Guido, 2020).

For a nurse to be practicing within their scope of practice, they must be practicing within the ANA code of ethics, ANA scope and standards of nursing practice, the respective state nursing practice act, and the healthcare organization's policies and procedures. Thus, the RN is accountable to a number of scopes of practice.

Case study #3

Shannon is a newly licensed registered nurse. During orientation to her new role as an RN on an oncology unit, Shannon is told that she must become familiar with (and stay familiar with) the scope and standards of nursing practice of the state in which she practices. Shannon has studied, in general terms, scope and standards of nursing practice during her years in a BSN program. However, as she is now a licensed professional, Shannon wants to understand, in more depth, the scope of practice that defines nursing actions.

Questions:

1. Where should Shannon look for her scope of practice?
2. What other information should Shannon review to be within her scope of practice?

Discussion:

Shannon needs to review a number of documents to understand what her scope of practice is. First, she should look at her state's scope of practice for RNs, including what is on the state's BON website. This will provide her with the foundation of what she is allowed to do within the state she is practicing in. The ANA scope and practice standards also need to be reviewed. Shannon should also look at the website for the Oncology Nurses Association to see if there is specialty scope of practice information, she should familiarize herself with. Finally, Shannon needs to review the policies and procedures of both the hospital and unit where she is working.

LEGAL IMPLICATIONS OF NURSING PRACTICE

Ethics and law overlap to a certain extent. Codes of ethics generally describe a vision that exceeds what is expected under prevailing laws. The law says what must be done. Ethical codes provide a picture of what ought to be done. Therefore, ethical conduct means that, at the very least, a nurse or other healthcare professional performs duties legally and acts with integrity and fidelity according to the profession's principles of ethical behavior (Wacko Guido, 2020).

Nurses should be familiar with legal terms that are the basis for safe practice. Below is a list of terms nurses should be familiar with and examples of nursing practice where the term would be applied.

Advocacy

The nurse speaks on behalf of the patient for the patient's right(s) to receive appropriate care, and intervenes on behalf of the patient in situations where there are changes in health status that may or may not affect care (Wacker Guido, 2020).

Assault

Assault is action that placed another person in a position of being touched in a manner that is considered offensive, insulting, or physically injurious without consent (Wacker Guido, 2020). An example of this would be threatening a patient with an injection if the patient does not do something.

Battery

Battery is harmful or unwarranted contact with someone (Wacker Guido, 2020). An example of this would be holding a patient down forcibly to insert an intravenous catheter when a patient has refused the procedure.

Causation

An injury must have occurred that was directly due to the action(s) of the nurse. This can be cause-in-fact or proximate cause (Wacker Guido, 2020). An example of cause-in-fact would be administering an incorrect medication resulting in an adverse effect. An example of a proximate cause would be a patient falling out of bed after being given a narcotic and the bedrails were not in correct position. While cause-in-fact is a direct link, proximate causation has foreseeability connected to the concept (Wacker Guido, 2020).

Duty

Duty refers to a legal duty to the patient - an obligation recognized and enforceable by law. Legal duty to a patient exists as soon as the nurse–patient relationship is established, showing that the patient relies on the nurse for the delivery of safe and competent care. The basis for the element of duty is the professional standards of care that the nurse is responsible for adhering to. As previously noted, the NPA governs nursing practice. Thus, duty to the patient requires that the nurse adhere to the NPA, ANA standards of care and code of ethics, specialty nursing organization standards, and organizational policies and standards (Wacker Guido, 2020).

Breach of duty

Breach of duty is defined as a violation of nursing standards of care. The plaintiff's attorney will provide evidence to support the claim that a breach of duty occurred. Such evidence can be obtained from written documentation on the plaintiff's medical record, diagnostic test results, photos, and testimony from witnesses, including hospital personnel, other nurses, experts in the field, and the plaintiff's family members. Breach of duty may also be claimed if a nurse abandons a patient after assuming a duty to them (Wacker Guido, 2020).

Some states actually define what abandonment is and is not, so nurses should be familiar with any state regulations.

Abandonment

A specific type of breach of duty is Abandonment. For example, New York law prohibits nurses from committing what is commonly referred to as "abandonment" or "patient abandonment". Abandonment typically occurs when:

- A nurse who has accepted a patient care assignment and is responsible for patient care abandons or neglects a patient needing immediate professional care without making reasonable arrangements for the continuation of such care.
- A nurse abandons nursing employment without providing reasonable notice and under circumstances that seriously impair the delivery of professional care to patients.

The New York State Education Department (NYSED) evaluates each complaint of patient abandonment individually, taking into consideration the unique circumstances of each situation. Key considerations for determining whether or not a nurse has "abandoned" a patient include:

- Whether the nurse accepted the patient assignment, which established a nurse-patient relationship.
- Whether the nurse provided reasonable notice when severing the nurse-patient relationship.
- Whether reasonable arrangements were made for the continuation of nursing care by others when proper notification was given.

Some examples of patient abandonment include the following:

- A nurse assigned to provide resident care in a nursing home walks off duty in the middle of the shift without telling anyone and does not return, seriously impairing the delivery of nursing care to the residents.
- A circulating nurse leaves the operating room during a surgical procedure without transferring responsibility for nursing care to another qualified healthcare practitioner, seriously impairing the delivery of surgical care.
- A private RN suddenly stops providing nursing care to a home-bound patient without notifying anyone and without making any arrangements to ensure that the patient will continue to receive needed care.
- A nurse who works on a hospital pediatric unit informs the unit clerk that she must leave work immediately. The nurse immediately leaves the hospital for the day without telling anyone else, even though some of the nurse's patients require immediate nursing care. Since the nurse failed to transfer her responsibility for the nursing care for her patients to another qualified healthcare practitioner by reporting on her patients, other hospital staff were unaware of the immediate care needs of the nurse's patients.

The following situations are **not** usually considered to be patient abandonment:

- A nurse promptly refuses her supervisor's request to float to an unfamiliar hospital unit because she lacks the experience to competently carry out the assignment. The hospital did not provide the nurse with any training or orientation to the hospital unit and does not modify the nursing assignment (so that the nurse who must float provides only services the nurse is competent to perform).
- An LPN immediately refuses their supervisor's request to float to a hospital Emergency Room to perform triage (which is outside the legal scope of practice of an LPN).
- In a non-emergency situation, a nurse promptly refuses their supervisor's request to accept an assignment to work additional hours beyond the posted work schedule (i.e., a double shift).
- In a non-emergency situation, a nurse completes their assigned shift at a nursing home and then notifies their employer that they are quitting, effective immediately.
- The nurse fails to return to work at a nursing home after a scheduled leave of absence and the nursing home is not experiencing staff shortages (NYSED, n.d.).
- A nurse agrees to work 4 hours longer than their scheduled shift because of an emergency. After working overtime, the nurse refuses the supervisor's request to work additional hours because the nurse is too exhausted to continue to practice safely and informs their supervisor that they are too exhausted to work safely.

Contributory negligence
Contributory negligence refers to the patient's acts or omissions that contribute to their claimed injury. Forms of contributory negligence include the patient's failure to take reasonable care or to follow physician or discharge orders to prevent injury. A finding of contributory negligence may prevent the injured party from recovering damages in a lawsuit. An example of contributory negligence includes the patient's right to refuse care (Wacko Guido, 2020).

False imprisonment
False imprisonment means holding a person against their will with an unjustifiable reason (Wacko Guido, 2020). An example of this would be restraining a competent patient against their wishes.

Foreseeability
A concept that certain events may be expected to cause specific results (Wacko Guido, 2020). For example, not providing a patient their insulin foreseeably results in high glucose levels.

Negligence
Negligence is an omission or commission of an act that is a deviation from a standard of care, also equated with carelessness (Wacker Guido, 2020). Malpractice is professional misconduct or negligence, improper discharge of professional duties, or failure to meet the standard of care of a professional that results in emotional, physical, or monetary harm to another in their care (Wacker Guido, 2020).

Respondeat superior
Under respondeat superior, or "let the master answer," the employer is held responsible for the legal consequences of the acts of a nurse or other employee acting within the scope of employment. The basic idea behind this theory comes from the concept that the employer has the right to control the acts of the employee. In other words, the hospital is held responsible for the actions of the nurse, which in turn encourages employers to ensure competencies of their employees. Likewise, the nursing supervisor can be held responsible for staff nurses' actions. Typically, a plaintiff files suit against both the nurse and the institution. The institution is usually named as a defendant because it usually has adequate assets to cover a judgment (Wacker Guido, 2020).

Ordinary negligence
Nurses may be sued personally for matters not involving medical malpractice under ordinary negligence. Under this scenario, the allegedly negligent conduct is compared with the conduct of a reasonably prudent layperson, not a reasonably prudent nurse. Ordinary negligence is conduct that involves undue risk of harm to someone. For example, if an orderly observes water on the floor but fails to clean it, resulting in a patient fall, the orderly may be held responsible for damages suffered by the patient. Professional negligence is different from ordinary negligence because professionals are held to professional standards of care (Wacker Guido, 2020).

Malpractice or professional negligence
Nurses are held liable for malpractice or professional negligence in most settings. Nurses' increased responsibilities and the increased number of nurses carrying personal malpractice insurance makes them financially attractive to plaintiffs. However, a plaintiff's attorney usually does not inquire into the insurance status of a nurse before filing suit. Accordingly, carrying a personal policy does not increase the risk of involvement in a lawsuit. Malpractice law enforces the moral value to do no harm to the patient. The law represents the minimum standard of nursing practice. The standards of good nursing practice include assessment, planning, implementation, and evaluation. In nursing, negligence is the failure to meet accepted standards for nursing competence and nursing scope of practice (Wacker Guido, 2020).

Spoliation
Spoliation is a term used to describe any action, including destruction, alteration, or concealment of records, that deprives the court or patients of evidence. Failure to preserve, or inability to produce, evidence, including medical records, can lead to severe consequences. Although state laws differ, some laws require the court to order an adverse presumption against the party unable to produce the records – that is, the records would have been harmful to the party. Moreover, defending a case is difficult, if not impossible, without the pertinent medical records. If the jury learns of the absence of the records, they may assume that the records contained damaging information that led the healthcare provider to destroy the records (Jun, J. & Ihm, R., 2021).

Informed consent

Informed consent is the voluntary consent a healthcare agency or healthcare provider requires to provide care for the patient. This can be given by the patient themself or a legal representative (Wacko Guido, 2020). One needs to remember that informed consent is not just a piece of paper, but a process. The patient must understand what they are agreeing to. The information needs to be provided in a manner the patient understands. Many factors influence a patient's ability to give informed consent. Mental status, the ability to comprehend information provided that is necessary for informed consent, the ability to understand the terminology used when treatments or procedures are explained, understanding of the language being spoken, and fear and anxiety are just some of the factors that influence informed consent. The nurse has a legal and ethical obligation to facilitate the patient's ability to give consent as well as the same obligation to support a patient's decision to refuse to give such consent.

Sometimes patients sign a blanket consent to treatment form that allows the healthcare team to provide general care. A specific procedure will need another consent form. Examples of this would include invasive procedures (insertion of a central catheter) and surgery. To ensure the patient is actually providing informed consent, the patient should be asked to explain the procedure back to the healthcare provider. Even though a blanket consent form has been granted, the nurse should ask permission before conducting any nursing care such as bathing, turning, and insertion of an intravenous catheter.

Nurses are often asked to witness the written informed consent process. What the nurse is signing to is that the patient's signature was given freely and without coercion. The nurse is not attesting that the patient understands the care provided (Wacko Guido, 2020).

An informed consent must include the following:

1. Brief but complete explanation of the treatment or procedure.
2. Name and qualifications of the person performing the treatment or procedure and any assistants.
3. Explanation of potential risks/harms that may occur, including death if it is a potential outcome.
4. Explanation of alternatives to the therapy or procedure, which should also include the risks of doing nothing.
5. Explanation that the patient can refuse the procedure or therapy without having other therapies or alternatives discontinued.
6. Explanation that the informed consent can be removed, even if the procedure has started (Wacko Giodo, 2020).

Here are key points of the ANA Code of Ethics (American Nurses Association, 2015). The nurse's role in the informed consent process may include the following:

- **Providing patient education**: One of the most important roles of the nurse is that of patient educator. Nurses can facilitate the informed consent process by providing accurate, objective, and supportive patient education. Initiating patient education can trigger important patient questions and concerns, which if addressed appropriately, can facilitate the decision-making process and alleviate some anxiety.
- **Facilitating patient comprehension**: Patients may have difficulty understanding the plethora of information that accompanies diagnostic procedures and treatment options. Nurses can help with comprehension by asking patients to explain what they understand about proposed treatment and procedures. Common issues that require further explanation or information include the disease being treated, coping with anxiety, dealing with pain, and the impact of other treatment measures already in place on proposed treatments and procedures.
- **Reducing fear and anxiety**: Fear and anxiety can significantly interfere with patient comprehension and the informed consent process. The nurse should work to identify and address the source of anxiety and to relieve or reduce it.

The nurse should make sure that all information is provided and documented, including that the patient knows they have the right to withdraw consent at any time without repercussions. Some healthcare providers have a template for certain types of informed consent such as a written explanation of specific chemotherapeutic drugs, their names, doses, how the drugs will be administered, and on what schedule, as well as anticipated adverse effects. It is especially important that patients and families know what to do when adverse effects occur and how to recognize when an adverse effect is typical and when it could lead to a serious complication.

One of the biggest areas of concern in any type of informed consent or patient education process is assessment of the patient's understanding of the information presented. Did the patient acquire the appropriate knowledge to give an informed consent? How was this assessed? How was this documented?

For example: It is not sufficient to simply ask John and his wife, "Do you understand the side effects this chemotherapy can cause?" Questions that can be answered with a yes or no should be avoided. Some people will simply say "yes" because they are nervous and want to move along or because they do not want to admit that they do not understand.

A more appropriate way of assessing knowledge acquisition regarding side effects would be for the healthcare provider to say, "Please tell me the side effects of the drugs you will be receiving and what to do if you experience them." This requires the patient to explain what they know. The healthcare provider can then assess just how much knowledge the patient actually gained and what information needs to be presented again.

The nurse should ensure that the patient's explanation is then documented. For example: "Patient was able to state that the medication (insert the name of the actual medication) typically causes nausea and vomiting the second day after administration. He states that if he is unable to drink and retain fluids for more than 12 hours, he should telephone his physician. He described the signs and symptoms of dehydration: dizziness; hot, dry skin; parched lips; and confusion. He states that if these occur, he or his wife will seek immediate medical assistance."

It is impossible to anticipate all potential problems regarding informed consent. But if appropriate informed consent is obtained and documented, these problems should be reduced in number and desired patient outcomes facilitated.

Implied consent

Implied consent is consent which may be inferred (Wacko Guido, 2020). An example of this would be a nurse letting the patient know an intravenous catheter is needed and the patient extends an arm without comment. Related to this is emergency consent (Wacko Guido, 2020). In this situation the patient is unable to make their wishes known and a delay in care would result in an adverse situation or poor outcome (Wacko Guido, 2020).

Self-Assessment Quiz Question 5#

Which of the following would be a correct question to assess if the patient truly understood the informed consent they are asked to sign?

a. "You understand the risks of the procedure, correct?"
b. "Do you have any questions?"
c. "Please tell me the risks of the procedure in your own words."
d. "Let me know if you have any questions."

SOME COMMON LAWS WHICH AFFECT PATIENT CARE

There are a number of laws at both the federal and state levels that affect patient care. This list is not meant to be complete, however it presents two of the federal laws that directly affect nurses.

HIPAA

The Health Insurance Portability and Accountability Act (HIPAA) was initially enacted as a means to prevent employers from denying employees health insurance coverage because of pre-existing conditions. In 2003, a privacy rule was published to mandate a consistent level of protection for all health information housed or transmitted electronically that pertains to an individual. This rule applies to "covered entities," including nurses, other employees in healthcare facilities or agencies, health insurance companies, and medical-billing or data-collection companies (Wacko Guido, 2020). Covered entities include nearly all healthcare providers regardless of whether they work in outpatient, inpatient, or residential settings, as well as other persons or organizations that bill or are paid for healthcare (Wacko Guido, 2020).

The HIPAA Privacy Rule is the first comprehensive federal protection initiative to protect the privacy of health (including mental health) information. The purpose of the rule is to provide significant legal protection to ensure the privacy of individual health information without interfering with access to treatment or quality of care (Wacko Guido, 2020).

Basic principles of the HIPAA Privacy Rule

Here is a summary of some of the basic principles of the HIPAA Privacy Rule (Wacko Guido, 2020):

- The privacy rule protects all protected health information (PHI) including any electronic PHI. Protected health information includes "individually identifiable health or mental health information held or transmitted by a covered entity in any format, including electronic, paper, or oral statements." Protected health information includes: name, address (all geographic subdivisions, smaller than state (so street zip code, city or country), all elements of dates, telephone numbers, fax numbers, email addresses, social security numbers, medical record number, health plan beneficiary number, certificate or license number, vehicle identifiers, device identifiers and serial numbers, Wed URL, Internet Protocol (IP) address, finger or voice print, and photographic images (not just face) and other characteristic that could uniquely identify the individual.
- A covered entity, such as a nurse, may not use or disclose PHI information to others except as the privacy rule allows or as authorized by the person or the person's representative who is the subject of the health information.
- A covered entity must provide individuals (or their personal representatives) access to their own PHI unless there are permitted grounds for refusal. The covered entity must provide an accounting of the disclosures of the PHI to others upon request.
- The privacy rule supersedes state law. However, state laws that provide greater privacy protections or give individuals greater access to their own PHI remain in effect.

Disclosures to other persons

Nurses and other healthcare professionals are often in the difficult position of having to refuse to give information to a patient's family, friends, or others involved in the patient's care in order to adhere to confidentiality and privacy mandates. However, under certain circumstances, the privacy rule does allow disclosures to family, friends, and others involved in the patient's care or payment for care (Wacko Guido, 2020).

- Disclosures to family and friends is allowed if the patient is present and has the capacity to make healthcare decisions. A provider may disclose pertinent information to family and friends if the provider does one of the following:
  - Obtains the patient's permission.
  - Gives the patient an opportunity to object and the patient does not object.
  - Decides from the circumstances (based on professional judgment) that the patient does not object.
- Disclosure may be made in person, over the telephone, or in writing if the patient is not present or is incapacitated if, based on professional judgment, the disclosure is in the patient's best interest. Examples of such professional judgment include allowing someone to pick up a filled prescription or other types of similar health information for the patient.
- Disclosures to other persons are allowed if the patient is present and has the capacity to make healthcare decisions if the provider does one of the following:
  - Obtains the patient's permission.
  - Gives the patient an opportunity to object and the patient does not object.
  - Decides from the circumstances (based on professional judgment) that the patient does not object.
- Disclosures to other persons may be made in person, over the telephone, or in writing if the patient is not present or is incapacitated. A provider may disclose relevant information if the provider is reasonably sure that the patient has involved the person in the patient's care and, using professional judgment, the provider believes the disclosure to be in the patient's best interests.

Case study #3

Mrs. Davidson is a 60-year-old investment banker who has been diagnosed with Stage II breast cancer. Her mother and grandmother are breast cancer survivors. Mrs. Davidson has a 35-year-old daughter from whom she is estranged. After undergoing genetic testing, Mrs. Davidson was found to have a genetic mutation that significantly increases the risk of breast cancer. Mrs. Davison has made it clear to her physician and the nursing staff that she will not be sharing the results of the genetic testing with her daughter, Victoria. One of Mrs. Davidson's nurses knows Victoria; they attend the same church.

Questions:

1. Victoria asks the nurse if any test results have come back on her mom. What should the nurse say and why?
2. If she tells Victoria, are there ethical and legal concerns? If so, what are they?
3. If Victoria did not ask the nurse, should the nurse still say anything? Why or why not?

Discussion

The nurse cannot tell Victoria if there were any tests and if there were any results. The nurse would be best saying "I am not allowed to say anything, including if there are test results as your mom's medical information is private." Mrs. Davidson expressed clearly that she did not want her daughter to know. Mrs. Davidson's results are protected under HIPAA; no one has access to the results without Mrs. Davidson's expressed permission. From an ethical point of view, autonomy is not limited to physical autonomy but the autonomy to decide who has access to information. Finally, if Victoria does not ask, the nurse has no obligation for letting her know the results for the reasons above. While some could say, given the nature of the results (genetic), the daughter has a right to know, even genetic results are considered private and require permission from the patient to be disclosed.

Safeguards to protect PHI

The privacy rule requires that reasonable safeguards be used to protect PHI. Such safeguards vary, depending on the organization, the providers involved, the individual patient's condition, and individual healthcare plans. The rule does not mean, however, that safeguards will absolutely guarantee the privacy of PHI. It is expected that all covered entities evaluate the possibility of violations of confidentiality and privacy and work to eliminate them. Nurses must be completely familiar with their organization's policies and procedures pertaining HIPAA and PHI (Wacko Guido, 2020).

Following are examples of reasonable safeguards (Wacko Guido, 2020):

- Mandating the use of secure passwords for computers that contain PHI.
- Speaking quietly when it is necessary to converse in public areas, such as hallways or nursing stations.
- Avoiding discussing patient information in public waiting rooms.

HOSPITAL READMISSIONS REDUCTION PROGRAM (HRRP)

This is a Medicare value-based purchasing program that encourages hospitals to provide improved communications and care coordination around discharges to decrease avoidable readmissions (CMS.gov, 2021). There are six conditions that are monitored for avoidable hospital readmissions within 30 days. The six conditions are: 1) Acute Myocardial Infarction (AMI), 2) Chronic Obstructive Pulmonary Disease (COPD), 3) Heart failure, 4) Pneumonia, 5) Coronary Artery Bypass Graft (CABG) surgery, and finally, 6) elective primary total hip arthroplasty and/or total knee arthroplasty (THA/TKA; CMS.gov, 2021). This program went into effect in 2010 as part of the Patient Protection and Affordable Care Act (Gia and Pachamanova, 2019). In 2019, Gia and Pachamanova reported examining the Medicare AMI readmissions rate and demonstrated a decrease in readmissions with no negative impact on vulnerable populations (Gia and Pachamanova, 2019).

Impact on nurses

Given nurses are on the front-line during patient education and discharge, it is important for nurses to understand the purpose of the HRRP and how nurses contribute to the overall hospital mission to decrease readmission rates. For example, Bahr, et al in 2020 reported a 7.8% decrease in adult readmissions when the patient had the same nurse for 2 consecutive days before discharge. This was independent of other factors historically related to readmissions (Bahr, et.al, 2020).

Self-Assessment Quiz Question 6#

Sue is an RN who works on a busy medical floor. Today is an exceptionally busy day and she needs to discharge a number of patients, some of whom have COPD or heart failure. She decides to skip going over the discharge instructions with her patients and just provide handouts. What could happen to where she works because of this decision?

a. The institution could be charged with a HIPAA violation.
b. The patient could be readmitted within 30 days and the facility could be in violation of HRRP.
c. The patient could feel their PHI is being exposed.
d. There are no issues with what Sue has done.

ISSUES WITH SOCIAL MEDIA, NURSING, AND LEGAL CONCERNS

Social media and nurses

Social media is instantaneous, powerful, and postings are not able to be completely deleted. It has transformed the way people communicate. For nurses, social media can be a useful tool that facilitates professional connections, promotes appropriate and timely communication with patients and family members, and educates and informs both healthcare professionals and healthcare consumers alike.

Using social media is not a problem for nurses or other healthcare professionals as long as they remain aware of the scope, standards, and laws that guide their practice. Patients expect nurses to act in their best interests at all times and to respect their dignity and the dignity of loved ones. Unintentional as well as deliberate breaches of patient confidentiality and privacy can cause harm, destroy the nurse–patient professional relationship, and can even have legal implications for nurses who (willingly or inadvertently) breach duty through the use of social media. Occurrences of inappropriate use of electronic media have been reported to state BONs; reported in the nursing and general public media; and, in some cases, have resulted in severe disciplinary action (National Council of State Boards of Nursing, 2018a).

The NCSBN has published a white paper titled *A Nurse's Guide to the Use of Social Media* (National Council of State Boards of Nursing, 2018a). Although most healthcare organizations have policies that address employee use of social media during work hours, many do not address the use of such media outside of the workplace. When using social media outside the workplace, the nurse is still vulnerable to accusations of professional misconduct such as violations of clients' rights and confidentiality. This white paper attempts to address some of these occurrences.

A nurse's use of social media is still guided by professional, legal, and ethical standards. Client information must be protected regardless of whether the nurse is on or off duty. Privacy refers to the client's expectation and right to be treated with dignity and respect. Federal law reinforces such privacy through HIPAA. Breaches of client confidentiality and privacy can be intentional or accidental and can occur in a multitude of ways. However, even unintentional breaches leave the nurse vulnerable to legal and other forms of disciplinary action. This includes posting information via social media (National Council of State Boards of Nursing, 2018a).

A BON may investigate reports of inappropriate disclosures on social media on the following grounds (National Council of State Boards of Nursing, 2018a):

- Unprofessional or unethical conduct.
- Moral turpitude (actions that are immoral, unethical, or unjust).
- Mismanagement of patient records.
- Revealing privileged communication.
- Breaching confidentiality.

Nursing consideration: Improper use of social media by nurses may violate state or federal laws, thus making the nurse vulnerable to personal liability claims (National Council of State Boards of Nursing, 2018).

Examples of misuse of social media

The following are some examples of misuse of social media that have been, unfortunately, well publicized in various media formats.

A Facebook Photograph. A junior nursing student provided nursing care to a 3-year-old leukemia patient as part of her pediatric clinical rotation. When the child's mother was out of the room, the nursing student took his picture with her cell phone and posted the photo on her Facebook page, commenting about the bravery of the child and how proud she was to be a nurse. The patient's room number was clearly visible in the photo. A nurse from the hospital was browsing Facebook and found the photo. The nurse reported it to hospital authorities. Although the student did not mean to do so, she had violated a client's confidentiality. She was expelled from the nursing program; the nursing program was barred from using the pediatric site for future clinical rotations for their students; and the hospital faced a HIPAA violation (National Council of State Boards of Nursing, 2018).

The nursing student meant no harm, but naively breached confidentiality according to the HIPAA Privacy Rule. Additionally, the nursing program in which the student was enrolled had a clearly stated policy about students not breaching confidentiality and HIPAA (National Council of State Boards of Nursing, 2018).

Another example is Jane, a nurse working at a long-term care facility, who arrived at work one day and found a photo of one of the residents' buttocks on her computer screen. Jane sent the photo to several colleagues who also forwarded the photo. One nurse posted the photo to her Facebook page, saying, "This is what we have to deal with on a daily basis!" By noon, all the nurses and unlicensed personnel were snickering and talking about the photo, and eventually their supervisor was alerted. Being concerned about protecting the residents' rights, the facility began an investigation and alerted the BON. Local media reported on the incident and law enforcement became involved to investigate whether sexual exploitation had been committed. By the end of the day, it made national news and the family threatened a lawsuit. The nurses involved were fired and had to appear before the BON. All of this could have been avoided if Jane, the first nurse, had promptly reported finding the photo to her supervisor and not shared it (NCSBN, 2018c).

A Blog Entry. A nurse blogged on a local newspaper's online chat room about taking care of a client. She referred to the client as her "little handicapper" and mentioned the child's age and using a wheelchair. The description made the client identifiable in the small town in which the nurse worked. A reader of the blog complained to the BON that the nurse had violated privacy laws.

The BON issued a warning to the nurse advising her that further evidence of release of personal information about clients would result in disciplinary action. The nurse could have faced severe disciplinary action and was considerably shaken. She learned a lesson about privacy violations as well as the use of unprofessional language (little handicapper' National Council of State Boards of Nursing, 2018).

Consequences of the misuse of social media

The ease and instant communicability of posting information on social media can lead to serious professional consequences. The NCSBN advises nurses to avoid posting information about patients electronically and on any type of social media. They should be aware of and adhere to all employers' policies regarding social media and promptly report any breach of client confidentiality or privacy.

The following are some possible consequences of misusing social media (National Council of State Boards of Nursing, 2018a):

> Nurses must report any violation of privacy or confidentiality that others make against patients. Failure to do so could result in employer or BON disciplinary action and the filing of civil or criminal penalties against the nurse who failed to report such violations.
>
> - Online posts about coworkers—such as intimidation, threats, or humiliation—could be viewed as lateral violence even if posted from home or other private locations during off-duty hours. Such posts are referred to as cyberbullying.
> - Employers must also be cautious in their use of social media. Posting comments about patients, family, or employees may also result in legal action.
> - Faculty members are another group who must be mindful of how they use social media. Students are more frequently reporting that faculty members are asking for students' social media passwords or to be friended to bypass privacy settings. Students were not comfortable doing this but were also not comfortable refusing the requests. Faculty must not only instruct student about the proper use of social media but also use social media in an appropriate manner themselves.

Nursing consideration: In addition to disciplinary action by employers and BONs, nurses who violate privacy via social media can face civil or criminal penalties that could include monetary fines or imprisonment (National Council of State Boards of Nursing, 2018a).

Myths surrounding social media

Finally, healthcare professionals as well as students can be naïve when it comes to the use of social media. Here are some common myths regarding the use of social media.

Myth*: Communication posted on social media is private and accessible only to the intended recipient.*

> **Reality**: Content, once posted or transmitted, can be sent to others and is usually not under the control of the original writer. Some social media sites even have a very broad waiver of rights to limit use of transmission or posting of content (National Council of State Boards of Nursing, 2018a).

Myth*: Content deleted or removed from a social media site is no longer accessible or recoverable by others.*

> **Reality**: As soon as something is posted, it exists forever and can always be discoverable by a court of law (National Council of State Boards of Nursing, 2018a).

Myth*: It is OK to post private information about patients as long as the communication is accessed only by the intended recipient.*

> **Reality**: Posting such information is still a confidentiality breach. It is also unacceptable and inappropriate for nurses to discuss or refer to patients, even if such patients are not identified by name but referred to by room number, diagnosis, condition, behavior, or even a nickname. This constitutes a breach of confidentiality (National Council of State Boards of Nursing, 2018a).

Self-Assessment Quiz Question #7

Tom, who is an RN, has had a really rough day and feels the need to vent. He states how short the staffing is on his unit, names his unit, uploads a picture of the staffing and states most of his patients were combative on his private Instagram account. Which of the following is one of the issues with his post?

a. Breach of confidentiality.
b. Breach of nurse/nurse patient information.
c. Breach of protected hospital information.
d. Breach of nurse-to-nurse confidentiality.

Impaired nurses

Substance use disorders are still stigmatized for nurses, which could cause them to be hesitant to reach out for help (Webster, 2022). Rates of reported substance abuse are the same as the general population at around 6% to 8%, however, about 18% of

nurses *show signs* of substance abuse at work and many nurses report using substances to cope with stressors (Webster, 2022). Risk factors include family history of substance abuse or past emotional or physical trauma. The vast number of nurses report work stress as the reason for choosing to use drugs or alcohol. The workplace stress includes chronic staff shortages with extra shifts, and excessive workload during shifts (Webster, 2022).

Nursing consideration: Signs of unhealthy substance use in nurses: Changes in work habits, conflicts with patients or patients' families, charting errors or omission, dramatic mood swings, and social/professional isolation. Impaired performance is a clear warning sign; however, symptoms of impairment might be subtle such as being dazed or sleepy (Webster, 2022).

In most states a nurse may enter a non-disciplinary alternative to discipline program (National Council of State Boards of Nursing, 2018b). The sooner the substance abuse is identified and treated, the better the chance the nurse will return to work and patients will be protected (National Council of State Boards of Nursing, 2018b).

Nursing consideration: Recreational marijuana: As more states legalize recreational use of marijuana, nurses may wonder if there are implications for their practice. The answer is in a grey area but can be yes. A nurse can be subjected to random drug testing at work or before obtaining employment. Marijuana can stay in the blood stream for up to 30 days, thus with recreational use, even if it has been a few days, drug screens can be positive. Current recommendation is not to use any products for recreational use that contain marijuana (Brown, 2018).

LAWSUITS

Categories of negligence that often lead to malpractice lawsuits

Nurses can be sued for some of the following reasons (O'Neil, 2022):

1. Medication errors.
2. Failure to follow orders.
3. Practicing outside of one's scope of practice.
4. Failure to recognize an order error.
5. Failure to communicate, report, or notify and provide pertinent information about a patient in a timely and proper manner.
6. Wrongful delegation of a nursing function.
7. Lack of, or poor documentation.

Nursing consideration: In a court of law, the patient is referred to as the plaintiff. The nurse named in the malpractice lawsuit is referred to as the defendant (Wacko Guido, 2020).

Standards of care

Failure to follow established standards of care can change as new treatment interventions are discovered and nursing roles and responsibilities evolve. Policies and procedures often change based on advances in treatment and the need to use new or unfamiliar equipment. Examples of failure to follow standards of care can be as simple as failure to adhere to medication administration procedures; failure to institute necessary protocols such as a fall protocol; or failure to use equipment in a responsible manner. In fact, failure to use equipment safely and accurately is identified as a separate category among the six major categories of negligence that can lead to malpractice lawsuits (Wacko Guido, 2020).

Communication

Failure to communicate is a consideration in most malpractice lawsuits (Wacko Guido, 2020). Because many conversations are not documented, it can be difficult to prove the adequacy of communication between nurses and other healthcare professionals.

Here are some suggestions for ensuring adequate communication (Wacko Guido, 2020):

- Clearly communicate all pertinent patient information to the physician and other healthcare professionals as appropriate.
- Provide all relevant discharge information to the patient.
- Document thoroughly.
- Clearly communicate all assessment findings to the nurse from the oncoming shift.
- Participate in continuing education activities that focus on communication.

Documentation

Failure to document can be summed up in the familiar sentence, "If it isn't documented, it wasn't done." Failure to document can also lead to a specific treatment intervention (e.g., medication administration, dressing change) done more than once. Failure to document can lead to an inadequate plan of care if, for example, new assessment findings are not documented and shared with the appropriate colleagues (Wacko Guido, 2020). A well-documented medical record can provide an accurate reflection of nursing care, improve communication among the interdisciplinary team, demonstrate competency, and may help guard against a lengthy litigation process (NSO, 2020).

Assessments and monitoring

Failure to assess and monitor indicates that the nurse did not assess and monitor the patient appropriately based on the patient's clinical presentation or the facility policy. When evaluating, monitoring, and assessing are reviewed in a court of law, nursing expert opinions are crucial. The nurse expert for the plaintiff would describe what a reasonably careful and prudent nurse would do under the same or similar circumstances (Wacko Guido, 2020).

Elements of malpractice

What evidence must be obtained to prove malpractice? Four elements must be shown before a nurse is said to be liable for malpractice (Wacko Guido, 2020):

1. Duty.
2. Breach of duty.
3. Harm or damages.
4. Causation.

Nursing consideration: Remember that once duty is established, the nurse cannot abandon the patient. For example, when a nurse accepts an assignment, the nurse cannot stop caring for the patient without insuring there is another nurse to care for the patient (Wacko, Guido, 2020)

In a malpractice action, the plaintiff (the patient) must prove that the nurse's actions, or failure to act, violated a standard of care, thereby breaching the duty to the patient. Attorneys for the plaintiff will present testimony concerning the nurse's failure to competently provide safe and appropriate nursing care (Wacko Guido, 2020).

What types of evidence will the plaintiff's attorneys use to show breach of duty? Evidence is gathered to show that there was a violation of the standard of care. Sources of such evidence include the following (Wacko Guido, 2020):

- The patient's medical record.
- Photographs.
- X-rays.
- Results of diagnostic (including imaging) studies.
- Testimony from witnesses such as other nurses, nurse managers, the patient, the patient's family members, and other visitors.

Another way the attorneys may seek to prove a breach of duty is to call on an expert witness to give testimony. A nurse expert witness must meet the following criteria to provide testimony (Wacko Guido, 2020):

- Be currently licensed to practice nursing.
- Have credentials that match or exceed the defendant's credentials.
- Be without bias.
- Not have any professional or personal relationship with any of the persons involved in the lawsuit.
- Be able to describe the relevant standard of care.
- Be able to describe how the nurse (defendant) failed to meet the standard of care and how that failure caused or contributed to patient injury.

Harm

For a nurse to be held liable for malpractice, the plaintiff (patient) must prove that actual harm resulted from the nurse's breach of duty (Wacko Guido, 2020). For example, suppose a nurse administered a dose of ampicillin to the wrong patient because they did not verify the patient's identity. The patient was not allergic to the medication and had no adverse effects from receiving this medication in error. Although the nurse failed to adhere to an accepted standard of care, no harm was done to the patient. Therefore, the "harm" element of malpractice has not been met.

***Now consider this example**: A patient is to ambulate for the first-time following surgery. The RN had not assessed this patient before ambulation. Instead, they delegated the responsibility for ambulating the patient to a nursing assistant. As the nursing assistant helped the patient to stand, the patient complained of feeling dizzy and fell to the floor, fracturing their hip. The nurse was found to have breached their duty to the patient because they failed to assess the patient before ambulation and delegated a task to a nursing assistant who was not qualified to assess the patient's postoperative condition. The patient was harmed; therefore, the first three elements of malpractice has been met.*

Causation

Causation is the fourth element of malpractice. The plaintiff must prove not only that the nurse breached their duty and the patient suffered harm, but also that the nurse's breach of duty specifically caused the patient's harm. In other words, there must be a causal link between the failure to meet the standard of care and the harm the patient suffered (Wacko Guido, 2020).

Nursing consideration: The plaintiff's attorney must prove that "but for" the nurse's negligence, the patient would not have suffered harm (Wacko Guido, 2020).

***For example:** Consider the patient who received the ampicillin by mistake in the earlier scenario. Suppose that Monica, an RN, administered the ampicillin around 9 a.m. At 6 p.m., the patient told a nursing assistant that he was having aching pain in his left calf. The nursing assistant reported the complaint to Sharon, the RN accountable for providing nursing care to the patient that evening. Sharon told the nursing assistant to keep an eye on the patient but did not assess them herself. The pain became worse, and ultimately the patient suffered a pulmonary embolism caused by phlebitis in the left calf. They later died in the intensive care unit. The patient's family sued both Monica and Sharon for malpractice. Upon review, it was determined that, although Monica did administer the ampicillin to the patient in error, this medication incident did not cause the harm suffered as a result of the pulmonary embolism. Sharon, however, was held liable for the patient's death because she failed to adhere to the standard of care and the NPA by inappropriately delegating assessment to a nursing assistant.*

Damages

Once malpractice has been proven, the plaintiff's damages are determined. Damages refers to the monetary value of the harm that occurred (Wacko Guido, 2020).

Nursing consideration: Damages usually include out-of-pocket medical and related expenses resulting from the occurrence of malpractice. Examples of expenses include lost wages, costs of medical treatment, and pain and suffering experienced by the patient as the result of the harm caused by malpractice (Wacko Guido, 2020).

For the patient/plaintiff to win a malpractice lawsuit, all elements of malpractice must be proven. The burden of responsibility for proving malpractice remains with the patient/plaintiff. The nurse/defendant does not have to prove that their actions were not negligent. The patient/plaintiff's attorney must prove that malpractice occurred and will attempt to convince the judge or jury that each element of malpractice has been proven (Wacko Guido, 2020).

Case study #5

Carol is one of several nurses named in a malpractice lawsuit. A patient had been receiving antibiotic therapy for an infection. The infection grew steadily worse, and the patient had to have his leg surgically amputated as a result of the infectious process. There is no documentation that Carol evaluated the effectiveness of the antibiotic therapy, as evidenced by documenting and monitoring the appearance of the wound when she and her colleagues changed the dressing.

Questions:

1. What element of the ANA scope of practice was violated here?
2. Has the plaintiff proven malpractice?

Discussion:

Assessment and documentation have been violated. Given there was no assessment data concerning the wound in the chart, it would be hard to say during dressing changes that anyone actually examined the wound. For malpractice the following must be met: duty, breach of duty, harm or damages, and causation. Yes, Carol had a duty to the patient to care for the wound. There was a breach of duty as there was no documentation of assessment that the infection was getting worse (and notification of the provider of this). There was harm to the patient as the patient needed an amputation because of the uncontrolled infection. There was causation in this case. Carol and the other nurses' lack of documentation did not give the provider an opportunity to change the antibiotics for the wound, thereby potentially preventing the amputation.

Nursing consideration: Failure to maintain minimum standards of nursing practice accounts for 58.9% of scope of practice license protection matters (NSO, 2020). An example of this is the following. "An RN working at a medical center failed to follow policies and procedures related to proper patient identification of two patients and to review relevant laboratory results. As a result of bypassing these standards, the nurse gave an extra unit of blood to one patient that was intended for the other patient. The State Board of Nursing (SBON) placed the nurse on probation for 3 years." Another example is "an RN working in the PACU was caring for a patient with extreme nausea. The nurse made several attempts to contact the treating provider but was unsuccessful. The nurse called the pharmacist, stating that she believed the patient's condition was urgent and she would contact the provider for an order. The medication was dispensed and the nurse gave it to the patient without ever obtaining an order. The SBON publicly reprimanded the nurse and ordered her to pay a fine for violating the Nursing Practice Act by practicing beyond the scope of practice for an RN" (NSO, 2020).

Protection from being sued

No strategy guarantees complete protection from being sued for malpractice. Unfortunately, patients or families may file lawsuits against nurses and other healthcare professionals for reasons that have nothing to do with the quality of care received (Wacko Guido, 2020).

Patients may be unhappy about a diagnosis or the outcome of a procedure. They may believe they were not treated with respect, or they may express anger over the death of a loved one even though standards of care were upheld. Unfortunately, some people are simply looking for an opportunity to obtain money regardless of the care received. Although none of these reasons is the result of a nurse's failure to adhere to appropriate standards of care, lawsuits can still be filed. Remember, however, that for the plaintiff to win a malpractice action, the four elements of malpractice must be proven (Wacko Guido, 2020).

Nursing consideration: A malpractice lawsuit has what is called an applicable statute of limitations. This means that a legal action must be filed against all defendants within a specific period of time from the time the allegedly negligent incident occurred (Wacko Guido, 2020). Sometimes, to avoid discovering that the statute of limitations has expired, and certain nurses and other healthcare professionals were not included as defendants in the lawsuit, the patient's/plaintiff's attorney may include as defendants "anyone and everyone" who may have been in any way involved in the client's care concerning the events leading to the alleged harm. After investigation, nurses and others not actually involved may be eliminated from the lawsuit (Wacko Guido, 2020).

Is there anything nurses can do to reduce the chances of being named in a malpractice action? Here are some suggestions (Wacko Guido, 2020):

- Practice only within the framework of their NPA and the scope and standards of their practice.
- Remain competent by attending in-services and continuing education activities.
- Become active in professional organizations.
- Identify their strengths and weaknesses. Work to enhance strengths and reduce weaknesses. Do not accept assignments if they feel they are not competent to perform them.
- Use all equipment safely and appropriately. If a nurse is unsure about the operation of a piece of equipment, they should seek assistance.
- Document all patient care activities and communications relating to patient care.
- Know how to use the chain of command to seek clarity or report situations that compromise patient care, and do not hesitate to do so.
- Interact in an objective, honest, and respectful manner with patients, families, and colleagues.

Nursing consideration: The most effective way for nurses to protect themselves from facing a malpractice lawsuit is to know and practice according to the NPA and standards for their levels of nursing practice and degree of specialization. This means that they must know the standards and NPA of the state or states within which they practice. They must also know the scope of practice standards as established by other recognized authorities such as relevant specialty organizations and the healthcare organization in which they practice (Wacko Guido, 2020).

The National Council of State Boards of Nursing does provide a checklist to enhance patient safety and minimize a nurse's liability for exposure (NCSBN, 2018c).

Below are some of the points on the checklist:

1. Read nurse practice act at least annually.
2. Decline to perform a requested service that is outside legal scope of practice and immediately notify supervisor or the director of nursing.
3. Contact the risk management or legal department regarding patient and practice issues, if necessary.
4. Contact the board of nursing and request an opinion or position statement on nursing practice issues.
5. Use the chain of command or the legal department regarding patient care or practice issues.
6. Evaluate every patient for risk of falling utilizing a fall assessment tool that considers the following factors, among others: Previous fall history and associated injury, gait and balance disturbances, foot and leg problems, reduced vision, medical conditions and disabilities, cognitive impairment, bowel and bladder dysfunction, special toileting requirements, use of both prescription and over-the-counter medications, and need for mechanical and/or human assistance.
7. Evaluate environmental factors needed to reduce risks - whether working in a hospital, rehabilitation, long term care facility, or in a home setting.
8. Accurately document all falls; some of the documentation should include patient functional status before and after fall, any witnesses to the fall, any contributory concerns (wet floor), and mental state, along with other things.
9. Complete a patient drug history, including current prescription medications; over-the-counter drugs and supplements; alternative therapies; and alcohol, tobacco and illicit drug use.
10. Review allergy notations on medication profiles before administering any medications.
11. Review laboratory values and diagnostic reports before administering medications and make practitioners aware of any abnormalities.
12. Utilize machine-readable barcoding to check patient identity and drug data before administration of drugs or, if this is not possible, verify patient identity using two patient identifiers (such as patient ID number and birthdate) from the original prescription.
13. Document simultaneously with medication administration to prevent critical gaps or oversights.
14. Accept verbal drug orders from practitioners only during emergencies or sterile procedures and, before transcribing the order, read it back to the prescriber and document the read-back for verification.
15. Follow procedures to prevent wrong dosages or concentrations of identified high-alert drugs (e.g., anti-coagulants, muscle relaxants, insulin, potassium chloride, opioids, adrenergic agents, dextrose solutions and chemotherapeutic agents).
16. Ensure that high-alert medications are always accompanied by standardized orders and/or computerized safe-dosing guidelines and are verified by two persons before administration.
17. Ensure that pediatric medications are accompanied by standardized orders and/or computerized dosing guidelines.
18. Follow employer's guidelines for both adult and pediatric patients' dosages, formulations, and concentrations of drugs.
19. Follow the employer's policies and procedures to keep drugs with look-alike and sound-alike names separate (NCSBN, 2018c).

Nursing consideration: Per report by the Nurses Service Organization (2020) the top defense matters in nursing litigation were 32.5% professional misconduct; 24.8% scope of practice, 9.7% documentation errors of omissions, 9.3% treatment and care; 8.8% patient's rights and patient abuse; 6.2% medication administration (NSO, 2020).

What to do if named in a malpractice suit

The first step the nurse should take is to inform their employer. Then the nurse needs to ask the following questions and be sure to receive clear answers (Wacko Guido, 2020):

- Am I covered by the organization's malpractice insurance policy?
- Up to how much in damages will the malpractice policy pay?
- Will the organization's attorney represent me in this lawsuit?
- May I hire my own attorney?

Even if the nurses are covered by the organization's malpractice insurance policy, it might be wise to consult with a personal attorney. It might be important to have legal counsel whose first and only priority is the nurse, not the employing healthcare organization.

Case study #6

Olivia is a critical care nurse. She is certified in that specialty and is familiar with the scope and standards of practice as they relate to critical care nursing. Olivia has worked in a large metropolitan medical center for 10 years as a critical care nurse. In this setting, Olivia has fulfilled her role as a critical care nurse to the maximum level within the standards legally and ethically allowed.

Recently, because of family needs, Olivia moved to a rural area served by a large community hospital. Hospital policies and procedures prohibit Olivia from performing some of the critical care procedures that she did in her previous work setting. Olivia is very upset about this and has complained, vehemently, to the nurse manager of the critical care unit. The manager sympathizes with Olivia but explains that change comes slowly to this facility. She suggests that Olivia form a task force to help provide evidence regarding the procedures now prohibited, showing that they are within the properly educated and trained critical care nurse's legal realm of practice. The manager promises to be part of the task force and to help develop and support any necessary training and education for Olivia's critical care colleagues. Olivia is frustrated: "It's not my job to show these outdated people how stupid they are being!"

One evening Olivia performs a procedure that, although within her scope of practice, is prohibited by hospital policy. The patient suffers a life-threatening complication.

Questions:

1. Can the family bring a lawsuit against Olivia and the hospital? Why or why not?
2. If the family can bring a lawsuit against Olivia and the hospital, do you think all elements of malpractice will be met?

Discussions:

Yes, the family can bring a lawsuit against Olivia and the hospital. While anyone can file a lawsuit, in this case there is potential malpractice. For malpractice, there needs to be a duty, breach of duty, harm, and causation. Olivia had a duty to care for the patient *following the hospital's policies and procedures.* While Olivia could perform the procedure in her original hospital, there were no policies in place for her to perform the procedure in the current hospital. Thus, by breaking the *scope of care at the hospital*, she breached her duty to the patient. Even if a NPA says an RN can do something, if the hospital has a policy that prohibits it, the nurse is obligated to follow the hospital policy. Hospital policy can restrict scope of care but cannot expand it larger than the state's nurse practice act. Yes, there was harm. The patient suffered a life-threatening complication and there was causation due to the fact the harm was caused by the procedure. So yes, all elements of malpractice have been met.

The nurse should not discuss the case with anyone except the attorney who is representing them (Wacko Guido, 2020). This includes other defendants and close friends. Discussing the case with even close friends may lead to problems later if these close friends indulge in gossip about the lawsuit or are called to testify against the nurse/defendant.

Suppose a nurse is not being represented by the healthcare organization but by an attorney they have hired. In that case, the nurse may be told not even to discuss the case with their employer (Wacko Guido, 2020).

Giving a deposition

A nurse named as a defendant in a malpractice lawsuit should expect to give a deposition. A deposition is "sworn pretrial testimony in response to written or oral questions and cross-examination, recorded by a certified court reporter." Depositions are taken from the plaintiff (patient or family), other defendants, and expert witnesses for both the plaintiff and the defendant. A written, audio, or video record is made of the testimony given during the deposition. Testimony is given under oath, meaning that the persons involved swear that the testimony they are giving is truthful. If the person lies, then perjury has been committed (Wacko Guido, 2020).

Nursing consideration: The information provided during a deposition can be used during the actual malpractice trial. Testimony given during a deposition that differs from testimony given during the trial may be a point of controversy during the trial. Such differences may have an adverse impact on any or all parties involved in the lawsuit. The credibility of the person whose testimony at the trial differs from the testimony given during the deposition could be damaged (Wacko Guido, 2020).

Here are other key points about giving a deposition (Wacko Guido, 2020):

- Depositions given by the defendant are meant to clarify what the patient's medical record contains (documentation by the defendant) and what the defendant intends to say as part of their testimony at trial.
- Depositions given by expert witnesses are meant to examine the scope of the experts' opinions.
- Before the deposition, the nurse's attorney will provide the nurse with advice and guidance as to how they should conduct themselves. The attorney will also review with the nurse the patient's medical record and questions likely to be asked by the patient's/plaintiff's attorney. The attorney will also explain which documents and discussions do not have to be answered - such as information about incident reports. Nurses and other defendants should follow the advice of legal counsel carefully. Deviating from such advice such as discussing the case with friends can have serious consequences.
- During a deposition, in addition to the patient's/plaintiff's attorney and the nurse's/defendant's attorney, other people may be present such as the patient, the patient's family members, and lawyers who represent other defendants in the case.
- During the deposition, the nurse will be asked about their background, education, nursing experience, and the care provided to the patient/plaintiff.

Malpractice coverage

Although the healthcare organization for which the nurse works may cover them under the organization's malpractice insurance policy, it is important that all nurses understand the kinds of events and financial limitations covered by the policy. Nurses should regularly check their employer's coverage of its nurses to be sure that coverage has not changed or been discontinued (Wacko Guido, 2020).

Nursing consideration: If the nurse and their employer are both named as defendants in a lawsuit, even if the nurse is covered by the employer's malpractice insurance, the interests of the nurse and the employer may be contradictory. It is possible that the employer could claim that the nurse failed to act within the scope of their employment and is consequently not covered by the employer's malpractice policy (Wacko Guido, 2020).

Here are some questions nurses need to ask regarding malpractice coverage (Wacko Guido, 2020):

- Am I covered by my employer's malpractice insurance? If so, what are the monetary limits of this coverage?
- What kinds of events and actions does the malpractice insurance policy cover?
- How many claims per year does the malpractice insurance policy cover?
- Does the malpractice insurance policy cover me if the incident that triggered the malpractice lawsuit occurred while I was an employee, but was not an employee by the time legal action was taken? In other words, does my protection stop if I am no longer employed by the organization, even though the incident occurred during my time as an employee?
- Does my employer's malpractice insurance cover the cost of an attorney to represent me?
- What are the laws in the state in which I practice concerning malpractice coverage? Are certain professionals mandated to have coverage? If so, how much coverage is mandated?

Employer's insurance relates to malpractice litigation. However, suppose a complaint is filed against a nurse by the state BON or other regulatory body. Legal representation is still necessary. An employer's policy will cover only malpractice representation. The nurse is on their own when dealing with the BON or other regulatory body complaints unless covered by personal malpractice insurance that includes such coverage (Wacko Guido, 2020).

Nursing consideration: If the nurse and their employer are both named as defendants in a lawsuit, even if the nurse is covered by the employer's malpractice insurance, the interests of the nurse and the employer may be contradictory. It is possible that the employer could claim that the nurse failed to act within the scope of their employment and is consequently not covered by the employer's malpractice policy (Wacko Guido, 2020).

Understanding malpractice insurance

A number of myths surround nursing malpractice insurance. Below are some reasons why a nurse should carry their own individual liability insurance (Wacko Guido, 2020):

1. Defending against a lawsuit is expensive and the healthcare agency's insurance may not cover all the nurse's legal expenses.
2. Nurses with private professional liability insurance are not sued more frequently. A plaintiff does not know if the individual has individual liability insurance until after the lawsuit is filed.
3. Costs may be relatively inexpensive, depending on where the nurse works.
4. Malpractice is not synonymous with incompetence or guilt. Sometimes, untoward events do occur placing the patient at risk, which can place the nurse at risk of being named in a lawsuit.
5. Should the institution decide to sue the nurse for reimbursement, the nurse has coverage for this.
6. A nurse can be sued, even if standard of care was followed. The patient's or family's perception that an error has occurred may be sufficient to trigger a lawsuit.

Types of malpractice insurance and their coverage

Occurrence-based policies cover nurses for events that occurred while the policy was in effect (e.g., the policy period). This is true even if the policy has expired but the claim was from an incident within the time period where the policy was enforced. *Claims-made policies* only provide for claims made within the active policy period and when the lawsuit has been filed with the courts, and when the insurance company is made aware of the lawsuit. If the lawsuit is filed after the policy has expired, the nurse is not covered (Wacko Guido, 2020). Policies usually cover defense costs; covered injuries, which can include bodily injury, mental anguish, property damage, libel, slander; and economic damages (Wacko Guido, 2020).

Policies will include limits of liability (individual claim, and overall [aggregate]). Some policies will not cover criminal actions, incidents under the influence of drugs or alcohol, "physical assault, sexual abuse, molestation, habitual neglect, licentious and immoral behavior toward patients whether intentional, negligent, inadvertent, or committed with the belief that the other party was consenting," and finally actions that violate state nursing practice acts (Wacko Guido, p. 188, 2020).

JUST CULTURE

A just culture is one that supports a safe haven for the reporting of errors and near misses in healthcare (Paradiso & Sweeney, 2019). It is the organization that is ultimately accountable for systems they design and the analysis of the incident, not the individual. The organization realizes errors are a sequence of events with multiple opportunities for correction, as opposed to occurring in a vacuum (Paradiso & Sweeney, 2019). There is not one definition of just culture; however, a generally accepted one is "organizational accountability for the systems they've designed and employee accountability for the choices they make" (Paradiso & Sweeney, 2019).

The first pillar of a just culture is the adoption of a nonpunitive, non-blaming system for the reporting of errors. The goal of the organization is to improve patient outcomes but not blame the individual (Paradiso & Sweeney, 2019). The second pillar is understanding the behavior leading up to a person's choice. Behaviors that could lead to errors would be "at-risk" behaviors, where the risk is not recognized or is believed to be justified. There can also be reckless behavior, which is a conscious decision to disregard the risk that is substantial and unjustifiable (Paradiso & Sweeney, 2019).

Once an error or near miss has been reported, the organization should conduct a root cause analysis (RCA) or failure missed and effects analysis (FMEA) to truly understand how the error occurred and what change is needed to prevent this in the future (Schroeder, Parisis & Foster, 2019). Systems are not infallible. Even with all the checks and balances in US healthcare systems (electronic medical records, orders etc.), mistakes still occur (Paradiso & Sweeney, 2019).

So, does a "Just Culture" mean there is never repercussions for an individual in a healthcare system? No, as stated above, there is a pillar consisting of understanding the behavior underlying the error. There are "at-risk" behaviors, which are a known violation of a rule or procedure, done in good faith that the violation is inconsequential; or reckless behavior, which is the commission of an error out of intentional disregard for the rule or procedure, its consequence, or both (Wasserman, Redinger and Gibb, 2020).

The question is "what should be the repercussion?" Samuel Reis-Dennis (2018) provided an ethical basis for some sort of repercussion for errors based on the ethical idea of a moral imbalance. When someone decides to knowingly break the rules, they are taking advantage of a non-blame culture. This brings about a disadvantage for others. Also, the person who "breaks the rules" is demonstrating a contempt for themselves and for those who follow the rules (Reis-Dennis, 2018). The message communicated is "the rules only apply to others, but not to the person who has broken them" (Reis-Dennis, 2018). He does not advocate punishment for system breakdown, but when members of the healthcare team knowingly break the rules. If there are also system issues, those need to be investigated and handled (Reis-Dennis, 2018).

What should the consequences be for "breaking the rules?" Wasserman, Redinger and Gibb (2020) provide some ideas. The recommendations are for medical students who "break the rules," however they can be applied to all persons working in healthcare. They advocate for two different sets of responses based on the type of "error". If it was a medical error, there is one set of responses and if there is a lapse in professionalism, there is another set (Wasserman, Redinger and Gibb, 2020). Below is a table adapted from their article, expanded to all healthcare providers, not just medical students.

Table 1

Type of Error or Lapse	Response	Example
Medical/Nursing Error		
Inadvertent human error: an error, usually resulting from shortcomings of human cognition, that was unintended.	Console.	Not hearing a patient call button, forgetting to turn a patient.
At-risk behavior: a knowing violation of a rule or procedure but with a good-faith belief that the violation is inconsequential.	Coach.	Error caused by failing to scan a patient's bedside barcode before delivering medication because the system often doesn't work correctly or ignoring a medication dosage alert in the electronic medical record because such alerts pop up constantly.
Reckless behavior: commission of an error out of intentional disregard for the rule or procedure, its consequences, or both.	Discipline.	Failure in completing a procedure or not following policies that directly endanger a patient (e.g., not monitoring a patient after giving a medication that is known to potentially cause harm).
Lapse inProfessionalism		
No-fault suboptimality: a lapse caused largely by environmental factors, but that could have been handled better by the employee.	Affirm, support, advise.	Missing a dressing change because central supply did not deliver the necessary supplies. Being late to work because of a storm where power outages were predicted and alarm clock did not go off.
Nonegregious unprofessionalism: knowing engagement in an unprofessional behavior but with a reasonable and good-faith belief that the violation is minor or inconsequential.	Remediate.	Skipping a mandatory inservice because it is felt the content is redundant.
Egregious unprofessionalism: knowing violation of a professionalism expectation without a reasonable claim or good-faith belief that the violation is minor or inconsequential.	Discipline.	Logging into a family member or friend's electronic medication record after training in HIPAA and other policies.
Modified from: Responding to Unprofessional Behavior by Trainees- A "Just Culture" Framework. Wasserman, Redinger, & Gibb, 2020.		

What is the difference between a "Just Culture" and law enforcement?

Both cultures aim to prevent harm to persons/patients and public interest. According to Eng and Schweikart (2020) "Just culture emphasizes the quality or desirability of an individual's choices and behaviors and apportions corrective actions or discipline on that basis more so than on the severity of the consequences. Criminal law, on the other hand, often focuses on outcomes, and while the law "generally disallow[s] criminal punishment for careless conduct, absent proof of gross negligence" (i.e., a heightened level of negligence that may include recklessness; p781)." This means in a just culture all aspects of the incident are reviewed, however, when examining the same situation through the lens of the criminal system, only the outcome is important." Instead of imposing punishments for all categories of failures of duty, a just culture advocates acceptance and support for errors, coaching to change risky behaviors, and discipline or punishment for those whose actions are reckless because they were committed with knowledge of harm or with purposeful intent to harm" (Eng and Schweikart, 2020 p781). Whereas in law enforcement, there may not be "coaching" but punishment, no matter if the behavior was risky (such as driving 5 miles over the speed limit) or with wanton recklessness (driving 50 miles over the speed limit and swerving wildly; Eng and Schweikart, 2020).

Even with Just Culture, does the error still effect the healthcare provider?

The most obvious victim of a medical error is the patient (and family), however, there is a second victim - the healthcare worker who was involved with the error (White and Delacroix, 2020). The healthcare worker can suffer significant emotional harm and burnout, whether their contribution to the error was preventable

or not, and depending on the severity of the error (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). White and Delacroix, in their integrative review of the research, describe a six-stage recovery process which most second victims go through.

The six stages are:

1. Chaos and accident response, where the medical error is first detected and usually involves an acute stress response.
2. Intrusive reflections, where those who err experience a period of self-isolation and rumination regarding the event.
3. Restoring personal integrity, in which healthcare providers are haunted by intrusive thoughts regarding the error and its impact on their personal and professional self.
4. Enduring the inquisition, where second victims worry about legal and professional repercussions.
5. Obtaining emotional first aid for those who err to seek emotional support from trusted family members, friends, and/or colleagues.
6. Moving on by either dropping out, surviving, and/or thriving (White and Delacroix, 2022 p7). A healthy recovery after a medical error is highly grounded in the individual's coping skills and self-forgiveness (White and Delacroix, 2022).

What also assists with second victim recovery is support from the employing institution. According to the findings in the White and Delacroix article, the second victim needs 1) fair treatment; 2) respect; 3) institutional understanding of their need for assistance in coping with the experience; 4) institutional support; and 5) transparency as the institution fosters a culture of openness to aid in the healing process (White and Delacroix, 2020, p8).

This finding was also supported in a research study published after White and Delacroix's publication. Sexton, et al in 2021 published their findings examining the perception of institutional support for second victims (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021). They examined cross sectional data from 13,040 healthcare workers across 440 work settings within one academic health system (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). Forty-three percent of the registered nurses surveyed (the largest group within the respondents with an n=3,367) were aware of a second victim (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021). But of those nurses, only 31% felt the institution actually provided support for second victims. (Sexton, Adair, Profit, Milne, McCulloh, Scott and Frankel, 2021). The study also demonstrated that those who felt there was poor support for second victims also scored more negatively on the assessment of the safety culture of the institution, than those who did not know a second victim. Thus, the authors concluded this dichotomy could have significant repercussions on the overall culture of the institution. Leaders can take away from this the need to assess the gaps in perceived second victim support and to improve the institutional structure of support, which may help with overall increase in the support of a safety culture (Sexton, Adair, Profit, Milne, McCulloh, Scott, and Frankel, 2021).

Should the error be disclosed to the patient or family?

Traditionally, patients and families were not made aware of the error unless it was obvious. Healthcare systems traditionally had a deny and defend strategy in hope of providing limited information to the family and denying fault. However, this has changed (Agency for Healthcare Research and Quality [AHRQ], 2019). This is in direct contrast to patient-centered care. Now a number of institutions have adopted the philosophy of "communication and response." This philosophy emphasizes early disclosure of adverse events, appropriate investigations (and letting the patient and family know the institution is investigating the event), changes to mitigate the chances of the event happening again, and, if care was inappropriate, financial compensation. Research has demonstrated this approach has led to a decrease in malpractice lawsuit and lower litigation costs. How the adverse event is disclosed to the patient and/or family needs to be handled thoughtfully and with sensitivity to avoid alienating the patient and/or family. State legislatures have supported this change in the culture of healthcare with more than 33 states having laws that preclude some or all information contained in the disclosure from being used in a malpractice lawsuit (AHRQ, 2019).

Self-Assessment Quiz Question #8

Taylor makes a medication error. He forgets to scan the patient's identification before administering the medication. There was no harm to the patient. He submits a report in the hospital's reporting system. In a just culture, should there be any consequences, and if so, what should they be?

a. No consequences, since he reported the failure to scan.
b. No consequences, since there was no harm to the patient.
c. Yes, this is an at-risk behavior and coaching would be appropriate.
d. Yes, this is a reckless behavior, and he should be written up.

Conclusion

Nurses have faced legal and ethical dilemmas for many years. It is the obligation of each nurse to practice within the scope and standards of practice as established by NPAs and within ethical codes of conduct. Understanding what could place a nurse in legal jeopardy is important. Also understanding what a "just culture" is and is not, will help the nurse in their care. Finally, the best interest of the patient is every nurse's primary goal and responsibility.

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ETHICAL AND LEGAL ISSUES IN NURSING PRACTICE

Self-Assessment Answers and Rationales

1. The correct answer is A.
Rationale: A veracity is telling the truth. By accurately telling the patient the side effects of the medication, the nurse is being truthful to the patient.

2. The correct answer is C.
Rationale: Changing a bandage is within what can be delegated to an LPN. The rest of the items can be performed only by RNs.

3. The correct answer is D.
Rationale: It is each state or territory's board of nursing which develops and enforces nursing practice acts.

4. The correct answer is D.
Rationale: You are overstating your credentials.

5. The correct answer is C.
Rationale: This forces the patient to tell you what they understood, and any misconceptions can be discussed. The rest of the answers can be answered yes/no or not answered at all by the patient.

6. The correct answer is C.
Rationale: Given the Hospital Readmissions Reduction Program, if one of the patients is readmitted within 30 days of discharge, the hospital may lose the reimbursement for the admission.

7. The correct answer is A.
Rationale: Even though Tom has not posted names, he has posted private patient information by using patient descriptions (most of his patients were combative) and location (unit and hospital).

8. The correct answer is C.
Rationale: While there was no harm to the patient and Taylor reported the incident, he did place the patient at risk. After an investigation to see why Taylor did not scan (no scan wand in the room, the scan wand was broken, etc.) and any systems issues fixed, Taylor should be coached on how to prevent this from happening again.

Course Code: ANCCUS07EL

Mental Health Concerns and The Older Adult

6 Contact Hours

Release Date: October 12, 2022

Expiration Date: October 12, 2025

Faculty

Mary Perry, MSN, RN, PMHNP-BC, is a psychiatric mental health nurse practitioner board certified across the life span. She also holds a board certification as a clinical nurse leader. Her background is medical-surgical, aerospace medicine, military contingency aeromedical evacuation support, and mental healthcare. She received her BSN in 2006 from The University of Alabama at Birmingham, her MSN in 2016, and a postgraduate certificate in 2020 from The University of Alabama. Her previous employment includes the U.S. Air Force as an active-duty nurse; the U.S. Navy in Okinawa, Japan, as an independent contract nurse; and at Troy University in Montgomery, Alabama, as an adjunct professor.

Mary Perry has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Reviewer: Tonya Kasselman, MSN, RN, FNP-BC, is a board-certified family nurse practitioner. Her background includes skilled rehabilitation, long-term care, assisted living, diabetes management, and geriatric care. She received her BSN in 2003 from Fort Hays State University in Hays, Kansas. She received her MSN in 2011 from Wichita State University.

Tonya Kasselman has disclosed that she has no significant financial or other conflicts of interest pertaining to this course.

Course overview

The healthcare worker meeting mental health needs will be able to view the older adult within the context of aging theories and identify interpersonal connection, biopsychosocial elements, and the assessment and treatment for common mental health problems in the older adult. The target audience is any healthcare worker who will assess, intervene, or treat mental health needs of an older adult client. Registered nurses, mental health technicians, mental health providers, case managers, and primary care healthcare workers can benefit from the perspective provided by this course.

Learning objectives

Upon completion of this course, the learner will be able to do the following:

- Examine the most common theories on aging, developmental tasks, and reflection from the older adult perspective.
- Evaluate essential components of the therapeutic alliance with the older adult.
- Demonstrate verbal communication styles that enhance the interpersonal connection with the older adult.
- Differentiate the social determinants of health and the barriers to care for the older adult.
- Select recommended assessment considerations for the older adult.
- Appraise biopsychosocial considerations for the assessment for the older adult.
- Analyze crisis, loss, grief, and bereavement for the older adult.
- Distinguish risk factors, treatment, and recovery for the older adult with a mental health diagnosis.

How to receive credit

- Read the entire course online or in print which requires a 6-hour commitment of time.
- Complete the self-assessment quiz questions which are at the end of the course or integrated throughout the course. These questions are NOT GRADED. The correct answer is shown after you answer the question. If the incorrect answer is selected, the rationale for the correct answer is provided. These questions help to affirm what you have learned from the course.
- Depending on your state requirements you will be asked to complete either:
  - An affirmation that you have completed the educational activity.
  - A mandatory test (a passing score of 70 percent is required). Test questions link content to learning objectives as a method to enhance individualized learning and material retention.
- Provide required personal information and payment information.
- Complete the MANDATORY Self-Assessment and Course Evaluation.
- Print your Certificate of Completion.

CE Broker reporting

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Activity director

Deborah Martin, DNP, MBA, RN, NE-BC, FACHE, Director of Learning Innovation Colibri Healthcare, LLC

Disclosures

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Course verification

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INTRODUCTION

Aging is a normal biological process. It is a distinctive, often progressive, natural decline in functioning that includes all body systems— cardiovascular, endocrine, immune, and neurological, to note a few. *Elderly* is a term often used interchangeably with *older adult*, which the American Association of Geriatric Psychiatry (Lundebjerg et al., 2017) defines as those age 65 years and older, which qualifies them for Medicare eligibility. This patient population is projected to double from 2015 to 2050 worldwide (World Health Organization, 2017). As the world population rapidly increases, so too do mental health needs. Everyone will experience aging on some level, but differing populations will advance at different rates. However, increasing age is not proportionally associated with declining intellectual and physical capacity. Older adults with mental health needs are a population subset with specific characteristics for the healthcare worker. The ability to thoroughly assess and diagnose, individualize care (whether lifestyle related or pharmacologic), and tailor mental health interventions for the older adult can improve quality care and safety. The unique presentation of the older adult can provide a better understanding for assessment, intervention, and treatment considerations for the healthcare worker addressing the mental health needs of the older adult.

THEORIES ON AGING

The inevitability of aging and its developmental stages in association with human health have been studied and debated over the years. What follows is a summarization of the most common theories on older adulthood, from Sigmund Freud, Heinz Kohut, Bernice Neugarten, Daniel Levinson, and Erik Erikson. Healthcare workers see aspects of each of these while assessing and caring for the older adult's mental health needs. Sigmund Freud was focused on the need to control the ego (part of the human psyche that operates in the real world) and id (part of the human psyche that strives to fulfill primal needs) with the superego (internalized values and morals that push the ego to act in a more virtuous way). Regression may induce rudimentary methods of coping to resurface in the older adult (Sadock et al., 2015). Heinz Kohut stated that the elderly are constantly faced with narcissistic injury as they cope and adapt to the biological, psychological, and social losses associated with the aging process. The central task of aging is preservation of self-esteem (Sadock et al., 2015). Bernice Neugarten theorized the major conflict of old age to lie in the release of autonomy and authority; the focus is on accomplishments and previous victory. This time is for reconciliation with others and processing grief related to the death of others and the inevitability of death of self (Sadock et al., 2015). Daniel Levinson found that age 60 to 65 is a transition period. Older people, "late adults," become consumed by the thought of their death and are often narcissistic and heavily engrossed in their body appearance. He found that creative mental activity is recommended and is a healthy substitute for decreased physical activity (Sadock et al., 2015). All the above theorists have aspects of interest for the healthcare worker to note; however, Erik Erickson's eight psychosocial stages of development are especially worthwhile to consume prior to working with an older adult.

Erik Erikson created a framework that highlights tasks to be accomplished, virtues to be gained, or—conversely—a crisis can occur throughout the life span. He expanded on Freud's theory by recognizing the relationship between the individual and their environment to include a client's customs and traditions (Sadock et al., 2015). The healthcare worker should approach each client's meaning, acceptance, or toil with life and death with cultural awareness. Erikson's stages from birth to older adult are a trajectory of development, an amalgamation of physical, cognitive, instinctual, and sexual realms (Sadock et al., 2015). An interruption or inability to accomplish the tasks in each stage may lead the client to undergo a decision point in their life. The older adult is influenced by each stage along the continuum. The healthcare worker can gain much by capturing the perspective

of the older adult client through the lens of the stages of Erik Erikson's psychosocial stages of development. Stage 1 is trust versus mistrust (usually met in infancy and has an associated virtue of hope); stage 2 is autonomy versus shame (usually met in the toddler timeframe with an associated virtue of will); stage 3 is initiative versus guilt (usually met in the preschool age and the associated virtue is purpose); stage 4 is industry versus inferiority (usually met during the school age and the associated virtue is competence); stage 5 is identity versus confusion (usually met in adolescence and the associated virtue is fidelity); stage 6 is intimacy versus isolation (usually met in early adulthood and the associated virtue is love); stage 7 is generativity versus stagnation (usually met in adulthood and has the associated virtue of care); and stage 8 is integrity versus despair (usually met in older adulthood and has the associated vesture of wisdom) (Boyd, 2017).

The older adult grew an appreciation of interdependence from stage 1. Acceptance of the life cycle and self-control were gained in stage 2. In stage 3, the older adult gains humor, empathy, resilience, and life direction. The older adult developed humility and acceptance of the course of their life to include unfulfilled hopes in stage 4. Stage 5 brings a sense of complexity to life and helps merge perception and devotion to life for the older adult. The older adult gathers a sense of relationships and comes to value tenderness and love during stage 6. In stage 7, the older adult has learned empathy and how to care for others with concern. The eighth and final stage, integrity versus despair, refers to the time period between being an older adult and death. An older adult client in this stage of life is juggling the purpose versus the finality of their life. This concept can be deep and meaningful, and it can drive the decisions a client makes toward their own health and the care they want/expect at the end of their life. An older adult client struggling with the fulfillment of this stage can experience high levels of despair and detachment (Sadock et al., 2015). These can be barriers the healthcare worker must consider when planning care and offering mental health interventions and treatments to the older adult. With an awareness of the theories on aging, the healthcare worker can more accurately conceptualize the client in their current presentation and use this information in the administration of mental healthcare.

Self-Assessment Quiz Question #1

The healthcare provider identifies the sense of satisfaction the older adult feels reflecting on a life lived productively as which task from the final stage of Erik Erikson's psychosocial stage of development?

a. Integrity.
b. Despair.
c. Generativity.
d. Stagnation.

INTERPERSONAL CONNECTION WITH THE OLDER ADULT

An essential component of mental healthcare is the therapeutic relationship between the healthcare worker(s) and the older adult client. A healthcare worker who builds and maintains a therapeutic relationship will be connected to the older adult client, enhancing their ability to meet their mental healthcare needs. The older adult views connection as vital to their identity, autonomy, and self-esteem (Jack et al., 2019). Key elements in the healthcare worker forming a therapeutic relationship are rapport, empathy, and professional boundaries—all within the bounds of cultural consideration for the older adult. These elements will aid communication between the healthcare worker and the older adult, which in turn strengthens the therapeutic relationship, a paramount component of mental healthcare.

Rapport—trust

Rapport is "interpersonal harmony" rooted in mutual understanding and respect for another (Boyd, 2017, p. 93). This concept of rapport is critical for the healthcare worker to develop a therapeutic relationship with the older adult in order to address their mental health needs. Trust is the foundation of the therapeutic alliance (Carlat, 2017). How a healthcare worker establishes rapport and builds trust depends on their individual capabilities and the current presentation of the client.

Connecting with the older adult can be challenging if the healthcare worker harbors conscious or unconscious bias or stereotypes. Ageism is a healthcare worker's perception and outlook based on their assumptions, perceptions, expectations, and beliefs that they form about older people, aging, and old age (Ayalon & Tesch-Romer, 2018). Ageism can negatively drive a healthcare worker's interaction with the older adult client. The World Health Organization (WHO) has identified ageism as one of the key targets for improving health (WHO, 2021). Awareness of ageism by the healthcare worker when meeting and building rapport with an older adult mental health client is imperative.

An example of ageism is a healthcare worker undervaluing depressive symptoms reported by the older adult and failing to address them in a timely manner or adequately because the healthcare worker assumes depression is common in all older adults. Ageism in this context could lead to a reduced calculation of risk, leaving the older adult client in an unsafe situation to self or others. Caution is warranted to avoid discriminating against the older adult client.

The healthcare worker can decrease common pitfalls of ageism through the practice of self-examination. The principle of self-awareness is defined as a healthcare worker's personal beliefs, thoughts, motivations, biases, and limitations (Boyd, 2017). By evaluating one's self, often through directed questions/thoughts, the healthcare worker can break internal or external barriers that inhibit personal connection with the older adult client. Self-concept awareness can be explored with a series of methodical questions related to what, when, and how a person has come to define themselves. The questions can be thought of as being in three major categories: body image, self-esteem, and personal identity (Boyd, 2017). Body image refers to the physical attributes that make up the outside of one's appearance and includes beliefs and attitudes about one's body (Boyd, 2017). An example of how this idea can be self-searched is to ask questions such as "How do I see myself when I look in the mirror?" and "What do I like about my body and/or dislike about my body?" How comfortable a person feels within their own skin can positively or negatively affect the way they interact with others. Self-esteem, another category, is one's perception of worth or importance, and it is a deeper view than body image (Boyd, 2017). It encompasses a person's confidence, which can be molded throughout time. An example of how to review self-esteem is to ask questions such as "How do I feel about myself and my worth?" and "How do I talk to myself in my own head (positive or negative self-talk)?" The third category of self-concept awareness is personal identity.

Personal identity is how a person sees themselves in relation to others (Boyd, 2017). An example of how to search this concept further is to ask questions such as "What words describe who I am?" and "What groups do I identify with?" and "How does my cultural or spirituality play into who I am?" By knowing more about body image, self-esteem, and personal identity, a healthcare worker can have a better understanding of their own roots, which provides insight into relationships. Self-assessment takes time and humility but will benefit the healthcare worker in all client interactions. Self-awareness leads a healthcare worker closer to objective empathy, thus allowing for connection with the older adult shaped through their individualism. Spend time getting to know yourself and re-evaluate regularly. There is value in understanding yourself and how you have changed over time, and this understanding can enhance interpersonal relationships with the older adult.

Rapport and trust are assembled or hindered from the initial client meeting and transform/shift at every subsequent interaction. Other ways to increase rapport and trust are with the use of interpersonal warmth and a nonjudgmental attitude (Boyd, 2017). The healthcare worker should prepare for positive interactions prior to the first interaction with the client and work at strengthening the bond whenever possible. Healthcare organizations can also strive to decrease ageism by offering educational activities that dispel misconceptions and prejudices while addressing intergenerational concerns of the older adult (WHO, 2021). Ultimately, the healthcare worker must foster a therapeutic relationship nurtured in rapport and trust in order to meet the mental health needs of the older adult.

Cultural care

To understand the older adult more completely, the healthcare provider must enter the therapeutic relationship with the understanding that cultural beliefs and practices impact care. The older adult client may identify with a particular culture, and the healthcare provider needs to assess that identification in order to provide quality mental health services. The healthcare worker needs to understand the definition of culture, its application, and how to extend cultural acceptance.

Definition of culture (American Psychiatric Association, 2022c):

1. The distinctive customs, values, beliefs, knowledge, art, and language of a society or a community. These values and concepts are passed on from generation to generation, and they are the basis for everyday behaviors and practices.
2. The characteristic attitudes and behaviors of a particular group within society, such as a profession, social class, or age group.

The healthcare provider must assess each older adult client with openness using cultural competence and cultural humility. Cultural competence is the knowledge, skill, and awareness the healthcare provider possesses (Boyd, 2017). Cultural humility is the healthcare provider's ability to self-reflect on potential bias and possible factors that could interfere with providing mental healthcare (Stubbe, 2020). It places emphasis on a continuous learning process for the healthcare worker. Both concepts are defined and designed to aid the healthcare worker in their interactions with older adult clients and provide cultural acceptance.

Techniques for the healthcare worker to extend cultural acceptance (Stubbe, 2020) include:

- Review your agency's policies and practices toward culture.
- Find out if your agency provides accommodations for language.
- Simply ask the client how they identify their culture.
- Take notes on specific practices, customs, and beliefs the client discusses.
- Avoid assumptions.
- Ask about discrimination, bullying, or possible harassment related to culture.
- For validation, reword and repeat what is being shared.
- Give the client permission to speak up when they are feeling misunderstood.

Empathy

In the healthcare profession, empathy has nineteenth-century historical beginnings. Florence Nightingale is the most notable advocate as a result of her role in bringing compassion and empathy to patients. She is credited with unifying science and skill with compassion and empathy (Magpantay-Monroe, 2015). Exhibiting empathy can be thought of as an individualistic portion of healthcare with artistic freedom. There is more than one correct and therapeutic way to connect with older adult clients when assessing, intervening, and delivering treatment—especially when meeting mental health needs. The healthcare worker addressing mental health concerns can utilize and modify various approaches to communication to elicit trust and rapport that enrich the environment for information exchange, often of a sensitive nature. The healthcare worker can use originality with the empathetic approach, with the goal of maximizing the dialogue with the older adult client. This is important for the older adult client because the WHO (2021) notes empathy as a method for combatting ageism. With trust and empathy, the healthcare worker can increase interpersonal connection enveloped in empathy with the older adult client, making it easier to assess, intervene, and treat mental healthcare needs.

Professional boundaries for the mental healthcare worker

While meeting the needs of the older adult mental health client, the healthcare worker is cautioned to maintain professional boundaries. Ethical topics such as abuse can be of concern with older adult mental healthcare, and they warrant a review of appropriate interaction. The National Council of State Boards of Nursing (2018) defines professional boundaries as the area between the healthcare worker's "power and the client's vulnerability." Mental healthcare assessments and interactions depend on the healthcare worker's aptness within this delicate scope. The focus during the interview should always be the client. Keeping the perspective of the client's recovery goals can guide the healthcare worker to maintain appropriate balance. The healthcare worker should avoid self-disclosure whenever possible. Self-disclosure is defined as personal information a healthcare worker shares with a client (Boyd, 2017). Using honesty and redirection can give the healthcare worker the ability to shift questions or comments about themselves back in line with the therapeutic relationship. Remember, the goal is to help the older adult client through professional interactions and work to improve their quality of life.

Transference and countertransference are two sides of the same coin. The healthcare worker meeting mental healthcare needs for the older adult should use acute recognition/awareness for the hindrance of either element. Transference is a client placing the thoughts, feelings, or behaviors they associate with someone else onto the healthcare worker (Boyd, 2017). This can be heard when a client says things such as "You remind me so much of my son/daughter" or "You look like a girl/boy a grew up with." While these comments are not infallible indicators, they should prompt the healthcare worker to follow up on the association the client is making. The association can be favorable—or an obstacle to overcome. Countertransference is when a healthcare worker knowingly or unknowingly places their own feelings or attitudes onto the client (Boyd, 2017). This term can present in a positive or negative connotation. If the elderly client reminds you of your loving grandparent, then you might take great care in meeting needs or risk breeching professional boundaries. If the older adult client reminds you of your abusive grandparent, then the client is at risk for decreased objectivity in assessment and possible degradation of care rendered. Both transference and countertransference can be combatted with awareness. The practice of self-awareness and the review of extenuating factors that contribute to ageism, as discussed above, can also be applied to transference and countertransference. Trust, empathy, and a focus on professionalism place the healthcare worker in the appropriate space for communicating and enhancing mental healthcare needs of the older adult.

Theory of interpersonal relationship

In 1952, Hildegarde Peplau created the first psychiatric framework for the nurse–patient relationship (Boyd, 2017). The systematic organization of the professional relationship she created can be generalized to a wider spectrum for healthcare workers meeting mental health needs. The framework consists of three phases of the professional relationship. The first phase is the orientation phase: the introduction and initial exchange of acquaintance and building of trust that can happen in minutes or may take months (Boyd, 2017). The older adult is seeking help and has identified unmet mental health needs. The therapeutic relationship begins with the first interaction and changes with every subsequent interaction. The healthcare worker uses the orientation phase to listen, establish boundaries, manage expectations, and use self-awareness to check for countertransference (Boyd, 2017). The second phase is the working phase: the space for examining existing problems and finding acceptable solutions to overcome them (Boyd, 2017). This phase is where the majority of the interpersonal relationship for assessing, implementing, and evaluating take place. It typically happens over time. A sense of comfort is felt in this phase for the older adult and the healthcare worker. The older adult has emotional safety in this phase and is able to address mental health struggles. The healthcare worker is cautioned that transference is common in this phase (Boyd, 2017). Goals toward recovery should be reached during this phase. The final stage of the framework is the resolution phase: the termination of the services and relationship take place in this stage (Boyd, 2017). Not all relationships will follow through to the resolution phase. But if they do, the healthcare worker can say "good-bye" and reflect on the progress made by the older adult as well as the social support put into place for continued success (Boyd, 2017).

The components of trust that build rapport, culture consideration, empathy, and professional boundaries can be applied throughout Hildegarde Peplau's framework. The healthcare worker can visualize the potential psychiatric therapeutic relationship with the older adult client prior to initiation with the goal of improved interactions. The healthcare worker can also have an awareness for the progression and evolution of the therapeutic relationship, including its termination.

COMMUNICATION AND LIMITATIONS WITH OLDER ADULTS

Communication is a vital key for the healthcare worker to properly meet mental health needs of older adult clients. A healthcare worker can provide dignity and respect when the older adult client feels heard (Jack et al., 2019). The National Institute on Aging (NIA) has recommendations for improving communication with the older adult. Communication with older adults is often hindered by declining sensory, cognitive, and physical abilities (NIA, 2021a). Therefore, a healthcare worker must utilize a variation in communication techniques—tailored to suit the needs/abilities of the client. These can aid the healthcare worker's ability to elicit information for proper assessment and intervention. They also have recommendations for communicating with the older adult who has hearing, visual, or cognitive deficiencies. Hearing and vision are both normal biological processes that decline with age and need to be accommodated when assessing and intervening with the older adult to ease the information exchange.

Recommendations for improving communication with the older adult include the following (NIA, 2017):

- Use an older client's preference for being addressed and include their proper titles such as Mr., Mrs., Ms., Dr.
- Avoid endearing terms such as *honey* and *dear*.
- Ensure comfort for them and provide adequate chairs or adjust the setting as needed.
- Choose your words wisely and clarify when confusion seems apparent; some words are used flippantly, such as *depression* and *crazy*.
- Proceed with cultural competence.
- Encourage the client to write or take notes if desired.
- Suggest that a family member or caregiver be present during interactions and be involved in tasks to provide support.
- Include reassurance of understanding and use the teach-back method when applicable to the older adult and the family members or caregivers.

Recommendations for accommodating hearing impairments include the following (NIA, 2017):

- Assess that the client can clearly hear you. If they cannot, ask if they use a hearing aid and make sure it is being used properly if needed.
- Use a regular pitch and volume. Raising your voice actually decreases understanding for those with hearing difficulties.
- Posture yourself directly in front of the client for face-to-face contact, which enhances their ability to read your lips if needed.
- Decrease background noise and close doors if they're comfortable with it.
- Spell words out if confusion is present nonverbally.
- Have a piece of paper ready if you need to write or they want to write to you.
- When transitioning is going to take place in the interview, tell them verbally that you are changing the subject, for example, "I'm going to move on to the next part of this interview."

Recommendations for accommodating visual impairments include the following (NIA, 2017):

- Assess whether the client can clearly see. If they need eyeglasses, ask if they brought them.
- Proper lighting is necessary for the older adult. Reduce glare for screens.
- Ask for their preferred method of learning when providing instructions (verbal, written, visual, pictures, etc.)
- If writing, make sure they can read it.
- If using printed materials, 14-point font is suggested.

Recommendations for accommodating cognitive impairments include the following (NIA, 2017):

- Be patient and allow for ample time to reduce feeling rushed.
- Ensure you have the client's attention prior to starting.
- Orient and reorient the client as needed throughout the interaction.
- Use a familiar setting for the interview if possible.
- Include family, friends, or caregivers with client consent.
- Avoid medical jargon and rephrase to understandable wording.
- Present one question or direction at a time.
- Choose open-ended (e.g., "How does that make you feel?" or "What do you think might have contributed to this feeling?") or closed-ended questions (e.g., "Did you get any sleep last night?" or "Have you been feeling sad and down lately?") based on the client's ability to answer (closed-ended questions are often easier if cognitive deficits are present).
- Consider following up with the client within the week to assess for understanding and allow for questions.
- Encourage cognitively stimulating activities, exercise, and a healthy diet.

Hearing, visual, or cognitive impairments that are clinically prohibitive to communication will require the healthcare worker to utilize more extensive variations in technique, and possibly require professional assistance or assistive devices. If professional assistance and assistive devices are required, the healthcare worker can collaborate with experts, such as case management, to mitigate communication barriers for the older adult client.

A brief review of verbal and nonverbal communication with older adult considerations can benefit the healthcare worker. Nonverbal communication is gestures, expressions, and body language (Boyd, 2017). It encompasses more of the interaction than verbal communication. The psychiatric older adult client can be difficult to interpret if disabilities or cultural differences are present. Using understandable language to verbally validate nonverbal observations can help clear any perceived deficiency in the information exchange.

Ten techniques can be used to improve the psychiatric interview with the older adult: acceptance, confrontation, doubt, interpretation, observation, open-ended statements, reflection, silence, and validation (Boyd, 2017). Acceptance is a therapeutic way to encourage information exchange in an open manner and is useful for establishing trust and building rapport (Boyd, 2017). The healthcare worker can practice this by saying things such as "It is ok to tell me about it—I would like to hear how it made you feel." Confrontation is used with discretion when trying to confront reality for the older adult (Boyd, 2017). The healthcare worker can use confrontation gently to address inconsistencies; however, it has the potential to divide the therapeutic relationship and cause discourse in communication. Doubt is also used cautiously when a healthcare worker is certain the older adult is incorrect about factual information. The healthcare worker should assess for the presence of cognitive deficiencies if misinformation in the older adult's communication is apparent.

Interpretation is a technique that the healthcare worker can embrace when trying to help the older adult identify their thoughts and feelings. For example, if the older adult is adamant that they cannot attend appointments anymore after dark because they might wreck their car, the healthcare worker could state, "It sounds like you are scared to drive after dark. Let us chat about driving safety." The older adult may respond to the interpretation, and the healthcare worker can work from the given response. Observation is the healthcare worker noticing and remarking on the older adult's verbal and/or nonverbal behaviors (Boyd, 2017). It can be used by noting body language and remarking on it by saying, "I can see that you are reluctant to discuss this topic." Open-ended statements are a method for getting the older adult to speak freely on topics to aid with insight (Boyd, 2017). The healthcare worker can start a statement with something like "Happiness means . . ." and have the older adult finish the sentence/thought. Reflection is a technique that gives the older adult permission to have uncomfortable feelings (Boyd, 2017). If the older adult asks a pointed question to the healthcare worker such as, "Should I stop drinking alcohol?" The healthcare worker can use reflection to answer back with, "Do you think you should stop drinking alcohol?" The use of reflection can keep the focus on the patient instead of the healthcare worker. Restatement is a therapeutic way of validating what the older adult is saying (Boyd, 2017). For example, if the older adult says, "I hate coming here," the healthcare worker can restate the expression and say, "It sounds like you do not want to be here." A similar technique is validation. It is used when the healthcare worker is searching for understanding (Boyd, 2017).

When the healthcare worker uses it, it can sound like "I want to make sure I understood you"—and then describe what you think you heard. If restated or validated correctly, they both can reassure the older adult that you are listening and open to discussion. Silence is a communication tool that needs proper utilization with the older adult. With therapeutic silence, the healthcare worker remains silent but uses nonverbal facial expressions to show interest so that the older adult can have time to put their thoughts together (Boyd, 2017). The healthcare worker can try therapeutic silence early in the assessment and ask if the extra time is helpful. Extra silence during communication may indicate the need for intervention for the older adult or the need to change selected communication techniques. All communication techniques are useful for various situations. The healthcare worker will choose which technique(s) work best for each individual communication exchange.

The healthcare worker can also have difficulties with communication if the older adult client is reluctant to talk or, inversely, is overly talkative. These challenges can be due to poor cognition or resistance to change in the older adult (Jack et al., 2019). The healthcare worker needs a specific approach to address these situations.

Recommendations for the reluctant patient include the following (Carlat, 2017):

- Use open-ended questions, allowing for an opportunity for free dialogue such as "What things make you feel sad?"
- Use continuation prompts such as "Go on" and "Tell me more."
- Search for a neutral ground when the interview is going awry; talking on neutral ground can provide an easier and subtle way into difficult thoughts, feelings, or emotions.
- Remember that rapport and trust take time.
- Triage the information you need at each visit, and prioritize safety.

Recommendations for the overly talkative patient include the following (Carlat, 2017):

- Use close-ended questions and multiple-choice questions to keep the patient's answers brief (an interview needs open-ended questions as well, but closed questions and multiple choice can speed the interview along to maximize the information shared).
- Learn to politely interrupt. This requires empathy. If it was not covered prior to starting the assessment, a reminder of the allotted time of the interview helps reign in an overly talkative client.

The older adult who is unable to communicate may experience high rates of loneliness and depression (Palmer et al., 2016). Depression in older adulthood is often accompanied by tears. This can make interviewing difficult for the healthcare worker. Traversing tears and sad emotions can be heavy and uncomfortable for the healthcare worker.

Recommendations for the tearful patient include the following (Carlat, 2017):

- Refrain from self-disclosure.
- Provide tissues.
- Embrace any lengthy silences and lean into empathy.
- Try to understand the meaning behind the tears.
- Assess the frequency of tearful episodes.
- Validate that crying is acceptable if needed.
- Be aware that crying is also a sign of intense emotion and warrants further investigation; assess for safety.

The healthcare worker should view each older adult client as an individualized opportunity. Being able to effectively communicate is crucial for the healthcare worker to assess and build trust with the older adult. Understanding the problems and difficulties the client is facing will not be possible if a mutual understanding is not present. There are a multitude of variations in communication styles and techniques the healthcare worker can utilize to nurture rapport, build trust, and foster a therapeutic alliance with the older adult. If more assistance is needed to connect and communicate with the older adult client, ask for help from family, caregivers, and/or your employer. An inability to communicate is determinantal to successfully meeting the mental health needs of the older adult.

Self-Assessment Quiz Question #2

The healthcare worker initiates a therapeutic conversation with an older adult and is focused on improving communication techniques to enhance the relationship and elicit information for assessment. The healthcare worker will use all of the following EXCEPT:

a. Cultural competence.
b. Inclusion of family or caregivers.
c. Teach-back method.
d. Terms such as honey and dear.

Older adults seek mental healthcare 40% less than younger populations (Substance Abuse and Mental Health Services Administration [SAMHSA], 2019). Mental health treatment for instability or illness for the older adult is multifaceted. How the older adult views their collective health can determine the level at which they will seek care to maintain or restore their mental imbalance or illness. The U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP) in Healthy People 2030 names five areas related to social determinants of health: education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability (ODPHP, 2022). Each will be expanded upon for potential barriers and benefits of care.

Determinant 1: Education access and quality

On average, people who have greater levels of education live longer and healthier lives (ODPHP, 2022). Educational opportunities are often focused on younger populations, and older adults might be beyond the point of increasing their educational status level. However, the healthcare worker can identify and help them overcome this deficit. The healthcare worker should assess health literacy in the older adult client and plan written materials accordingly. Further assistance might be necessary for people with disabilities that severely impair cognition, hearing, or vision.

The Centers for Disease Control and Prevention (CDC) states that 71% of adults over the age of 60 struggle to read printed materials (CDC, 2021a). This is often due to naturally declining vision. With recommendations to help older adults who struggle with poor vision, the healthcare worker can help mitigate hindrances related to vision.

Ensuring health literacy in the older adult with visual challenges includes the following practices (CDC, 2021a):

- Ensure the written material can be read by the client (have them read it to you).
- Use high contrast (black words on a white background are best).
- Use an average font size of 16 to 18 (increase if needed).
- Use extra white space between lines of information (make the space of the lines at least 25% of the point size).
- Do not use glossy paper (it creates glare).
- Use the least amount of text necessary.
- Use audio instruction in addition or as a substitute (see NIA recommendations listed prior for best outcomes).
- Adjust needs accordingly and reduce screen glare if electronic materials are used.

Determinant 2: Healthcare access and quality

Older adults often delay addressing mental health needs until the problems become chronic or severe. While access to mental health services is problematic for many people across the mental health spectrum, it is critically important for those that suffer with severe mental illness (SMI) (Sadock et al., 2015). To address the healthcare access and quality social determinant for the older adult, the healthcare worker can review the frequency, ease, or difficulty of accessing mental health services. Available options for care, transportation, technology, and stigma will be discussed related to the role they play in the older adult client accessing or being prohibited from accessing mental healthcare.

If access to healthcare or decreased quality of current care is an issue for the older adult, the healthcare worker can propose federally qualified and/or local community-based options. The following recommendations are from the U.S. Department of Health and Human Services (HHS) and provide recommendations and tools to increase healthcare access and quality of care for the older adult. The older adult client, family, or caregiver can search for local options using the official benefits website of the U.S. government. One website to explore is Medicare. The older adult client can sign up for benefits that include preventative screenings and services; check what services are covered; submit claims; compare providers; find physicians, group practices, hospitals, home health agencies, and facilities based on star ratings, services offered, and quality of care; and get a replacement card if needed (United States Department of Health and Human Services [HHS], 2022). Another website to search is Medicaid. The older adult client can access information about state programs (HHS, 2022). The website Eldercare can connect the older adult to local and community-based care. The older adult, family, or caregiver can use their ZIP code or city and state to find resources in the local community that provide information and assistance for older adults and caregivers (HHS, 2022). Sometimes access to care is hindered by awareness, and the healthcare worker can increase awareness by providing federal and local sources for care.

Transportation

A crucial component of face-to-face access and quality of healthcare is transportation. The older adult may access public, community-based transportation options or a privately owned vehicle. If options are lacking, the deficit can be noted and further assistance sought. The need to assess an older adult's ability to safely operate a vehicle will be addressed in depth in the psychosocial assessment section.

Technology

The use of technology for healthcare dramatically increased with the COVID-19 pandemic. Telemedicine decreases direct contact and limits disease transmission while providing access to care. The WHO (2021) classifies its use as advantageous for vulnerable populations such as older adults. Telemental health has been found to reduce the number of emergency department visits for older adults with comorbid depression and chronic obstructive pulmonary disease or congestive heart failure (Tusaie & Fitzpatrick, 2017). It has also been effective for psychotherapy interventions. One study found that older adults who suffer from depression and insomnia had positive outcomes from cognitive-behavioral therapy administered via telemental health (Tusaie & Fitzpatrick, 2017). Telemental health can benefit the older adult in many ways.

The American Psychiatric Association (APA) collaborated with the American Telehealth Association (ATA) to address telepsychiatry. The healthcare worker is encouraged to reference the APA and ATA for clinical tips, tools, guidelines, and more, while continuing to follow all policies at their place of employment. The APA (2018) has specific recommendations for the healthcare worker caring for the older adult population: include family members on video calls when clinically necessary (with patient permission); adapt technology and assessment for cognitively, visually, or audio impaired patients; modify cognitive testing carried out via videoconferencing.

Although telemedicine ensures access to care, it is not always available for the older adult client. It is estimated that 40% of older adults on Medicare are unable to receive video care and 20% are unable to receive phone care (Chu et al., 2022). This can place an older adult needing virtual mental healthcare in a difficult position. The healthcare worker must perform a baseline assessment of the infrastructure required for and attainability of this option for the older adult.

Deficits in cognition, hearing, or vision may present greater challenges for the older adult client using telemedicine. The ATA has created guidelines for telemedicine. However, the guideline only addresses live video conferencing for mental health services (Tusaie & Fitzpatrick, 2017). Other forms of communication such as phone text messaging, social media, apps, and emails are not covered by the ATA. The healthcare worker is encouraged to refer all questions to their place of employment. The same considerations the healthcare worker would utilize for in- person visits for securing protected information exist for telemedicine. The older adult client would need access to stable Internet as

well as reliable video and audio services on a Health Insurance Portability and Accountability Act (HIPAA)–compliant site prior to medical use (Johnson et al., 2021). Barriers to utilizing telemedicine must be weighed when considering this approach for mental healthcare for the older adult.

To increase the potential benefits of telemedicine, the healthcare worker can interview the older adult as well as their family, friends, or caregivers when assessing the inclusion of telemedicine for mental healthcare. There are other technological gains for a willing and able client. Apps related to, for example, healthy coping techniques, exercise logs, medication reminders, and communication can enhance the quality of life and safety of the older adult. Technology can strengthen mental healthcare for the older adult; however, the healthcare worker must prudently examine the initial and continued feasibility of its use.

Stigma

Mental healthcare access and quality can also be affected by stigma. Racial inequalities have been found in this social determinant of health. Research has found that African Americans experience greater amounts of stigma surrounding mental health treatment than other Americans (Conner et al., 2010). The basis and continued existence of mental health stigma for African Americans is unclear; however, the rates of access to mental healthcare are undeniable. Stigma is a mental healthcare barrier that the healthcare worker should not ignore. More than half of people suffering with mental illnesses do not get help (APA, 2020). Older adults can be unwilling to seek mental healthcare due to feelings of shame and guilt; these same patients, who are willing to receive treatment from their primary care provider, are often reluctant to seek mental health specialty care until their symptoms are severe (SAMHSA, 2021). Stigma can trap the older adult and cause them to suffer silently. It can drive an older adult to feel the loss of dignity and reinforce isolation, which perpetuates loneliness (APA, 2020). The healthcare worker should be equipped to help reduce the feelings around stigmas.

Suggestions to help reduce the stigma of mental illness include the following (APA, 2020):

- Encourage the client to talk openly about mental health (share with others).
- Empower the client to stand up to misconceptions (give them facts and data).
- Be aware of the language used (this goes for words you say or they say; humor is acceptable but in the proper context).
- Educate the client about the importance of mental illness (draw comparisons to how they would treat someone with a physical illness).
- Show empathy for those with mental illness.
- Be honest about treatment (normalize mental health treatment).

The healthcare worker can educate family, friends, and caregivers about participating in normalizing mental healthcare for the older adult. Table 1 presents communication suggestions the healthcare worker can pass on to family, friends, or caregivers of the older adult suffering from mental illness. Words are powerful, so encourage others to choose them wisely.

Table 1: Anyone Can say This and Not That to Reduce Stigma

Say This	Not That
"Thanks for sharing with me."	"That's not that bad."
"Can I help you in any way?"	"You can do it."
"That sounds really difficult."	"Life moves on."
"I'm here for you."	"That happens to everyone."
"That sounds heavy and sad."	"Everything happens for a reason."
"I can't imagine. Tell me more."	"I know all about that."
"How are you feeling?"	"You've got to think happy thoughts."

Determinant 3: Neighborhood and built environment

The physical place where someone resides contributes to their overall health and safety. Those at highest risk for unsafe or unhealthy environments in the U.S. are ethnic and racial minorities (CDC, 2022b). Examples of negative impacts on health and safety are neighborhoods with high crime rates or environments close to pollution sources. A client's physical environment falls into the social and developmental history of the mental health assessment. Homelessness falls into this social determinant and would require additional assessment and coordination of care. The depth a healthcare provider should reach will depend on the client and their individual living situation. Clarity of a client's physical health and safety can also be obtained with client consent by interviewing and family, friends, or caregivers.

Determinant 4: Social and community context

Relationships and social support play crucial roles for the older adult. Lack of social support and decreased or absent significant relationships negatively impact mental health in the older adult (Harandi et al., 2017). A healthcare worker can assess this social determinant in the social and developmental history of the mental health assessment. Older adults are at significant risk of experiencing isolation and loneliness (CDC, 2021c). This can be due to the death of a spouse/significant other, estrangement from family, worsening disabilities, or perceived feelings of burden to others. Groups most at risk within the older adult population are immigrants; those who are lesbian, gay, bisexual, and transgender; and those suffering abuse (CDC, 2021c). While there is not a clear measure for loneliness, there is evidence of related health risks that accompany it.

Health risks of loneliness include the following (CDC, 2021c):

- Higher risk for premature death from disease, especially related to smoking, obesity, and sedentary lifestyle.
- Dementia risk increases by 50%.
- Heart disease risk increases by 32%, leading to higher rates of stroke.
- Coincides with higher rates of depression, anxiety, and suicide.
- Specific to heart failure: risk of death increases four times, risk of hospitalization increases by 68%, and emergency visits increase by 57%.

Determinant 5: Economic stability

Poverty contributes to clients not being able to meet their basic needs. Approximately 9.3% of the older adult population in the U.S. lives below the poverty line (SAMHSA, 2019). Housing, healthcare, and nutritious food and drink are major concerns for older adults that could contribute to mental health conditions. Case managers are a prudent referral for the older adult lacking the financial means to meet their needs.

The five *Healthy People 2030* social determinants from the U.S. Department of Health and Human Services {ODPHP, 2022 #17}—education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability—can be used as a circular framework for the healthcare worker assessing older adult mental health needs (ODPHP, 2022). A deficiency in any of the determinants for the older adult can be a barrier to

accessing mental health services and treatment. More than one social determinant can be missing for a client. Assessing social determinants can lead to better understanding of the obstacles an older adult must overcome to seek mental healthcare. Insufficient coverage in social determinants might require additional assistance from case management, family, or peer interventions. Stigma can stand in the way of access to care and treatment. Breaking stigma is everyone's job, but it can start with one healthcare worker. The healthcare worker capable of fostering a therapeutic alliance built on trust and rooted in empathy will enhance the possibility for healthy communication and connection, naturally decreasing stigma. Friends, family, and caregivers can also be educated in empathetic communication with the older adult to normalize mental illness and treatment.

Self-Assessment Quiz Question #3

Social determinants of health can enhance or inhibit care for the older adult. When the healthcare worker assesses Internet access and connectivity along with the technological capabilities of the older adult for telemental health follow-ups, the healthcare worker is exploring which social determinant of health?

a. Healthcare access and quality.
b. Education access and quality.
c. Social and community context.
d. Stigma.

ASSESSMENT CONSIDERATIONS FOR THE OLDER ADULT

Addressing mental health needs in the older adult will depend on the assessment recorded or provided to the healthcare worker. Assessment is not a single interaction; rather, it is a calculated and continuous process that evolves throughout the care for the older adult client (Boyd, 2017). The first interview can set the tone. Preparation prior to meeting the client is encouraged.

The healthcare worker can review common developmental tasks of the older adult at any point while providing mental healthcare. Developmental tasks of the older adult are to maintain body image and physical integrity, to conduct a life review, to maintain sexual interests and activities, to deal with the death of significant loved ones, to accept the implications of retirement, to accept the genetically programmed failure of organ systems, to divest oneself of the attachment to possessions, and to accept changes in relationships with grandchildren (Sadock et al., 2015). Any of these tasks can be explored in more depth to establish known protective factors or barriers to the mental health of the older adult.

An assessment is a deliberate and systematic gathering of information with the goal of formulating a plan. A mental health assessment includes biopsychosocial data to show current and previous health, functional ability, and problems/diseases/illnesses both present and future (Boyd, 2017). The mental health assessment includes the biological domain, that is, the physical status of the client. This assessment is often carried out in conjunction with the client's primary care provider. Biological data is important to the mental healthcare worker; however, a team approach to the older adult can serve the client best by allowing multiple disciplines to focus on their specialty area of practice. The medical record for the older adult can be quite involved. However, a records review and collaboration with the older adult client's primary care provider can benefit the holistic picture of the mental health needs to be addressed. Physical problems or disorders can be exacerbated or accounted for by addressing the underlying psychiatric disturbance. The overlap of biological problems and psychosocial problems can be complicated. The American Geriatric Society (AGS) organizes geriatric health via alliteration for ease of remembrance. The five M's of older age are multicomplexity, mind, mobility, medication, and what matters most (AGS, 2020). Multicomplexity is the description of the older adult as a client with comorbid biopsychosocial needs that can challenge the healthcare worker. Mobility refers to the level of autonomous or diminished functionality of the older adult, especially the ability to ambulate and care for themselves. Medication is typically remarkable for the older adult; polypharmacy can be common and problematic and often results in undesirable side effects that signal a strict need for regular consolidation evaluation. The final ideal, mattering most, encompasses the notion of aging and decision making to include the older adult as an advocate for health decisions and goals. This depiction can aid the mental healthcare worker to conceptualize the older adult's biopsychosocial needs.

Assessing the older adult as they present in their current level of functioning is paramount and requires establishing trust and building rapport. The psychiatric interview is the most important part of the mental health assessment. It provides an opportunity to positively impact older adults suffering from mental health issues and illnesses.

Approaches that can enhance the therapeutic alliance include the following aspects (Boyd, 2017):

- Establishing a relationship rooted in cultural competence and cultural humility.
- Availability to assist in times of crisis.
- Awareness of acute safety issues related to the patient.
- Ability to provide education and manage expectations.
- Review and modification of treatment to individual preferences.
- Realistic intervention and goal setting.
- Support for patient to maintain safe autonomy.

Every interaction provides the opportunity to strengthen or weaken this bond and to obtain facts, feelings, and thoughts that can be targeted for treatment. The psychiatric interview can be administered in any setting (e.g., hospital, clinic, nursing home, residential facility). The length of time allotted or needed will vary by client and setting. Consult your facility for the proper organization of psychiatric assessment documentation.

Healthcare directives

Advanced care planning can be completed for clients of any age; however, it is responsible to offer the option to all older adults prior to medical crises or the end of life. The mental healthcare provider can support the older adult in these legal and ethical plans according to policy. Advanced care planning decisions include measures that can be taken in an emergency: cardiopulmonary resuscitation, use of a ventilator, artificial nutrition such as tube feedings or intravenous fluids, and comfort care measures (NIA, 2018). Older adults need to be aware of the risks and benefits of these differing emergency measures. Older adults with multiple comorbidities are less likely to recover from cardiopulmonary resuscitation and might need extended ventilator care (NIA, 2018). The healthcare provider seeing the older adult for mental health needs can prompt the discussion with the inclusion of quality of life. Several options exist for an older adult in terms of an advanced directive: living will, durable power of attorney, and other specific medical measures such as a do not resuscitate order or a tissue or organ donation request (NIA, 2018). The mental healthcare worker can assist the older adult and family with advance care planning needs to increase the likelihood of receiving desired treatment during crises or the end of life.

Healthcare provider exceptions to confidentiality

There are notable exceptions to confidentiality for the healthcare worker meeting the mental health needs of the older adult. The healthcare provider should refer all scope of practice questions to their state regulatory agency. State laws define the scope of practice. Understanding confidentiality, and when to breach it, is a necessary discussion when caring for older adults.

Confidentiality is a client's right for restricted information (Boyd, 2017). All healthcare workers play a role in maintaining client confidentiality. The HIPAA of 1996 is a federal guarantee of legal protection for privacy and confidentiality.

Exceptions to confidentiality (when the need to inform outweighs confidentiality) include the following (Boyd, 2017):

- Client has an intent to harm self or others.
- Litigation if an attorney is involved.
- Insurance company need to know for coverage and billing purposes.
- Sending information to answer a court order, subpoena, or summons.
- State requirement to report.
- Tarasoff principle—warn victim of imminent homicidal danger.
- Elder abuse suspected or involved (refer to state laws for proper channels).

Knowing when and how to provide notification when exceptions of confidentiality are in question varies per state. The healthcare provider will need to follow policies subject to their practice and should take steps to familiarize themselves with the relevant policies and regulations.

Informed consent and diminished capacity

The American Bar Association (ABA) and APA created a working group to address the diminished capacity of the older adult in 2008. The framework is aimed at the psychologist who could be called to determine capacity in a legal, a medical, an ethical, or a civil situation for the older adult in medical, long-term care, or private practice settings. The healthcare provider should consult their scope of practice for their role in determining capacity. The ABA and APA outline six domains for capacity: medical consent, sexual consent, financial, testamentary, driving, and independent living capacities (American Bar Association & American Psychological Association, 2008). The ABA and APA working group highlights the importance of cultural and age considerations. Cultural intricacies such as immigration status, language, health perceptions, family member roles, and economics must be considered. The ABA and APA caution against ageism and the surrounding negative consequences. Clinical assessment and evaluation of older adult capacity is complex. Older adults have the right to informed consent for treatment. The healthcare provider must be aware of the importance of providing informed consent in conjunction with the client's voluntary competency.

> The APA (2022f) defines informed consent as a person's voluntary agreement to participate in a procedure on the basis of his or her understanding of its nature, its potential benefits and possible risks, and available alternatives. Informed consent is a fundamental requirement of research with humans and typically involves having participants sign documents, prior to the start of a study, that describes specifically what their involvement would entail and noting that they are free to decline participation or to withdraw from the research at any time. In therapeutic contexts, the principle of informed consent has provided a foundation for do not resuscitate (DNR) orders and other advance directives and for the natural-death acts that have been passed into law throughout the United States.

Along the lines of DNR and advanced directives for the older adult is the legal concept of undue influence:

> Undue influence is defined as a dynamic between an individual and another person. It describes the intentional use of social influence, deception, and/or manipulation to gain control of the decision making of another. For the healthcare worker, undue influence can be understood as a dynamic of a relationship when a person uses a role and power to exploit the trust, dependency, and/or fear of another. The role and power permit the person to gain control over the decision making of the victim. In cases of undue influence, a person may have full capacity. Alternatively, there may be a cognitive impairment that increases susceptibility and dependence. (ABA & APA, 2008, p. 14)
>
> Mental capacity can be questioned for the older adult. The healthcare provider must differentiate between capacity and competency. Competency is a legal (not a medical) concept.
>
> The APA (2022b) defines capacity as:
>
> - The maximum ability of an individual to receive or retain information and knowledge or to function in mental or physical tasks.,
> - The potential of an individual for intellectual or creative development or accomplishment.
> - Inborn potential, as contrasted with developed potential

Collateral reports

Family, friends, and caregivers often play an important role in the mental healthcare of an older adult. The healthcare provider must obtain permission from the older adult client prior to discussing any medical or mental health information. Family, friends, and caregivers can help corroborate information (objective and subjective) gathered in the psychiatric interview of the older adult. Legal and ethical matters must be considered at all times. While caregivers can be beneficial to older adults and healthcare workers, they can also be sources of abuse and negative interactions in private for the older adult. Caregivers can experience overextension of self and inflict harm on older adults knowingly or unknowingly (NIA, 2017). The healthcare provider is cautioned to consult all places of practice and state boards of practice for scope of practice questions or concerns.

The healthcare worker has much to incorporate for the older adult assessment. Common developmental tasks can focus the healthcare worker's assessment and note strengths and deficits. Legal documentation or intervention for healthcare directives, confidentiality, informed consent, and diminished capacity considerations should be included in older adult mental healthcare. If assistance is needed, consult your place of employment. Assessment considerations specific to the older adult are integral to addressing mental health concerns.

ASSESSMENT OF THE OLDER ADULT: BIOLOGICAL AND PSYCHOSOCIAL

Assessment is a prerequisite for intervention and treatment. The healthcare worker needs to tailor the styles and techniques for obtaining the information needed to fully assess the older adult based on abilities and disabilities. The healthcare worker must enter each interaction with the older adult client with a willingness to embrace an objective perspective, the uniqueness of the encounter, and individualization of the assessment to maximize the quality of mental healthcare.

The assessment of the older adult will include biological and psychosocial elements. The current presentation and history of the older adult will help define the assessment depth, highlight symptoms of diagnostic criteria, as well as maneuver toward or eliminate treatment options and interventions for stabilization and recovery. The biological considerations of the older adult can impact the psychiatric treatment options and necessitate the need to collaborate with primary care or initiate coordinated care efforts. The most troubling mental health symptoms or concerns that interfere with daily functioning or relationships are often at the surface. The healthcare provider must verify nonverbal cues with verbal inquiry. The variation in communication and information exchange will be individualized, and the review of records will be taken into consideration,

preferably before the initial interview. The psychiatric history will provide the healthcare provider with a detailed, longitudinal picture of effective and ineffective treatments. A discussion of biological and psychosocial considerations for the older adult is imperative for the healthcare provider prior to diagnosing and recommending mental health treatment. Biological components coupled with psychosocial components provide the mental healthcare provider with a more comprehensive assessment of the older adult presenting with mental health concerns. The older adult assessment can be extensive and take multiple visits. The complexity level does not negate the need to assess in its entirety.

Biological considerations

The APA lists medical components for psychiatric evaluation. The healthcare worker can gather the data for the older adult directly from the client, family, friends, or caregivers (with consent), as well as historical medical charts. The information can be accumulated over time and prioritized during each interview. For example, the healthcare provider needs a complete medication history that includes all interventional trials (successes and failures), and most notably any side effects, prior to beginning or restarting psychiatric medication. The APA recommends that the following biological considerations be obtained by the healthcare worker: primary care involvement; allergies or drug sensitives; an exhaustive medication review of past and current prescription drugs as well as over-the-counter nutrients, supplements, and vitamins; current or historical medical illnesses, including hospitalizations, past or present medical treatments, surgeries, procedures, and alternative treatments; past or present neurological or neurocognitive disorders; physical trauma, especially head injuries and any sequela; sexual and reproductive history; cardiopulmonary issues; endocrinology involvement; past or current infectious disease; and current or past pain levels and treatments (Sadock et al., 2015).

There are a few notable biological considerations in neuropsychiatry for the healthcare worker to include when planning mental healthcare for the older adult. The healthcare worker understands the older adult can learn new information; however, the rate at which an older adult solidifies the material can take longer than for other age populations (Sadock et al., 2015). In addition, psychomotor speech and memorization are slower in older age, especially simple recall and encoding ability, but they are considered normal for the older adult. In addition, the intelligence quotient (IQ) typically holds steady until age 80 (Sadock et al., 2015). These biological considerations can drive the approach and length of time the healthcare worker might allot for assessment, intervention, or treatment. The healthcare worker might also include the older adult's family, friends, or caregiver(s) when new information is presented to the older adult. A historical baseline is an important piece of the assessment for the healthcare worker. The healthcare worker needs to know basic objective measures for physiological functioning such as vital signs (blood pressure, pulse rate, temperature, respiratory rate, and pain level) and nutritional status for older adult clients if psychopharmacology is involved. The healthcare worker adult can increase their understanding and provide a more thorough plan of care by coupling with the older adult's primary care provider.

Psychosocial considerations

There are psychosocial considerations related to an older adult's mental healthcare. Some overlap with biological considerations and can be assessed and targeted for treatment. For example, driving is a psychosocial aspect that can be affected by biology.

Activities of daily living (ADLS)

The healthcare worker needs to assess the older adult's ability to be autonomous. The inability to perform ADLs may indicate an unsafe or poor quality of life (Edemekong et al., 2022). The healthcare worker can utilize standardized measurement tools for assessing ADLs (basic and instrumental) of the older adult and intervene with other services when safety or quality of life is at stake. The AGS defines basic and instrumental ADLs.

Basic ADL are (AGS, 2022):

- Ambulating (ability to move and transfer independently, walking).
- Feeding (ability to feed self independently).
- Dressing (ability to cover self with clothing).
- Grooming (ability to care for personal hygiene, bathing, hair and nail care).
- Continence (ability to maintain bowel and bladder function).
- Toileting (ability to make it to the toilet and clean self).

Instrumental ADL are (AGS, 2022):

- Transportation and shopping (ability to buy groceries and necessities).
- Financial management (ability to pay bills and manage finances).
- Cooking (ability to prepare meals and serve them).
- Household maintenance (ability to clean and live in a home).
- Communicate (ability to get in touch with others via phone or electronic means).
- Medicate (ability to manage medications as prescribed).

Increasing age and health problems can cause increased difficulty with ADLs. Decreased physical functioning can be caused by biological deficiencies in the musculoskeletal, neurological, circulatory, or sensory systems. Cognitive, auditory, or visual impairments can increase difficulty with ADLs (Edemekong, 2022). Dementia can limit the older adult's capable and safe performance of ADLs like cooking and self-medicating. The healthcare provider can assess the strengths and weaknesses verbalized by the older adult as well as gather information from collateral sources. Interventions might include caregivers, family, other healthcare providers, or case management.

Employment status

The healthcare worker needs to assess the employment status and working habits of the older adult. Retirement is common in the older adult and can be a turbulent period of transition. The healthcare worker should attempt to assess whether retirement was voluntary or involuntary. Involuntary retirement is associated with negative mental health effects and decreased self-image (Rhee et al., 2016). However, the Age Discrimination Employment Act (ADEA) of 1967 protects older adults in the workforce from forced retirement by making it unlawful (Sadock et al., 2015). If the older adult is retired, follow-up questioning about how the older adult feels about the loss of occupation can open an opportunity for exploration of other topics like finance and relationships. The healthcare provider can assess beyond formal employment for responsibilities and time commitments acquired by the older adult.

Housing

The healthcare worker should assess the housing situation of the older adult. Housing is a basic need and typically must be met prior to the administration of interventions. It is estimated that about 5% of Americans live in nursing homes; however, approximately 35% of older adults will reside in a long-term care facility at some point during their lifetime (Sadock et al., 2015). The living situation of an older adult can affect treatment options. For example, an older adult that lives near a bus stop has the necessary financial resources, and is capable of navigating will have greater options for meeting their needs like attending mental health treatment. Where an older adult resides must be assessed to understand available mental health intervention and treatment.

Transportation—Driving safety

One of the most difficult subjects for the healthcare worker to discuss with the older adult, yet an impactful topic for self and others is autonomous driving. Driving is the leading cause of injury-related deaths in the 65- to 74-year-old population and is the second leading cause (behind falls) in the 75- to 84-year-old population (Promidor, 2019). The cessation of driving privileges

is inevitable for everyone. Each older adult interaction is an opportunity for the healthcare worker to assess for prevention. Knowing when and how to approach the older adult about driving safety is imperative. Preventing driving disability with properly timed interventions can impact lives.

There are acute and chronic medical conditions that should be strong indicators of safety for the older adult client. Cessation of driving privileges should be reviewed when the conditions in Tables 2 and 3 manifest or the medications in Table 4 are prescribed in the older adult and until they are medically evaluated by their primary care provider. The healthcare worker meeting mental health needs of the older adult will need to be in contact with the primary care provider about medical conditions and medications outside of their scope of practice.

Table 2. Acute Medical Conditions That Require Immediate Driving Cessation

- Acute myocardial infarction.
- Acute stroke or other traumatic brain injury.
- Arrhythmia (e.g., atrial fibrillation, bradycardia).
- Lightheadedness, dizziness.
- Orthostatic hypotension.
- Syncope or presyncope.
- Vertigo.
- Seizure.
- Surgery.
- Delirium from any cause.
- Newly prescribed sedating medications or those that can cause confusion or dizziness.
- Acute psychiatric diseases impairing cognitive function or decision making.

Note. Reproduced with permission (Promidor, 2019).

Table 3. Chronic Medical Conditions That Require Investigation for Driving Safety

Medical Condition	Examples
Disease/conditions affecting vision	• Cataracts • Diabetic retinopathy. • Macular degeneration. • Glaucoma. • Retinitis pigmentosa. • Field cuts. • Low visual acuity even after correction.
Cardiovascular disease, especially when associated with presyncope, syncope, or cognitive deficits	• Unstable coronary syndrome. • Arrhythmias. • Palpitations. • Congestive heart failure. • Hypertrophic obstructive cardiomyopathy. • Valvular disease.
Neurologic disease	• Dementia. • Multiple sclerosis. • Parkinson's disease. • Peripheral neuropathy. • Brain injury. • Spinal cord injury.
Psychiatric disease	• Mood disorders. • Depression. • Anxiety disorders. • Psychotic illness. • Personality disorders. • Alcohol or other substance abuse.
Metabolic disease	• Type 1 and type 2 diabetes mellitus (especially with hypoglycemic attacks or severe swings in blood glucose).

Table 3. Chronic Medical Conditions That Require Investigation for Driving Safety

Medical Condition	Examples
Musculoskeletal disabilities	• Arthritis and foot abnormalities. • Contractures and decreased range of motion. • Inflammation. • Pain.
Respiratory disease	• Chronic obstructive pulmonary disease. • Obstructive sleep apnea.
Chronic renal failure	• End-stage renal disease. • Hemodialysis.
Cancer and chemotherapy	• Weakness and extreme fatigue. Medication side effects.
Insomnia	• Sleep apnea. • Restless leg syndrome. • Anxiety/depression/pain contributing to insomnia.

Note: Reproduced with permission (Promidor, 2019).

Table 4. Medications that can Impair Older Adults and Increase Driving Risk

- Anticholinergics.
- Anticonvulsants.
- Antidepressants.
- Antiemetics.
- Antihypertensives.
- Antiparkinsonian agents.
- Antipsychotics.
- Benzodiazepines and other sedatives/anxiolytics.
- Hypoglycemic agents.
- Muscle relaxants.
- Narcotic analgesics.
- Stimulants.
- Hypnotics.
- Marijuana.
- Alcohol.
- Over-the-counter agents with anticholinergic adverse effects such as sleeping agents or allergy/cold medications, which are often first-generation antihistamines.

Note. Reproduced with permission (Promidor, 2019).

The healthcare worker should check for routine driving safety of the older adult and can refer to the CDC when planning interventions that maximize safe independence. Interventions should be individualized and performed in collaboration when necessary. The healthcare worker can help the older adult maintain their autonomous driving with proper identification of and interventions addressing clinical deficits. The most common disturbances are vision, cognitive, and motor/sensory (CDC, 2022a). The healthcare worker can evaluate the older adult or refer the older adult for prompt assessment of any notable organ systems, acute or chronic conditions, and medication(s) that interfere with safe driving. Intervention and rehabilitation can keep the older adult safely behind the wheel. The healthcare worker can utilize referrals and other resources to help the older adult client maximize restoration of functioning, leading to safer driving. The healthcare worker can contact case management and other specialty areas to collaboratively form a holistic care plan that meets all the needs of the driving older adult.

The healthcare worker is faced with a complicated decision matrix when it comes to addressing the older adult's driving privilege; there are personal, clinical, ethical, and legal ramifications. The healthcare worker is often consulted about the safety of the older adult who drives and is faced with the weight of the older adult's needs and safety versus the safety of society. The healthcare worker is encouraged to refer to state laws associated with reporting of unsafe driving and prescribed revocation of driving privileges in addition to the information provided.

Social support system (Isolation)
An important part of the social history is the social connectedness of the older adult. The older adult is capable of being physically and mentally healthy and maintaining autonomy. However, the inescapability of mortality often pushes the older adult living away from friends, family, and possibly their partner. An increased sense of isolation can cause symptoms of depression (Sadock et al., 2015). The healthcare worker can assess the social support system the older adult utilizes on a daily/weekly/as needed basis to better understand any deficits of care in the social history section of the psychiatric interview. Where the older adult resides is an important consideration for social support. The healthcare worker might work along with the long-term care facility team in coordinating the social needs of the older adult. Social isolation and loneliness have negative effects on the mental health for the older adult. They increase the risk for negative health consequences such as obesity and smoking as well as shorten life span (Czaja et al., 2021). The members of an older adult's social cohort and family structure will vary. There are objective and subjective measurements for social isolation and loneliness. The number of contacts and size of a social support network can be quantified, whereas loneliness is subjective. Loneliness is verbalized by the client and assessed qualitatively. Older adults who live alone are not always lonely. Loneliness is multifaceted and often intertwined with social interactions, which are unique to each client. Assessing limitations such as revoked driving privileges that can alter social interactions requires the healthcare provider to assess the social domain. Social engagement (personal, community, society connection) and individual productivity are major keys of successful aging (Czaja et al., 2021). This requires the healthcare provider to assess the quality of interactions and feelings of belonging when evaluating quality of life of the older adult.

Faamily history
The family history of an older adult can provide a genetic understanding and hint at vulnerabilities. Formal diagnosis can be lacking in older generations; however, subjective data on family members is a worthwhile investigation for the healthcare provider. Some mental health diagnoses are more likely than others to run in families. Obtaining historical family mental health diagnoses and medical diagnoses can focus risks as well as treatment options for the healthcare provider to consider. The healthcare worker can obtain the family history from the older adult, the family of the older adult (with consent), or caregiver(s).

Sexual orientation, function, and dysfunction
Sexual identification and function are assessed regardless of age. Older adults who identify as part of a sexual or gender minority (lesbian, gay, bisexual, transgender, etc.) are more prone to sexual difficulties and psychological distress later in life (NIA, 2022a). The healthcare provider is cautioned to assess with open empathy. Older adults often redefine the meaning of sexuality and intimacy in their life, and the healthcare provider must approach sexuality professionally and at the comfort level of the older adult. The healthcare provider needs to assess for the importance of sexual performance in the older adult's life. For example, sexual dysfunctions that can include decreased desire, delayed or absent orgasm and ejaculation are known side effects of antidepressant medications (Sadock et al., 2015). The healthcare provider must know the expected physical changes that occur in the older adult female, shortening and narrowing of the vaginal walls and decreased lubrication, which can decrease enjoyment of sexual activity (NIA, 2022a). The healthcare provider must also know the age-related physical changes that occur in the older adult male, erectile dysfunction (impotence) and decreased firmness with erection, which can cause stress in the older adult (NIA, 2022a). The healthcare provider can assess for sexual dysfunction distress. There are other common causes of sexual dysfunction: alcohol in excess, arthritis, chronic pain causing exhaustion and decreased energy, dementia, depression, diabetes, heart disease, incontinence, obesity, and stroke (NIA, 2022a). The healthcare provider can prescribe or refer the older adult for evaluation and treatment if desired.

Substance use, abuse, and treatment history
Substance use and abuse are a crucial part of the psychiatric assessment for the older adult. The Substance Abuse and Mental Health Services Administration (SAMHSA) states that substance use and abuse in older adults is often "overlooked and undertreated" (SAMHSA, 2022d, p. xi). The healthcare provider is reminded to self-assess for ageism, conscious bias, and unconscious bias that might inhibit the ability to evaluate substance disorders in the older adult.

Substance use disorder (SUD) guidance for the older adult population includes the following (SAMHSA, 2022d):
- Substance misuse disorders occur more in younger populations than elderly populations; however, this does not void the importance for assessment.
- Substance misuse in older adults increases physical injury and mortality.
- Illicit drug use in the older adult population is currently on the rise, as is dual diagnosis (co-occurring mental health and substance use disorders).
- Alcohol is the most abused substance by older adults.
- Caution is warranted for the older adult due to the commonality of multiple prescriptions and possible detrimental interactions with substances.
- Substance abuse symptoms can mimic cognitive deficits (normal or clinical).
- Avoid assumptions that older adults are unwilling to change or seek treatment.
- Multiple approaches have been found to be effective in the older adult population (screening, brief intervention, and referral to treatment; brief structured treatment; patient education; relapse prevention techniques; formal SUD treatment programs; and pharmacotherapy).

With alcohol being the most commonly misused substance by older adults, the healthcare worker must understand the risk factors contributing to increased alcohol consumption by the older adult. Older adults will experience numerous life stressors such as financial hardship, retirement or involuntary loss of job, living rearrangement, loss/grief/bereavement, trauma, or social isolation (SAMHSA, 2022d). Increased alcohol use and misuse can be detrimental to the older adult. Due to aging factors such as decreased metabolism and body fat storage, the older adult is more at risk for confusion, falls, injury, and exacerbated chronic conditions (SAMHSA, 2022d). The healthcare provider should assess tobacco product use presently or historically. Older adults who are lonely are at greater risk for smoking (Czaja et al., 2021). Smoking, vaping, or oral tobacco habits can be noted and assessed for intervention. Assessment of substance (legal or illegal), quantity, and frequency of use is critical for accurate assessment.

Barriers to older adults seeking treatment for substance misuse include the following (SAMHSA, 2022d):
- Negative beliefs and attitudes.
- Denial.
- Justification (caregivers accepting misuse due to the end of life).
- Decreased information on dangerous effects of substances and older age.
- False information about older adult treatment.

Protective factors for the older adult against substance misuse include the following (SAMHSA, 2022d):
- Healthy coping skills.
- Marriage or committed relationships.
- Social and family support.
- Autonomy and independent living.
- Accountable basic needs covered (food, shelter, safety).
- Positive self-esteem and self-image.
- Access to medical care and medications.
- Sense of purpose and belonging.

Person-centered care accounts for older age and lifestyle modifications, access to care, and quality of life considerations (SAMHSA, 2022d). The healthcare provider needs to consider the following for the older adult seeking treatment: physical disabilities to accommodate (mobility, hearing, vision), cognitive deficits that interfere (memory and attention), learning needs and preferences (slower pace and repeated information if needed), and respect for age and gender preferences for provider and group therapies.

Spirituality

The spiritual assessment of the older adult is documented in the social history section of the psychiatric evaluation. The healthcare worker is reminded that it is critical to maintain neutrality of stance while assessing the older adult's spiritual beliefs. Spirituality is a broader topic than religion. It is estimated that 80% of Americans practice some type of religion (APA, 2013). All healthcare workers will interact with the spiritual aspects of an older adult's beliefs, religion, or purpose of life while meeting their mental health needs. The inability to address spiritual involvement in an older adult's life can limit a client's recovery (Neathery et al., 2020). If the healthcare worker is reluctant or uncomfortable assessing an older adult's spirituality, a self-assessment to identify the barriers can be beneficial. Cultural awareness and acceptance are key for impartiality of assessment. Spirituality is a component of mental healthcare that is often woven into an older adult's lifestyle, guiding their adherence to medications and therapies (Rodgers et al., 2018). Proper understanding of an older adult's belief system, spirituality, and feeling of belonging is essential during assessment for relevant intervention and treatment.

Legal involvement

Legal history can be notable for the older adult client. The mental healthcare worker will assess for legal involvement or ramifications that could hinder treatment. A history of problematic behavior related to disregard for rules and remorse can be diagnostic for antisocial personality disorder (ASPD). ASPD is associated with younger populations; however, the presence of it historically must be taken into consideration, as it carries high rates of comorbidities, most commonly substance use disorders (Holzer et al., 2022). The healthcare worker can also assess for caregivers, friends, or family members who have any legal stake in the older adult's decision making.

Elder abuse (physical/emotional/sexual/financial)

According to statistics, abuse is reported for around 10% of those age 65 years and older (Sadock et al., 2015). The healthcare worker must understand definitions and classifications of abuse and assess for mistreatment in all older adults. The American Medical Association has three general definitions for elderly mistreatment: abuse (something that causes harm or the withholding of something to cause harm to the health and well-being of an elderly person), neglect (the inability to do good or provide needed services or basic needs [food, shelter, medical care] to an older adult), and exploitation (using an older adult's money for self-purposes) (National Research Council, 2003) The older adult is vulnerable to all generalized types of abuse: physical, emotional, sexual, and financial. Physical abuse is defined as "bodily harm by hitting, pushing, or slapping. This may also include restraining an older adult against his/her will, such as locking them in a room or tying them to furniture" (NIA, 2020). Emotional abuse, also called psychological abuse, includes "a caregiver saying hurtful words, yelling, threatening, or repeatedly ignoring the older adult. Keeping that person from seeing close friends and relatives is another form of emotional abuse" (NIA, 2020). Sexual abuse involves unwanted sexual acts or being forced to watch sexual acts (NIA, 2020).

Financial abuse happens when money or belongings are stolen from an older adult. It can include forging checks, taking someone else's retirement or Social Security benefits, or using a person's credit cards and bank accounts without their permission. It also includes changing names on a will, bank account, life insurance policy, or title to a house without permission (NIA, 2020).

Older adults most at risk for abuse are female, those without support systems, those with disabilities, and those who are cognitively inhibited or have dementia (NIA, 2020). The healthcare provider must assess for physical and verbal signs of abuse when interacting with the older adult.

Signs of abuse in the older adult include the following (NIA, 2020):

- Cessation of enjoyed activity.
- Unkempt appearance.
- Difficulty sleeping.
- Unexplained weight loss.
- Easily agitated or violent outbursts.
- Outward signs of trauma and regression (e.g., rocking back and forth).
- Unexplained bruises, burns, cuts, scars.
- Signs of physical altercation (such as broken eyeglasses).
- Bed sores or other preventable disorder or disease.
- Lack of medical aids needed for functioning (glasses, hearing aids, dentures, medications, etc.).
- Financial warnings (eviction notices, unpaid bills despite financial means).
- Report of unsafe living conditions (hazardous, unsanitary, or unsafe).

Long-term effects of elder abuse can lead to declining physical and psychological health, severed social support, financial loss, and early death (NIA, 2020). Elder abuse requires intervention. The healthcare worker must comply with state laws and authorized means of reporting elder abuse according to facility policy. Local, state, and national resources exist to report and/or stop elder abuse.

Self-Assessment Quiz Question #4

Abuse, a biopsychosocial consideration, in the older adult can lead to negative long-term effects; therefore, the healthcare worker recognizes the signs of elder abuse as all of the following EXCEPT:

a. Disheveled appearance.
b. Severed family ties.
c. Difficulty sleeping and easily agitated.
d. Unexplained bruises and bed sores.

CRISIS, LOSS, GRIEF, AND BEREAVEMENT IN THE OLDER ADULT

Older adults have lived through a multitude of challenges by the time the healthcare worker is assessing for intervention. Adaptation and change are inevitable. How the older adult has coped in the past is salient for how they will cope with present and future difficulties. The healthcare worker will see the older adult experience crisis, loss, grief, or bereavement; therefore, it is imperative to know the difference in presentation as well as the course of typical action and line of intervention.

Crisis

Prior to discussing loss, grief, and bereavement, it is prudent for the healthcare worker to understand crisis and its presentation to differentiate the state of being and possible intervention needed for the older adult. The definition of crisis is:

> A time-limited event that triggers adaptive or non-adaptive responses to maturational, situational, or traumatic experiences. A crisis results from stressful events for which coping mechanisms fail to provide adequate adaptive skills to address the perceived challenge or threat. (Boyd, 2017, p. 211)

Crisis is a crossroad. The direction taken in the context of crisis determines the positive or negative consequences of the outcome. If the older adult chooses to grow and strengthen from the crisis, positive outcomes are expected. However, if

the reverse is apparent or the client is incapable of coping, a negative and possible destructive outcome can occur such as self-harm or suicide. If an older adult in crisis has historically had difficulty coping, caution should be taken when assessing their safety. Depression and suicide are risks for clients who are unable to overcome a crisis (Boyd, 2017). Assessment for self-harm is paramount for the older adult in a crisis, regardless of past psychiatric history. A crisis should mitigate within four to six weeks (Boyd, 2017). When chronic crisis is not acknowledged, however, constant unrest is classified as chaos. The healthcare worker can note varying types of and reasons a client might be experiencing a crisis.

The healthcare worker assessing the older adult for mental health needs must be able to define crisis and understand the circumstances around the situations causing disequilibrium to psychological well-being. A crisis can cause feelings of being out of control, desperation, and/or fear (Boyd, 2017). There are three types of crises that an older adult can experience: developmental (a remarkable maturational event in life), situational (a specific event in a person's life that upsets the biopsychosocial equilibrium), and traumatic (due to an unknown incident) (Boyd, 2017). The older adult might experience a developmental crisis when their living situation changes dramatically, such as moving into a long-term care facility. A situational crisis can be an internal or external event for an older adult, such as disease progression or a new diagnosis. A natural disaster or a pandemic could affect the older adult and cause a traumatic crisis.

Differentiating a temporary crisis from acute stress disorder depends on the severity of distress and how it impairs social functioning. It will also depend on diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Disorder* (*DSM-5*). Diagnostic inclusion for acute stress disorder requires "exposure to actual or threatened death, serious injury, or sexual violation" (not experienced through electronic media unless work related) (APA, 2013, p. 280). The healthcare worker must gather sufficient detail about the stressors and their causes in the older adult's life to offer appropriate intervention.

A healthcare worker often intercedes in times of crisis. Assessment for self-harm or harm to others is needed when an older adult is in crisis and will drive the immediate interventions. If harm is not a factor, the healthcare worker should focus their initial intervention on active listening (Corey & California State University, 2013). Allow the older adult the space to verbalize their feelings and experiences. The healthcare worker can meet these expressions with openness driving for acceptance. Feeling heard can help an older adult in crisis feel grounded (Corey & California State University, 2013). Stability in the midst of a crisis can help deescalate the extremes of emotions such as anger or sadness. Positive mental health support during a crisis opens the door for future intervention. Not all older adults who experience a crisis need mental healthcare. The necessity of crisis intervention will be determined by the ability or inability of the older adult to self-soothe and cope. It is worth understanding that the older adult may value feeling understood and supported during a crisis more than a healthcare worker's ability to solve the problem (Corey & California State University, 2013). Assessment of coping skills and previous crisis coping will provide the healthcare worker with a plan for present needs and intervention.

Loss, grief, and bereavement

Loss, grief, and bereavement are an expected part of life and will be seen in various presentations by the healthcare worker assessing the older adult. Statistical analysis suggests that 51% of women and 14% of men older than age 65 years will be widowed at least once in their lifetime (Sadock et al., 2015). The healthcare worker will assess the older adult suffering from loss, grief, and bereavement. Knowing the differences in terminology, the cycle of grief, and the risks to older adults unable to cope are crucial for the healthcare worker. The definition of loss according to the Merriam-Webster dictionary (2022) is "the act or fact of being unable to keep or maintain something or someone." Loss is synonymous with more than death. For example, the older adult can feel the loss of identity, loss of autonomy, or loss of functioning. The definition of bereavement is "the process of mourning and coping with the loss of a loved one" (Boyd, 2017, p. 213) This is synonymous with death. The definition of grief is:

> The anguish experienced after significant loss, usually the death of a beloved person. Grief is often distinguished from bereavement and mourning. Not all bereavements result in a strong grief response, and not all grief is given public expression. Grief often includes physiological distress, separation anxiety, confusion, yearning, obsessive dwelling on the past, and apprehension about the future. Intense grief can become life-threatening through disruption of the immune system, self-neglect, and suicidal thoughts. Grief may also take the form of regret for something lost, remorse for something done, or sorrow for a mishap to oneself. (APA, 2022e).

For the older adult, loss, grief, and bereavement are topics that are encountered over a lifetime. Loss can be felt over animate and inanimate objects. Older adults can experience loss over loved ones, driving privileges, jobs, and autonomy on many levels of health, home, and happiness. Cultures and societies have determined an acceptable amount of time to grieve loss. Typical American culture expects people to return to work or school after a few weeks of loss, find a new balance in a few months, and be adept in their coping to establish new relationships 6 to 12 months after the loss of a loved one (Sadock et al., 2015). The healthcare worker should assess and recognize that grief is an individual process each time it occurs. One notable framework for understanding grief in marked stages is by Kübler-Ross. However, the stages are not meant to be linear as they are written (Kübler-Ross & Kessler, 2005). Grief is felt uniquely by everyone but is often encountered with proportionally greater impact by the older adult than younger generations.

The Kübler-Ross and Kessler (2005) framework allows common terminology and an expression of information with the hopes of a better understanding of the psychological process occurring individually over loss. The stages are written sequentially but are not always experienced linearly. The stages can last minutes or hours, weeks or months. The stages are a response to loss that is seen and felt by many. There is no normal response to loss; all loss is different. Kübler-Ross and Kessler (2005) hoped by creating the stages it would create a space for grief to resolve, enabling a person to cope with the loss and carry on with their life.

Another view of grief comes from the dual process model. It provides the healthcare worker with a way of conceptualizing how an older adult can cope with loss over time. The exploration of this model can enable a healthcare worker to identify the coping mechanisms the older adult is utilizing in their journey of healing. The model has two processes working, sometimes simultaneously and other times not, and it focuses on the switch between loss-oriented coping and restoration-oriented coping as oscillation (Boyd, 2017). Both processes may take large amounts of time and effort, or one may take more or less. They are not mutually exclusive, but awareness of both is necessary for processing grief and loss. Loss-oriented coping is focused on the loss itself—the relationship—and restoration-oriented coping is focused on the burden felt from the responsibility from the loss (Boyd, 2017). The older adult might be consumed with thoughts of the loved one who has passed away and consumed with sadness by the void created in their life, thus exhibiting loss-oriented coping. Restoration-orientated coping can be scary and difficult for the older adult if the loss is accompanied with lifestyle changes, for example, related to finances.

Table 5. Five Stages of Grief: Denial Anger, Bargaining, Depression, and Acceptance	
Stage	**Characteristics**
Denial	• Frozen with shock or overcome with numbness. • Unconscious ability to manage strong emotions and feelings by slowly feeling them (this is a survival technique). • Feelings of grief varied to prevent mental overload (protection). • Nature's way of letting in only as much as we can handle.
Anger	• Does not have to make sense or be rooted in reality (also has no limits). • Anger surfaces once you are feeling safe enough to know you will probably survive what comes. • Needed for healing to process. • May be reoccurring visits with this emotion. • Can lead to an uneasy or hateful feeling toward spirituality/religion. • Contrary to its negative connotations is the strength it contains to solidify the idea of void and loss. • Difficulty in feeling it without causing damage to self or someone else. • Finding avenues of release such as exercise can help externalize and explore anger (decreases the chance of bottling it all up for a explosion). • Is an indication of the intensity of love. • Is a normal response to the unfairness of life and death. • Anger towards self is guilt; however, it is undeserved blame. • "Anger affirms that you can feel, that you did love, and that you have lost." (Kübler-Ross & Kessler, 2005, p. 16)
Bargaining	• Agreeing to anything to avoid loss prior to loss. • Agreement to anything after a loss can look like a temporary truce. • Understand if lost in the darkness of "what if." • Like anger, this stage can present guilt. • After a death, focus can futuristic.
Depression	This is a *DSM-5* clinical diagnosis as well as a Kubler-Ross and Kessler stage. It will be talked about with DSM-5 criteria later. Clinic depression can lead to worsening mental health if left untreated: • Feelings of nothing and emptiness take over. • A normal response to major loss. • Can feel heavy (like hitting the bottom) and lonely. • A natural way to protect the body's nervous system from overload by slowing it down or turning it off for processing. • A way toward healing. • Seeking a way out of depression can feel like being lost in a storm with no seeable way to escape (loss of hope). • Shift the view of depression from unwanted to invited (like a guest). • Allow the encounter with it even though it feels hard. • Use the opportunity to explore and renew self. • Society often seeks to rid someone of depression as quickly as possible. • Depression intervention can be necessary, but time can also heal if allowed an acceptable space. • Treating depression is seeking equilibrium. • View and feel sadness as an appropriate part of grief (balanced with quality of life and meeting needs). "Depression makes us rebuild ourselves from the ground up because it takes us to a deeper place in our soul that we normally would explore" (Kübler-Ross & Kessler, 2005, p. 24)
Acceptance	• Is not the notion of being all right or fine with what has happened (is about acknowledging all that has been lost and learning to that loss). • Healing looks like remembering–recollecting–reorganizing (RRR). • Not in a linear sequence; goal is not to arrive at acceptance (it is not a destination) rather, is a journey of healing to take, not a point. • Past cannot be altered; has been forever changed; therefore, readjust. • Slowly withdraw energy from the loss and begin to invest it in life. • Put loss into perspective. • What is lost cannot be replaced, but new connections, relationships, and interdependencies can be made. • Living begins again (but only if grief is given its time).
Note: From Kübler-Ross & Kessler (2005, pp. 7–28)	

Different types of grief can be experienced. The type of grief being felt can drive the responses and state of being for the older adult presenting to the healthcare worker. Uncomplicated grief is considered the normal and expected course of grief after major loss triggered by events other than death (Boyd, 2017). When initial news of loss is presented, physical symptoms are often felt such as shortness of breath, a feeling of choking, rapid heart rate, sickness in the stomach, and body weakness (Boyd, 2017). The healthcare worker can help assess and prompt the older adult to assemble their social support system. Although yearning over the loss can occur for two years, most people do not need clinical treatment (Boyd, 2017). Complicated grief can happen when a person cannot move beyond the loss and a degradation of functioning occurs; however, it is only experienced by about 10% to 20% of people (Boyd, 2017). If the older adult cannot move past the loss and is overwhelmed by the change, the healthcare worker needs to intervene.

Complicated grief occurs after six months of intense mourning; there is a feeling of being "stuck," deep yearning is expressed, trust toward other people is apparent, and life become

meaningless (Boyd, 2017). The healthcare worker will assess safety and the social support network to help the older adult overcome complicated grief. Grief that does not follow a normal response in the timing of symptoms can be documented as delayed grief. In delayed grief, there is a lack of initial symptoms of grief but they surface later (Sadock et al., 2015). The healthcare worker can explore the Kübler-Ross cycle of grief to assess for extended denial when the older adult appears stoic in presentation to acute loss. Cultural norms and awareness are cautioned as the healthcare provider works with the client to determine their definition of normal and what an appropriate response to loss and death are.

Another form of grief is prolonged grief, which is sometimes called traumatic grief because the loss was unforeseen. It is similar to persistent complex bereavement disorder. Persistent complex bereavement disorder is a clinical diagnosis that requires the deceased to have a significant connection to the mourner. In addition, there are intense feelings of yearning/sorrow/constant thoughts of the deceased/constant thoughts of the nature of death (one of those), and these difficulties interfere with functioning for more than a year after the death (APA, 2013). Traumatic grief is more difficult to cope with, thus leading to a longer recovery time. It often includes external circumstances such as violence, abruptness, and unanticipated or preventable death (Boyd, 2017). Traumatic grief is often termed prolonged grief due to extenuating forces and an anticipated loss. Therefore, the person experiencing the loss faces a longer period of change and adaptation.

Symptoms of traumatic grief/prolonged grief include the following (APA, 2013):

- Last all day (nearly every day) for at least one month.
- Disruption of self (feeling loss of self).
- Extended denial about the death.
- Inability to confront reminders of the deceased person (avoidance).
- Intense outward feelings (emotions such as anger).
- Constant struggle with moving forward with daily activities and social engagements.
- Empty feelings about life.
- Loneliness (feeling isolated and distant from others).

While considering the cycle of grief and the various types of grief an older adult may experience, the healthcare worker should consider the symptoms of grief and their interference with functioning and relationships, the risk of self-harm or harm to others, and the symptoms of clinical depression when presenting appropriate intervention. Most grief will resolve on its own accord without psychiatric intervention; however, a healthcare provider might be consulted for acute medical intervention. Sleep deficits can be addressed with short-term psychopharmacological agents; however, anxiolytics, antidepressants, and narcotics are not recommended for normal grief (Sadock et al., 2015). If therapy is warranted, the healthcare worker can provide options for treatment. Grief therapy (one-on-one or group sessions) and self-help groups have been found to be most beneficial for those mourning and unable to overcome grief, loss, or bereavement (Sadock et al., 2015). The healthcare worker can work with the client, family, and community to assess the availability of resources to support the older adult.

Case study: Ms. P

Ms. P. is a 68-year-old Caucasian female being seen by you in the mental health clinic. She recently lost her husband of 48 years. She barely talked at her appointment last week and has mostly been looking down at the floor avoiding eye contact. She reluctantly tells you that she overheard her children talking about housing options for her. She does not want to leave her home. Her husband drove her to all of her appointments and took care of all of her needs (groceries, medications, etc.). She has two married children who both live out of state. Her oldest daughter brought her to the visit today and is sitting in the lobby. Ms. P has a history of colon cancer (currently in remission), diabetes, hypertension, and depression. She takes oral medication for her elevated blood pressure, diabetes, and depression. Today she tells you that she feels empty, alone, and hopeless.

Question:
What stage of grief is Ms. P in and what assessment criteria supports this?

Discussion:
Ms. P is displaying signs that support the depression stage (Kübler-Ross & Kessler, 2005). She is stating that she feels empty, alone, and hopeless after the loss of her husband and loss of access to groceries, medications, and medical appointments. She is expressing concern that she might even be moved from her home. Depression is also a clinical diagnosis. Further assessment would be warranted to determine her safety risk and the need to intervene or treat. Ms. P's daughter is in the waiting area and can possibly provide clarity and insight into Ms. P's current and future mental health needs.

MENTAL HEALTH DIAGNOSES FOR THE OLDER ADULT

Neurocognitive disorders
Changes in cognition are statistically significant for the older adult population (Boyd, 2017). The healthcare worker must understand the differences in neurocognitive disorders for assessment, intervention, treatment, and when to refer to other disciplines and community resources. According to the APA (2013), the DSM-5 diagnosis of a neurocognitive disorder is a deficiency in the following: attention (distractibility with multiple stimuli), executive functioning (decision making, planning, and working memory), learning and memory (recollection and recognition), language (expressive, fluency, grammar, receptive), perceptual-motor (visual and motor perception), and social cognition deficits (emotion recognition, ability to relate to another). Differentiating cognitive regression and disruption can be difficult, especially when a baseline of functioning or collateral information is not available. The healthcare worker who assesses and/or treats older adults will encounter older adults with neurocognitive disorders.

Delirium

Delirium is a neurocognitive disorder that a healthcare worker will come across in the older adult population. Delirium is an acute cognitive impairment caused by an underlying medical culprit (Boyd, 2017). The healthcare worker needs sharp attention of its presence; however, treatment is often administered in the acute care setting by medical professionals. There are a multitude of risk factors and known causes for delirium in the older adult population.

Delirium risk factors for the older adult include the following (Boyd, 2017):

- Advanced age (65 years and older).
- Male.
- History of falls.
- Preexisting dementia.
- Functional dependence (long-term care facility residents).
- Endocrine and metabolic disorders.
- Fractures in bones.
- Medications (consider AGS 2019 BEERS criteria for potentially inappropriate medications in older adults).
- Vital sign changes (hypotension, hypo- or hyperthermic).
- Imbalances in intake (dehydration, renal failure, hyponatremia).
- Long-term care admission.
- Pain (acute or chronic).
- Stress (acute or chronic, notable risk during loss or bereavement).
- Substance use and alcohol withdrawal (alcohol is greatest offense).

Known causes that induce acute delirium include the following (Sadock et al., 2015):

- Seizures.
- Trauma (especially head trauma after a fall).
- Diabetes.
- Infection.
- Insufficient nutritional status.
- Uncontrolled pain.
- Medications (e.g., pain medication, antibiotics, antivirals, antifungals, steroids, anesthesia, cardiac medications, anticholinergics).
- Serotonin syndrome.
- Over-the-counter substances (e.g., herbs, teas, supplements).
- Cardiac disturbances (failure, arrhythmias, myocardial infarction).
- Disease (abnormality or failure in pulmonary, endocrine, renal, and hepatic systems).

Delirium can be life threatening but is usually reversible with treatment. The healthcare worker must be able to identify the signs of delirium. Key features of delirium include rapid and abrupt onset, decreased level of consciousness, altered attention, impaired cognitive functioning (can look like disorientation), and diminished memory (Sadock et al., 2015). It can present like other mental health disorders. A psychotic episode of schizophrenia, mania, or a factitious disorder can look like delirium upon the first encounter. Generally speaking, schizophrenia presents with better organization and a more stable level of consciousness; mania will be explained historically with a bipolar diagnosis or become apparent over time; and in a factitious disorder, inconsistencies will surface during examination or be easily revealed after an electroencephalography (Sadock et al., 2015). The healthcare worker can provide or request further examination of the older adult. Cognitive testing can be administered and compared to a baseline examination if available, along with laboratory studies looking for underlying causes of delirium. The treatment will often be dependent on the underlying cause of the delirium. Caution is needed for the older adult receiving treatment for psychosis. The AGS (2019) highly recommends avoidance of antipsychotic medications such as haloperidol (Haldol), risperidone (Risperdal), and quetiapine (Seroquel) due to their increased affiliation with tremors, fall risk, stroke, and death in patients with dementias. A refined assessment and understanding of underlying sequalae of psychosis are needed for treatment of delirium long term.

Mild cognitive impairment (MCI)

MCI lives in the space between normal age-related cognitive changes and dementia. Older adults with MCI are at greater risk for developing dementia or Alzheimer's disease (NIA, 2022f). The mental healthcare provider can note subjective data from the older adult or from caregivers, family, or friends (with consent). Data to note for older adults with suspicion of MCI: increased frequency of losing items; forgetting important dates, events, or appointments; and difficulty with word selection (NIA, 2022f). These symptoms can be concerning to the older adult. The NIA recommends tips to improve MCI. These suggestions can empower the older adult who feels embarrassed or saddened by their cognitive state. Recommendations for improving memory include the following (NIA, 2022f):

- Stick to a daily routine—predictability is key.
- Utilize tools such as calendars, to-do lists, notes, and reminders.
- Place daily objects in the same place in your house.
- Consider learning a new skill (check community resources).
- Volunteer time (give back to the local community).
- Increase time spent with friends and family.
- Ensure adequate sleep at night.
- Prioritize exercise and nutrition.
- Avoid alcohol (receive help if needed).

The older adult with MCI needs to be assessed regularly to recognize increased symptoms that would warrant intervention. The findings of MCI do not predict further impairment, do not necessitate treatment, and can cease without medical intervention (NIA, 2022f). Further evaluation by a neurologist or neuropsychologist can be provided if desired.

Dementia (vascular, lewy body, frontotemporal, Alzheimer's disease)

Dementia is a major neurocognitive disorder classified in the DSM-5 by severe impairment of memory, judgment, orientation, and cognition (APA, 2013). It is not part of normal aging and is common in older adults. Half of older adults age 85 years or older have a diagnosis of dementia (NIA, 2022c). Not all causes of dementia are known, and differentiating them can be challenging to the healthcare worker. If a specific dementia cannot be categorized but symptoms meet criteria, the diagnosis of general dementia will stand. Delirium and dementia are often confused, but they can be contrasted by several clinical features. The most distinguishable characteristic of delirium is the rapid onset of presentation and attention level. Delirium has an abrupt beginning and inconsistent level of attention, while most dementias occur over the course of time and maintain a consistent level of attention (Sadock et al., 2015).

Although vascular dementia, which is caused by a stroke, presents very similarly to delirium, it can be separated by clinical evaluation. Vascular dementia is one of the several subcategories of dementia. It is the second most common type behind Alzheimer's disease (NIA, 2022g). Those most at risk for developing vascular dementia are men, people with hypertension (especially uncontrolled), people with high cholesterol, and those who have other cardiovascular diseases (Sadock et al., 2015). The cognitive invasion of this type of dementia is a result of an infarcted plaque or emboli traveling to the brain. A diagnosis can be made after cognitive testing is performed, a medical history is taken, and brain imaging is completed (NIA, 2022g). One unfortunate truth about vascular dementia is the irreversibility of its damage. Treatment can include preventing further strokes by thinning the blood and lowering risk factors with lifestyle changes and medications (NIA, 2022g).

Another subtype of dementia is Lewy body disease (LBD). It presents similarly to Alzheimer's but it is distinguished by areas in the brain lumped with proteins known as alpha-synuclein and called Lewy bodies after the physician who discovered them (NIA, 2022e). The accumulation of Lewy bodies causes destruction and death of neurons and results in gradually decreasing brain activity (NIA, 2022e). There are two types of Lewy body dementia—dementia with Lewy bodies and Parkinson's disease dementia. The biggest difference between Lewy body and Parkinson's dementia is the timing and disruption in thought and movement.

Classification of dementia with Lewy bodies (NIA, 2022e):

> Problems with thinking, unpredictable change in attention and alertness, and visual hallucinations develop early in relation to movement symptoms, such as slow movement, difficulty walking, and muscle stiffness.

Classification of Parkinson's dementia (NIA, 2022e):

> Movement symptoms start first and are consistent with a diagnosis of Parkinson's disease. Later, problems with thinking and changes in mood and behavior develop.

Not everyone with Parkinson's disease will develop dementia. The evaluation of a person with either Lewy body or Parkinson's dementia will entail a physical exam, mental status examination, cognitive functioning evaluation, and brain imaging. LBD is neither preventable nor curable, and treatments focus on the patient's safety and quality of life (NIA, 2022e). Interventions can include many disciplines, especially case management. The mental healthcare worker can also offer community resources and nonprofit organizations as care options, dependent on their accessibility to the older adult.

Frontotemporal dementia (FTD), also known as Pick's disease, is named after a physician who described it and the "Pick bodies" seen in the brain postmortem (Sadock et al., 2015). FTD is a rare, progressive disease with an unknown etiology. It carries a life expectancy of 2 to 10 years after diagnosis and often requires full-time care (NIA, 2022d). It can present with notable personality and behavioral changes. Frontal lobe involvement can cause changes to behavior and movement; temporal lobe changes feature language and emotional changes (NIA, 2022d). FTD can have distinguishable symptoms. It can present with Klüver-Bucy syndrome: hypersexuality, placidity or complacency, and hyperorality or oral compulsions (Sadock et al., 2015). There is no cure and no way to prevent disease progression. Treatment focuses on symptom control (sometimes using antidepressants or antipsychotics) and quality of life. This disease can be distressing for family members and caregivers. The mental healthcare provider can refer all involved to resources and support groups.

The most common form of dementia is Alzheimer's disease. The mental healthcare worker will treat older adults with it or will see a family member affected by it. The NIA (2022b) states that over six million Americans, most 65 years and older, are diagnosed with Alzheimer's disease. It often presents as dementia. The causes of Alzheimer's disease remain unclear, but what has been discovered is brain atrophy and inflammation, genetic predispositions on chromosome 17, and environmental exposures such as aluminum toxicity (Sadock et al., 2015). Older adults or caregivers usually note the first symptoms as forgetfulness. The NIA (2022b) notes symptoms of Alzheimer's disease as difficulty finding words, struggles with vision and spatial perception, reduced reasoning and poor judgement, length of time it takes to complete ADLs, repetition of stories or questions, danger due to wandering and getting lost, losing common items, and change in mood and personality (usually more irritable).

There are three stages of Alzheimer's defined by the NIA (2022b):

- **Early-stage Alzheimer's**: When a person begins to experience memory loss and other cognitive difficulties, though the symptoms appear gradual to the person and their family. Alzheimer's disease is often diagnosed at this stage.
- **Middle-stage Alzheimer's**: Damage occurs in areas of the brain that control language, reasoning, sensory processing, and conscious thought. People at this stage may have more confusion and trouble recognizing family and friends.
- **Late-stage Alzheimer's**: A person cannot communicate, is completely dependent on others for care, and may be in bed most or all the time as the body shuts down.

Cognitive testing can be performed, as can brain scans. The mental healthcare worker can refer to neurology if needed. There is no cure, but the U.S. Food and Drug Administration (FDA) has approved medication to treat symptoms and slow the progression of invasion. The life expectancy with a diagnosis of Alzheimer's disease varies from 3 to 10 years (NIA, 2022b). The mental healthcare provider can prepare the older adult and family members for the future and focus treatment options on quality of care that is uniquely important to the older adult.

Sleep difficulties

Sleep is a crucial component of physical and mental health and warrants an assessment during every psychiatric mental health examination. Dementias, most notably Alzheimer's disease, can be a perpetuating cycle of negative sleep and interference with cognition (Boyd, 2017). Sleep changes are a natural part of advancing age but can contribute to worsening states of mental health if natural adaptations are not rendered or medications are improperly prescribed. With advancing age, restful sleep decreases and interruptions in the sleep pattern shorten, both of which contribute to a decreased quality of sleep. Rapid eye movement (REM) during sleep (the deepest and most restful part of sleep) becomes less frequent, as do circadian rhythms (Sadock et al., 2015). Falling asleep, staying asleep, and feeling rested become more difficult with advancing age. Sleep deficiencies can worsen cognitive functioning and can be magnified if the older adult has cognitive disorders. It's necessary to routinely assess the older adult's quality and quantity of sleep. Interventions for sleep difficulties will vary for the older adult. The safest sleep intervention is nonpharmacological. The healthcare worker can encourage and educate the older adult on healthy sleeping habits.

Nonpharmacological sleep interventions for the older adult include the following (Boyd, 2017):

- Use awareness for when to go to bed and go to bed when feeling tired.
- Create a routine and stick to it (it can take time).
- Use your bed only for intimacy or sleep.
- Decrease or eliminate stimulating foods after lunch (caffeine).
- Avoid naps.
- Add or increase physical exercise.
- Include relaxation techniques (simple relaxation, guided imagery, or distraction).

The use of pharmacological interventions needs further assessment and possible referral. The AGS (2019) notes possible dangers in prescribing medications that are potentially inappropriate for older adults: zolpidem (Ambien), zalepon (Sonata), eszopiclone (Lunesta), alprazolam (Xanax), lorazepam (Ativan), and diazepam (Valium). Sleep hygiene is the primary recommendation from the AGS (2019) for older adults. If the older adult is technologically savvy, the healthcare worker can suggest apps for healthy sleep regimen reminders, sleep logs, relaxation techniques, or medication reminders. Getting restful sleep is important for the health and well-being of the older adult.

Depression

The healthcare worker is likely to interact with an older adult experiencing depressive symptoms or suffering from a diagnostic depressive disorder. Depression is more common in people who suffer from illness or decreased functioning; 80% of older adults have at least one chronic health condition, and 50% have two or more (CDC, 2021b). Remembering ageism and bias is important as the healthcare worker assesses for depression. Depression is not part of the aging process, and not all older adults experience depression (CDC, 2021b). The healthcare worker must be able to identify risks for the older adult. The NIA (2021b) lists the risk factors for older adults as physical conditions (most notably stroke and cancer), genetics (familial history increases risk), stress (being a caregiver can cause greater stress), sleep difficulties (falling asleep or staying asleep), isolation and loneliness (assess the root cause of it if found and the subjective impact), sedentary lifestyle, limited physical functioning (struggling with ADLs), and alcohol addiction. Older adults can find themselves alone and socially disconnected. Loneliness can contribute to depression and heightens the risk of suicide for the older adult population (NIA, 2021b). Loneliness is a common feeling experienced by older adults and is an indication for further assessment to determine the level of distress.

The healthcare worker needs an understanding of the signs and symptoms of depression and can teach them to the older adult to empower them to speak up. Caregivers should also receive this intervention so that they can request early intervention when possible. Symptoms of depression include sad mood, persistent feelings of hopeless/worthless/helplessness, an inability to find pleasure in regular activities (including sex), a low energy level, markedly slow speech (noticed by others), cognitive struggles (difficulty concentrating/remembering/making decisions), problems sleeping (more or less than usual), changes in appetite (increased or decreased), and thoughts of death or suicide (NIA, 2021b). If multiple symptoms are found and last more than two

weeks, the healthcare worker (if allowed within scope of practice) can consider a clinical diagnosis of major depressive disorder (MDD) in line with the DSM-5 (APA, 2013). Recent loss, grief, bereavement, and culture must be taken into consideration prior to diagnosing. Untreated depression can lead to physical detriment for the older adult. Coping inappropriately with food can lead to obesity or geriatric anorexia (APA, 2022f). Depression can also alter cognitive clarity. Depressed older adults have a slower reaction time to stimuli, increasing the risk and dangers of driving, cooking, and self-care activities such as medicating (APA, 2022f). The healthcare worker can use a self-reporting scale when assessing. Geriatric-specific depression scales are available, but documentation and scope of practice should be discussed with your place of employment. A strength assessment can help the healthcare worker find the older adult's historical methods of coping and resilience. It can also highlight unhealthy coping mechanisms that can be discussed.

Questions for assessing an older adult's strength include the following (Boyd, 2017):

- How have you coped with depression or depressive symptoms in the past?
- What do you find relaxing?
- What brings you joy?

Treatments and recommendations for depression depend on the health status of the older adult and their living situation. Treatment may be necessary for older adults experiencing symptoms of depression that have a sustained impact on positive mental health: physical exertion, proper nutritional intake, regular restful sleep, social connection, and engagement in activities that bring satisfaction (NIA, 2021b). These recommendations can be individualized to fit the needs of the older adult and their circumstances. Case management and community engagement can be useful additions for support.

The APA has published treatment recommendations specific to age ranges. For initial treatment of the older adult with MDD, the APA (2019) recommends group-based cognitive-behavioral therapy (CBT) or interpersonal psychotherapy (IPT) in combination with pharmacotherapy. The APA recognizes that treatment options are dependent on social determinants. The following are recommended treatments for MDD if group CBT or IPT are unavailable for initial treatment: individual CBT with or without pharmacotherapy and problem-solving group therapy (APA, 2019). If the healthcare provider is considering psychopharmacological interventions, a review of the AGS list of potentially unsafe medications for the older adults is needed. The AGS (2019) lists two tricyclic antidepressants, amitriptyline (Elavil) and imipramine (Tofranil), as potentially inappropriate and encourages considering prescribing selective serotonin reuptake inhibitors (SSRIs) citalopram (Celexa) and sertraline (Zoloft) as well as bupropion (Wellbutrin) if possible. Treating depressive symptoms of MDD with medication can be accomplished but must be reviewed for the safest option that meets the needs of the older adult.

Suicidal risk

The older adult population has a particularly high rate of suicide. White men over the age of 65 have a risk that is five times higher than the general population, and older adult men account for 60% of all completed suicides (Sadock et al., 2015). The safety of the older adult is paramount for all healthcare workers in all settings. The recognition of risk factors coupled with appropriate intervention can save lives. Risk factors can be modifiable or nonmodifiable. The APA clinical practice guideline (2010) notes genetics, family history, and demographics as nonmodifiable risk factors. Knowing the older adult's risk factors can aid the healthcare worker in risk calculation but does not precisely predict attempts. The National Council on Aging (NCA) (2021) notes loneliness as the top reason for suicidal ideations, followed by suicidal intent caused by feelings of deep grief over a loved one, mourning the loss of autonomy and self-sufficiency, chronic illness and pain that decrease the quality of life, cognitive impairment and dementias, and financial stress that causes an inability to pay bills. The older adult's increased suicide risk is also consistent with a mental health diagnosis of depression, schizophrenia, posttraumatic stress disorder, substance use disorders, an inclusion of trauma, an experience of discrimination based on sexual identity, access to lethal means, and sleep disturbances (LeFevre & Force, 2014).

The suicidal older adult with access to lethal means should trigger the healthcare worker to immediately assess for safety. Statistics show that older adults plan more thoroughly for suicidal completion and are most likely to use lethal means (firearms) than younger populations (NCA, 2021). Reasons stopping or preventing the older adult from following through on suicidal thoughts, intent, and plans are called protective factors. Protective factors that apply to the older adult are cultural views, spiritual beliefs, coping skills, personality traits, social support systems, and past responses to stress/loss/bereavement (APA, 2010). Assessment can be completed during the psychiatric interview. The healthcare worker can use an informal format or systematic questioning to elicit safety responses. No formal training is needed to administer the brief suicide screener called the Columbia Suicide Severity Rating Scale (C-SSRS) (SAMHSA, 2022a). All healthcare workers can administer the C-SSRS. The tool probes the older adult about their intent, plan, and preparation for death. If the questions are answered honestly, it can indicate older adults who are at high risk of suicide completion (The Columbia Lighthouse Project, 2016).

To garner the greatest gains, the healthcare worker must utilize empathy to nurture an environment of trust within the therapeutic alliance with the older adult during this part of the assessment. The APA (2010) recognizes the use of a suicide contract commonly called a no harm contract between a mental healthcare provider and a patient. There is no evidence to prove its effectiveness in prevention and it is cautioned against as a replacement for a thorough suicide risk assessment. But it can be a useful method for discussing protective factors and a safety plan of action. The healthcare worker has decisions to make based on the level of risk verbalized by the older adult. The approach for intervention will depend on the severity of risk, workplace policy, and state legalities—especially related to breaching confidentiality. The healthcare worker will abide by the individualized plan of action for suicide prevention according to protocol and treatment setting.

Anxiety

Anxiety is commonly found in early or middle adulthood but can be seen after 60 years of age, although initial panic disorders are very rare (Sadock et al., 2015). The symptom profile for older adults experiencing anxiety is different than younger populations. Older adults tend to be less symptomatic, yet they are equally as troubled. The decreased symptoms have been attributed to a decreased autonomic nervous system (Sadock et al., 2015). Older adults have a vast life experience that can include change, transition, loss, and death. Upon assessment, loss, grief, and bereavement can look like anxiety. When assessing anxiety, it's necessary to establish the underlying etiology, length of symptom interference, and cultural considerations. A thorough psychiatric history is needed for clarity of diagnosis. Degrees of clinical anxiety are mild, moderate, severe, and panic (Boyd, 2017). Anxiety often accompanies depression. The older adult with depression is at a higher risk for suicide; therefore, anxiety symptoms coupled with depression need a critical safety assessment (Sadock et al., 2015).

There are medical conditions that can mimic anxiety symptoms in the elderly. Further assessment is needed to rule out stroke, multiple sclerosis, cardiac dysfunction, irritable bowel syndrome, hypoglycemia, hyperthyroidism, hepatic failure, vitamin B deficiencies (1, 6, and 12), and decreased folic acid (Subramanyam et al., 2018). Laboratory studies can also confirm

the presence of interference when considering the diagnosis of anxiety. If anxiety is found in the older adult, assessment for substance use and abuse is needed. Alcohol is often the drug of choice to self-medicate anxiety, but it is an inappropriate and ineffective method for anxiety treatment (Boyd, 2017). Treatment can be tailored to the individual needs of each patient. The AGS (2019) provides a list of potentially inappropriate medications for older adults, and it includes the benzodiazepines alprazolam (Xanax), lorazepam (Ativan), and diazepam (Valium) and offers alternatives for medicating anxiety with buspirone (Buspar) and SSRIs like citalopram (Celexa) and sertraline (Zoloft). Nonpharmacological approaches are plentiful for the treatment of anxiety in the older adult. The clinical practice guideline for geriatric anxiety recommends nonpharmacological methods of treatment: lifestyle modifications (sleep, diet, exercise, social support), behavioral therapy (relaxation), cognitive-behavioral therapy, mindfulness, yoga, art/dance/music therapy, or alternative therapies (Subramanyam et al., 2018). Knowing how the older adult has coped in the past is helpful when establishing strengths and weaknesses for current treatment focuses. The healthcare worker can assess for anxiety and offer treatment suggestions that are available and acceptable to the needs of the older adult.

Bipolar

Bipolar is a disease typically diagnosed earlier in life than older adulthood. The average age of onset is 25 years old and portends a short life expectancy (Sadock et al., 2015). Even though older adult onset is rare, bipolar is a diagnosis for life. Therefore, a healthcare worker would need knowledge of common bipolarity symptoms that can be found in bipolar I and bipolar II: mood lability, agitated and cyclic depression, episodic sleep irregularities, possible impulsivity (often involving high-stakes behavior like unsafe sexual activity, gambling, or substance use), deep depressive crashes (can coincide with suicidal ideations), and historical failure of antidepressant treatments (Sadock et al., 2015). Older adults with bipolar can still experience mania or hypomania, but the incidence decreases with age. Older adults with bipolar often suffer from multiple comorbidities such as cardiovascular disease, cancer, lung diseases associated with smoking, hypertension, diabetes, and substance use and abuse (Sajatovic et al., 2013).

The physical and mental health of the older adult can be quite compromised. More severe comorbidities are associated with poorer outcomes. A thorough psychiatric history of symptoms and treatments should be assessed. The assessment priority for the older adult with bipolar having a manic or depressive episode is safety. Interviewing family, friends, and caregivers can be helpful for addressing potentially harmful activities for the older adult. Immediate intervention can be taken if needed, in accordance with workplace policy or state law. The healthcare worker meeting the mental health needs of the older adult with bipolar is likely to see psychiatric mood-stabilizing medication. The most common pharmacological treatments for bipolar are lithium carbonate (Lithium), divalproex sodium (Depakote), and lamotrigine (Lamictal) (Boyd, 2017).

Successful past pharmacological treatment can be reviewed and taken into consideration for current treatment options. Since the older adult with bipolar is likely to have comorbidities, special considerations should be taken when prescribing or altering their medication regimen(s). Older adults metabolize, tolerate, and respond to medications differently than younger populations; therefore, lower doses of bipolar medications might be needed and are associated with good outcomes (Sajatovic et al., 2013). Lower rates of mood-stabilizing medication in elderly patients will also decrease side effects and possibly ease medication longevity. Recent findings for nonpharmacological approaches to bipolar treatment can be applied to the older adult population. A new treatment approach utilizes peer mentors who can provide support and hope (Sajatovic et al., 2013). The treatment settings and goals for the older adult with bipolar will depend on the current mental status of the patient.

Schizophrenia

Like bipolar, schizophrenia is a diagnosis expected to impact the remainder of life. Schizophrenia onset is typically in late adolescence to early adulthood, but an older adult diagnosis is possible (Boyd, 2017). Psychosis is classically associated with schizophrenia.

Definition of psychosis (APA, 2022h):

1. An abnormal mental state involving significant problems with reality testing It is characterized by serious impairments or disruptions in the most fundamental higher brain functions—perception, cognition and cognitive processing, and emotions or affect—as manifested in behavioral phenomena, such as delusions, hallucinations, and significantly disorganized speech.
2. Historically, any severe mental disorder that significantly interferes with functioning and ability to perform activities essential to daily living.

Psychosis requires immediate intervention and is handled according to workplace policy and state law for the healthcare worker. Older adults with schizophrenia usually have improved symptoms with age and experience fewer relapses (Boyd, 2017). The healthcare worker should be aware of common symptoms of schizophrenia. Schizophrenia symptoms are classified as positive, negative, and neurocognitive (Boyd, 2017):

- Positive symptoms happen in addition to regular functioning, most commonly as hallucinations (can involve any of the five sense) and delusions (unreasonable beliefs, involving thoughts only).
- Negative symptoms are an absence of regular functioning such as flat affect and diminished emotional expression and activity.
- Neurocognitive impairment is expressed as disorganized speech, thought, or behavior.

Prior to the diagnosis of schizophrenia, an assessment would include ruling out medical causes of schizophrenia symptoms, mainly psychosis. Underlying medical etiology can present as psychosis in the older adult. The top five psychosis-inducing medical conditions to check the older adult for are substance abuse, thyroid disorders, delirium cause by infection, dementia, and vitamin B12 deficiency (Gaddey & Holder, 2021). A thorough assessment of the older adult is prudent prior to an initial diagnosis of schizophrenia. If the older adult with a diagnosis of schizophrenia is exhibiting symptoms out of their ordinary, a sweep for known medical conditions that mimic psychosis is also warranted. A differential diagnosis of brief psychotic disorder, major depressive disorder (MDD), and posttraumatic stress disorder (PTSD) can also be considered for the older adult. Collateral information from family, friends, and caregivers would be prudent if given consent. Breaches of confidentiality would need to be reviewed if the older adult is a danger to self or others during an acutely psychotic episode. Many factors must be considered during the assessment of the older adult with schizophrenic symptoms or psychosis.

The healthcare worker can present psychosocial intervention and treatment modality options that fit the mental health needs of the older adult. The National Alliance on Mental Illness (NAMI) has found four types of psychosocial intervention that greatly improve self-esteem and quality of life for an older adult living with schizophrenia: CBT, functional adaptation skills training (FAST), vocational rehabilitation, and technology communication connection (e.g., it provides reminders for medications and appointments). FAST is a unique treatment approach for schizophrenia that seeks to build necessary life skills that can address social determinant barriers to mental healthcare (Cepla, 2014). For example, an older adult with schizophrenia who lacks personal transportation can be taught how to navigate public transportation. Enhancing transportation for the older adult can

address access to care issues and increase resource availability for items such as groceries, clothing, and medications. Psychosocial interventions strengthen the quality of care and life for an older adult living with schizophrenia.

Schizophrenia is treated pharmacologically with antipsychotic medications. First- and second-generation antipsychotics are most frequently seen as front-line treatment options, although third-generation antipsychotics are up and coming. Antipsychotic medications are used in patients with schizophrenia because they primarily block dopamine, a known cause of psychotic symptoms, and can alter other neurotransmitters (Sadock et al., 2015). Antipsychotic medications carry a difficult side effect risk profile. Sedation, postural hypotension, anticholinergic effects, extrapyramidal symptoms, and tardive dyskinesia are some of the most concerning side effects of antipsychotic medications (Boyd, 2017).

Definition of anticholinergic effects (APA, 2022a):

> Side effects are characteristic of anticholinergic drugs and are also associated with other agents (e.g., tricyclic antidepressants, monoamine oxidase inhibitors) that exert antagonist effects at muscarinic receptors. They include dry mouth, blurred vision, urinary hesitancy or retention, and constipation. Similar antagonistic effects may occur at nicotinic receptors as well. Depending on the specific receptors involved, these effects may also be called antimuscarinic effects or antinicotinic effects.

Definition of extrapyramidal symptoms (APA, 2022d):

> A group of adverse drug reactions attributable to dysfunction of the extrapyramidal tract, such as rigidity of the limbs, tremors, and other Parkinson-like signs; dystonia (abnormal facial and body movements); and akathisia (restlessness). Extrapyramidal symptoms are among the most common side effects of the high-potency antipsychotics and have also been reported with the use of other drugs (e.g., SSRIs). Also called extrapyramidal syndrome (EPS).

Definition of tardive dyskinesia (TD) (APA, 2022i):

> A movement disorder associated with the use of antipsychotics, particularly conventional antipsychotics that act primarily as dopamine- receptor antagonists. It is more common with prolonged use (months or years), and older patients, females, and patients with mood disorders are thought to be more susceptible. Symptoms include tremor; so-called choreoathetoid movements; and spasticity of muscle groups, particularly orofacial muscles and muscles in the extremities. Onset is insidious and may be masked by continued use of the antipsychotic, only appearing when the drug is discontinued or the dose lowered. Its incidence is estimated at up to 40% of long-term users of conventional antipsychotics; the incidence is lower with atypical antipsychotics. No effective treatment is known.

Older adults need special considerations for medications to treat schizophrenia. Older adults with schizophrenia often need adjustments to medication regimens with lower doses or divided doses throughout the day when possible (Sadock et al., 2015). The AGS releases and continually updates safety criteria to guide the treatment of the older adult population. The AGS (2019) recommends only patients with schizophrenia receive antipsychotic medication, which increases the risk of stroke, diminishes cognitive ability, and contributes to early death.

The healthcare worker should investigate all medications being taken by the older adult with acute notation of antipsychotics drugs and their known side effects. Table 6 is a snapshot of antipsychotic medication options and is presented to increase understanding of decreased dose ranges and the comparative difficulty of side effect risk profiles for antipsychotics in older adults.

Table 6. A Snapshot of Decreased Older Adult Dosing and Side Effect Risk Profiles

Drug	Adult Dosage (mg/day)	Geriatric Dosage (mg/day)	Sedation	Postural Hypotension	Anticholinergic Effects	EPS	TD
Clozaril (clozapine)	300–450	12.5–25	High	Moderate	High	Low	Low
Olanzapine (Zyprexa)	25–50	25	Moderate–high	Moderate	Moderate–high	Low	Low
Quetiapine (Seroquel)	150–750	50–200	Moderate	Moderate	High	Low	Low
Risperidone (Risperdal)	4–16	0.25–1.5	Low	Low	Low	Low	Low
Haloperidol (Haldol)	1–15	0.25–0.5	Low	Low	Low	Very high	Yes

Note: Information taken from https://www.Medscape.com

Neuroleptic malignant syndrome (NMS) is a life-threatening condition that can happen in response to antipsychotic medications. Early recognition and intervention are the most important things a healthcare worker can do for a patient experiencing NMS. The primary symptoms of NMS are mental status changes, severe muscle rigidity, and autonomic changes (historically presenting with high fever ranging between 101 and 103 degrees Fahrenheit, tachycardia, and fluctuating blood pressure) (Boyd, 2017). Emergency intervention is needed for NMS. The healthcare worker should intervene as workplace policy dictates to get the patient to appropriate medical care as soon as possible.

A delicate balance is needed to lessen problematic schizophrenic symptoms and antipsychotic medication side effect profiles, which can be dangerous to the older adult. The healthcare worker can help assess the older adult with schizophrenia and seek to find interventions and treatments that can be modified if needed. With an individualized plan of care and proactive planning, the healthcare worker can increase the quality of mental health services provided, in turn increasing the quality of life for the older adult living with schizophrenia.

Self-Assessment Quiz Question #5

The healthcare worker is assessing the older adult taking antipsychotic medication. What life-threatening condition warrants immediate attention?:

a. Postural hypotension.
b. Sedation.
c. Anticholinergic effects.
d. Neuroleptic malignant syndrome.

SERIOUS MENTAL ILLNESS (SMI)

The healthcare worker should be able to identify the older adult who suffers with serious mental illness so that the complexity of the accompanying intervention and treatment can be addressed. SMI is a significant functional impairment caused by one or more mental disorders (most commonly schizophrenia, bipolar, or MDD). Approximately 4.8% of older adults in the U.S. live with SMI (SAMHSA, 2022b). An older adult who suffers with SMI often needs greater medical and mental illness intervention than someone without SMI. The healthcare worker will need to assist with a comprehensive treatment plan. Older adults with SMI are likely to have comorbidities that complicate their quality of life and increase their risk of mortality (SAMHSA, 2021). The most common medical conditions contributing to earlier death are cardiovascular diseases, followed by diabetes, chronic obstructive pulmonary disease (COPD), obesity, and tobacco use (Bartels et al., 2020). Specific psychopharmacological interventions are individualized for the older adult with SMI and are chosen to best meet the specifics of their medical and mental illnesses. Older adults with SMI have better physical and mental health outcomes with psychosocial interventions that focus on improving independent living, teaching social skills, enhancing social support with peer mentors, and education about physical and mental illness management for better self-management lifestyles (Bartels et al., 2020). The healthcare worker can refer to case management or community resources, along with support from friends, family, and caregivers. Treatment options will be offered in accordance with appropriate care settings and social determinants for the older adult with SMI.

Psychosocial Interventions for the older adult with SMI include the following (Bartels et al., 2020):

- **Helping Older People Experience Success (HOPES)**: HOPES is a 12-month course that contains seven modules: Communicating Effectively, Making and Keeping Friends, Making the Most of Leisure Time, Healthy Living, Using Medications Effectively, and Making the Most of a Healthcare Visit. The courses are designed to meet weekly and teach a new skill set at every session. Weekly sessions provide active engagement for the older adult with SMI, and a wide range of potential tool sets offers the opportunity to meet a greater number of needs.
- **Cognitive Behavioral Social Skills Training (CBSST)**: CBSST individualizes training framed around personal functioning in a group setting. There are three modules that target self-management, communication techniques, and interpersonal problem solving. Each module meets weekly for one month. Unique goals are set for the older adult with SMI based on their needs and capabilities.
- **Health and Recovery Peer (HARP)**: HARP is a mental health program with peer support inclusion for the older adult with SMI that evolved from the chronic disease self-management program. The six topics it covers are illness self-management, exercise and physical activity, pain and fatigue management, healthy and affordable eating, medication management, and the importance of continuity of physical and mental healthcare. HARP helps older adults with SMI set short- and long-term goals for all topics covered.
- **Targeted Training in Illness Management (TTIM)**: TTIM is a combination focus for older adults with SMI and comorbid diabetes. This approach contains two sections. The first section has a nurse educator and peer mentor running weekly sessions for three months that address medication management, nutrition, exercise, substance use, problem-solving skills, engaging social support systems, and setting personal goals. The second half of the training is offered through telephone consultation with the goal of self-sustainment.

The healthcare worker meeting the mental health needs of the older adult will most likely be collaborating with a team to maximize the quality of care. Older adults with SMI are more likely to need acute care and premature permanent nursing home placement when compared to older adults without SMI; therefore, it is important to place greater emphasis on intervention and treatment options to increase autonomy (Bartels et al., 2020). A team approach between medical and psychiatric care is necessary for the healthcare worker addressing the mental health needs of the older adult with SMI.

RECOVERY PRINCIPLES AND HEALTHY AGING

Recovery and healthy aging should be initiated at the first psychiatric interview, systematically evaluated at every subsequent meeting, and adjusted as needed for the older adult with mental illness. Recovery is defined as the ability to overcome and adapt with positivity to any health disorder in order to reach one's potential and life goals (SAMHSA, 2022c). Striving toward prioritizing recovery and healthy aging brings mental healthcare in the direction of biopsychosocial interventions and functioning toward maximizing the quality of care for the older adult. This is an important goal of every mental health interaction and will be unique to each older adult client. Healthy aging is defined as healthy choices, connections, and prevention and management of health conditions that contribute to quality of life (HHS, 2022). There is more than one path to healthy aging and recovery. Deciding which practices and treatments (medications, therapies, community resources, etc.) are best suited for the older adult with mental illness will be a multifaceted assessment process, possibly including other healthcare disciplines. SAMHSA (2022c) classifies four major dimensions for recovery implementation, and HHS recognizes nine topics for healthy aging. Table 7 combines SAMSHA recovery dimensions and HHS healthy aging topics, and it highlights older adult considerations for the healthcare worker to address.

The healthcare worker can use recovery dimensions as factors for assessing an older adult. A review of an older adult's health, home, purpose, and community can signify protective factors or barriers to recovery, each able to alter the length of recovery. Recovery dimension barriers can be targets for intervention. In addition to recovery dimensions are recovery principles for the healthcare worker meeting mental health needs. The healthcare worker can view the 10 SAMSHA recovery principles and their applicability to the older adult in Table 8.

Table 7. SAMSHA Recovery Dimensions, HHS Healthy Ageing and Older Adult Considerations			
SAMSHA Recovery Dimension	**SAMSHA Dimension Definition**	**HHS Healthy Aging Topics**	**Older Adult Considerations**
Health	Living a lifestyle of healthy choices that minimize symptoms and positively contribute to physical and emotional welfare.	• Staying Active. • Nutrition for the Older adult. • Locating Benefits & finding care. • Managing medication & treatment. • Brain health.	• Living arrangement. • ADLs. • Transportation (driving safety). • Access to care (Medicare). • Access to resources like healthy food and medications. • Nutrition assistance (Meals on Wheels). • Food safety. • Access to healthcare. • Older adult specific treatment. • Physical exercise and activity. • Strengthening cognition and memory. • Ethical and legal implications
Home	Physical residence that includes safety.	• Staying connected to your community.	• Living arrangement. • Assisted living, long-term care, nursing home. • Fall prevention. • Family, friends, caregivers involved. • Access to support. • Lower risk of violence.
Community	The connection to others that provide comfort and support (friendship, love, intimacy, and hope).	• Staying connected to your community.	• Marital status. • Support network. • Group therapy. • Religious or spiritual considerations. • Sexual activity.
Purpose	Existential stability, sense of purpose and being, ability to find meaning and satisfaction in self and others.	• Learning about diseases, conditions, and injuries. • Understanding mental health.	• Developmental task completion. • Job(s). • Volunteer position(s). • Purposeful involvement. • Hobbies. • Cultural considerations. • Religious and spiritual inclusion.
Note: Information combined from SAMHSA (2022c) and HHS (2022)			

Table 8. SAMHSA Recovery Principles and Definitions with Older Adult Applicability		
SAMSHA Recovery Principle	**Recover Principle Definition**	**Older Adult Applicability**
Hope (The crux for recovery)	• Internalized drive. • Future focused. • Optimism.	• Hope can be instilled by self or others. • Hopelessness is a safety concern (assess for suicide).
Person-Driven	• Self-direction. • Taking responsibility.	• Focus on autonomy and incorporation for decision-making in life.
Many Pathways	• Personalization. • A nonlinear process.	• Based on personal strength, talent, capabilities, and coping skills
Holistic	• Whole life. • Mind, body, spirit, community.	• All recovery dimensions of health, home, purpose, and community.
Peer Support	• Sense of belonging. • Support.	• Peers can be family, friends, professionals. • Some psychosocial treatments include peer support.
Relational	• Connectedness. • Social networks. .	• Family, friends, caregivers, neighbors, faith groups, community groups and members. • Citizenship.
Culture	• Diversity inclusion. • Uniqueness.	• Cultural awareness. • Cultural sensitivity. • Culture humility.

Table 8. SAMHSA Recovery Principles and Definitions with Older Adult Applicability		
SAMSHA Recovery Principle	**Recover Principle Definition**	**Older Adult Applicability**
Addresses Trauma	• Verbal, physical, emotional, domestic violence, sexual, war, natural disaster, financial, substance.	• Assess past and present. • Establish trust. • Promote safe space. • Ethical and legal implications.
Strengths/Responsibility	• Resource availability for self and community. • Empowerment.	• Personal responsibility in recovery and resources. • Find barriers and protective factors.
Respect	• Acceptance. • Self-esteem.	• Eliminate discrimination and bias. • A sense of identity beyond the diagnosis. • Avoid labels.
Note: From SAMHSA (2012)		

Hope, the first listed SAMSHA recovery principles in Table 8, has been studied in the older adult population. Verbalized hope in older adults has been proven to have a positive correlation with better overall physical and mental health, as evidenced by decreased mortality, fewer chronic conditions, lower cancer rates, fewer sleep disturbance problems, decreased stress, improved sense of purpose, and increased life satisfaction (Hernandez & Overholser, 2021). The healthcare provider can assess for social connections and support in the older adult. Family, friends, caregivers, community members, and healthcare workers are all capable of instilling hope in the older adult. Hopelessness can be experienced after loss (Kübler-Ross & Kessler, 2005). Hopelessness can be a target for intervention in the older adult. Individual, group, and community hope-based treatments have been found to be effective for increasing hope, which in turn optimizes physical and mental health for the older adult (Hernandez & Overholser, 2021). Hope holds positivity for the older adult, yet is only one of 10 principles where the healthcare worker can assess and intervene.

Focusing on the recovery and healthy aging of the older adult, beginning with the initial interview, promotes a journey toward recovery as a fluid process with dimensions and principles to guide the healthcare worker. Healthy aging and recovery strategies can be preventive for mental health or goals set during any stage of mental health illness. Together, the healthcare worker and patient can maximize quality of life for the

Conclusion

Aging provides irrevocable changes and modifications to the human body, but it is not synonymous with mental health degradation. Theories of aging provide references for the healthcare provider who is assessing, intervening, and treating the older adult with mental health needs. Communication tailored to the older adult enhances the ability to build trust and rapport for the therapeutic relationship, the integral connection with the older adult. The healthcare worker might need to modify their communication with the older adult due to hearing, visual, or cognitive impairments. The healthcare worker is charged with considering the unique presentation of the older adult when assessing social determinants (protective factors or barriers) and biopsychosocial factors. Knowing risk factors, symptoms, and treatment options for older adults with mental health needs enables the healthcare worker to provide treatment options that maximize safety, recovery, and quality of life for the older adult

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MENTAL HEALTH CONCERNS AND THE OLDER ADULT

Self-Assessment Answers and Rationales

1. The correct answer is A.

Rationale: Erik Erikson's eighth and final stage of psychosocial development is targeted at the older adult and called integrity versus despair. The main conflict in older age happens between integrity (the sense of satisfaction people feel reflecting on a life lived productively) and despair (the sense that life has little purpose or meaning).

2. The correct answer is D.

Rationale: The National Institute on Aging (2017) provides recommendations for improving communication with the older adult. They recommend using an older client's preference for being addressed; including their proper titles, such as Mr., Mrs., Ms., Dr.; and avoiding endearing terms such as honey and dear.

3. The correct answer is A.

Rationale: The U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion (ODPHP, 2022) in Healthy People 2030 names five areas related to social determinants of health: education access and quality, healthcare access and quality, neighborhood and built environment, social and community context, and economic stability. Healthcare access and quality includes telemental healthcare for the older adult with the ability and means to utilize the Internet to receive care electronically.

4. The correct answer is B.

Rationale: The National Institute of Aging (2020) lists signs of abuse in the older adult and recognizes that long-term health effects include decreased physical and psychological health, severed social support, financial loss, and early death.

5. The correct answer is D.

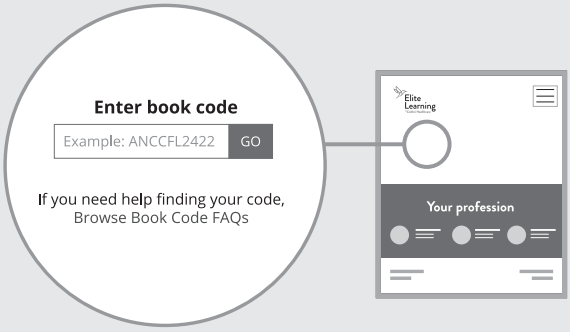
Rationale: Neuroleptic malignant syndrome is a life-threatening condition that can happen in response to antipsychotic medications. Early recognition and intervention are the most important things a healthcare worker can do for a patient experiencing NMS. The primary symptoms of NMS are mental status changes, severe muscle rigidity, and autonomic changes (historically presenting with high fever ranging between 101 and 103 degrees Fahrenheit, tachycardia, and fluctuating blood pressure) (Boyd, 2017).

HOW TO COMPLETE THIS BOOK FOR CREDIT

Please read these instructions before proceeding.

IF YOU'RE COMPLETING ALL COURSES IN THIS BOOK:

- Go to **EliteLearning.com/Book** and enter code **ANCCUS3023** in the book code box, then click **GO**.
- If you already have an account created, sign in with your username and password. If you don't have an account, you'll be able to create one now.
- Follow the online instructions to complete your final exam. Once you finish your purchase, you'll receive access to your completion certificate.



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COURSES YOU'VE COMPLETED	CODE TO ENTER
All 30 hours in this correspondence book	**ANCCUS3023**
Asthma Management in Special Populations	ANCCUS03AS
Basic Psychiatric Concepts	ANCCUS06PC
Crisis Resource Management for Healthcare Professionals	ANCCUS03CR
Diabetes Prevention and Management for Healthcare Professionals	ANCCUS05DM
Ethical and Legal Issues in Nursing Practice	ANCCUS07EL
Mental Health Concerns and The Older Adult	ANCCUS06MH

By mail

- Fill out the course participant sheet and mandatory evaluation found in the back of this booklet. Please include a check or credit card information and e-mail address. Mail to **Elite, PO Box 37, Ormond Beach, FL 32175**.
- Completions will be processed within 2 business days from the date it is received and certificates will be e-mailed to the address provided.
- Submissions without a valid e-mail will be mailed to the address provided.

By fax

- Fill out the course participant sheet and mandatory evaluation found in the back of this booklet. Please include credit card information and e-mail address. Fax to **(386) 673-3563**.
- All completions will be processed within 2 business days of receipt and certificates e-mailed to the address provided.
- Submissions without a valid e-mail will be mailed to the address provided.

Elite
PO Box 37 | Ormond Beach, FL 32175
Questions? Call us toll-free: 1-866-344-0971

Nursing Professionals Correspondence Package
Course Participant Sheet

Please fill in all the information below in CAPITAL LETTERS. Upon completion, please return this sheet, along with payment and mail to the address above. If paying by check or money order, please make payable to **Elite** for **$38.95**. For even faster service, we offer this course participant affirmation sheet online with instant certificate issuance. Please visit **EliteLearning.com/Book** to complete your affirmation online.

Please PRINT NEATLY in the areas below using black or blue pen only:

First Name **M.I.** **Last Name**

Mailing Address

Suite / Floor / Apt Number **City (do not abbreviate)** **State**

Zip Code **Telephone Number (Please include area code)** **Nursing License Number (Please provide for course credit)**

E-Mail address (include to receive processing confirmation and instant certificate access)

Payment Method

- ☐ Check / M.O. Enclosed for:
- ☐ Visa / Mastercard / AMEX / Discover
- ☐ Entire Package only $38.95 or
- ☐ Asthma Management in Special Populations - $23.95
- ☐ Basic Psychiatric Concepts - $35.95
- ☐ Crisis Resource Management for Healthcare Professionals - $23.95
- ☐ Diabetes Prevention and Management for Healthcare Professionals - $29.95
- ☐ Ethical and Legal Issues in Nursing Practice- $35.95
- ☐ Mental Health Concerns and The Older Adult - $35.95

Visa / Mastercard / AMEX / Discover Number Credit Card Expiration Date

Cardholder Signature: _____

Important Note:
The box below must be checked for verification sheet to be processed.

☐ By checking this box and signing below, I hereby affirm that I have completed this educational activity, including the self-assessment.

_____
Signature

For Internal Use Only - Please Do Not Mark In This Area

ANCCUS3023

9475429190

Test Expiration: 10/21/2024
1. ANCCUS03AS 2. ANCCUS06PC 3. ANCCUS03CR 4. ANCCUS05DM 5. ANCCUS07EL 6. ANCCUS06MH

NURSING - COURSE EVALUATION (ANCCUS3023 - Required)

To receive continuing education credits for this program, this mandatory evaluation form must be completed.

Licensee Name: _____ **License #**_____

Your honest feedback is vital for the planning, evaluation, and design of future educational programs.

SECTION I: Demographics: Your current license type and education level: ❍LPN/LVN ❍RN - Associate degree ❍RN - Bachelor's degree ❍RN - Master's degree ❍APRN - Master's degree ❍Doctorate / DNP / Other Doctorate ❍Other (specify)_____

How long have your been a nurse: ❍Less than 5 years ❍6 to 10 years ❍11 to 15 years ❍16 to 20 years ❍Over 20 years ❍Not a nurse

SECTION II: Course Evaluation
Please complete the following for each course you have completed. Mark the circle that best matches your evaluation of the question.

1. After completing this course, I am able to meet each of the Learning Outcomes.	7. The course demonstrated the author's knowledge of the subject.
2. The course content was unbiased and balanced.	8. I intend to apply the knowledge from this course to my practice.
3. The course was relevant to my practice.	9. What I have learned from this course will have an impact on my knowledge.
4. I would recommend this course to my peers.	10. What I have learned from this course will have an impact on patient outcome.
5. What I have learned from this course will have an impact on my practice.	11. The overall rating for this course.
6. The course was well-organized and clear.	

	Asthma Management in Special Populations 3 Contact Hours					Basic Psychiatric Concepts 6 Contact Hours					Crisis Resource Management for Healthcare Professionals 3 Contact Hours				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
2	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
3	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
4	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
5	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
6	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
7	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
8	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
9	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
10	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor
11	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
12	How many total hours did it take you to complete this course? Please indicate the number of hours: _____														
13	Please provide any additional feedback on this course: _____														

SECTION III: General

Fill in the circle below numbers **0=Not likely at all, 5=Neutral and 10=Extremely likely**

How likely is it that you would recommend Elite to a friend or colleague?..... 0 1 2 3 4 5 6 7 8 9 10

If your response is less than a 10, what about the course could we change to score a 10? _____

_____

List other topics that you would like to see provided: _____

❑ I agree to allow Colibri Healthcare, LLC to use my comments. If you agree, please provide your name and title as you would like to see them to appear.

_____

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5. What I have learned from this course will have an impact on my practice.	11. The overall rating for this course.
6. The course was well-organized and clear.	

	Diabetes Prevention and Management for Healthcare Professionals 5 Contact Hours					Ethical and Legal Issues in Nursing Practice 7 Contact Hours					Mental Health Concerns and The Older Adult 6 Contact Hours				
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
2	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
3	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
4	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
5	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
6	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
7	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
8	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
9	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
10	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor	Excellent	Good	Average	Below Average	Poor
11	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍
12	How many total hours did it take you to complete this course? Please indicate the number of hours: _____														
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_____

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_____