


FRAME 4: Generate Solutions

The unlicensed nursing assistant personnel (UAP) approaches the nurse with concerns about a statement made by Jacklyn while getting assistance to the restroom. The UAP states the client mentioned herself as a failure and would have “been better off dead.” The nurse recognizes the significance of this statement and relates Jacklyn’s history of depression after the loss of her husband. The nurse understands the severity of the statement and approaches Jacklyn in her room. Upon entering the client’s room, the nurse finds Jacklyn sitting on the edge of her bed with tears in her eyes. The nurse listens as the client shares thoughts, fears, and concerns she has about her hospital stay, the stability of her job, lack of insurance, and uncertainty about the future.

After a thorough conversation with the client, the nurse has the Jacklyn complete a depression screening tool used in the nursing unit, the Patient Health Questionnaire™ (PHQ-9).

Jacklyn completes and returns the document to the nurse 

PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

ID #: Jacklyn Smith DATE: July 24

Over the last 2 weeks, how often have you been bothered by any of the following problems?
(use “✓” to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	<input checked="" type="checkbox"/>	3
2. Feeling down, depressed, or hopeless	0	1	2	<input checked="" type="checkbox"/>
3. Trouble falling or staying asleep, or sleeping too much	0	<input checked="" type="checkbox"/>	2	3
4. Feeling tired or having little energy	0	1	2	<input checked="" type="checkbox"/>
5. Poor appetite or overeating	0	1	2	<input checked="" type="checkbox"/>
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	<input checked="" type="checkbox"/>	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	<input checked="" type="checkbox"/>	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	<input checked="" type="checkbox"/>
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	<input checked="" type="checkbox"/>

add columns 2 + 4 + 15

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL: 21

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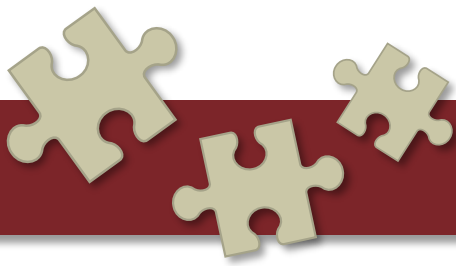


QUESTION: Matrix Multiple Choice

Scoring Rule: 0/1

The nurse reviews the PHQ-9™ form filled out by the client. For each potential intervention, specify whether the intervention is indicated or not indicated for the client status.

Potential Intervention	Indicated	Not Indicated
Implement suicide precautions		
Inquire about spiritual care and support		
Ask the client to elaborate on question 9 of the survey		
Screen visitors		
Provide supportive resources		
Contact primary provider		
Have the UAP stay with the client until the end of the shift		
Minimize the number of interruptions at night		



Putting It All Together

DEBRIEF

Depression does not typically occur in isolation and is a major risk factor for heart disease. Given the client's previous history and understanding that depression after major surgery is common and affects millions of people each year, it is essential for the nurse to generate solutions to achieve a desirable outcome. Undergoing a major surgery leaves individuals left to manage many details in life differently than normal. Most people do not stop to think about how they can help themselves feel good emotionally during their surgical recovery (AHA, 2020). Therefore, asking the client to elaborate on her answers to the questionnaire, especially focused on question 9, would be indicated in this situation. Additionally, the nurse would want to provide supportive resources and try to minimize the number of interruptions at night to help promote healthy sleeping patterns for the client. Lastly, the nurse would want to communicate this information and the questionnaire results to the provider to ensure a collaborative approach is taken.

Healthcare clinicians are encouraged to routinely assess clients for depressive symptoms before surgery and continue screening after surgery. The PHQ-9™ is an example of a depression screening that takes the client less than 10 minutes to complete.

You can access this screen by clicking [HERE](#).

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

Implicit bias, discrimination, and stigma create a framework that disentangles structural health equity determinants into key constructs, which allows a focus on their roles in the lived personal experiences of vulnerable populations. Nurses must allow for the exploration of broader sociopolitical, cultural, and economic factors and intermediary health determinants on social position. Adverse SDOH can chronically stress the biology of disadvantaged groups, impact cardiovascular health factors, and promote disparities in CVD outcomes (Powell-Wiley et al., 2022).

Additional considerations must relate the client's SDOH with stress hormones and their negative impact on post-operative recovery and rehabilitation. The immune system responds to chronic stress that can be induced by psychological stress, such as discrimination, loneliness, job strain, violence, food insecurity, and financial instability (Powell-Wiley et al., 2022).

The nurse demonstrated effective communication by addressing Jacklyn's statements with her. Effective health communication is critical to health and well-being. Healthy People 2030 focuses on improving health communication (HC/HIT-02) so people can easily understand (HC/HIT-01) and act on health information.

What Do You Think About?

1. What risk factors are exhibited by Jacklyn early on in her hospital stay for depression?
2. Explain what supportive guidance might look like for Jacklyn in her current situation.
3. Identify two policy, two community and two individual interventions that can be incorporated into Jacklyn's care to decrease adverse SDOH.

FRAME 5: Take Action

It is post-op day 5, and Jacklyn has made great progress in her physical, emotional, and mental post-operative recovery. Two days ago, Jacklyn started in-patient Cardiac Rehab where she met other individuals who have also recently undergone cardiac surgeries and procedures. Jacklyn has completed one day at Cardiac Rehab and has quickly formed a bond with one of the cardiac nurses who lost their spouse just 6 months ago. The telemetry nurse caring for Jacklyn today is reviewing her chart before giving morning medications.

Smuth, Jacklyn M.		Age: 46 years	Weight: 156 lb	Provider: Henry Jenson		
Allergies: NKA		Code Status: Full	Height: 67"	Encounter #: 00067896005		
HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
7/24/XX 1045	<p>Nursing Note: Client walked to end of hallway and back to room with 1 assist. Client had to take 3 breaks due to shortness of breath. Pulse ox checked during walk at was 89%, increased oxygen to 4L NC to help client recover. Client is disappointed in her progress and states she wishes her “son never brought me to the hospital.” Client refused breakfast this morning and requests lights to be turned down and “to be left alone.” Nurse discussed the importance of ambulation and deep breathing for post-op recovery and to help get the oxygen off. Client appears frustrated, angry, and depressed in both verbal and non-verbal actions.</p>					
1150	<p>Nursing Note: Approached client after a safety concern from UAP about a statement the client made. Through conversation with client, concerns of post-op depression and decreased motivation were noted. Client completed the PHQ-9 screen and returned to nurse. Primary provider notified. Will consult cardiac rehab for additional physical, emotional, and mental support for client.</p>					
1450	<p>Nursing Note: Cardiac rehabilitation nurse visited client in her room for about 45 minutes. Plan is for client to join tomorrow morning’s session at 0930. Client in agreement to start and states, “guess I will try; I’m not getting any better laying in my bed being angry about everything.” Client expressed concerns about her slow recovery, cardiac rehabilitation nurse reassured client and provided education and educational material to client to review prior to the morning session. Questions encouraged and answered.</p>					
7/26/XX 0600	<p>Nursing Note: Client had a good night. No acute events overnight, client slept with minimal disturbance. Prior to bed, client walked down the hallway and back to room with 1 assist. Client took 2 breaks due to shortness of breath. Pulse ox checked during walk and maintained 89-91%. Client mentioned she was looking forward to cardiac rehab in the morning and had looked through the material provided by the cardiac rehab nurse.</p>					

Smuth, Jacklyn M.

Age: 46 years

Weight: 156 lb

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Height: 67"

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HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
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CARDIAC REHAB**7/25/XX
0930**

Session 1: Introduction to rehab program provided to client with an estimate of 36 total sessions over 12 weeks. Medical evaluation completed to assess client needs and limitations. Progress journal given to client with focus on positive journey recovery. Client able to begin goal setting, participated in activities, and walked in the hallway with 1 needed break due to shortness of breath. Pulse ox remained 92% or greater during ambulation.

HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
Date / Time	Temperature	Heart Rate	Blood Pressure	Respiratory Rate	Pulse Oximetry	Pain
7/24 0630	98.6°F	83	126/76	14	89% (3 L NC)	4
7/24 1040		102		22	87% (4 L NC)	
7/24 1500	98.9°F	89	114/72	16	90% (4 L NC)	2
7/24 2300	98.7°F	76	110/74	14	92% (4 L NC)	1
7/25 0745	98.9°F	85	124/82	18	95% (4 L NC)	3
7/25 1515	99.0°F	89	118/80	16	92 (3 L NC)	4
7/25 2330	98.6°F	78	108/76	12	93% (3 L NC)	2
7/26 0700	98.8°F	91	120/82	14	96% (3 L NC)	3

HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
LAB	REFERENCE RANGE	7/23 0600 (Post-op Day 2)	7/24 0615 (Post-op Day 3)	7/25 0600 (Post-op Day 4)	7/26 0640 (Post-op Day 5)	
Sodium	136-145 mEq/L	137	138	145	141	
Potassium	3.5-5.0 mEq/L	4.6	4.9	4.3	4.1	
Magnesium	1.5-2.4 mEq/L	2.2	2.5	2	2.1	
Chloride	98-106 mEq/L	105	101	99	102	
Calcium	9-10.5 g/dL	10.1	9.9	10	9.8	
Glucose	70-100 mg/dL	127	83	133	116	
WBC	4,000-10,000 uL	9,034	9,948	8,678	8,034	
Hemoglobin	12-17 g/dL	10	10.6	11.2	11.9	
Hematocrit	36-51%	33	34	36	40	
RBC	4.2-5.9 cells/L	3.7	3.8	3.9	4	
Platelets	150,000-350,000 uL	202,617	227,003	198,372	202,675	
BUN	8-20 mg/dL	20	17	15	13	
Creatinine	0.7-1.3 mg/dL	1.2	1.2	1.1	0.9	



QUESTION: Multiple Choice

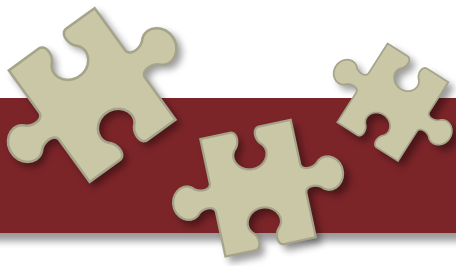
Scoring Rule: 0/1

The nurse enters the client's room to see Jacklyn sitting in the chair, eating breakfast.

The nurse sees Jacklyn's nasal cannula laying on the bed next to her. The nurse asks Jacklyn how she is feeling this morning, and she states, "I'm feeling better each day, it is just so hard to eat with that thing stuck up your nose, so I took it off...I hope that is okay."

What action will nurse take next?

- a. Put the nasal canula back on the client
- b. Tell Jacklyn if she becomes short of breath to put it back on
- c. Check SpO₂
- d. Educate Jacklyn on the importance of keeping things on until the nurse says it is okay to take off



Putting It All Together

DEBRIEF

Cardiac rehab is a specific type of therapy focused on clients who have had a recent heart attack, heart conditions such as coronary artery disease (CAD), heart failure (HF), peripheral artery disease (PAD), or recent heart procedures/surgeries. Additionally, there are many other types of therapies to promote better health outcomes for clients after major surgery. These therapies include a multidisciplinary team that may include providers, nurses, exercise specialists, dieticians, nutritionists, and many others. Rehabilitation measures focus on holistic approaches to promoting independence and healthy living. This includes clients' physical, mental, and emotional support as they recover. It is evident that Jacklyn is already seeing a positive impact from cardiac rehab, especially from a mental and emotional supportive aspect. Developing a sense of community for clients to ensure they are not alone can provide significant positive and forward progression in their recovery.

The client's chart, including nursing notes, lab values, and vital signs, all indicate improvement in Jacklyn's oxygenation and breathing status. Therefore, it would be appropriate for the nurse's next action to see what the client's SpO₂ is to assess the client's ability to oxygenate without supplemental oxygen. If the SpO₂ is adequate and the client is not showing signs of distress, keeping the oxygen off the client would be appropriate. Additionally, this forward progress will help support Jacklyn's mental and emotional states as it will bring positive thoughts forward as she is not reliant on medical therapies as much.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

Transportation is an important SDOH in rural communities. The availability of reliable transportation impacts an individual's ability to access appropriate and well-coordinated healthcare, purchase nutritious food, and otherwise care for themselves. Rural populations have a greater need for transportation services to maintain their health and well-being. Populations most at risk include older adults, people with disabilities, low-income individuals and families, veterans, and people with special healthcare needs who require additional assistance to access healthcare. Communities that provide transportation services to support access to rural healthcare benefit healthcare providers by decreasing inappropriate use of EMS services, improving utilization of healthcare services, decreasing no-show rates, and increasing access to health-supporting services. Transportation as a community-based service can allow the elderly and people with disabilities to live successfully in a community rather than entering a long-term care facility or leaving the community (Rural Health Information Hub, 2022).

What Do You Think About?

1. What other measurements or assessment pieces would the nurse look for to identify forward/positive progression from cardiac rehab?
2. Identify resources in the community that may provide transportation to prescribed therapies in your local community.
3. Identify 5 primary factors that may limit Jacklyn's ability to be adherent to her cardiac rehab schedule.

FRAME 6: Evaluate Outcomes

It is post-op day 7, and Jacklyn is being discharged. She has made significant progress over the past 3 days and is able to ambulate without needing breaks or becoming short of breath. She is actively participating in cardiac rehab daily and plans to continue as an outpatient. Jacklyn's mental status has improved, and she has utilized resources provided to her during the hospital stay. Jacklyn is sharing her milestones journal and discussing short- and long-term goals with the telemetry nurse prior to discharge.

MILESTONE JOURNAL



Heart Valves Are For Life

THINK OF YOUR RECOVERY AS A POSITIVE JOURNEY YOU'RE TAKING TO ENRICH YOUR LIFE AND HEALTH. After surgery, it's important to find ways to think positively and to feel as good as you can. Studies show that some patients struggle with depression after a major surgery like heart surgery, and **depression can seriously slow down recovery.**

DON'T WORRY about depression; **DO WHAT YOU CAN TO PREVENT IT** and **TELL YOUR DOCTOR** if you notice symptoms or feel that you are really struggling. Write down your progress. It helps you to take time to notice the good things that are happening. If you write them down, you will push yourself to take note of what's going right.

Post Surgery Milestones

DAY 1

DAY 1 - YOU'RE ON YOUR WAY

You may feel groggy and confused, especially if you're attached to unfamiliar IVs and machines. **BUT pay attention** to what's going on to help you get better!

Do your best to follow post-op instruction — It's a step toward your full recovery.

Enjoy your progress even if you're just moving from lying down to sitting up. **That's progress!**

Even if it hurts, celebrate those first steps. Even just walking to the bathroom is an important part of moving forward.



TRACK YOUR PROGRESS

My moment of achievement on my first day:

I realized I am not alone.

Others are struggling like

I am. Good to talk to others.

I am thankful for: *my nurse tech, nurse, and healthcare team. I am still worried about going home.*

DAYS 1-3

DAYS 1-3

Be gentle with yourself. It may still be a bit awkward, but during this phase, you may be able to shower, get dressed, remove machines and IVs.

All of these small moments are steps toward feeling more like yourself again. It can be easy to focus on how you're not better yet, but you'll do yourself and your recovery a favor if you do your best to reframe it toward the positive.

By the end of day three, you will likely be able to plan to do some enjoyable activities:

- choose some movies you'll enjoy
- read a good book
- invite a friend to come by
- or play a board game with your child



TRACK YOUR PROGRESS

Enjoyable moment: *I walked to the end of the hall, only stopping one time. My rehab nurse was so proud and so was I!*

I am grateful for: *ME! I know I have a long road ahead, but I know I can go home. Also for my friends I have made in rehab.*

[Continued on page 2]



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Post Surgery Milestones

[Continued from page 1]



DAYS 5-10

You will likely notice significant progress during this time.

Sutures may be removed, mobility will be encouraged.

This is an important time to be gentle with yourself, remembering you're still recovering **AND** to focus on how you're improving at a nice pace.

This period and the next are times when some people experience **post-surgery depression** so take care of your emotional journey toward recovery, too. Allow yourself to **enjoy your progress** as much as you can.

TRACK YOUR PROGRESS

What improvements are you noticing? *I don't get short of breath as much and I do not need my oxygen anymore! I was able to walk stairs.*

What seems to be getting easier or less painful in the last few days? *Sitting and standing. I don't have as much fear.*

What have you been able to enjoy about your recovery? *My resilience, I can do this but need help.*

WEEKS 2-3 AND BEYOND

Are you setting some small, achievable goals for yourself? Some people expect to feel recovered by this time, but full recovery will take a while.

You will still need plenty of rest, but you'll also want to gradually ease back into a more active life. Plan some very gentle activities you enjoy, or start going on very short strolls.

By the end of week three, you may be able to start easing back into a predictable schedule.

- Plan gentle outings with friends
- Walk around the block if you're cleared for mild exercise
- Enjoy a meal out with the family
- Before long, you'll likely start cardiac rehab

Remember, ease back into life and notice each little milestone. Every step forward is progress!

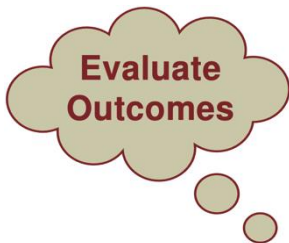
TRACK YOUR PROGRESS

Enjoyable moment: _____

I am grateful for: _____

Heart.org/heartvalves

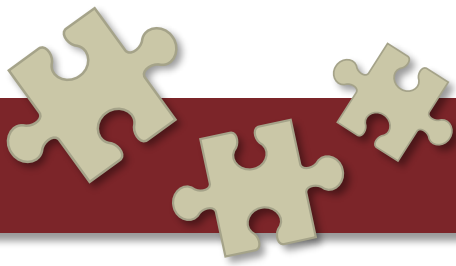
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QUESTION: Multiple Response Select All That Apply
Scoring Rule: +/-

The nurse is pleased to review Jacklyn's journal and goals. As the nurse, determine which of the goals created by the client demonstrates a lack of understanding and needs follow-up.

	Goal Statement
<input type="checkbox"/>	Discuss cardiac rehab schedule with son for transportation needs.
<input type="checkbox"/>	Try to make it to every session
<input type="checkbox"/>	Talk to my boss about job responsibilities, see if there is another position that does not require as much lifting and pulling
<input type="checkbox"/>	Try to find support outside of my son. Join the support group of fellow patients and caregivers who have recovered from heart-related events
<input type="checkbox"/>	Walk 2 miles by the end of the month



Putting It All Together

DEBRIEF

Comparing observed outcomes against expected outcomes is an essential nursing action prior to discharge. This will help the nurse collaborate with the client to identify improving/declining/unchanged status and evaluate the client's knowledge of their disease process, recovery, medications, and restrictions before discharge. As the nurse reviews Jacklyn's Milestone Journal, it is evident that the client is in a better mental and emotional state than she was a few days ago. Jacklyn articulates signs of hope and continued progress for the future. The nurse would want to further discuss the timeframe for Jacklyn's goal of walking 2 miles by the end of the month, knowing Jacklyn is being discharged on July 28.

It is also important for the nurse to realize that when clients are discharged, they are leaving a controlled environment and entering a more uncontrolled environment that is heavily influenced by SDOH. Allowing the client to identify barriers they will face upon discharge will assist the nurse in identifying possible resources, guidance, and tools to support the client's forward post-op progression and avoid readmission to the hospital. The nurse can use varied teaching strategies when assessing the client's understanding. Spending valuable time assessing the effectiveness of the education will help the nurse understand ways to improve health literacy and client understanding before discharge to avoid readmission back to the hospital.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

Depression in the United States is increasing across all races and ethnicities and is attributed to multiple SDOHs (Yelton et al., 2022). Healthy People 2030 aims to ensure "healthy, thriving lives and well-being free of preventable disease, disability, injury, and premature death" and acknowledges the need to achieve health equity through structural and behavioral intervention. Health People 2030 categorized SDOH into five domains *Economic Stability, Education Access and Quality, Health Care Access and Quality, Neighborhood and Built Environment, and Social and Community Context*. Within these domains are several potential risks and protective factors for mental health outcomes relating to access, quality, and safety of material, social, educational, occupational, civic, and health-related resources (Yelton et al., 2022). Systemic racism, implicit bias, reluctance to refer, segregation, and inequity for protective factors for specific groups or communities can contribute to adverse SDOH outcomes and depression/depressive symptoms.

Social change and action to increase equity and provide a voice to populations whose otherwise voices are not heard can be influenced by the nurse's advocacy, engagement in the legislative process, and participatory research promoting dialogue that shares stories about important issues affecting rural and other marginalized individuals or groups.

What Do You Think About?

1. What SDOH will impact Jacklyn as she goes back home and is discharged from the hospital?
2. What resources could be given or shared with Jacklyn prior to discharge?
3. Describe actions a nurse can take to address SDOH and related mental health outcomes?

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CASE STUDY: Khloe

CONCEPTS

- Health Promotion
- Development
- Health Policy

EXEMPLAR

- Early Childhood Health Promotion

SPHERE OF CARE

- Wellness, Disease Prevention

SDOH DOMAIN

- Education Access & Quality
- Neighborhood & Built Environment
- Social & Community Context
- Health Care Access & Quality

STUDENT LEARNING OUTCOMES

1. Differentiate health promotion activities from preventive care measures.
2. Identify milestones for a 5-year-old for each developmental domain; social/emotional, language, cognitive, and gross and fine motor movement.
3. Identify ways parents can help their children be developmentally ready for school.
4. Discuss three ways the nurse can advocate for health policy change.

SCENARIO SUMMARY

Khloe Seng is a 5-year-old who is planning to start kindergarten in the fall. She lives in a multigenerational home in a rural community. Khloe and her parents are attending a kindergarten orientation this afternoon at the local public elementary school.

NURSING ROLE

School Nurse

FRAME 1: Recognize Cues

Khloe Seng is a 5-year-old who is planning to start kindergarten in the fall. She is an only child and lives in a multigenerational home with her parents and her grandmother in a rural community. Khloe's parents both work full-time, and she attends a daycare center Monday through Friday that integrates a pre-K curriculum. Khloe and her parents are attending a kindergarten orientation this afternoon at the local public elementary school 3 miles from their home. It is requested they bring copies of Khloe's immunization and dental screening records. Khloe's parents enthusiastically informed Khloe that she gets to go to school today and will be able to see the bus that will pick her up and take her to school every day. Khloe states, "I am scared I won't know when to get off the bus." Her parents read her the book, *Bee's First School Bus Ride*, before going to her kindergarten orientation. The book is about Bee, like Khloe, who is nervous about taking the bus for the first time and the adventures that come with new experiences. Khloe asks if she can take "Bee" with her when she gets on the bus at kindergarten orientation.

Seng, Khloe A.		Age: 5 years	Weight: 42 lb	Provider: Linda Folten		
Allergies: NKA		Code Status: Full	Height: 37"	Encounter #: 96426905331		
HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
8/01/XX	MEDICAL HISTORY					
	<ul style="list-style-type: none">Born at 38 weeks gestation, her mom had an uneventful pregnancy and a spontaneous vaginal deliveryKhloe has had regular scheduled appointments with her pediatricianShe is up-to-date with recommended immunizations and has had dental screening and fluoride treatmentsShe has no allergies or food intolerancesShe has had two ear infections, treated with antibiotics					
	SURGICAL HISTORY					
	<ul style="list-style-type: none">None					
8/01/XX	SOCIAL HISTORY					
	<ul style="list-style-type: none">Khloe lives in a multigenerational single-family home with her parents in a modest neighborhoodBoth parents work full timeKhloe attends a pre-K program at the day center that she attends Monday through Friday					

Review Khloe's immunization record below. Additionally, review CDC 2023 recommended immunizations for children from birth through 6 years old by clicking [HERE](#).

Link resource: <https://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>

Seng, Khloe A.

Age: 5 years

Weight: 42 lb

Provider: Linda Folten

Allergies: NKA

Code Status: Full

Height: 37"

Encounter #: 96426905331

HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
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Immunization Record

Vaccine	Birth to 6 months			12-18 months		At Kindergarten
Hepatitis B	5-17-XX	6-30-XX			9-12-XX	
Rotavirus (RV)	7-15-XX	9-20-XX	11-21-XX			
Diphtheria, Tetanus, Pertussis (DTaP, DT, Td)	7-15-XX	9-20-XX	11-21-XX		9-12-XX	7-8-XX
Haemophilus influenzae type b (Hib)	7-15-XX	9-20-XX	11-21-XX		9-12-XX	
Pneumococcal (PCV13, PCV 15)	7-15-XX	9-20-XX	11-21-XX		9-12-XX	
Polio (IPV)	7-15-XX	9-20-XX	11-21-XX			7-8-XX
Covid-19						
Flu Influenza (1-2 doses yearly)						
Measles, Mumps, Rubella (MMR)				5-19-XX		7-8-XX
Chickenpox (Varicella)				5-19-XX		7-8-XX
Hepatitis A				5-19	9-12-xx	
Tetanus, Diphtheria, Pertussis (Tdap)						
Meningococcal (MCV4)						
Human Papilloma Virus (HPV)						

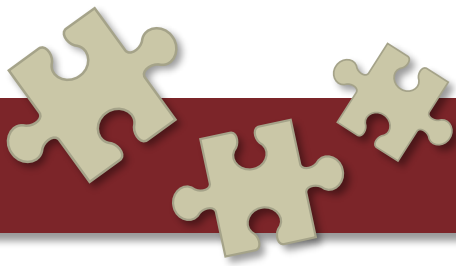


QUESTION: Multiple Response Select All That Apply

Scoring Rule: +/-

Which of the following statements from Khloe’s history are preventive care measures? Select all that apply

- She attends a daycare center Monday through Friday that integrates a pre-K curriculum
- Khloe and her parents are attending a kindergarten orientation this afternoon at the local public elementary school
- Khloe has had regular scheduled appointments with her pediatrician
- Khloe is up-to-date with recommended immunizations
- Khloe has had dental screening
- Khloe has had fluoride treatments
- Khloe has no allergies or food intolerances
- Khloe has had two ear infections, treated with antibiotics



Putting It All Together

DEBRIEF

Establishing healthy behaviors to prevent chronic disease is easier and more effective during childhood and adolescence than trying to change unhealthy behaviors during adulthood (CDC, 2023). Preventive care is defined as routine health care that includes screenings, check-ups, and patient counseling to prevent illnesses, diseases, or other health problems. Khloe participants in health promotion/illness prevention measures indicated by up-to-date immunizations, regular milestone visits with the pediatrician, and dental screenings.

The Centers for Disease Control and Prevention (CDC) published new [immunization guidelines](#) for birth to 6-year-olds in 2023. The updated immunization recommendations include COVID-19 vaccination.

Dental caries in early childhood are associated with pain, loss of teeth, impaired growth, decreased weight gain, negative effects on quality of life, poor school performance, and future dental caries. Higher prevalence and severity of dental caries are found among specific racial and ethnic (e.g., Black and Mexican American) populations (Chou et al., 2021). According to the U.S. Preventive Services Task Force (USPSTF), social determinants of health associated with increased caries risk include lack of access to dental care, low socioeconomic status, personal and family oral health history, dietary habits (especially frequent intake of dietary sugars in foods and beverages), fluoride exposure, and oral hygiene practices (USPSTF, 2021). The Community Preventive Services Task Force (CPSTF) recommends Fluoridation of community water sources to reduce dental caries and school-based sealant delivery programs to prevent caries in children.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

This case study focuses on disease prevention/promotion of health and well-being of a 5-year-old child and addresses four of the five SDOH domains: *Education Access and Quality*, *Neighborhood and Built Environment*, *Social and Community Context*, and *Health care Access and Quality*.

The goal for the SDOH domain, *Neighborhood and Built Environment*, is to create neighborhoods and environments that promote health and safety. One of the objectives for this domain is to increase the proportion of schools with policies and practices that promote health and safety (EH-D01). Assessing immunizations, dental screening, fluoride supplementation, and topical fluoride varnish to primary teeth in kindergarten screening support this objective. The second relevant objective related to *Neighborhood and Built Environment* for rural water sources is to increase the proportion of people whose water systems meet the Safe Drinking Water Act regulations (EH-03).

What Do You Think About?

1. Identify three childhood conditions and other factors that increase the risk for invasive pneumococcal disease.
2. What are two primary dental considerations for children living in rural communities?
3. List three additional preventive care measures recommended for elementary aged children.

FRAME 2: Analyze Cues

Khloe has adjusted well to the first weeks of school. She rides the bus to and from school. After school, her grandma meets her at the bus stop, and they talk about her day. Khloe is meeting her developmental milestones. She enjoys coloring, singing songs, riding her tricycle, and playing soccer with her friends.



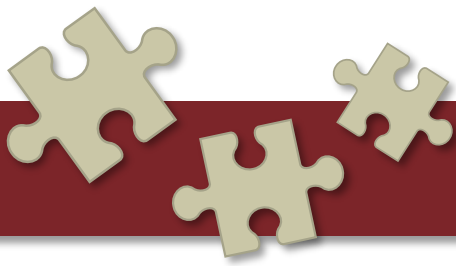
QUESTION: Multiple Response Grouping

Scoring Rule: +/-

For each developmental domain below, click to specify the expected milestones for a 5-year-old. Each domain may support more than 1 expected milestone.

Developmental Domain	Expected Milestone
Social/Emotional	<input type="checkbox"/> Follows simple rules while playing a game
	<input type="checkbox"/> Does simple chores at home
	<input type="checkbox"/> Sings, dances, or acts for you
	<input type="checkbox"/> Start to think about the future
Language	<input type="checkbox"/> Answers simple questions about a book after it is read to them
	<input type="checkbox"/> Have well-developed speech and uses correct grammar most of the time
	<input type="checkbox"/> Uses or recognizes simple rhymes
	<input type="checkbox"/> Tells a story they heard or made up with at least two events
Cognitive	<input type="checkbox"/> Count to 50
	<input type="checkbox"/> Names numbers between 1 and 5 when you point to them
	<input type="checkbox"/> Writes some letters in their name
	<input type="checkbox"/> Pays attention for 5-10 minutes during activities
Gross and Fine Motor Movement	<input type="checkbox"/> Hops on one foot
	<input type="checkbox"/> Buttons some buttons
	<input type="checkbox"/> Tie their shoelaces
	<input type="checkbox"/> Successfully throw a ball at a target

(Adapted from CDC, 2021)



Putting It All Together

DEBRIEF

Milestones are categorized into social/emotional, language, cognitive, and gross and fine motor movement. Developmental milestones are a set of goals or markers that a child is expected to achieve during maturation. They help determine if a child is undergoing typical development versus if a child has delayed in a given area or over multiple areas during aging development (Misirliyan et al., 2023). The assessment of developmental orders is guided by surveillance and screening. Surveillance is the process by which children who are at risk or who have developmental delays are identified. Surveillance is done at every well-child visit and can be performed using an age-appropriate checklist of milestone records. Special attention must be had at the 4 to 5-year-old visit prior to the start of school. Screening, by comparison, is the process by which asymptomatic children who may be at risk of developing a disorder are identified via standardized testing. If a child screens positive, they should undergo a subsequent developmental-behavioral evaluation to identify the etiology of the delay (Misirliyan et al., 2023). Referral to intervention programs as early as possible is pertinent in assuring positive outcomes.

Childhood educational programs, parents and other adults can provide opportunities to help children meet their developmental milestones. Reading with children, practicing recognizing colors, numbers, and letters, and helping them to write their names all contribute to meeting milestones and being developmentally ready for school.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

The SDOH domain, *Education Access and Quality*, aims to increase educational opportunities and help children and adolescents do well in school. Two objectives to meet this goal are to increase the proportion of developmentally ready children for school (EMC-D01) and to increase the proportion of children who participate in high-quality early childhood education programs (EMC-D03).

Children from low-income families, children with disabilities, and children who routinely experience forms of social discrimination are more likely to struggle with math and reading. They are also less likely to graduate from high school or go to college. This means they are less likely to get safe, high-paying jobs and more likely to have health problems like heart disease, diabetes, and depression (Healthy People 2030).

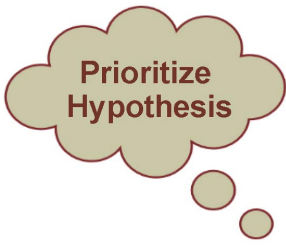
In addition, some children live in places with poorly performing schools, and many families cannot afford to send their children to college. The stress of living in poverty can also affect children's brain development, making it harder for them to do well in school (Healthy People 2030).

What Do You Think About?

1. Provide two more examples for each of the developmental milestone categories.
2. What is a primary assessment for a child with a language delay?
3. Identify five ways parents can help their children be developmentally ready for school.

FRAME 3: Prioritize Hypothesis

Khloe was developmentally ready for school. Her parents, grandmother, and the preschool curriculum helped Khloe to develop independence by giving her simple tasks to complete at home and preschool, they developed routines, so Khloe would know what to anticipate, especially in the morning when getting ready for school. The morning schedule allowed time for breakfast, getting herself dressed, and ensuring she had her backpack ready for school. Khloe's parents read to her every evening and enjoyed reading the books Khloe brought home from the school library.

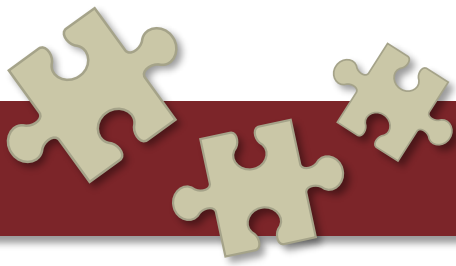


QUESTION: Multiple Response Select N

Scoring Rule: 0/1

Select three responses below that would be health promotion activities for Khloe.

- Promote access to and participation in school breakfast and lunch
- Offer physical education to increase students' knowledge, skills, and confidence to be physically active
- Promote better sleep patterns
- Support social and emotional learning
- Vision screening
- Hearing screening
- Receiving recommended vaccinations



Putting It All Together

DEBRIEF

Health promotion is multifaceted and includes upstream factors. The set of factors that impact health beyond individual-level characteristics are often referred to as “upstream factors” and are also referred to as SDOH. Upstream factors are looking at factors that contribute to health disparities in the first place. SDOH are the conditions in the places where people live, learn, work, worship, go to school, and play that can affect a wide range of health risks and outcomes. Some examples of upstream factors include access to healthy foods, access to quality health care, reliable transportation, stable housing, economic stability, and access to quality education. Societal or macro-level influences, including structural racism, discrimination, and certain policies, can result in inequities observed in these determinants (National Institute of Health, 2020).

It is important that children get timely developmental screenings and recommended healthcare services, which is key to finding health problems early when they are usually easier to treat. Positive health behaviors can help prevent diseases and injuries in children. However, there are important racial/ethnic and income disparities in these healthy behaviors and related health outcomes (Healthy People 2030). Safe, stable, and supportive relationships are critical for children’s health, development, and well-being. Family-level interventions can help keep children safe and healthy. Strategies focused on children’s health and safety in early childhood education programs, at school, and in their neighborhoods can also help improve health outcomes for children (Healthy People 2030).

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

The goal for the SDOH domain, *Social and Community Context*, is to increase social and community support. Three of the goals for the domain, *Social and Community Context* is to increase the proportion of children whose family read to them at least four days per week (EMC-02); increase the proportion of children and adolescents who show resilience to challenges and stress (EMC-D07) and increase the proportion of children who communicate positively with their parents (EMC-01). Khloe’s parents read the book *Bee’s First School Bus Ride* to decrease Khloe’s fear about riding the bus. Khloe’s bedtime routine includes reading books and reinforcing different literary sources from the library. Khloe’s grandmother meets Khloe at the bus stop, and they talk about her day. This interaction fosters positive communication patterns. Positive communication between parents and children includes discussing beliefs, experiences, and feelings. This type of communication is key to healthy relationships, and it can protect children from health risks and help them do better in school. Behavioral parenting and family interventions can increase positive communication between parents and children, including children with behavior disorders (Healthy People, 2030).

What Do You Think About?

1. List three additional health promotion/illness prevention activities that can be encouraged at home.
2. Identify the benefits of children following the 2023 CDC immunization recommendations.
3. List three strategies that foster positive communication patterns between children and their parents.

FRAME 4: Generate Solutions

Khloe was on the playground at school and walked in front of her friend who was swinging on the swings and got a bloody nose. The teacher accompanied Khloe to the school nurse's office for assessment. During the assessment, the nurse asked Khloe what the images were on the poster located on the back of the door. The nurse noticed Khloe walked closer to the poster to see images.

Seng, Khloe A.		Age: 5 years	Weight: 42 lb	Provider: Linda Folten		
Allergies: NKA		Code Status: Full	Height: 37"	Encounter #: 96426905331		
HISTORY	NURSING NOTES	VITAL SIGNS	LABS & DIAGNOSTICS	MEDICATION RECORD	FLOW SHEETS	ORDERS
8/27/XX 1235	<p>Nursing Note: Khloe accidentally walked in front of a swing on the playground and got a bloody nose. She was accompanied by Mr. Carlisle to my office. The nosebleed was easily controlled without incident. Khloe denied pain in her face, neck, or jaw. No report of a headache. When asked to describe the image on the Kindergarten Snellen Eye Chart, she measured 20/40 vision.</p> <p>Mother was notified of accident and vision measurement. Mother was encouraged to have Khloe seen by an ophthalmologist for further evaluation. Student picked up at 1:15 pm by her mother.</p>					

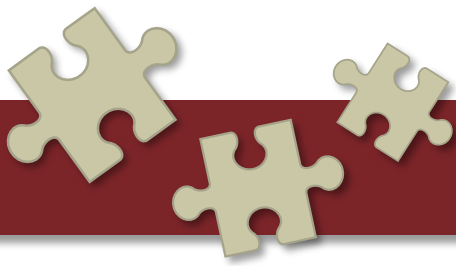


QUESTION: Multiple Response Select All That Apply

Scoring Rule: +/-

What social factors play an important role in vision loss?

- Education
- Food insecurity
- Access to quality health care
- Neighborhood Safety
- Heredity



Putting It All Together

DEBRIEF

Schools and school nurses play a significant role in health promotion/disease prevention. The school nurse role is one of the broadest nursing roles, and school nursing is one of the few subspecialties responsible for the direct care of individuals as well as care of the school community and environment. School nurses provide hearing and vision screening and can apply topical fluoride varnish to primary teeth.

Schools help decrease health disparities by fostering learning, enhancing health literacy, providing health screening, nutritional lunches, opportunities for physical education, counseling, social support, and mental health promotion (WHO, n.d.). Furthermore, schools strive to improve the health of school personnel, families, and community members as well as students; and work with community leaders to help them understand how the community contributes to or undermines health and education (WHO, n.d.).

The Snellen Chart uses a geometric scale to measure visual acuity, with normal vision at a distance set at 20/20. The numerator represents the distance the client is standing from the chart (in feet), while the denominator represents the distance from which a person with perfect eyesight can still read the smallest line the individual can visualize. For example, a client standing 20 feet away from the chart who can clearly read until the line of font that a person with normal visual acuity can read from 40 feet away would be measured as 20/40 vision (Azzam et al., 2023).

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

Health Care Access and Quality is one of the Healthy People 2030 objectives. This domain aims to prevent sensory and communication disorders and improve the quality of life for those with them. Healthy People 2030 affirm that many people in the United States will have a sensory or communication disorder in their lifetime. This includes problems with vision, hearing, balance, smell, taste, voice, speech, or language.

Healthy People 2030 focuses on preventing, diagnosing, and treating these disorders in people of all ages. Many vision problems start before children enter first grade (Healthy People 2030). Sensory or communication disorders can have a major impact on social, emotional, and physical well-being. Individuals diagnosed or treated later in life often have poorer outcomes (Healthy People 2030).

What Do You Think About?

1. Identify three ways school nurses engage in health promotion/disease prevention efforts.
2. What activity at school can adversely affect a child well-being?
3. What exam could the school nurse conduct to assess the second cranial nerve (optic nerve)?

FRAME 5: Take Action

The school nurse is interested in becoming more involved with advocating for legislative support for childhood immunizations, funding for school nurses, and maintaining health promotion activities for children and youth. The nurse collaborates with the state nurses association and the American Nurses Association (ANA) to identify ways to advocate for health policy changes for issues related to school nurses, children, and youth. The school nurse recognizes the ANA works to advance the nursing profession and improve health and health care for all in part by educating and forging relationships with members of Congress and congressional staff on both sides of the aisle (ANA, n.d.) compared with state nurses associations that advocate and support nurses and engages in public policy on a state level.



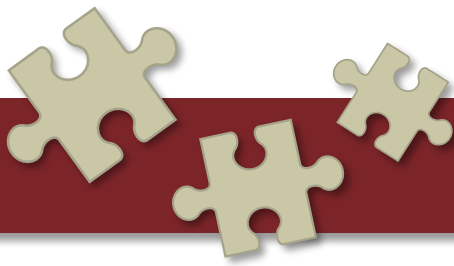
Take Action

QUESTION: Drop-Down Cloze

Scoring Rule: 0/1

The nurse can advocate for health policy changes by ,
 , and .

Word Choices
Talking with or writing letter to elected officials
Becoming active with state and national nursing associations
Choosing to not be active unless it involves your own child
Attend public policy conferences to increase awareness of legislative priorities
Post your perspective on health policies on social media



Putting It All Together

DEBRIEF

The National Education Association (NEA) sets legislative priorities and advocates in Congress for federal laws that support public K-12 schools, post-secondary institutions, student learning, and educators. Goals for federal legislation are grouped into four main areas:

1. High-Quality Public Education
2. Supporting Student Success
3. A Voice in the Workplace
4. Good Public (NEA, 2023)

In addition to the NEA, state and national nursing associations legislate for school nursing. The American Nurses Association (ANA) has developed and co-published with the National Association of School Nurses, *School Nursing: Scope & Standards of Practice, 3rd Edition*. This text covers the full extent of nurse practice at all levels and in all settings and roles, including professional competencies, scope of practice, interprofessional collaborations, special needs and environmental health needs and code of ethics specific to school nursing, and a culturally congruent and holistic approach to the nursing process (ANA, 2023). The National Association of School Nurses (NASN) vision is that all students are healthy, safe, and ready to learn.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

In the United States, more than 40% of school-aged children and adolescents have at least one chronic health condition, such as asthma, obesity, other physical conditions, and behavior/learning problems. The healthcare needs of children with chronic illness can be complex and continuous, including daily management and addressing potential emergencies (CDC, 2021). Further, millions of children and teens are uninsured and could qualify for health insurance (CDC, 2017). With the number of students with chronic health disorders, schools, and school nurses can assist these students in a number of ways:

- Identify whether a student has health insurance and if they have a chronic health condition. Update existing school health records or enrollment forms to note this information.
- School nurses or other school personnel play a direct role in linking children to health insurance. School nurses can advocate for training (themselves and staff) that includes guidance on insurance eligibility, how to enroll families in eligible plans, and up-to-date local, state, and federal resources.
- Advocate for school health services and community providers who accept Medicaid and offer other low-income assistance, such as providing care at reduced rates based on income level.
- Understand the referral protocols for students with chronic health conditions such as asthma, diabetes, epilepsy or seizure disorder, food allergies, poor oral health, or obesity.

What Do You Think About?

1. Assess legislation in your state regarding the school nurse role and responsibilities.
2. What percentage of elementary or high schools in your jurisdiction have a nurse on site all day, every day?
3. Why is it important to have a nurse on site at every school, all day, every day?
4. What are the educational requirements for a school nurse in your state?

FRAME 6: Evaluate Outcomes

Khloe saw the optometrist, was diagnosed with myopia, and received a prescription for glasses. Myopia (nearsightedness) describes the condition where individuals can see objects that are near well but have trouble seeing objects at a distance.

Seng, Khloe A.		Age: 5 years	Weight: 42 lb	Provider: Linda Folten		
Allergies: NKA		Code Status: Full	Height: 37"	Encounter #: 96426905331		
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9/14/XX 0830	Nursing Note: Khloe came to the nurse's office to show her new glasses. Khloe was excited to read the Snellen kindergarten eye vision poster. She said, "I can see the bottom line now."					



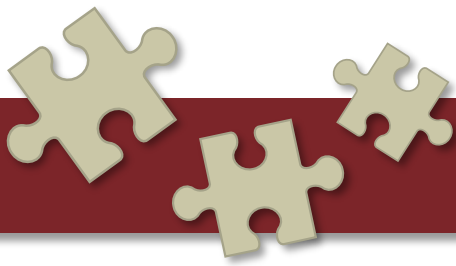
Evaluate Outcomes

QUESTION: Multiple Response Select All That Apply

Scoring Rule: +/-

The nurse assisted Khloe with her bloody nose and screening that contributed to her diagnosis and obtaining corrective lenses. Select additional ways the school nurse impacts positive student outcomes.

- Acute and emergency care
- Managing chronic health conditions
- Providing service in lunchroom
- Assist with disciplinary actions for students
- Care coordination
- Family engagement
- Health Screening



Putting It All Together

DEBRIEF

Khloe was diagnosed with myopia. Myopia (nearsightedness) describes the condition where a person can see objects that are near but have trouble seeing objects at a distance. This was demonstrated by her Snellen eye chart measurement of 20/40.

Visual health can have a great influence on students' academic performance. An interprofessional care team of nurses, allied health professionals, and physicians must maintain a collaborative and communicative environment to achieve positive patient outcomes. In the case of Khloe, the school nurse recognized a potential concern with Khloe and referred her to the appropriate source for a comprehensive eye exam resulting in corrective lenses. Visual health can have a great influence on students' academic performance. An interprofessional care team of nurses, allied health professionals, and physicians must maintain a collaborative and communicative environment to achieve positive patient outcomes. In the case of Khloe, the school nurse recognized a potential concern with Khloe and referred her to the appropriate source for a comprehensive eye exam resulting in corrective lenses.

RECOGNIZING SOCIAL DETERMINANTS OF HEALTH (SDOH)

Health Care Access and Quality is an important part of school nurses' referral network. By connecting students to health insurance and community resources, the parents, school staff, and community can work together to help meet the healthcare needs of students with chronic health conditions and those for whom the nurse's assessment in the school requires further evaluation (CDC, 2021). The American Association of Colleges of Nursing (AACN) established a cooperative agreement titled *Academic Partnerships to Improve Health (APIH)* with the CDC. APIH focuses on improving the health of individuals and communities through alliances among academic associations and CDC. The APIH drives the improvement of health outcomes by:

- Working within the educational systems for nursing, public health, and medical students to enhance teaching of population health concepts.
- Aligning academic approaches (curricula, teaching materials, or methods) and field experiences with ground-level public health priorities and practice needs.
- Fostering inter-professional collaboration and learning in health professional education.
- Strengthening academia's linkages to public health practice.
- Providing opportunities for hands-on experience for students working with communities and public health partners (AACN, 2023).

Recognition of the importance of population health is essential to decrease health disparities and improve the health of our nation.

What Do You Think About?

1. Describe the role of the school nurse.
2. How is the Snellen Vision chart interpreted. Practice with a nursing student peer.
3. Describe how poor vision can adversely affect a child's academic performance.

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Section 5: Facilitator Guide

This section provides detailed guidance for faculty of the five case study scenarios. Each case study is accompanied by question rationales and focused guides specifically addressing questions asked in each case study.

Case Study | Stanley Flemming 141

Exemplar: COPD Exacerbation

AACN® Sphere of Care: Chronic Disease Management

SDOH Domains: Health Care Access & Quality | Social & Community Context

Teaching Strategies

Case Study | Stanley Flemming 157

Exemplar: COPD

AACN® Sphere of Care: Chronic Disease Management

SDOH Domains: Health Care Access & Quality | Neighborhood & Built Environment | Social & Community Context

Teaching Strategies

Case Study | Rhys Anderson 173

Exemplar: Hospice

AACN® Sphere of Care: Palliative / Hospice Care

SDOH Domains: Health Care Access & Quality | Social & Community Context

Teaching Strategies

Case Study | Jacklyn Smuth 189

Exemplar: Post-Op Recovery - Acute Care Setting

AACN® Sphere of Care: Restorative / Regenerative Care

SDOH Domains: Health Care Access & Quality | Social & Community Context | Economic Stability

Teaching Strategies

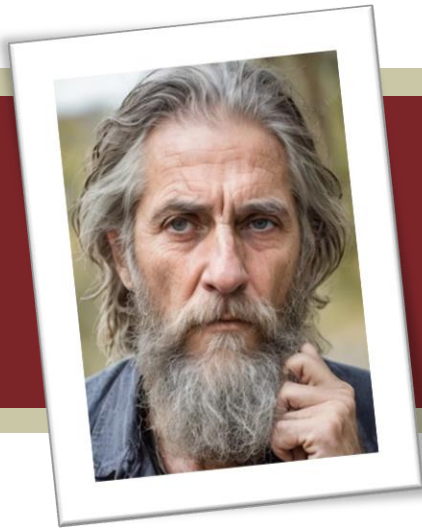
Case Study | Khloe Seng 205

Exemplar: Child Vaccination

AACN® Sphere of Care: Disease Prevention

SDOH Domains: Health Care Access & Quality | Social & Community Context | Neighborhood & Built Environment

Teaching Strategies



CASE STUDY: Stanley

Concepts: Gas Exchange | Perfusion | Collaboration | Clinical Judgment

Exemplar: COPD

AACN Sphere of Care: Chronic Disease Management

SDOH Domains: Health Care Access & Quality | Social & Community Context |
Neighborhood & Built Environment

Student Learning Outcomes

1. Identify objective assessment findings indicative of COPD exacerbations.
2. Differentiate between COPD, pneumonia, pulmonary embolism, and asthma.
3. Interpret appropriate collaborative measures for a client with COPD.
4. Determine elements of a teaching plan to address health promotion.

Scenario Summary

A 77-year-old male with a history of chronic obstructive pulmonary disease (COPD) is being admitted to the medical-surgical floor with acute COPD exacerbation for the fifth time in the past six months.

Additional Teaching Strategies

Classroom

- Have students complete a Venn diagram of Chronic Bronchitis and Emphysema.
- Introduce Stanley’s information and have students align environment factor and individual factor examples with layer 4 of the clinical judgment measurement model®.

Clinical

- Create a clinical card utilizing Stanley’s information. Have the students compare and contrast treatments and therapies of a clinical patient they find on the floor. Have students address at least one of the five SDOH domains in their care strategy.

Lab

- Create a short scenario utilizing Stanley’s information when teaching about oxygen devices .
- Have students relate the respiratory disease processes exhibited in Stanley’s case and relate them to different oxygen therapies; compare and contrast how different oxygen devices can improve or potentially have adverse effects.

Simulation

- Create a scenario where Stanley has an acute COPD exacerbation and have the students intervene with treatment plan.
- Create a multi-scenario simulation that incorporates interdisciplinary collaboration.

Across the Curriculum

- Utilize this case study across the curriculum to establish a sense of continuity of care. Introduce Stanley in multiple courses and methods of instruction per ideas listed above. In a fundamentals course, introduce Stanley when discussing oxygenation, and again in an advanced medical surgical course when discussing respiratory concepts. Utilize Stanley’s case when addressing the concepts such as culture, religion, ethics, collaboration.

FRAME 1: Recognize Cues

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What findings from the admission to the medical-surgical floor are of immediate concern to the nurse?

Select all that apply.

- 101.9°F
- SpO2 86% on 3 L NC.
- Cachectic and poor appetite
- Hypoactive bowel sounds
- Coarse crackles bilateral lung fields
- Productive cough
- Accessory muscles while breathing
- Digital clubbing
- Smoking 15 cigarettes a day
- Respiratory rate 23 breaths/minute

RATIONALE

The client's oxygenation is compromised due to his recent COPD exacerbation. This is evident by the low pulse oximetry reading, tachypnea, utilization of the accessory muscles, and coarse crackles in the lung fields, making these priority concerns for the nurse. Additionally, the client's fever and productive cough are of concern and could indicate an infectious process. The client's poor appetite, cachectic appearance, digital clubbing, and smoking are not of immediate concern to the nurse. While these findings are important to the client's holistic health picture, the nurse will want to act on the immediate compromised findings to improve the other findings.

FOCUSED GUIDE

Chronic obstructive pulmonary disease (COPD) is the third leading cause of death worldwide, causing 3.23 million deaths in 2019. Of those deaths, nearly 90% occurred in low- and middle-income countries. The significance of a client's social determinants of health is evident in the cases of COPD. COPD has been listed as the seventh leading cause of poor health worldwide when measured by disability-adjusted years (World Health Organization, 2023).

CLASSIFICATIONS OF COPD

There are two classifications of COPD, chronic bronchitis and emphysema, both of which restrict airflow. (1) Chronic bronchitis is an inflammation of the bronchial tubes, which carry air to and from the alveoli (air sacs) in the lungs. This inflammation causes an increase in the goblet cells, overproducing mucus. Due to this process, clients with chronic bronchitis are characterized by a persistent and productive cough (Mayo Clinic, 2020). Chronic bronchitis is also termed as "blue bloaters." (2) Emphysema is a condition leading to damage of the alveoli and surrounding structures that are involved in gas exchange. This damage causes gas trapping, dynamic hyperinflation, and decreased expiratory flow (Price & Williams, 2020).

CAUSES

COPD develops gradually over time. This gradual progression can cause a combination of risk factors that include (American Lung Association, 2023b):

- Environmental Factors
 - Tobacco exposure (active smoking or passive exposure (second-hand smoke)) *NOTE: this is the number one cause*
 - Occupational exposures (dust, fumes, chemicals)
 - Air pollution (long-term exposure to nitrogen dioxides, motor vehicles, factories, powerplants, smoke exposure from coal or wood burning stoves (*NOTE: this is more prevalent in low- and middle-income countries with high levels of smoke exposure from cooking*))
- Host Factors
 - Rare genetic condition (alpha-1 antitrypsin deficiency)
 - Life events in birth and childhood (poor growth in utero, prematurity, abnormal lung development, frequent or severe respiratory infections as a child, asthma diagnosis as a child)

This case study focuses on an individual with recurrent COPD exacerbations. It addresses three of the five social determinants of health: *Health Care Access & Quality*, *Neighborhood & Built Environment*, and *Social & Community Context*. Each of these domains has a significant impact on individuals affected by COPD. The domain, *Neighborhood & Built Environment*, includes related objectives specific to respiratory diseases (RD-D04, RD-D03, RD-D01), such as COPD and asthma in both adults and children. Reducing the number of hospitalizations for these respiratory diseases, along with reducing environmental triggers and making sure people get the right medications is the focus of Healthy People 2030. Improving the health and safety in neighborhoods where people live will have a major impact on their health and well-being. Stanley's reoccurring COPD exacerbations should not be overlooked from his home or neighborhood environment to help identify possible environmental triggers and other safety risks.

A community and environmental/home assessment will be discussed in the subsequent Stanley case study.

FRAME 2: Analyze Cues

CORRECT ANSWER

Question Type: Matrix Multiple Response

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Associate the client's objective assessment findings with the corresponding respiratory condition. Each column must have at least 1 assessment piece. Some may have more than one respiratory condition associated with them.

Clinical Manifestation	COPD	Pneumonia	Pulmonary Embolism	Asthma
Dyspnea	X	X	X	X
Barrel chest appearance	X			
Expiratory Wheezing	X	X		X
Tachypnea	X	X		
Digital clubbing	X			
Productive Cough	X	X		
Fever		X		
Abnormal ABG results	X	X	X	X

RATIONALE

Clinical manifestations of COPD include dyspnea, increased anterior/posterior diameter (A/P diameter) or barrel chest appearance, expiratory wheezing, tachypnea, digital clubbing, and productive cough. Both an increased A/P diameter and clubbing of the digits is not a clinical manifestation of pneumonia, pulmonary embolism, or asthma. Sudden shortness of breath and chest pain are common symptoms of a pulmonary embolism, while wheezing is rare, and if a cough is developed oftentimes, it is dry or blood-tinged. Asthma is accompanied by shortness of breath and wheezing upon exhalation, which is the most common sign in children with asthma. COPD requires a multidisciplinary approach with healthcare professionals coordinating inputs and suitable therapies, medications, and monitoring equipment.

FOCUSED GUIDE

Clinical Manifestation	
COPD	Chronic productive cough, dyspnea with everyday activities, wheezing, fatigue/lack of energy, unable to take a deep breath, frequent respiratory infections, larger A/P diameter due to air entrapment
Pneumonia	Fever, sweats, chills, shortness of breath, tachypnea, sharp/stabbing chest pain with deep inhale or cough, productive cough (green, yellow, tan, brown), nausea, vomiting or diarrhea
Pulmonary Embolism	Sharp and sudden chest pain, shortness of breath that worsens with exertion, dizziness, fainting, heart palpitations, cough may include blood

Asthma	Dyspnea, chest tightness or pain, wheezing upon exhalation (most common sign in children), dry cough, excessive coughing/wheezing with a respiratory virus such as the cold or flu
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Nurse-led interventions outside the acute care setting allow for different techniques and approaches to client care. Ideally, a multidisciplinary team consists of providers, nurses, social workers, dieticians, and an exercise specialist (Kuzma et al., 2008). It is evident through a systematic review that nurse-led interventions demonstrate effectiveness in improving the quality of life, emotional state, and physical capacity of clients with COPD while also reducing hospital admissions. The nursing profession can provide great benefits for both clients and families both in acute settings and within the community (Aranburu-Imatz et al., 2022).

The SDOH domain, *Neighborhood & Built Environment*, is addressed in this case study when considering the causes of Stanley’s COPD and recurrent exacerbations. Both environmental and host factors should be considered. Environmental exposures, such as tobacco smoke and inhalation of particles, are the leading cause of COPD. Additional considerations may include occupational hazards, air quality, and genetic abnormalities. In addition, the exposures individuals occur at their workplaces can harm their health, such as secondhand smoke, unsafe air quality, and loud noises (Healthy People 2030). Stanley’s previous occupation exposed him to many years of fine dust particles, in addition to his smoking for many years. Recognizing the correlation of such risk factors is necessary when educating, advocating, and helping clients.

Healthy People 2030 summarizes literature on environmental conditions as a social determinant of health and recognizes it as a narrowly defined examination that is not intended to address all dimensions of the issue. Click [HERE](#) to review the literature summary and additionally have students outline local, state, and national policy changes by visiting appropriate websites for your region.

Link reference: <https://health.gov/healthypeople/priority-areas/social-determinants-health/literature-summaries/environmental-conditions>

FRAME 3: Prioritize Hypothesis

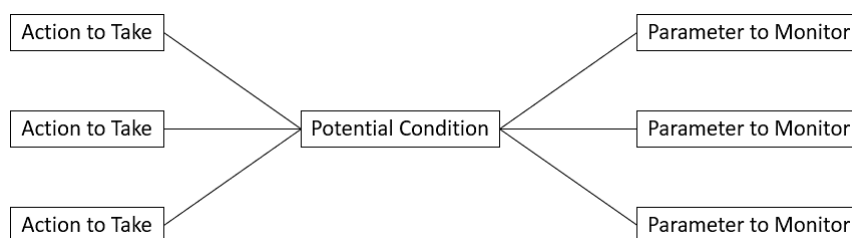
CORRECT ANSWER

Question Type: Bow-Tie

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

It is important for the nurse to quickly identify what condition Stanley is most likely experiencing. Complete the diagram below by selecting the condition the client is most likely experiencing, three actions the nurse should take, and three parameters the nurse should monitor to assess the client's progress.



Actions to Take	Which Condition is the Client Most Likely Experiencing?	Parameters to Monitor
Lay the client down and prop pillows behind him so he is laying on his left side	COPD exacerbation	Pulse oximetry
Prepare to administer an air-entrainment mask	Worsening Pneumonia	Client's respiratory patterns
Provide a calming atmosphere	Pulmonary Embolism	Client's restlessness
Take the client's temperature	Asthma attack	Client's fever
Call the provider	Cor pulmonale	Client's ability to drink fluids
Complete a full head-to-toe assessment		Activity tolerance

RATIONALE

Stanley is experiencing a COPD exacerbation and is unable to adequately oxygenate his body. This is evident by the decreased pulse oximetry, dyspnea, and use of accessory muscles. It is essential for the nurse to quickly evaluate and hypothesize to take appropriate action. Recognizing the decline in the client's condition requires the nurse to call the primary provider to update on the client status.

The nurse will anticipate the provider to order a different kind of oxygen delivery therapy that would include an air-entrainment (venturi) mask. This oxygen device allows the healthcare provider to provide an exact FiO₂. When administering oxygen to clients with COPD, the nurse should start with the lowest FiO₂ to maintain adequate oxygenation and titrate based on the client's response. Additionally, the nurse will want to maintain a calm atmosphere to reduce anxiety in the client. The nurse may call an unlicensed assistant personnel (UAP) into the room to assist with this. Increased anxiety in the client may worsen their respiratory patterns, further exacerbating the problem.

Laying the client down on his left side is not an optimal position and may cause a further decline in the client's oxygenation status. Clients who are experiencing respiratory complications should be sat up to allow expansion of the rib cage. Completing a full head-to-toe assessment and taking the client's temperature are not the priority actions for a client with a declining respiratory status.

FOCUSED GUIDE

COPD exacerbations, also termed "flare-ups," are events of worsening respiratory symptoms that may last for multiple days. Symptoms may continue to get worse and do not go away. Clients manage exacerbations with medications and rest however, if symptoms become severe, medical attention and hospitalization are often needed. COPD exacerbations can be mitigated by avoiding the known triggers. Individual triggers vary; however, common COPD triggers include smoke, strong odors, dust, chemicals, pollen, air pollution, and respiratory infections (American Lung Association, 2023b).

It is essential for the nurse to recognize clients living with COPD have compromised lungs. Therefore, these individuals are at high risk for an exacerbation to occur, and recognizing potential triggers to avoid is necessary. It is recommended clients work with their healthcare provider to develop a personalized action and management plan. This plan includes what the client should do when their COPD is under control, what actions to take when symptoms worsen, and when to seek medical attention.

The American Lung Association (2023a) encourages clients to learn and track their COPD symptoms daily, along with their sleep patterns and how clients feel when they are having good days versus bad days. From this action, clients work with their healthcare provider to create an action plan that is divided into three zones (green, yellow, and red). Each zone outlines the degree of symptoms and actionable items for the client to do when they are in each zone. The green zone is ideal for clients to maintain their COPD and feel well. The yellow zone indicates an increase in symptoms, and the individual should call their healthcare provider if symptoms do not improve after individualized home management. The red zone means the individual is experiencing severe symptoms or an exacerbation and is unable to manage it at home, so it is recommended to seek medical care immediately.

COPD weakens the respiratory system, therefore increasing the vulnerability of an individual developing pneumonia. Because COPD weakens the airways and immune system, mortality rates increase compared to those without COPD who develop pneumonia (Vestbo et al., 2022). In Stanley's current condition and experiencing a COPD exacerbation while in the hospital, the nurse will want to communicate symptoms to the provider immediately. Furthermore, seeking support from a respiratory therapist and additional nursing team members will be beneficial in managing the care of Stanley until the exacerbation can be resolved. To guide therapy of COPD clients through the multidimensional

approach, the following four fundamental aspects have been identified (Global Initiative for Chronic Obstructive Lung Disease, 2023):

1. Severity of airflow limitation
2. Nature and magnitude of current symptoms
3. Previous history of moderate and severe exacerbations
4. Presence and type of other diseases (comorbidities)

The second SDOH domain addressed in this case study is *Health Care Access & Quality*. About one in ten people in the United States do not have health insurance. Individuals without health insurance are less likely to have a primary care provider and may not be able to afford health care services or medications needed. Recognizing COPD and other respiratory diseases impact clients beyond dyspnea and increasing the proportion of clients who understand their health information is more likely to lead to better health outcomes.

The Global Initiative for Chronic Obstructive Lung Disease (GOLD) is a collaboration of healthcare professionals and public health officials from around the world that work together to provide evidence-based treatments in the management of COPD and raise awareness to improve, prevent, and treat lung disease (GOLD, 2022). Providing guidelines that include both outpatient and inpatient care strategies to reduce respiratory exacerbations and improve client's quality of life is a primary example increasing healthcare quality. Improving healthcare communication (HC/HIT-02) and client understanding (HC-HIT-01) are both objectives of the *Health Care Access & Quality* domain.

FRAME 4: Generate Solutions

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse reviews the orders placed by the provider. For each intervention, click to indicate whether the intervention is appropriate or not appropriate.

Potential Intervention	Appropriate	Not Appropriate
Administer and titrate oxygen therapy to maintain SpO2 levels between 88-92%	X	
Administer Neb Salmeterol q4hr	X	
Administer Neb Tiotropium q12hr	X	
Administer PO Acetaminophen q6hr PRN for fever	X	
Administer IV methylprednisolone q12hr	X	
Administer IV ampicillin/sulbactam q6hr		X
Administer PO cough suppressant		X
Restrict PO fluids to 1,500 mL per day		X
Encourage pursed-lip breathing	X	
Flutter valve and incentive spirometer q2hr while awake after oxygen stabilization	X	
Monitor WBC; am labs daily	X	
Evaluation for non-invasive positive pressure ventilation (NPPV)	X	
Encourage high-calorie foods, full-fat dairy, and cured-meats		X

RATIONALE

The nurse must identify expected outcomes and use hypotheses to define a set of interventions that are appropriate to achieve desirable outcomes. Now that Stanley's respiratory status is stable, the nurse can review additional interventions to continue positive progression in Stanley's healthcare status. Maintaining Stanley's oxygen levels between 88-92% is appropriate for COPD clients to maintain an adequate respiratory drive. Administering bronchodilators and steroids will assist in alleviating the narrowing and inflammation of the airways. While administering an IV antibiotic is needed to control bacterial pneumonia, ampicillin/sulbactam contains penicillin and therefore is contraindicated for this client due to his allergy. The nurse would want to contact the provider for a different antibiotic. Administering acetaminophen to reduce Stanley's fever secondary to pneumonia and monitoring WBC levels will help to determine the efficacy of the antibiotic.

Encouraging pursed-lip breathing, the use of a flutter valve, and incentive spirometry will increase positive expiratory pressure (PEP) and help mobilize secretions with vibrations. Further evaluation for non-invasive positive pressure ventilation (NPPV) therapy should be considered as a part of the treatment plan for COPD clients experiencing multiple exacerbations. NPPV has been shown to improve outcomes and lowering complications and mortality rates (AHRQ, 2011).

Part of managing symptoms of COPD includes making healthier changes to diet. Nurses want to encourage COPD clients to partake in high-quality, high-density foods. Full-fat dairy products such as ice cream, yogurt, cheese, butter, and buttermilk contain casomorphine. These chemical increases mucus production therefore, alternative products such as soy or almond milk are recommended. Additionally, processed meats contain nitrates that have been linked to worsening lung conditions (American Lung Association, 2023a) and would not be recommended as a food of choice for Stanley.

FOCUSED GUIDE

The venturi mask system is ideal for clients with COPD who have a low to moderate oxygen requirement but are also at risk for hypercarbia. Venturi masks deliver a FiO_2 of 0.24 to 0.5 and an oxygen inflow of 4-15 L/min, and a total flow delivered to the client of 35 to 45 L/min. Because of the high gas flow rates, venturi masks do not allow for rebreathing to occur, and there is no increase in dead space. Therefore, this oxygen device is recommended for clients with COPD whose ventilation is dependent on their hypoxic drive (Science Direct, 2010). A simple mask should not be used on a client with COPD unless there is a specific circumstance, and it is prescribed by the provider. Simple masks can raise the carbon dioxide levels, further decompensating a client having a COPD exacerbation.

Dietary changes can be a challenge for clients with COPD or other respiratory diseases. The American Lung Association offers guidance for both clients and providers. The nurse should assess Stanley's willingness to change his diet and his understanding of the dietary recommendations. It may benefit clients to involve their immediate family members in the needed lifestyle changes. By incorporating Stanley's wife in needed dietary change, she may be able to assist with preparation and guidance.

Effective health communication is critical to health and well-being. Health information and messages are often overly complex, making them hard to understand and use. Health care providers who communicate clearly and use methods like teach-back and shared decision-making can help people make informed health-related decisions (Healthy People 2030). The domain, *Social and Community Context*, addresses the importance of health literacy and sustainable nutrition. Encouraging the students to think about if Stanley's community has access to alternative calcium clad foods that are affordable enough for him to employ the dietary changes recommended. Such SDOH play a significant role in the management of chronic disease processes.

FRAME 5: Take Action

CORRECT ANSWER

Question Type: Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What action will nurse take next?

- A. Titrate down the Venturi mask
- B. Begin education about the flutter valve and have the client try
- C. Ask the client if he is up for a short walk in 15 minutes
- D. Administer medications

RATIONALE

Stanley is showing signs of improvement, the nurse recognizes this by reviewing lab results, current vital signs, and client appearance and subjective assessment. The most appropriate action for the nurse to take is titrate down the Venturi mask to begin the weaning process from a higher oxygen device. It will be ideal for Stanley to be able to go back to a nasal cannula so he can begin flutter valve therapy, increase ambulation, and eat/drink better. By titrating down the oxygen therapy when the nurse is anticipated to be in the client's room for medication pass, will allow the nurse to continuously monitor the client's response to less O2 therapy.

FOCUSED GUIDE

To Maintain Airway Clearance	To Improve Breathing Patterns	To Improve Activity Intolerance
<ul style="list-style-type: none">▪ Administer ordered bronchodilators and steroids▪ Controlled coughing	<ul style="list-style-type: none">▪ Diaphragmatic breathing▪ Pursed-lip breathing▪ Anxiety reducing measures	<ul style="list-style-type: none">▪ Pace daily activities to maintain and support energy expenditure▪ Exercise training▪ Walking aids

It is important for students to recognize the positive impact nurses portray on clients with COPD through a variety of roles (hospital-based, community, palliative, respiratory). In general, each of these different nurse roles use different techniques when assisting clients with COPD. Techniques such as home telemonitoring, telecare, palliative care, health education, health training, oxygen management at home, self-efficacy, behavioral therapy and counseling, and smoking cessation techniques have all been utilized and found to be very effective. Furthermore, home visits can impact and decrease the number of readmissions, as well as improve the client's confidence and knowledge in their disease management. Monitoring such as telemonitoring of vital parameters can help to reduce levels of anxiety and depression in clients with respiratory diseases (Aranburu-Imatz et al., 2022). The SDOH domain of *Health Care Access & Quality* focuses on getting people the health care services they need. Specifically, Stanley might benefit from the assistance of healthcare providers and nurses through the role of telehealth (AHS-R02). Healthy People 2030 is focused on increasing the use of telehealth to improve access to health services. This would allow Stanley to have access and resources from the comfort of his home to intervene early and prevent a respiratory exacerbation that would require hospitalization.

FRAME 6: Evaluate Outcomes

CORRECT ANSWER

Question Type: Highlight Text

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse is performing discharge instructions to the client. Which of the follow statements from the client indicates to the nurse additional teaching and/or follow-up is needed?

“I should avoid crowds during cold and flu season”

“I need to quit smoking again”

“I am okay to eat foods high in fat and sugar because I burn so many calories during the day”

“I know there are many things that affect my breathing, including cold weather, high humidity, and allergens”

“I am going to use my mug at home to ensure I drink at least 8 of them during the day”

“I should take the prednisone in the morning with my donut and juice”

RATIONALE

When discharging a client who has been admitted to the hospital multiple times, it is important for the nurse to recognize the level of knowledge and understanding the client has about their disease process, prevention measures, medications, and therapies. Furthermore, nurses must look beyond and help the client identify any barriers that may occur once leaving the hospital or acute care setting. Additionally, the nurse recognizes Stanley’s inability to understand healthy food choices. The muscles of COPD clients may require ten times more calories than someone without COPD (American Lung Association, 2023a). Limiting simple carbohydrates, including table sugar, candy, cake, and regular soft drinks, can help reduce the amount of carbon dioxide that is produced during the breakdown of these in the body.

Pulmonary rehabilitation is a supervised program that includes exercise training, health education, breathing techniques, and support. Pulmonary rehab is a multidisciplinary approach that improves exercise tolerance, reduces dyspnea, and oftentimes leads to improved quality of life (Price & Williams, 2020). Pulmonary rehab has been shown to reduce anxiety and depression, which are linked to an increased risk of COPD exacerbations and poor health outcomes. In general, clients who have frequent COPD exacerbations have a lower quality of life with quicker progression of the disease, reducing mobility and a more rapid decline in lung function verses those who do not have frequent exacerbations (Price & Williams, 2020).

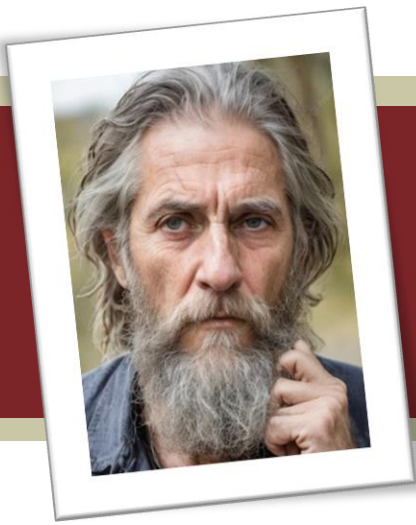
FOCUSED GUIDE

The goal of the domain, *Neighborhood and Built Environment* is to create neighborhoods and environments that promote health and safety, this includes individual home environments as well. Healthy People 2030 focuses on preventing individuals from using tobacco products and helping them quit (TU-01, TU-02). Smoking harms nearly every organ in the body and increases the risk of heart disease, stroke, lung diseases, and many types of cancers. Although smoking is widespread amongst individuals, it is more common in certain groups including men, American Indians/Alaska Natives, individuals with behavioral health conditions, LGBT individuals, and those with lower incomes and education levels (U.S. Department of Health and Human Services, 2023).

When clients are entering back into their social norms after being discharged from the hospital, it is important for them to recognize their associations with their tobacco use, especially those clients who are wishing to quit. Allowing clients to begin to identify these associations while still in the hospital will aid in their success upon discharge. Nurses should recognize the willingness of clients and stimulate conversations with clients to begin the recognition process. Once the associations with tobacco are identified, the nurse can assist the client with mitigation strategies, distractions, or alternative replacements.

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CASE STUDY: Stanley

Concepts: Gas Exchange | Health Promotion | Nutrition

Exemplar: COPD

AACN Sphere of Care: Chronic Disease Management

SDOH Domains: Health Care Access & Quality | Neighborhood & Built Environment |
Social & Community Context | Economic Stability

Student Learning Outcomes

1. Compare and contrast the role of the home health nurse role to a nurse in an acute care setting.
2. Describe how self-management interventions decrease hospital re-admissions due to COPD exacerbations.
3. Identify why it is important for a home health nurse to conduct a community assessment.
4. Describe the components of an initial pulmonary assessment conducted in the home environment.

Scenario Summary

A 77-year-old male who was recently hospitalized for a COPD exacerbation and referred to home health and pulmonary rehab upon discharge from the hospital.

Additional Teaching Strategies

Classroom

- Have the student conduct a community assessment via a windshield survey.
- Have the students go to the Healthy People 2030's webpage and review the definition of and five domains of SDOH and ask them to identify how and/or if the five SDOH domains influence Stanley and his health outcomes.

Clinical

- Have each student address what factors from Stanley's case study would apply to the client they took care of that day.
- Have the students create a discharge plan for the client they took care of that day. Additionally, have the student identify some SDOH's that may impact their client's discharge process or success upon leaving the hospital.

Lab

- Address home oxygen therapy safety.
- Create a short scenario utilizing Stanley's information when teaching out inhalation medications and proper techniques for administration. Have the students practice educating one another; while the other student role play's the client.

Simulation

- Create a home health scenario incorporating a community/home assessment.
- Create a multi-scenario incorporating a multidisciplinary approach to further enhance the scenario and Stanley's cares.

Across the Curriculum

- Utilize this case study across the curriculum to establish a sense of continuity of care. Introduce Stanley in multiple courses and methods of instruction per ideas listed above.
- Incorporate Stanley in the acute care setting and home setting for continuity of care.

FRAME 1: Recognize Cues

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

After reviewing the client's information, select findings that negatively contribute to Stanley's COPD symptoms?

- Asthma
- Tobacco abuse
- Hypertension
- Poor adherence to medication regime
- History of ruptured aortic aneurysm
- Anxiety increased feelings of restlessness and perceived symptoms

RATIONALE

Cigarette smoking is the leading cause of COPD. According to the American Lung Association (2023), approximately 75 percent of all COPD cases occur in people with a history of smoking. When a cigarette burns, it creates more than 7,000 chemicals and many are harmful. The chemicals in cigarette smoke weaken your lungs' defense against infections, causes constriction of the bronchial tubes, inflammation of the bronchioles and destroy the alveoli-all which are contributing factors for COPD. Asthma and COPD are both chronic inflammatory lung diseases associated with significant morbidity and mortality. In both conditions, inflammation is associated with structural alterations at large and small airway levels. Both asthma and COPD are characterized by various degrees of airflow limitation, inflammation, and tissue remodeling (Kim & Rhee, 2010). This type of pathology is known as asthma-COPD overlap syndrome (Hikichi et al., 2018). Breathing patterns in COPD clients result in shallow respirations. When this occurs, the brain can sometimes perceive there to be a stressful situation, even when there is not one. This can cause a stress response in the body, often referred to as anxiety. COPD clients should be encouraged to engage in psychotherapy, attend support groups, connect with spiritual communities, and talk with their healthcare providers to assist with the complex emotions that arise with the diagnosis of COPD (American Lung Association, 2023).

FOCUSED GUIDE

This case study focuses on an individual with COPD and addresses four of the five SDOH domains, *Health Care Access and Quality*, *Neighborhood and Built Environment*, *Social and Community Context*, and *Economic Stability*. The first of the domains is *Health Care Access and Quality*. Stanley was recently hospitalized for a COPD exacerbation recording his sixth hospital admission in six months. Access to quality health care includes assessing if the client has health care insurance. According to Healthy People 2030, about 1 in 10 people in the United States do not have health insurance. Related objectives the *Health Care Access and Quality* domain to reduce the proportion of emergency department visits with longer wait time than recommended and to increase the proportion of adults who get recommended evidence-based preventive health care. Prevention of exacerbations is a therapeutic goal for clients with COPD. Stanley's scenario could factor into the population data objectives, reducing emergency department visits and receiving evidence-based preventive healthcare.

FRAME 2: Analyze Cues

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What social determinants of health (SDOH) can contribute to health disparities (HD) for Stanley?

SDOH	Contribute to HD	Does Not Contribute to HD
Poverty	X	
Rural community	X	
COPD		X
Lack of green space	X	
Disrepair sidewalks	X	
Education	X	
Asthma		X
Secured apartment		X
No public transportation	X	

RATIONALE

Health disparities are differences that exist among specific population groups in the United States in the attainment of full health potential that can be measured by differences in incidence, prevalence, mortality, burden of disease, and other adverse health conditions (National Institute of Health, 2017). While the term disparities are often used or interpreted to reflect differences between racial or ethnic groups, disparities can exist across many other dimensions as well, such as gender, sexual orientation, age, disability status, socioeconomic status, and geographic location (NIH, 2017). Health disparities evolve from inequities are preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health. Health disparities are experienced by aggregates from disadvantaged populations who are afforded less opportunities including those living in poverty, in rural communities, lack of public transportation, education attainment and literacy, and disfavored neighborhood environments. Disfavored neighborhood environments include lack of green spaces, increased crime, disrepair of or limited walking paths or sidewalks, limited access to healthy food sources and/or quality health care services.

FOCUSED GUIDE

The World Health Association (WHO) describes the social determinants of health (SDOH) as the non-medical factors that influence health outcomes. SDOH are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies, and political systems (WHO, 2023).

The home health environment and nursing role differs from other institutional environments and nursing roles. The home health nurse is often described as a case manager. Case management is defined as a health care process in which

a professional helps a patient or client develop a plan that coordinates and integrates the support services that the patient/client needs to optimize the healthcare and psychosocial possible goals and outcomes. The case management process helps the patient and their family navigate through a complicated set of services and supports available within a benefit plan, an organization or institution, and their community (Giardino et al., 2022).

The community assessment provides a portrayal of the community to develop priorities, obtain resources, and plan actions to improve health. Community assessment can assist in identifying resources, environmental health risks, safety concerns, cultural aptitude, and provides foundation for education, health promotion, risk reduction education. A windshield survey is conducted by traveling around the community in a car or using public transportation to make observations about a community and its dynamics. The results should yield a basic description about the community, its health, and members (Stanhope & Lancaster, 2018, p. 213). The windshield survey allows the nurse to assess community characteristics such as boundaries, housing and zoning, open spaces, transportation, and industry among a number of other elements. The data is used to make inferences about community healthcare needs, shape nursing practice, and interventions by identifying how the geographic, cultural, and functional dimension of the community affects community-nursing care.

Rural communities experience many inequities compared to the nation as a whole. Often rural residents have fewer individual resources and, on average, are poorer and less educated. Additionally, many rural residents face barriers related to access to housing, transportation, food, and water that are safe, healthy, and affordable. These barriers can impact all residents, though they are particularly problematic for those already struggling financially. Rural communities also face many environmental challenges. Hazardous materials often end up in remote areas where the land is cheap and fewer people overall are put at risk. Rural industries like mining and farming bring with them their own dangers and environmental impacts (Rural Health Information Hub, 2022).

FRAME 3: Prioritize Hypothesis

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What interventions are relevant in Stanley's initial pulmonary assessment?

Intervention	Relevant	Not Relevant
Assess Stanley for additional signs of hypoxia	X	
Ask Stanley to apply oxygen via nasal cannula	X	
Inquire when Stanley last used his inhaler and nebulizer	X	
Call the provider to report symptoms		X
Encourage Stanley to walk across the room to assess if he has increased shortness of breath upon exertion		X
Assess for signs of confusion and restlessness	X	
Review medication lists	X	
Observe self-administration of inhaler and nebulizer treatments	X	
Assess psychosocial support	X	
Inquire about immunizations	X	

RATIONALE

An initial pulmonary assessment should begin with a detailed history of chronic respiratory conditions, acute respiratory illnesses, hospitalizations, cardiovascular health, and immunization history. The nurse should assess for respiratory cues such as rate, rhythm, audible wheezing, or dyspnea, pulse, pulse ox, and blood pressure. The nurse should observe for abnormalities in the shape of the client's chest, posture, signs of hypoxia, confusion, or restlessness. The nurse should perform a physical examination with auscultation and percussion of lung and heart sounds.

A holistic assessment includes evaluation of the client's medications list, self-management of symptoms, ADL's, medication and treatment administration, and the client's psychosocial support system. Home health nurses have autonomy in practice and would not be required to report symptoms unless they were concerned about a change and requests consultation. The nurse would not ask Stanley to walk across the room to assess if he has increased shortness of breath upon exertion. Home health nurses have autonomy in practice and would not be required to report symptoms unless they were concerned about a change and requests consultation. The nurse would not ask Stanley to walk across the room to assess if he has increased shortness of breath upon exertion.

Being familiar with resources in your community that can bridge the health care gap and inequities will decrease disparities for individuals who are uninsured. Community options to consider are community or free clinics, sliding fee clinics, shelter-based care, and veteran services. Encourage clients to look into federal and state programs (Medicaid and Medicare). There are also specialty federal programs such as the National Breast and Cervical Cancer Early Detection Program, provides screening and diagnostic services for women in every state, children's health insurance programs, 211 is a local resource hub to get information and referrals on mental health resources, financial assistance programs to help pay for prescriptions, and medical emergencies.

FOCUSED GUIDE

Healthy People 2030 address poverty as a priority area. Healthy People 2030 objectives targeted to reduce poverty include reducing the proportion of people living in poverty (SDOH-01), increase employment in working-aged people (SDOH-02) and to reduce the proportion of families that spend more than 30 percent of their income on housing (SDOH-04).

Healthy people 2030 provide evidenced based resources and a literature summary stating poverty often occurs in concentrated areas and endures for long periods of time. Some communities, such as certain racial and ethnic groups, people living in rural areas, and people with disabilities, have a higher risk of poverty for a myriad of factors that extend beyond individual control. Residents of impoverished communities often have reduced access to resources that are needed to support a healthy quality of life, such as stable housing, healthy foods, and safe neighborhoods. Poverty can also limit access to educational and employment opportunities, which further contributes to income inequality and perpetuates cyclical effects of poverty (Healthy People 2030).

Unmet social needs, environmental factors, and barriers to accessing health care contribute to worse health outcomes for people with lower incomes. For example, people with limited finances may have more difficulty obtaining health insurance or paying for expensive procedures and medications. In addition, neighborhood factors, such as limited access to healthy foods and higher instances of violence, can affect health by influencing health behaviors and stress (Healthy People 2030).

Across the lifespan, residents of impoverished communities are at increased risk for mental illness, chronic disease, higher mortality, and lower life expectancy. Children make up the largest age group of those experiencing poverty. Individuals who experience childhood poverty are more likely to experience poverty into adulthood, which contributes to generational cycles of poverty (Healthy People 2030).

FRAME 4: Generate Solutions

CORRECT ANSWER

Question Type: Highlight Text

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

After applying oxygen via nasal cannula, using his albuterol and nebulizer, Stanley's vital signs are BP 142/80 mmHg, T 98.6 F (37 C.), P 80 beats/minute, RR 20 breaths/minute, oxygen saturation 88%. Stanley appears less anxious. Stanley states it is **difficult for him to eat**. He does not feel hungry and has noticed his **clothes fit more loosely**. Stanley states he **does not sleep well in his bed** at night because he feels restless when he lies down and often **wakes with a headache and shortness of breath**. Stanley says he **sleeps better in the recliner** chair. Stanley states, "sometimes it is **hard to breathe when I go for my walk**". Stanley has **smoked since he was 16 years old**, quit for a little bit....but, states he "enjoys smoking" because it "takes the edge off."

RATIONALE

COPD is a progressive lung disease characterized by dyspnea, frequent coughing or wheezing, chest tightness, chronic cough that may be productive, frequent respiratory infections, lack of energy, and weight loss. The nurse recognized that it is difficult for Stanley to eat and that he does not feel hungry. Eating small frequent meals may be more tolerable for Stanley. Nutritional supplements may also help with caloric intake. Monitoring Stanley's weight and observing trends will allow for earlier intervention of cachexia.

COPD morning headaches may be due to a buildup of carbon dioxide during sleep. The association between COPD and migraine or severe headache may be because of headache-related sleep disturbances. Headaches related to COPD may be attributed to airway constriction. Therefore, the client with COPD who is experiencing morning headaches should be evaluated for sleep apnea (Minen et al., 2019).

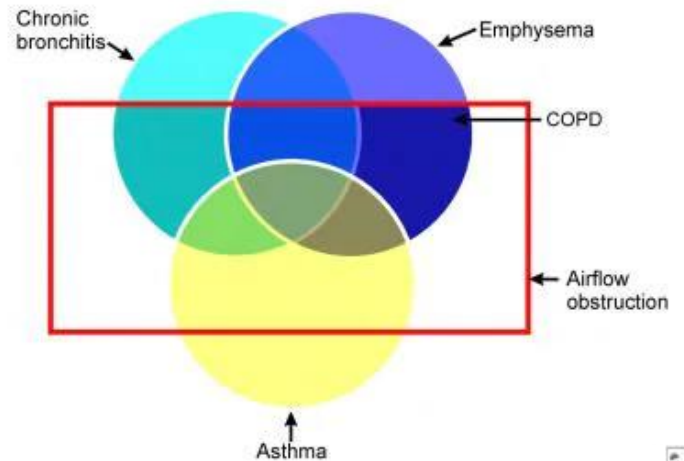
Undernutrition is characterized by decreased body weight in clients with COPD and has been recognized as a poor prognostic factor (Rawal et al., 2015). Reduced food intake among COPD clients affects their muscle strength, which may potentially lead to worsened respiratory function and is also associated with low physical activity, which reduces skeletal muscle mass and bone tissue (Christensen et al., 2022). Undernutrition challenges the individual as well as the community, as it is associated with depression, reduced physical ability, longer hospitalizations and rehabilitation, reduced quality of life, poorer response to treatment, and increased mortality (Christensen et al., 2022).

FOCUSED GUIDE

Differentiation of COPD, bronchitis, emphysema, and asthma are important in creating hypotheses and generating solutions for a plan of care and treatment. Mosenifar (2022) published the Venn diagram below and describes signs and symptoms for differential diagnoses, considerations for pulmonary rehabilitation, and indications for admissions. This is an excellent resource to facilitate classroom discussion.

The Venn diagram to the right outlines chronic obstructive pulmonary disease (COPD). Chronic obstructive lung disease is a disorder in which subsets of clients may have dominant features of chronic bronchitis, emphysema, or asthma. The result is airflow obstruction that is not fully reversible (Mosenifar, 2022).

Nutritional support for clients with COPD results in malnutrition or, specifically, undernutrition. Malnutrition refers to deficiencies, excesses, or imbalances in a person's consumption of energy and/or nutrients. Malnutrition includes undernutrition. Undernutrition includes four sub-forms: wasting, stunting, underweight, and deficiencies in vitamins and minerals. Undernutrition makes individuals more vulnerable to disease and death, especially in children (World Health Organization, 2023a).



Undernutrition is characterized by decreased body weight in clients with COPD and has been recognized as a poor prognostic factor (Rawal et al., 2015). Reduced food intake among COPD clients affects their muscle strength, which may potentially lead to worsened respiratory function and is also associated with low physical activity, which reduces skeletal muscle mass and bone tissue (Christensen et al., 2022). Undernutrition challenges the individual as well as the community, as it is associated with depression, reduced physical ability, longer hospitalizations and rehabilitation, reduced quality of life, poorer response to treatment, and increased mortality (Christensen et al., 2022).

A third SDOH domain addressed in this case study is *Social and Community Context*. The goal for this domain is to increase social and community support. For Stanley, social and community context includes access to an adequate amount of healthy food sources, sidewalks in good repair for safe ambulation, and cost-effective modes of public transportation. The SDOH domain, *Social and Community Context*, identifies interventions to help people get the social and community support they need, which are critical for improving health and well-being.

Referrals to local community food resources such as food banks or food pantries, free meal options at shelter services, local churches, community education and outreach programs, farmers markets, and cooperative grocery stores are options. Additional resources include government programs such as WIC and SNAP. Keep in mind, access to public transportation to get to these resources contributes to the limited access to healthy food and food insecurity.

FRAME 5: Take Action

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

After reviewing the client's chart, what interventions would you recommend to Stanley for self-management of his COPD?

Intervention	Recommend	Not Recommend
Administer a dose of amitriptyline for anxiety		X
Encourage eating small, frequent meals	X	
Educate on how to take medications correctly	X	
Instruct how to use oxygen appropriately	X	
Take sleeping medications for rest and sleep		X
Sleep in recliner chair to aid with restful nights	X	
Obtain weekly weight and assess trends	X	
Reduce exposure to pollens	X	
Continue efforts for smoking cessation	X	

RATIONALE

The nurse recognized that it is difficult for Stanley to eat and that he does not feel hungry. Eating small frequent meals may be more tolerable for Stanley. Nutritional supplements may also help with caloric intake. Monitoring Stanley's weight and observing trends will allow for earlier intervention of cachexia. It is important to review the client's medications/treatments and assess proper use and compliance. Having the client demonstrate how he prepares and administers his nebulizer and inhalers and determines how much oxygen is in the oxygen tanks is an effective way to assess his knowledge and compliance.

Sleeping in a recliner optimizes client positioning to avoid pressure exerted by gravity when lying flat in a bed. An upright position helps to elevate the torso, expand the rib cage, and control coughing. It is important for the nurse to assess triggers for COPD exacerbations. Common triggers include common allergens and pollens. Allergens and pollens can irritate the lungs and create more breathing problems. The nurse should also encourage smoking cessation support and referral.

FOCUSED GUIDE

Chronic disease affects health and quality of life. It also is a significant driver of healthcare costs and has a related impact on business, such as absenteeism and presenteeism. Nearly 60% of adult Americans have at least one chronic disease. More than two-thirds of all deaths are caused by one or more of five chronic diseases: heart disease, cancer, stroke, chronic obstructive pulmonary disease, and diabetes (Hoffman, 2022).

Further, approximately 40% of American adults have multiple chronic conditions and evidence is growing that one chronic illness has a negative impact on the risk of developing others, particularly as people age. The nation's aging population coupled with existing risk factors (e.g., tobacco use, poor nutrition, and lack of physical activity) suggest that that these problems will continue to grow if they are not effectively addressed (Hoffman, 2022).

Additional risk reduction interventions for Stanley include but are not limited to:

- Using a cane when walking on the sidewalk.
- Not smoking with oxygen therapy.
- Re-orienting to place and time to enhance safety.
- Wear clothing that fits appropriately to avoid tripping.
- Obtain a Medical alert system.
- Wear supportive, non-slip walking shoes.
- Assess home for mold or other allergens.
- Check window to be sure they close correctly to lessen exposure to seasonal pollens.
- Is the temperature of his apartment appropriate? Does he have functioning air conditioning/heat?
- Does he have mouth sores and/or proper fitting dentures?

FRAME 6: Evaluate Outcomes

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

After reviewing the notes, conducting a physical assessment, a community and environmental assessment, what community referrals would be appropriate to include in Stanley's home care plan?

Community Referral	Appropriate	Not Appropriate
Dietary consult	X	
Pulmonary rehabilitation	X	
Palliative care	X	
Wound management		X
Smoking cessation	X	
Dental care	X	
Access to healthy food choices	X	
Physical therapy	X	
Meals on Wheels service	X	
Transportation options	X	
Sleep apnea evaluation	X	

RATIONALE

COPD is a leading cause of death and hospitalization in the United States. It has become increasingly evident that short-term approaches focusing on medical care during the immediate post-discharge period do not fully address factors contributing to readmission (Kearney et al., 2022). Adverse SDOH, the social circumstances in which people are born, grow, live, work, and age, increase risk of readmissions and hospitalizations for clients with COPD (Kearney et al., 2022).

The home health nurse plays a significant role in decreasing disparities, comorbidities, and hospitalizations due to COPD exacerbations. The home health nurse can teach and reinforce self-management skills to the client. Self-management interventions help individuals with COPD to acquire and practice the skills they need to carry out disease-specific medication regimens, guide changes in health behavior, and provide emotional support to enable them to control their disease (Schrijver et al., 2022). Access to care, safe places to ambulate, dust generated from driving on dirt roads in rural communities will require the nurse to be creative in developing COPD self-management strategies for Stanley.

Components of Stanley's care should include dietary consult and identifying healthy community food resources such as Meals on Wheels, pulmonary rehabilitation, palliative care, smoking cessation, dental care, sleep apnea evaluation and access to transportation to support adherence to referrals and self-management strategies.

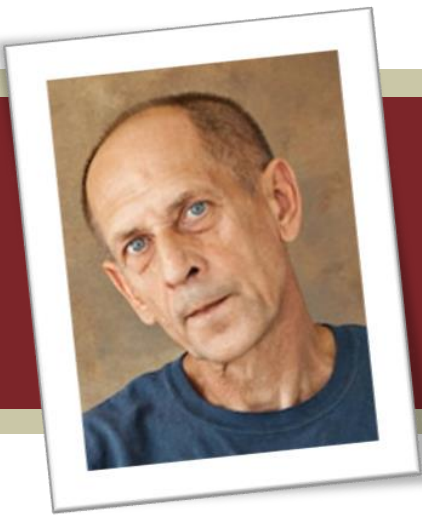
FOCUSED GUIDE

Kearney et al. (2022) conducted a study to inform and evaluate nurse practitioner/community health worker (NP/CHW) interventions to address SDOH and COPD self-management to reduce disparities, improve quality care, and reduce hospitalizations. Kearney et al. (2022) found that clients with Medicaid insurance, mental health disorders, cardiac disease, and substance use disorder had increased odds of having two or more admissions and that 74% of patients with COPD were admitted to the hospital two or more times per year have unmet SDOH needs.

COPD severity, comorbidities, and unmet SDOH needs made COPD self-management challenging. Clients perceived that the NP/CHW intervention addressed these barriers by connecting them to resources and providing emotional support. Some factors impacting COPD self-management included social isolation, anxiety, depression, smoking, substance abuse, comorbidities, housing and food insecurity, lack of transportation to medical appointments, education needs, unemployment, difficulty paying for medications or utilities, caregiver issues, and a limited understanding of COPD (Kearney et al., 2022). Telehealth is a viable way to extend healthcare services to rural communities. Telehealth reduces barriers to care to help bridge the health disparities gap between urban and rural communities.

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CASE STUDY: Rhys

Concepts: Palliation/End of Life | Pain/Comfort | Grief and Loss

Exemplar: Pancreatic Cancer

AACN Sphere of Care: Hospice/Palliative Care

SDOH Domains: Health Care Access & Quality | Social & Community Context

Student Learning Outcomes

1. Appraise the progression of symptoms experienced during the end-of-life transition.
2. Identify five interdisciplinary interventions that can be utilized to reduce pain during end-of-life care.
3. Describe why cultural aptitude is imperative when caring for a client and their family during end-of-life.
4. Compare and contrast pharmacologic and nonpharmacologic interventions for end-of-life symptoms.

Scenario Summary

A 51-year-old male, diagnosed with Stage IV pancreatic ductal adenocarcinoma 11 months ago. The pancreatic lesion metastasized to his liver, colon, omentum, bladder, and bilateral kidneys. Client's condition has rapidly declined over the past 6-8 weeks.

Additional Teaching Strategies

Classroom

- Have students complete a Venn diagram of palliative care and hospice care .
- Have students explore the American Nurses Association (ANA) position statement on the Nurses' Roles and Responsibilities in providing care and support at the end-of-life. Addresses background, practice, education, research, and administrative roles in end-of-lifecare. Have students review and apply the concepts to the case study. The ANA position statement can be found at:
<https://www.nursingworld.org/~4af078/globalassets/docs/ana/ethics/endoflife-positionstatement.pdf>.
- Considering cultural approaches to end-of-life, death and after-life is an important part of holistic nursing care. Assign students (or small group of students) a specific culture and have them prepare and present different cultural perspectives of end-of-life, death and after-life. Some cultural aggregates could include such as Hindu, Hmong, Mexican, Native American, Somali, Guatemalan, or Haitian. Additionally, one aggregate could include a traditional military service for individuals who have served our country.

Clinical

- Have the students review the PPSv2 tool and discuss client scenarios for each of the levels of care described on the tool. The tool is located at:
https://micmtcares.org/sites/default/files/202004/Palliative_Performance_Scale1.pdf.

Lab

- Create a short scenario utilizing Rhys' information when teaching about care of the body after death.
- Have the students perform shrouding of a mannequin.

Simulation

- Create a scenario incorporating an acute setting where a client's death occurs. Have the students manage through family emotions and after cares of the client's body.
- Create short scenarios for different reactions to end-of-life coping. Could have a focus on client or family.

Across the Curriculum

- Utilize this case study across the curriculum to establish a sense of continuity of care. Introduce Rhys in multiple courses and methods of instruction per ideas listed above. Introduce Rhys as an individual in a medical-surgical course who was just diagnosed with cancer. Have students manage coping strategies. Then later in the program, introduce Rhys as the case study presents him and have students address concepts such as death & dying, spirituality, ethics, grief & loss, coping.

FRAME 1: Recognize Cues

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What symptoms are associated with pancreatic cancer?

Symptom	Associated	Not Associated
Nausea	X	
Confusion		X
Bloating	X	
Fatigue	X	
Edema		X
Jaundice (Icterus)	X	
Sudden onset of diabetes	X	
Light colored stools	X	
Dark colored urine	X	

RATIONALE

Pancreatic cancer affects your pancreas, a gland in your abdomen that aids in digestion. Early stages of pancreatic cancer often have no symptoms, however, if symptoms are present, they can include nausea, bloating, fatigue, jaundice, lack of appetite, stomach pain, back pain, sudden onset of diabetes, light colored stool, and dark colored urine.

FOCUSED GUIDE

Pancreatic cancer survival rates are low because the disease is difficult to detect in the early stages (Cleveland Clinic, 2023). The most common type of pancreatic cancer is ductal adenocarcinoma, which begins in the cells that line your organs. Pancreatic ductal adenocarcinoma is poised to become the second leading cause of cancer-related death by 2030, and the median overall survival for clients with advanced, metastatic disease remains only about 12 months (Pishvaian et al., 2020). Treatment for pancreatic cancer includes surgery, chemotherapy, and radiation therapy.

Early stages of pancreatic cancer often do not have symptoms. Jaundice or icterus is one of the first symptoms of pancreatic cancer. Jaundice generally manifests first in the sclerae and/or mucous membranes, and skin. Icterus (jaundice), also known as hyperbilirubinemia, is defined as a yellow discoloration of the body tissue resulting from the accumulation of excess bilirubin. Deposition of bilirubin happens only when there is an excess of bilirubin, and this indicates increased production or impaired excretion. The normal serum levels of bilirubin are less than 1 milligram per deciliter (mg/dL).

However, the clinical presentation of jaundice with peripheral yellowing of the eye sclera, also called scleral icterus, is best appreciated when serum bilirubin levels exceed 3 mg/dl. With further increase in serum bilirubin levels, the skin will progressively discolor ranging from lemon yellow to apple green, especially if the process is long-standing; the green color is due to biliverdin (Abel & Samant, 2023). The sclerae are often the first tissue to develop jaundice. If the bilirubin level is only mildly high, then this might be the only part of the body where you can detect a yellow color. With higher levels of bilirubin, the skin and mucous membranes may also become jaundice.

Clinical considerations for inspecting common changes to the skin (pallor, cyanosis, jaundice, flushing) are not easily detectable when assessing people who have dark skin tones. Skin tone and pigmentation are regulated by melanogenesis, a complex process directly linked to genetics. Melanocyte cells in the skin produce melanin pigment (Pusey-Reid et al., 2023). Skin tone is best assessed in areas of the body that are not frequently exposed to UV radiation. For clients with darker skin tone, the nurse should inspect the oral mucosa, especially the hard palate, for yellow discoloration. For a more accurate determination of jaundice, examine the sclera closest to the cornea. Be aware that if the palms and soles have callouses, they may appear yellow even when jaundice is not present (Pusey-Reid et al., 2023).

FRAME 2: Analyze Cues

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Hospice care includes an interdisciplinary team to provide supportive care services. The nurse recognizes Rhys requires additional comfort interventions.

What interventions can be implemented to assist in reducing Rhys's current pain?

Intervention	Appropriate	Not Appropriate
Morphine	X	
Music Therapy	X	
Lorazepam		X
Range of Motion		X
Aroma Therapy	X	
Spiritual Care	X	
Fentanyl Patch	X	
Massage	X	

RATIONALE

Palliative and hospice care have been associated with improved patient symptom control and quality of life as well as increased satisfaction with care. Palliative care and hospice care provide different services and have different collaborative teams. It is important for nurses to understand the distinct differences between the two care services.

Palliative care aims to address the physical, psychological, and spiritual needs of clients living with serious illnesses with the goal of improving their quality of life (Shaley et al., 2018). Like palliative care, hospice provides comprehensive comfort care as well as support for the family, however, in hospice, attempts to cure the person's illness are stopped (National Institute on Aging, 2021). Managing pain for a client receiving palliative or hospice care can be challenging. Providing quality care requires effective pain assessment and implementing culturally congruent measures to manage the client's pain. When nurses consider the clients cultural pain expression, values, beliefs, and experiences, not only do they improve the quality of care, but they are also better able to help the family adjust to the dying process (Gilver et al., 2023).

Despite the many documented benefits of palliative and hospice care, both types of care remain underutilized among client populations in need of these forms of care. Multiple factors contribute to the underutilization of palliative and hospice services such as an individuals' lack of knowledge about these services and negative misperceptions can adversely affect individuals' receptivity to these services (Shaley et al., 2018).

Clients with pancreatic cancer are best managed in a multidisciplinary team.

FOCUSED GUIDE

The Evaluation of pain at the end-of-life follows the general pattern of pain assessment aimed at the site of pain, the onset of pain, character, radiation of pain, exacerbating, and relieving factors. Verbal description of the quality of pain is an important marker of the origin of pain (Sinha et al., 2023). Pain scales can help standardize care and provide objective assessment tools that are not provider-dependent. Several pain grading scales have been developed with validation. However, none of these scales is proven to be superior to others. The Likert-type scale for pain grades pain on a scale of 0-10, with “10” being the worst pain imaginable and “0” representing no pain (Sinha et al., 2023).

Non-Pharmacological Management of Pain

The nonpharmacological measures for the management of pain include measures aimed at avoiding pain triggers and psychosocial assistance in managing the end-of-life. Proper head positioning and neck support can avoid spasms of the neck; artificial tears and lubricants can help avoid painful keratitis. The use of gel foam pads on the skin-appliance interface can help avoid ulceration, for example, nasal bridge gel pads for noninvasive ventilation. Oral care and proper hydration can avoid painful ulcerations and dental decay. Frequent repositioning and offloading of dependent areas of the body can help avoid decubitus ulcers. In case of skin breaks, non-bulky, non-stinging chemical dressings can be used to avoid pain.

Counseling for getting affairs in order and devising robust goals of care while the client can still make decisions may help alleviate anxiety and improve interpersonal relations. Daily sponging and grooming, as tolerated, leads to better hygiene, and preserves the client’s dignity and sense of self-worth. Spiritual counseling and pastoral visits can help counter non-acceptance of impending death and help alleviate suffering. Alternative medicinal therapies like acupuncture and Reiki can be offered to support pharmacological measures in managing pain (Sinha et al., 2023).

The difference between pharmacokinetics and pharmacodynamics is that pharmacokinetics is the movement of drugs through the body, whereas pharmacodynamics is the body’s biological response to drugs. Pharmacokinetics is what the body does to the drug and pharmacodynamics is what the drug does to the body.

Pharmacokinetics describes a drug’s absorption, distribution, metabolism, and excretion (ADME) properties and pharmacodynamics describes how biological processes in the body respond to or are impacted by a drug. While Pharmacokinetics describes a drug’s exposure by characterizing its ADME properties and bioavailability as a function of time, pharmacodynamics describes a drug’s response in terms of biochemical or molecular interactions. Pharmacokinetics and pharmacodynamics together can be thought of as an exposure/response relationship (Allucent, 2023).

What is the PPSv2? How is the PPSv2 interpreted?

Have the students review the PPSv2 tool and discuss client scenarios for each of the levels of care described on the tool. The tool is located at: https://micmtcares.org/sites/default/files/202004/Palliative_Performance_Scale1.pdf to learn more about the PPSv2.

FRAME 3: Prioritize Hypothesis

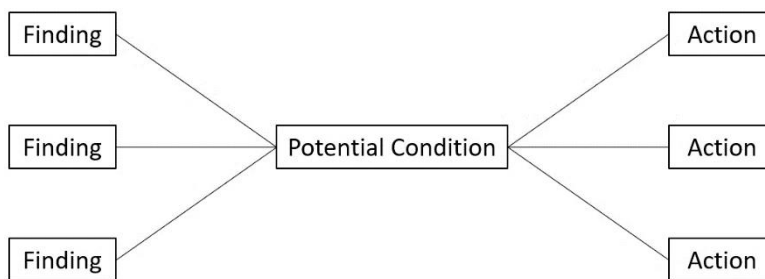
CORRECT ANSWER

Question Type: Bow-Tie

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Identify the condition for Rhys, select three findings, and the three appropriate actions for the nurse.



Finding	Condition	Action
Altered level of consciousness	Infection	Provide emotional support for family
Anxiousness	Poor Pain Management	Administer morphine
Diaphoretic	Transitioning to end-of-life	Suction secretions
Mottled Skin		Apply cool compresses to neck and forehead
Unmanaged Pain		Raise head of bed

RATIONALE

The American Nurses Association (ANA) position statement of the *Nurses' Roles and Responsibilities in Providing Care and Support at the End-of-life* (2016) states, the proximal reality of a client's death is typically very difficult for patients and families. Choices about the most appropriate health care at the end of a person's life often address whether specific treatments are ultimately likely to benefit the client. These choices may have a quality-of-life dimension. Nurses are frequently in a position to provide guidance for clients and families confronting difficult decisions and adapting to painful realities.... Decisions about care at the end of a person's life often involve quality-of-life considerations. Nurses are obligated to provide care that includes the promotion of comfort, relief of pain and other symptoms, and support for clients, families, and others close to the affected individual (ANA, 2016).

FOCUSED GUIDE

The National Council of State Boards of Nursing (NCSBN) published *A Nurse's Guide to Professional Boundaries* (2018). This guide addresses the fact that nursing has been voted the most trusted profession year after year. Read the NCSBN descriptions on incorporates therapeutic communication and professional boundaries below, then ask the students to address and role play different interactions with Rhys's family.

1. Provide examples of how positive nurse-client, nurse-family relationships can be incorporated into the end-of-life care for Rhys?
2. Identify potential consequences resulting from poor therapeutic communication and violation of professional boundaries.

A therapeutic relationship is one that allows nurses to apply their professional knowledge, skills, abilities, and experiences towards meeting the health needs of the client. This relationship is dynamic, goal-oriented and patient- and family-centered because it is designed to meet the needs of the individual and family. Regardless of the context or length of interaction, the therapeutic nurse-patient relationship protects the patient's dignity, autonomy and privacy and allows for the development of trust and respect.

Professional boundaries are the spaces between the nurse's power and the client's vulnerability. The power of the nurse comes from the nurse's professional position and access to sensitive personal information. The difference in personal information the nurse knows about the client versus personal information the client knows about the nurse creates an imbalance in the nurse-patient relationship. Nurses should make every effort to respect the power imbalance and ensure a patient-centered relationship (NCSBN, 2018, p.4)

FRAME 4: Generate Solutions

CORRECT ANSWER

Question Type: Drop-down Cloze

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse identifies changes in Rhys condition. Complete the sentence below by selecting word choices from the box provided.

Rhys is exhibiting signs of .

The nurse should assess , , and .

RATIONALE

The nurse plays a significant role in end-of-life care. The nurse's interactions and leadership can influence the perception of death and how the family deals with death of their loved one. The American Nurses Association position statement on the nurses' roles and responsibilities in providing care and support at the end-of-life states,

Nurses are obliged to provide comprehensive and compassionate end-of-life care. This includes recognizing when death is near and conveying that information to families. Nurses should collaborate with other members of the health care team to ensure optimal symptom management and to provide support for the client and family. Nurses and other health care providers have a responsibility to establish decision-making processes that reflect physiologic realities, client preferences, and the recognition of what, clinically, may or may not be accomplished. Establishing goals of care for this client at this time may provide a framework for discussion about what care should be provided. This process often involves collaboration with experts in decision making, such as ethics committees or palliative care teams (ANA, 2016).

FOCUSED GUIDE

In advanced illness, confusion and terminal restlessness or agitation are common. It is estimated that between 25 and 85 percent of individuals who are dying, experience symptoms associated with restlessness before death. Terminal agitation or restlessness can be defined as agitated delirium with cognitive impairment. It tends to occur frequently at the end stage of cancer. The main symptoms are agitation, myoclonic jerks or twitching, irritability, and impaired consciousness. Other symptoms include hallucinations, paranoia, confusion, and disorientation.

The American Nurses Association (ANA) position statement on the Nurses' Roles and Responsibilities in Providing Care and Support at the End-of-life addresses the background, practice, education, research, and administrative roles in end-of-lifecare. Have students review and apply the concepts to the case study. The ANA position statement can be found at <https://www.nursingworld.org/~4af078/globalassets/docs/ana/ethics/endoflife-positionstatement.pdf>

Addressing SDOH encompasses a holistic assessment of the client and their family. The AACN Essentials (2011) recognize the nurses' role beyond the acute care setting. This case study addresses hospice/palliative/supportive care. This sphere of care includes end-of-life care as well as palliative and supportive care for individuals requiring extended care, those with complex, chronic disease states, or those requiring rehabilitative care. This holistic approach incorporates the domain of person-centered care which focuses on the individual within multiple complicated contexts, including family and/or important others. Person-centered care is holistic, individualized, just, respectful, compassionate, coordinated, evidence-based, and developmentally appropriate. Person-centered care builds on a scientific body of knowledge that guides nursing practice regardless of specialty or functional area. Care provisions that focus on person-centered care can improve health outcomes by recognizing the SDOH that adversely affect health outcomes.

FRAME 5: Take Action

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse has reviewed the medical record to determine what actions are appropriate for Rhys at this time.

Indicate on the table below what nursing actions would be appropriate or not appropriate for Rhys at this time.

Each row must have a selection.

Nursing Actions	Appropriate	Not Appropriate
Administer Morphine 10 mg orally		X
Administer Acetaminophen 650 mg rectal suppository		X
Inform family of transition	X	
Suction secretions		X
Allow family time alone with client	X	
Create a comforting environment; low stimuli	X	
Offer culturally appropriate spiritual support	X	

RATIONALE

Changes in breathing patterns often change from a normal rate and rhythm to a new pattern including periods of apnea and Cheyne-Stokes breathing. Cheyne-Stokes breathing is indicative of impending death, generally minutes to hours (National Institute on Aging, 2022). Because death is imminent for Rhys, comfort care should not include medications such as morphine or acetaminophen. When a client is in their final hours and minutes of life, humanistic care is imperative when considering medication administration. Nursing actions should focus on the transition and supporting family by creating a comforting, low stimuli environment, offering culturally appropriate end of life support, providing time alone with the client. Suctioning the person during transition is not recommended. The irritation from the plastic tube can cause more secretions to be produced.

During end-of-life, it is important the nurse engage and maintain in a therapeutic relationship with the family and communicate the signs and symptoms during the end-of-life transition. Care for the family may need support and coaching as death approaches. Care continues through the death pronouncement, family notification of the death, and bereavement support (Harman et al., 2023). Many hospice programs offer bereavement services for families 12 months following the death of their loved one.

FOCUSED GUIDE

Nurse-family and nurse-client therapeutic relationships are of utmost importance in providing end-of-life care. Role playing end-of-life conversations and scenarios can be helpful in developing therapeutic communication skills, especially with students who do not have experience with or are uncomfortable with end-of-life care. Use the graph and ask students to work in groups or individually to complete one more action for each of the signs and symptoms or

to create additional signs and symptoms including nursing actions, non-pharmacologic and pharmacologic interventions.

The nurse should provide a holistic assessment of the client’s condition and the benefit of any pharmacologic and nonpharmacologic interventions. For example, when considering if an analgesic should be administered if the client is febrile, assess if the client appears uncomfortable and whether or not breaking the fever will be more uncomfortable than the fever itself.

ADDITIONAL CONSIDERATIONS

Sign/Symptom	Nursing Actions
Change in Breathing	Reassure family a change in breathing pattern is common and indicates decrease circulation. Non-pharmacologic Interventions: Elevate head of bed or turn client on their side. Pharmacologic Intervention: Morphine can help with breathing and respiratory congestion by decreasing fluid in the lungs and altering how the brain responds to pain.
Respiratory Congestion	Reassure family respiratory congestion is not uncommon and does indicate pain. Non-pharmacologic Interventions: Gently turn client head to the side to drain secretions. Wipe their mouth with a cool cloth. Pharmacologic Intervention: Morphine can help with breathing and respiratory congestion by decreasing fluid in the lungs and altering how the brain responds to pain.
Fever	Reassure the family that a fever is not uncommon with end-of-life transition. Non-pharmacologic Interventions: Apply a cool moist compress to forehead or neck, cooling blankets or sponging. Focus on core temp, not peripheral temps due to impaired perfusion Pharmacologic Intervention: Assess need for analgesic or NSAID.
Sleeping or Unresponsiveness	Reassure the family that increased amount of time sleeping is common. The client may become unresponsive, uncommunicative, or difficult to arouse are not uncommon responses. Non-pharmacologic Interventions: Comfort client by holding their hand, being present, speak in a normal voice.
Changes in color and temperature of hands and feet	Reassure family that changes in the color and temperature is not uncommon. The skin may become grey, pallor, purple, mottled, and cool to touch. Changes in color and temperature of hands are due to impaired perfusion. Non-pharmacologic Interventions: Keep client warm and comfortable with soft blankets floating heels in bed or on pillow.
Restlessness	Reassure the family that restlessness is not uncommon during the end-of-life transition. Restlessness is in part due to decreased oxygen and impaired circulation. Non-pharmacologic Interventions: Avoid restraining the client or interfering with the movements. Soft natural light, speaking in a calming voice, light massage to forehead, or soothing music are examples of therapeutic interventions for restlessness. Pharmacologic Intervention: Lorazepam can help the client to relax if they are experiencing apprehension, agitation, and/or restlessness.
Confusion	Reassure the family that confusion is not uncommon during the end-of-life transition. Do not correct the client These can present of delusion, or hallucinations symbolic language or actions Non-pharmacologic Interventions: identify yourself before you speak, explain actions before you implement the plan, speak normally and clearly.

(Adapted from Crossroads Hospice, 2023)

FRAME 6: Evaluate Outcomes

CORRECT ANSWER

Question Type: Matrix Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Indicate on the table below what nursing actions would be appropriate or not appropriate for Rhys and his family at this time.

Nursing Intervention	Indicated	Not Indicated
Provide emotional support and additional resources for the family	X	
Inform the family the client is nearing death	X	
Inquire if the family has cultural or spiritual traditions or rituals they would like to perform.	X	
Encourage the family to share last words and thoughts with the client	X	
Continue to provide comfort care to the client	X	
Encourage the family to remain strong and not show emotion until after the client has passed		X
Reassure the family that symptoms are normal for end-of-life	X	
Encourage the family to be present	X	

RATIONALE

End-of-life can be difficult for families. The nurse is an integral part of the process and influences the family's perception of end-of-life. The nurse can foster the nurse-family therapeutic relationship by:

- Providing emotional support and additional resources for the family. Being present when a family member dies can be challenging and emotional, especially if the family is not sure what to do or what to expect. Providing emotional and resource support for the family is an important nursing role.
- Informing the family that the client is nearing death. The nurse should explain the changes in the client's status are a normal part of the dying process and indicate that death is impending.
- Inquiring if the family has cultural or spiritual traditions or rituals they would like to perform. If there are cultural or spiritual traditions or rituals the family would like to perform, encourage them to do so. The cultural or spiritual traditions or rituals may not align with the nurse's beliefs, as long as the request is ethical and legal. The nurse should holistically allow the family to perform or incorporate their personal cultural or spiritual traditions or rituals.
- Encouraging the family to share last words and thoughts with the client. When a loved one is ready to die, saying "goodbye" or reminiscing on favorable events or experiences can assist with closure for the client and loved ones.
- Encourage the family to be conversational with the client.
- Continuing to provide comfort care to the client. Continue to ensure the client is as comfortable as possible through the dying process.
- Reassuring the family that showing emotions and crying are normal and natural part of saying "goodbye." The family does not need to hide tears or apologize for them.
- Reassuring the family that symptoms the client is experiencing are normal for end-of-life. Assist the family in the transition by utilizing therapeutic communication and sharing what they can expect during.

FOCUSED GUIDE

Cultural beliefs, attitudes, and personal experiences influence an individual's response to death. Funerals can lessen the family's grief through cultural or ritual expression, approval, and social support. Having the opportunity to honor or celebrate a loved one with a funeral service reduces grief, while poverty exacerbates grief (Becker et al., 2022).

Coping with financial concerns such as funeral costs on top of grieving loved one's death is difficult. Grief can be intensified or prolonged for individuals and families with no or limited financial reserve. Coping with financial concerns and not having the means to provide a satisfying funeral can lead to depression and worse mental health (Becker et al., 2022). Financial concerns can be heightened if the loved one did not have insurance to cover the costs of care during the dying process.

There are many ways the nurse can foster a therapeutic relationship with the family. Many are listed above. Additional ways to foster a therapeutic relationship with the family include:

- Encouraging the family to play the clients favorite music.
- Allowing the family to sing hymns or songs significant to the client.
- Allowing expressions of guilt and fear.
- Be open to the family member(s) expressing concern about their own mortality.
- Being patient with answering questions repeatedly.
- Addressing the family's concern about the client's pain and care.
- Being respectful of silence.
- Allowing the family to be an active participant in the care of the client.
- Providing support and resources for the family during and after the process.

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CASE STUDY: Jacklyn

Concepts: Culture/Diversity | Perfusion | Mood and Affect

Exemplar: Post-operative heart surgery

AACN Sphere of Care: Restorative/Regenerative Care

SDOH Domain: Health Care Access & Quality | Social & Community Context |

Economic Stability

Student Learning Outcomes

1. Appraise clinical signs and symptoms of post-operative recovery delays.
2. Identify cultural/religious impact on healthcare decisions and approaches.
3. Describe the effects of mental health on post-operative recovery.
4. Appraise how SDOH influence adherence to lifestyle modifications following major surgery.

Scenario Summary

A 46-year-old female, Jehovah's Witness was brought to the hospital with chest pain and undergoes a cardiac catheterization and off-pump, "Beating Heart," open heart surgery. Client stays two nights in the cardiac-surgical intensive care unit after surgery and is transferred to the telemetry floor.

Additional Teaching Strategies

Classroom

- Have students practice sternal precautions as an example of protective precautions after surgery. This includes hugging a pillow when standing, sitting, coughing. Not using their arms to assist in pushing/pulling/standing up/etc.... Discuss the difference noted and potential challenges clients face.
- Have students develop a short paper, chart, or presentation on cultural considerations to surgery. Choose specific cultures such as Jehovah's Witness that are more commonly seen in healthcare that the students would want to be aware of in caring for such clients.
- Have students create an Advanced Health Care Directive for a fictitious client.

Clinical

- Create a clinical card using Jacklyn's surgical information and post-operative cares, have the students compare and contrast different post-operative clients and identify 1-2 significant post-operative concepts for the clients.

Lab

- Create a small post-operative scenario using Jacklyn's information and have the students relate coughing and deep breathing exercises for post operative clients (splinting, positioning, IS)
- Have the students practice teaching Jacklyn about incentive spirometry and its purpose and importance post-operatively.

Simulation

- Create Jacklyn's scenario as a post-operative client to focus on s/s of poor oxygenation that is not related to a lung condition.
- Create Jacklyn's scenario as a post-operative client who is facing depression after the major surgery. Have the focus be on mental stability and mental illness instead of oxygenation recovery.

Across the Curriculum

- Utilize this case study across the curriculum to establish a sense of continuity of care. Introduce Jacklyn in multiple courses and methods of instruction per ideas listed above. Utilize portions of this case study when discussing post-operative cares and considerations. Establish the concept of mental health exhibited in this case study and its resources and relate Jacklyn to multiple care scenarios across the curriculum.

FRAME 1: Recognize Cues

CORRECT ANSWER

Question Type: Drop-Down Cloze

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The telemetry nurse reviews their notes taken from the phone report and reviews the client's history. Choose the most likely options for the information missing from the statement(s) by selecting from the list of options provided.

The nurse recognizes the client's impact healthcare approaches.

The nurse will closely monitor the client's , , and cues while on the telemetry floor and in preparation for discharge.

Dropdown 1 options	Dropdown 2 options	Dropdown 3 options	Dropdown 4 options
Recent surgery	Hemoglobin	JP drain	Pulses
Cultural and religious beliefs	Oxygenation	Midsternal incision	Alcohol withdrawal
Social determinants of health	Heart rate	Mental capacity	Left leg incision
Medical history	Blood pressure	Lab values	Motivation

RATIONALE

Relevant cues include the client's clinical presentation including diminished breath sounds, lower pulse oximetry reading, weakness, hemoglobin, and red blood cell values. These clinical presentation cues indicate to the nurse how well oxygen is being transported around the body and to the cells. The client's occupation may affect her ability to return to work after her surgery due to physical stressors and lifestyle modifications that will need to be made. Additionally, the client's flat affect, low spirits, and history of depression are relevant to the client's current situation and condition because of the high risk of postoperative depression and the client showing signs of a slower recovery. Feelings of hopelessness and adjustments to an individual's lifestyle after a major surgery are relevant in post-operative cares.

The nurse must recognize and analyze cues from client's that allow them to provide holistic care approaches. Utilizing therapeutic and empathetic communication styles allows the nurse to effectively communicate and listen to their clients to advocate the needs and wishes of clients. Nursing empathy is characterized by the nurses' ability to understand the feelings, experiences, or psychosocial ability of their client(s) (Wu, 2021). Empathy plays an important role in establishing a positive nurse-client relationship, resulting in favorable nursing care.

FOCUSED GUIDE

Cultural and religious beliefs, such as Jehovah's Witnesses who do not accept blood or primary blood components are particularly important for healthcare providers to consider as it can present an array of social, legal, and ethical challenges, especially in major surgeries at risk for bleeding and blood loss. In the past, Jehovah witnesses were often not considered for major surgeries such as cardiac surgery due to the increased risk of morbidity and mortality. However, as research has evolved, there have been improvements made in blood management strategies, technology advances, surgical procedure, and approaches (Chambault et al., 2020).

This case study focuses on cultural/religious beliefs and mental stability of clients undergoing major surgery and addresses two of the five social determinants of health: health care access and quality, and social and community context. Access to preventative health care can prevent both disease and early death. This client has not been to a healthcare provider in over seven years. Multiple factors can play into this reasoning, and it is important for students to recognize there are disparities. Millions of people in the United States do not get the recommended preventive health care services related to screenings, dental check-ups, and vaccinations. Barriers to this include a variety of reasons such as cost, not having a primary care provider, distance from provider, and lack of awareness or health literacy about recommended preventative services (U.S. Department of Health and Human Services, n.d.). It is estimated that 80% of cardiovascular disease is preventable, however it remains the number 1 killer and most expensive disease costly nearly one billion dollars a day. Recent projections show that by 2035, 45% of the adult population in the United States will live with cardiovascular disease (American Heart Association, 2022).

Enhance the student's awareness of implicit bias and describe that implicit bias is unconscious mental associations individuals make about various social groups that can impact understanding and actions. Unintentional bias contributes to health disparities through its effect on communication patterns between clients and healthcare providers and clinical /medical decisions further impacting client care (Rodriguez et al., 2021). It is important for nurses to recognize all individuals have implicit biases and awareness is essential towards actions taken.

FRAME 2: Analyze Cues

CORRECT ANSWER

Question Type: Matrix Multiple Response

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

After reviewing the client information, determine the cues that are relevant or irrelevant to the client's current status. Each row should include a single choice.

Finding	Relevant	Irrelevant
Client flat affect and low-spirits	X	
Diminished breath sounds	X	
Bowel sounds hypoactive		X
Weakness	X	
Reddened wound borders		X
Heart rate		X
Temperature		X
SpO2	X	
WBC value		X
Hemoglobin value	X	
Red blood cell value	X	
Occasional alcohol use		X
Occupation	X	
HISTORY of depression	X	

RATIONALE

Jacklyn is facing physiological issues with her low hemoglobin and red blood cell values, therefore causing her abnormal SpO2, weakness, and diminished breath sounds. Additionally, Jacklyn is predisposed to depression, and it is important for the nurse to recognize the significance of this in Jacklyn's history. Post-operative depression in major surgery is noted to delay post-operative recovery and given Jacklyn's current situation puts her at high risk. Therefore, Jacklyn's flat affect, low-spirits, and history of depression are certainly relevant to her current status. Lastly, it is important for the nurse to recognize the relevancy of Jacklyn's occupation and relate it to the type of surgery she just had. Because of the midsternal incision, Jacklyn will want to take sternal precautions for quite some time, and if she is required to push/pull/carry more than 10 lbs., she will not be able to perform her job the way she could before surgery.

FOCUSED GUIDE

Therapeutic communication is the exchange of both non-verbal and verbal methods. Therapeutic communication style may help clients overcome some of the emotional or psychological distress they experience (Sharma & Gupta, 2023). Empathetic communication occurs when an individual acknowledges another's emotions and responds in a way that shows caring and concern. Empathy in communication is simply understanding and sharing the feelings of another person. Recognizing the importance of quality communication with Jacklyn is essential based on her mental health history and the barriers she is facing post-operatively.

The second SDOH domain addressed in this case study is *Social and Community Context*. Recognizing SDOH are the social conditions in which people are born, live and work, play, worship, and go to school establish a fundamental understanding into rationalizing health concerns and outcomes of clients. Additionally, SDOH offers a more inclusive view on how one's geographic location, neighborhood, and access to health care play a critical role in morbidity and mortality. It is expected SDOH will continue to increase in relevance and integration of client management both in acute and community health settings especially as health care organizations look to achieve equity and decrease health disparities among different populations (Brandt et al., 2023).

The goal of the domain, *Social and Community Context* is to increase social and community support. Jacklyn's commitment to her religious beliefs and relationship with her church can positively impact on her recovery and ongoing health and well-being. Jacklyn is experiencing depressive symptoms and may find solace in fellowship with members from the Kingdom Hall and in prayer. This interaction would meet the *Social and Community Context* objective, increase the proportion of adults who talk with friends and family about their health (HC/HIT-04).

FRAME 3: Prioritize Hypothesis

CORRECT ANSWER

Question Type: Drop-Down Cloze

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse is concerned about the client's inability to ambulate, increasing oxygen needs, and lack of motivation. Choose the most likely options for the information missing from the statement(s) by selecting from the list of options provided.

The client's delayed post-operative recovery is multifaceted. The nurse recognizes the underlying cause of the

client's delayed progress is most likely caused by

Option 1

is evidenced by

Option 2

Option 3

and

Option 4

Dropdown 1 Options	Dropdown 2 options	Dropdown 3 options	Dropdown 4 options
Depression	Turning lights down	Client anger	Low energy
Decrease in blood pressure	Decreased SpO2	Wanting to be alone	Client frustration
Low hemoglobin level	+1 pedal pulses	Weak grips	Increased heart rate
Decreased motivation	Refusing walks	SOB with ambulation	Refusing breakfast

RATIONALE

It is important for students to recognize the multifaceted components and processes of the post-operative recovery of clients. Sometimes, identifying a key cause of a client's problems can be quite difficult. In the case of Jacklyn, her delay in progress is caused by her low hemoglobin levels. In turn, causing her decreased SpO2, SOB with ambulation, and low energy. Each of these also can contribute to her mental state of depression; however, her depressive state is not the physiological reason for those issues.

While the client appears to be frustrated and withdrawn, it is important for the nurse to hypothesize logical underlying causes. This client is experiencing shortness of breath with ambulation, increasing oxygenation needs, and lack of energy and motivation. Post-operative anemia or low hemoglobin after a major surgery is associated with poor outcomes including infections, increased length of stay, and mortality. Anemia is a very common complication in the post-operative period, with a prevalence of 80-90% after major surgery. Since 2005, the concept of patient blood management has been introduced and utilized in healthcare to focus on the treatment of pre-operative anemia, reduction of peri-operative blood loss, and optimizing patient-specific physiological reserves post-operatively (Kalra et al., 2021).

It is important for the nurse to also address the client's mental status since the client has a recent history of depression where she sought treatment. Fixing the underlying cause and helping the client to understand and educate them on processes occurring in their body will be essential in supporting the client's mental state and continuing to progress through post-operative recovery.

FOCUSED GUIDE

Economic stability is a person's ability to possess, maintain, or acquire the necessary resources for a healthy life. Income and financial health are the strongest and most well-studied factors. Other factors include employment and work environment, safe-affordable housing, childcare, food insecurity, insurance, sick pay, and access to reliable transportation. Lower household income has been associated with economic instability resulting in purchasing fewer healthy foods, engaging in less physical activity, and higher prevalence of cardiovascular disease (CVD) (Brandt et al., 2022).

Individuals with disabilities, injuries, or conditions like CVD may be limited in their ability to work. Jacklyn works on a cattle lot with her son and the work may be too strenuous for her to continue working, therefore leading to economic concerns. Objectives associated with *Economic Stability* are to increase suitable employment in working-aged people (SDOH-02) and to decrease injuries resulting in missed days of work (OSH-02). *Economic Stability* is also influenced by insurance coverage or lack of insurance to cover required procedures and/or post-operative therapies. Healthcare expenses not covered by insurance and high deductible costs can create a financial burden for individuals and families. Another contributing SDOH for Jacklyn is that she lives in a rural community which generally has fewer employment opportunities. Jacklyn does not drive, which adds an additional barrier for employment and adherence to post-operative therapies.

FRAME 4: Generate Solutions

CORRECT ANSWER

Question Type: Matrix Multiple Response

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse reviews the PHQ-9 form filled out by the client. For each potential intervention, specify whether the intervention is indicated or not indicated for the client's current status.

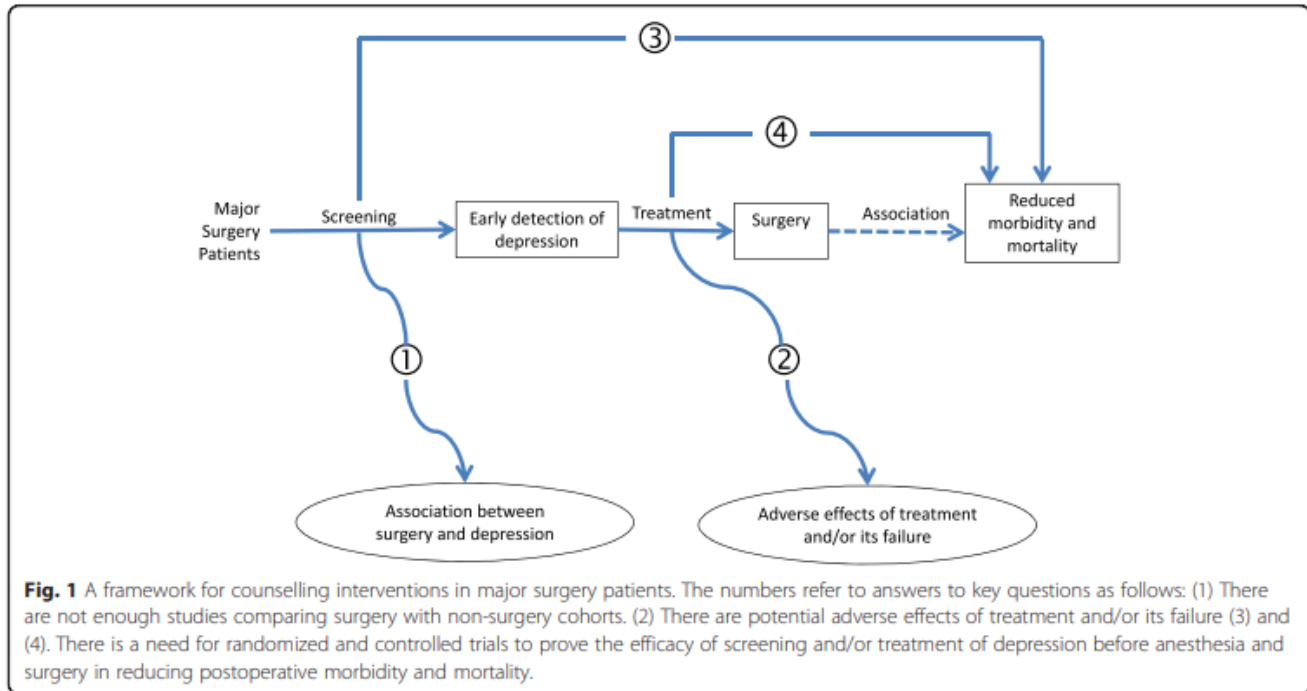
Potential Intervention	Indicated	Not Indicated
Implement suicide precautions		X
Inquire about spiritual care and support	X	
Ask the client to elaborate on question 9 of the survey	X	
Screen visitors		X
Provide supportive resources	X	
Contact primary provider	X	
Have the UAP stay with the client until the end of the shift		X
Minimize the number of interruptions at night	X	

RATIONALE

The nurse must identify desirable outcomes and define a set of interventions for those outcomes. Focus on goals and multiple potential interventions is essential for Jacklyn right now, this includes the need to collect additional information to better direct and personalize her care. Depression does not typically occur in isolation and is a major risk factor for heart disease. Given the client's previous history and understanding depression after major surgery is common and affects millions of people each year, it is essential for the nurse to generate solutions to achieve a desirable outcome. Undergoing a major surgery leaves individuals left to manage many details in life differently than normal. Most people do not stop to think about how they can help themselves feel good emotionally during their surgical recovery (AHA, 2020). Therefore, asking the client to elaborate on her answers to the questionnaire, especially focused on question 9, would be indicated in this situation. Additionally, the nurse would want to provide supportive resources and try to minimize the number of interruptions at night to help promote healthy sleeping patterns for the client. Lastly, the nurse would want to communicate this information and the results of the questionnaire to the provider to ensure there is a collaborative approach taken.

FOCUSED GUIDE

Research supports the recommendation for healthcare clinicians to routinely assess clients for depressive symptoms prior to surgery and continued screening after surgery. There are numerous tools available that can be administered to clients pre-operatively and post-operatively for continued screening. The Patient Health Questionnaire-9 (PHQ-9) is an example of a depression screening that takes the client less than 10 minutes to complete. The PHQ-9 has 9 items that assess the symptoms of major depression that are rated on a 4-point scale (0-3). A score of 10 or above indicates that the client is at high risk for major depression (Ghoneim & O'Hara, 2016).



(Ghoneim & O-Hara, 2016)

Additional considerations must also relate the client's SDOH with stress hormones and the negative impact it can have on post-operative recovery and rehabilitation. Recent studies demonstrate how the immune system responds to chronic stress that can be induced by psychological stress (ex: discrimination, loneliness, job strain, violence, food insecurity, etc.). Clinical trials are proving these connections to be true and enhancing our ability to assess the efficacy of interventions through multiple biomarkers (Powell-Wiley et al., 2022).

Multiple levels of interventions at the policy, community, and individual levels are all needed when addressing sociopolitical and lived experiences of clients. This includes policy, community, and individual interventions.

- Policy Interventions include improved access to access to health insurance, improved access to education, poverty interventions, urban planning & community investment, and prioritization of SDOH informed CVD research.
- Community Interventions include investment in community-based organizations and community health workers, quality housing, nutritious grocery stores, transportation facilities, and education programs.
- Individual interventions include health behavior/lifestyle coaching, medication management, SDOH screening at primary care clinics, care coordination and collaboration, patient navigation and case management, income support (cash transfer), and patient education (Powell-Wiley et al., 2022).

FRAME 5: Take Action

CORRECT ANSWER

Question Type: Multiple Choice

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse enters the client's room to see Jacklyn is sitting in the chair, eating breakfast. The nurse sees Jacklyn's nasal canula laying on the bed next to her. The nurse asks Jacklyn how she is feeling this morning, and she states, "I'm feeling better each day, it is just so hard to eat with that thing stuck up your nose, so I took it off...I hope that is okay."

What action will nurse take next?

- A. Put the nasal canula back on the client
- B. Tell Jacklyn if she becomes short of breath to put it back on
- C. Check SpO2**
- D. Educate Jacklyn on the importance of keeping things on until the nurse says it is okay to take off

RATIONALE

The client's chart, including nursing notes, lab values, and vital signs all indicate improvement in Jacklyn's oxygenation and breathing status. Therefore, it would be appropriate for the nurse's next action to see what the client's pulse oximetry is to assess the client's ability to oxygenate without supplemental oxygen. If the SpO2 is adequate and the client is not showing signs of distress, it would be appropriate to keep the oxygen off the client. Additionally, this forward progress will help support Jacklyn's mental and emotional states as it will bring positive thoughts forward as she is not reliant on medical therapies as much.

FOCUSED GUIDE

Cardiac rehab is a specific type of therapy focused on clients who have had a recent heart attack, heart conditions such as CAD or heart failure, peripheral artery disease, or heart procedures/surgeries. Additionally, there are many other types of therapies to promote better health outcomes for clients after major surgery. Many of these therapies include a multidisciplinary team that may include providers, nurses, exercise specialists, dieticians, nutritionists, and many others. Rehabilitation measures focus on holistic approaches to promoting independence and healthy living. This includes physical, mental, and emotional support for clients as they recover. It is evident Jacklyn is already seeing a positive impact from cardiac rehab, especially from a mental and emotional supportive aspect. Developing a sense of community for clients to ensure they are not alone can provide significant positive and forward progression with their recovery.

Additionally, transportation is an important SDOH in rural communities. Jacklyn lives in a rural community and relies on her son for transportation. The availability of reliable transportation impacts an individual's ability to access appropriate and well-coordinated healthcare, purchase nutritious food, and otherwise care for themselves. Rural populations have a greater need for transportation services to maintain their health and well-being. Populations most at risk include older adults, people with disabilities, low-income individuals and families, veterans, and people with special healthcare needs who require additional assistance to access health care. Communities that provide transportation services to support access to rural healthcare benefit healthcare providers by decreasing inappropriate use of EMS services, improve utilization of healthcare services, decrease no-show rates, and increase access to health-supporting services. Transportation as a community-based service can allow the elderly and people with disabilities to live successfully in a community rather than entering a long-term care facility or leaving the community (Rural Health Information Hub, 2022).

FRAME 6: Evaluate Outcomes

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse is pleased to review Jacklyn’s Progress journal and goals. As the nurse, determine which of the goals created by the client demonstrates a lack of understanding and needs follow-up.

	Goal Statement
<input type="checkbox"/>	Discuss cardiac rehab schedule with son for transportation needs.
<input type="checkbox"/>	Try to make it to every session
<input type="checkbox"/>	Talk to my boss about job responsibilities, see if there is another position that does not require as much lifting and pulling
<input type="checkbox"/>	Try to find support outside of my son. Join the support group of fellow patients and caregivers who have recovered from heart-related events
<input checked="" type="checkbox"/>	Walk 2 miles by the end of the month

RATIONALE

Comparing observed outcomes against expected outcomes is an essential nursing action prior to discharge. This will help the nurse collaborate with the client to identify improving/declining/unchanged status, and evaluate the client’s knowledge on their disease process, recovery, medications, restrictions, prior to discharge. As the nurse reviews Jacklyn’s Milestone Journal, it is evident Jacklyn is in a better mental and emotional state than she was a few days ago. She articulates signs of hope and continued progress for the future. The nurse would want to further discuss the timeframe for Jacklyn’s goal of walking 2 miles by the end of the month, knowing Jacklyn is being discharged on July 28.

It is also important for the nurse to realize that when clients are discharged, they are leaving a controlled environment and entering a more uncontrolled environment that is heavily influenced by SDOH. Allowing for the client to identify barriers they will face upon discharge will assist the nurse in identifying possible resources, guidance, and tools to assist in the client in forward progression and avoid readmission to the hospital. Varied teaching strategies can be used by the nurse when assessing the client’s understanding. Spending valuable time assessing the effectiveness of the education will help the nurse understand ways to improve health literacy and client understanding prior to discharge to avoid readmission back to the hospital.

FOCUSED GUIDE

Major opportunities for integrating SDoH into clinical healthcare can be found in standardizing electronic health record-based tools for SDoH assessments, facilitating panel management to identify and direct outreach to high-risk clients, and tailoring clinical decisions to address environmental factors like housing conditions and health literacy.

Depression in the United States is increasing across all races and ethnicities and is attributed to multiple SDOH (Yelton et al., 2022). Healthy People 2030 aims to ensure “healthy, thriving lives and well-being free of preventable disease, disability, injury, and premature death” and acknowledges the need to achieve health equity through structural and behavioral intervention. Health People 2030 categorized SDOH into five domains *Economic Stability, Education Access and Quality, Health Care Access and Quality, Neighborhood and Built Environment, and Social and Community Context*. Within these domains are several potential risk and protective factors for mental health outcomes relating to access, quality, and safety of material, social, educational, occupational, civic, and health-related resources (Yelton et al., 2022). Systemic racism, implicit bias, reluctance to refer, segregation, inequity for protective factors for specific groups or communities can contribute to adverse SDOH outcomes and depression/depressive symptoms.

Social change and action to increase equity and provide a voice to populations who otherwise voices are not heard can be influenced by the nurse’s advocacy, engagement in the legislative process, and participatory research promoting dialogue that shares stories about important issues affecting rural and other marginalized individuals or groups.

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CASE STUDY: Khloe

Concepts: Health Promotion | Development | Health Policy

Exemplar: Early Childhood Health Promotion

AACN Sphere of Care: Wellness, Disease Prevention

SDOH Domains: Education Access & Quality | Neighborhood & Built Environment |
Social & Community Context | Health Care Access & Quality

Student Learning Outcomes

1. Differentiate health promotion activities from preventive care measures.
2. Identify milestones for a 5-year-old for each developmental domain; social/emotional, language, cognitive, and gross and fine motor movement.
3. Identify ways parents can help their children be developmentally ready for school.
4. Discuss three ways the nurse can advocate for health policy changes.

Scenario Summary

Khloe Seng is a 5-year-old who is planning to start kindergarten in the fall. She is an only child and lives in a multigenerational home with her parents and grandmother in a rural community. Khloe's parents both work full time and she attends a daycare center that integrates a pre-K curriculum Monday through Friday. Khloe and her parents are attending a kindergarten orientation this afternoon at the local public elementary school. It is requested they bring copies of Khloe's immunization and dental screening records.

Additional Teaching Strategies

Classroom

- Have students review the 2023 CDC vaccination guidelines and outline a plan for a variety of clients birth through 12th grade. Consider factors such as recommendations, contraindications, etc.
- Create milestone stations for students to identify and present developmental and emotional milestones.
- Health promotion, maintenance, and early screening for infants, child, young adult, adult, older adult.
(Example colorectal screening, mammogram, skin checks, etc.).

Clinical

- Create a variety of clinical cards outline children at different ages, have students identify milestones and immunizations they would expect of each child.

Lab

- Incorporate Khloe’s developmental strategies into a session on caring for infants and children. Have students approach the clients in an appropriate manner, address clients with a variety of developmental stages, and recommended education.

Simulation

- Create a scenario when Khloe enters the nurses’ office with a bloody nose. Address cares, emotional, and physical support for the client. May incorporate a standardized patient acting as a family member coming at the end of the scenario.

Across the Curriculum

- Utilize this case study across the curriculum to establish a sense of continuity of care. Introduce Khloe in multiple courses and methods of instruction per ideas listed above.

FRAME 1: Recognize Cues

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Which of the following statements from Khloe’s history are preventative care measures? Select all that apply.

- She attends a daycare center Monday through Friday that integrates a pre-K curriculum
- Khloe and her parents are attending a kindergarten orientation this afternoon at the local public elementary school
- Khloe has had regular scheduled appointments with her pediatrician**
- Khloe is up-to-date with recommended immunizations**
- Khloe has had dental screening**
- Khloe has had fluoride treatments**
- Khloe has no allergies or food intolerances
- Khloe has had two ear infections, treated with antibiotics

RATIONALE

Establishing healthy behaviors to prevent chronic disease is easier and more effective during childhood and adolescence than trying to change unhealthy behaviors during adulthood (CDC, 2023). Preventive care is defined as routine health care that includes screenings, check-ups, and patient counseling to prevent illnesses, disease, or other health problems. Khloe participants in health promotion/illness prevention measures as indicated by up-to-date immunizations, regular milestone visits with the pediatrician, and dental screenings.

The Center for Disease Control and Prevention (CDC) published new [immunization guidelines](#) from birth to 6-years-old in 2023. The updated immunization recommendations include Covid-19 vaccination.

Link source: <https://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>

Dental caries in early childhood is associated with pain, loss of teeth, impaired growth, decreased weight gain, negative effects on quality of life, poor school performance, and future dental caries. Higher prevalence and severity of dental caries are found among specific racial and ethnic (e.g., Black and Mexican American) populations (Chou et al., 2021). According to the U.S. Preventive Services Task Force (USPSTF) social determinants of health associated with increased caries risk include lack of access to dental care, low socioeconomic status, personal and family oral health history, dietary habits (especially frequent intake of dietary sugars in foods and beverages), fluoride exposure, and oral hygiene practices (USPSTF, 2021). The Community Preventive Services Task Force (CPSTF) recommends Fluoridation of community water sources to reduce dental caries and school-based sealant delivery programs to prevent caries in children.

FOCUSED GUIDE

Identifying childhood conditions and other factors that increase the risk for invasive pneumococcal disease include cochlear implants, decreased immune function, diabetes, functional or anatomic asplenia including sickle cell, and chronic heart, lung, liver, or renal disease. The Center for Disease Control and Prevention (CDC) published new immunization guidelines in 2023. The CDC updated immunization guidelines from birth to 6 years old.

The updated immunizations include Covid-19 vaccination. The number of doses recommended depends on the child's age, and type of Covid-19 vaccine used (CDC, 2023). The CDC immunization document provides helpful information aligning the disease, vaccine, how the disease is spread, disease symptoms and disease complications. Similar information is available on the CDC website for youth ages 7 to 18, ages 19 or older, and for pregnant women.

The United States Preventive Services Task Force (USPSTF) recommend that children under 5 years be prescribe oral fluoride supplementation beginning at age 6 months to children whose water supply is deficient in fluoride (<0.6 parts fluoride per million parts water [ppm F]) and apply topical fluoride varnish to the primary teeth in all infants and children once primary teeth erupt. Typically, fluoride varnish is applied with a small brush and is available as 5% sodium fluoride (2.26% fluoride).

The Community Preventive Services Task Force (CPSTF) recommends Fluoridation of community water sources to reduce dental caries and school-based sealant delivery programs to prevent caries in children. Dental sealants are plastic materials that are placed on the back teeth to prevent tooth decay. CPSTF found that these programs increase the number of children ages 5 to 16 years who get sealants at school and that sealants result in a large reduction in tooth decay in this population.

According to the American Academy of Pediatrics (AAP) recommendations for Preventive Pediatric Health Care are designed for the care of children who are receiving nurturing parenting, have no manifestations of any important health problems, and are growing and developing in a satisfactory fashion. Developmental, psychosocial, and chronic disease issues for children and adolescents may require more frequent counseling and treatment visits separate from preventive care visits. The AAP continues to emphasize the great importance of continuity of care in comprehensive health supervision and the need to avoid fragmentation of care. Additional preventive measures include hearing and vision screening, developmental screening, autism spectrum disorder screening, fluoride varnish, fluoride supplementation, and immunizations (AAP, 2023).

FRAME 2: Analyze Cues

CORRECT ANSWER

Question Type: Multiple Response Grouping

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

For each developmental domain below, click to specify the expected milestones for a 5-year-old. Each domain may support more than 1 expected milestone.

Developmental Domain	Expected Milestone
Social/Emotional	<input checked="" type="checkbox"/> Follows simple rules while playing a game
	<input checked="" type="checkbox"/> Does simple chores at home
	<input checked="" type="checkbox"/> Sings, dances, or acts for you
	<input type="checkbox"/> Start to think about the future ¹
Language	<input checked="" type="checkbox"/> Answers simple questions about a book after it is read to them
	<input type="checkbox"/> Have well developed speech and uses correct grammar most of the time ²
	<input checked="" type="checkbox"/> Uses or recognizes simple rhymes
	<input checked="" type="checkbox"/> Tells a story they heard or made up with at least two events
Cognitive	<input type="checkbox"/> Count to 50 ³
	<input checked="" type="checkbox"/> Names numbers between 1 and 5 when you point to them
	<input checked="" type="checkbox"/> Writes some letters in their name
	<input checked="" type="checkbox"/> Pays attention for 5-10 minutes during activities
Gross and Fine Motor Movement	<input checked="" type="checkbox"/> Hops on one foot
	<input checked="" type="checkbox"/> Buttons some buttons
	<input type="checkbox"/> Tie their shoelaces ⁴
	<input type="checkbox"/> Successfully throw a ball at a target ⁴

Adapted from CDC, 2021a

¹ Starting to think about the future is a social/emotional milestone for 6 to 8-year-old children, not 5-year-old children.

² Have well developed speech and uses correct grammar most of the time is a is an expected language/communication milestone for 8-year-old children. The expected language/communication milestone for 5-year-old children is that they can keep a conversation going with more than three back and forth exchanges.

³ The expected cognitive milestone for 5-year-old children is that they should be able to count to 10, not 50.

⁴ Tying shoelaces and successfully throwing a ball at a target is a physical developmental milestone for 7 to 8-year-old children, not 5-year-old children.

RATIONALE

Milestones are categorized into social/emotional, language, cognitive, and gross and fine motor movement. Developmental milestones are a set of goals or markers that a child is expected to achieve during maturation. They are used to help determine if a child is undergoing typical development versus if a child has delayed in a given area or over multiple areas in the process of aging development (Misirliyan et al., 2023). The assessment of developmental orders is guided by the processes of surveillance and screening. Surveillance is the process by which children who are at risk or who have developmental delay are identified. Surveillance is done at every well-child visit, and it can be performed by using an age-appropriate checklist of milestone records. Special attention must be had at the 4 to 5-year-old visit prior to the start of school. Screening by comparison is the process by which asymptomatic children who may be at risk of developing a disorder are identified via standardized testing. If a child screens positive, they should undergo a subsequent developmental-behavioral evaluation to identify the etiology for the delay (Misirliyan et al., 2023). Referral to intervention programs as early as possible is pertinent in assuring positive outcomes.

Childhood educational programs, parents, and other adults can provide opportunities to help children meet their developmental milestones. Reading with children, practicing recognizing colors, numbers, and letters, and helping them to write their names all contribute to meeting milestones and being developmentally ready for school. Hearing screening is the primary assessment for a child with a language delay.

Children from low-income families, children with disabilities, and children who routinely experience forms of social discrimination are more likely to struggle with math and reading. They are also less likely to graduate from high school or go to college. This means they are less likely to get safe, high-paying jobs and more likely to have health problems like heart disease, diabetes, and depression (HP 2030).

In addition, some children live in places with poorly performing schools, and many families cannot afford to send their children to college. The stress of living in poverty can also affect children's brain development, making it harder for them to do well in school (HP 2030).

FOCUSED GUIDE

Khloe is meeting many developmental milestones as indicated by her interest in coloring, singing songs, riding her tricycle, and playing soccer with her friends. Students were asked to identify additional milestones appropriate for a five-year-old child.

FRAME 3: Prioritize Hypothesis

CORRECT ANSWER

Question Type: Multiple Response Select N

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

Select three responses below that would be health promotion activities for Khloe.

- Promote access to and participation in school breakfast and lunch
- Offer physical education to increase students' knowledge, skills, and confidence to be physically active
- Promote better sleep patterns
- Support social and emotional learning
- Vision screening
- Hearing screening
- Receiving recommended vaccinations

RATIONALE

Promote access to and participation in school breakfast and lunch

The percentage of obesity is over 20% for children aged 6 to 11 and over 21% for adolescents aged 12 to 19. Children who have obesity are at higher risk of having obesity as adults. School is an ideal setting for children to learn and practice healthy eating (CDC 2022a).

Offer physical education to increase students' knowledge, skills, and confidence to be physically active

About one-fourth of adolescents get the recommended 60 minutes a day of physical activity. CDC Healthy Schools recommends that schools offer students multiple ways to be physically active, which will help them build healthy habits for a lifetime (CDC 2022a).

Promote better sleep patterns

Sleep is increasingly recognized as a component of good health. Children who don't get enough sleep are at increased risk for obesity, type 2 diabetes, attention and behavior problems, poor mental health, and injuries. Children aged 6 to 12 need 9 to 12 hours of sleep a night. Teens aged 13 to 18 need 8 to 10 hours of sleep a night (CDC 2022a).

Support social and emotional learning

Social and emotional learning can help children and adolescents develop the skills they need to recognize and manage emotions, set and achieve positive goals, appreciate the perspectives of others, establish and maintain positive relationships, and make responsible decisions. A positive social and emotional climate at school enables students to develop these skills (CDC 2022a).

Vision and hearing screens are health maintenance activities. Health maintenance includes screening procedures, risk assessment, early intervention, and prevention activities. Receiving recommended immunizations is an example of a preventive care measure.

FOCUSED GUIDE

Although all of the responses are positive actions encouraged for Khloe’s current and long-term health, there are only four that are health promotion activities: Promote access to and participation in school breakfast and lunch, offer physical education to increase students’ knowledge, skills, and confidence to be physically active, promote better sleep patterns, and support social and emotional learning. These are additional activities that can be encouraged at home and at school.

FRAME 4: Generate Solutions

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

What social factors play an important role in vision loss?

- Education**
- Food insecurity**
- Access to quality health care**
- Neighborhood Safety**
- Heredity

(CDC, 2022b)

RATIONALE

The following social factors play an important role in vision loss:

- **Income:** People with lower incomes are less likely to have had preventive care, including an eye exam, or to be able to afford eyeglasses and are more likely to have vision loss due to diabetic retinopathy.
- **Education:** People with less than a high school education are less likely to have had an eye care visit in the last year compared with people who have more than a high school education.
- **Neighborhood:** Neighborhood safety could affect diabetes-related stress, physical activity, weight management, and blood sugar levels—all of which are risk factors for chronic conditions that can lead to vision loss.
- **Access to care:** People living with a disability such as vision impairment or blindness report having more problems in accessing care, such as cost of care, availability of insurance coverage, transportation issues, and refusal of services by providers. People who have vision impairment are more likely to be uninsured compared with people who do not.

Addressing these barriers is key to eliminating health disparities and reaching vision health equity. Although heredity contributes to vision loss, it is not a social factor (CDC, 2022b).

The nurse must identify expected outcomes and use hypotheses to define a set of interventions to identify health promotion/disease prevention activities that are age appropriate for aggregate children and youth as well as individual students. Schools and school nurses play a significant role with health promotion/disease prevention. The school nurse role is one of the broadest nursing roles, and school nursing is one of the few subspecialties responsible for direct care of individuals as well as care of the school community and environment. School nurses provide hearing and vision screening and can apply topical fluoride varnish to primary teeth.

Schools help to decrease health disparities by fostering learning, striving to enhance health literacy, providing health screening, nutritional lunches, opportunities for physical education, and counseling, social support, and mental health promotion (WHO, n.d.). Further, schools Strive to improve the health of school personnel, families, and community members as well as pupils; and works with community leaders to help them understand how the community contributes to, or undermines, health and education (WHO, n.d.).

FOCUSED GUIDE

Bullying in school adversely affects a child's well-being. The CDC reports that about 1 in 5 high school students reported being bullied on school property. More than 1 in 6 high school students reported being bullied electronically (CDC 2021b).

An important component of the second cranial nerve (optic nerve) exam is testing visual acuity. Functional testing of the optic nerve requires multiple operational assessments to assess the integrity of the nerve. Testing includes evaluation of visual acuity, the visual fields, pupillary light reflexes, the accommodation reflex, and fundoscopy (ophthalmoscopy) (Reese et al., 2023).

Visual acuity is tested using a Snellen eye chart. The Snellen Chart uses a geometric scale to measure visual acuity, with normal vision at a distance being set at 20/20. The numerator represents the distance that the individual is standing from the chart (in feet), while the denominator represents the distance from which a person with perfect eyesight is still able to read the smallest line that the client can clearly visualize. For example, a person standing 20 feet away from the chart who can clearly read until the line of font that a person with normal visual acuity can read from 40 feet away would be measured as 20/40 vision (Azzam et al., 2023).

To assess visual acuity via a Snellen chart, place the client 20 feet away from the chart. Have the client read the smallest line they can see and record the corresponding visual acuity fraction listed beside the row on the chart. Each eye is assessed individually, while the client covers the other eye. Test the weaker eye first, and ensure the client is wearing glasses or corrective lenses they have for distance vision (Reese et al., 2023).

If the individual cannot read the largest (top) line at 20 feet, have them move closer three feet at a time until they can read the top line. Adjust the top portion of the visual acuity fraction accordingly. If the person cannot read the letters at three feet, have them count fingers at a distance of fewer than 3 feet. Testing light perception is the last resort if the person cannot count fingers. Charts with pictures instead of letters can be used for clients who cannot read letters due to language or literacy (Reese et al., 2023).

Healthy People 2030 affirm many people in the United States will have a sensory or communication disorder in their lifetime. This includes problems with vision, hearing, balance, smell, taste, voice, speech, or language. Healthy People 2030 focuses on preventing, diagnosing, and treating these disorders in people of all ages. Many vision problems start before children enter first grade (HP 2030). Sensory or communication disorders can have a major impact on social, emotional, and physical well-being. People who are diagnosed or treated later often have poorer outcomes (HP 2030).

FRAME 5: Take Action

CORRECT ANSWER

Question Type: Drop-Down Cloze

Scoring: 0/1

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

The nurse can advocate for health policy changes by ,

, and

Word Choices
Talking with or writing letter to elected officials
Becoming active with state and national nursing associations
Choosing to not be active unless it involves your own child
Attend public policy conferences to increase awareness of legislative priorities
Post your perspective on health policies on social media

RATIONALE

The National Education Association (NEA) sets legislative priorities and advocates in Congress for federal laws that support public K-12 schools, post-secondary institutions, student learning and educators. Goals for federal legislation are grouped into four main areas:

- **High-Quality Public Education** — Legislative issues designed to address the many factors that impact the quality of public education directly in the classroom or school
- **Supporting Student Success** — Legislative issues intended to create the best possible conditions for all children in support of both their development and education
- **A Voice in the Workplace** — Legislative issues linked directly to some of the most basic employee issues faced by all education employees
- **Good Public Policy** — Legislative issues related to ongoing concerns of national importance to both NEA members and the rest of the nation (NEA, 2023)

In addition to the NEA, state and national nursing associations legislate for school nursing. The American Nurses Association (ANA) has developed and co-published with the National Association of School Nurses, *School Nursing:*

Scope & Standards of Practice, 3rd Edition. This text covers the full extent of nurse practice at all levels and in all settings and roles, including professional competencies, scope of practice, interprofessional collaborations, special needs and environmental health needs and code of ethics specific to school nursing, and a culturally congruent and holistic approach to the nursing process (ANA, 2023). The National Association of School Nurses (NASN) vision is that all students are healthy, safe, and ready to learn.

More information about NASN can be found at <https://www.nasn.org/about-nasn/about>

FOCUSED GUIDE

Public policy and legislation vary from state to state. Engage the students in looking at current policy and legislative priorities. Is there a current legislative priority related to school nursing or to the school nurse role?

Why is it important to have a nurse in every building, all day, every day?

School nurses are often the only healthcare provider in a school. Learn how school nurses care for students in their evolving role (CDC, 2023a). In the United States, more than 40% of school-aged children and teens have at least one chronic health condition, like asthma, diabetes, seizure disorders, food allergies, or poor oral health. Some students with chronic conditions may miss school more often than others, which can affect their academic performance. For these students, school nurses or health centers offer vital help every day in managing their conditions (CDC, 2023a).

School nurses or other school health services staff may also be the first to identify chronic health conditions in students during routine health exams (CDC, 2023a). Additionally, with mainstreaming students with high acuity health care needs and activities at school, medical situations and emergencies that occur that a nurse is educated on triaging and competent to respond.

American Nurses Association (ANA) works to advance the nursing profession and improve health and health care for all in part by educating and forging relationships with members of Congress and congressional staff on both sides of the aisle (ANA, n.d.). State nurses associations advocate and support nurses through public policy and legislation on a state level.

FRAME 6: Evaluate Outcomes

CORRECT ANSWER

Question Type: Multiple Response Select All That Apply

Scoring: +/-

NCSBN Item Type and Scoring: https://www.ncsbn.org/public-files/presentations/2022NCLEX_wmuntean_main_stage.pdf

In addition to preventive care such as flu shots, vision and hearing screening, the role of the school nurse includes

- Acute and emergency care
- Managing chronic health conditions
- Providing service in lunchroom
- Assist with disciplinary actions for students
- Care coordination
- Family engagement
- Health screening

RATIONALE

Acute and emergency care: Injury or illness emergencies can happen at any time including during the school day. Often the school nurse may be the only health professional in the building who is formally trained to respond to a medical crisis. School nurses are also prepared to assist in larger emergency events or disasters that affect multiple students and staff, such as weather-related events, environmental exposures, or violent crimes. In addition, school nurses are also prepared to assist in larger emergency events or disasters that affect multiple students and staff, such as weather-related events, infectious disease outbreaks, environmental exposures, or violent crimes (CDC 2022c).

Managing chronic health conditions: Children and adolescents in the United States spend many hours in school; therefore, those students who have chronic health conditions might have daily challenges with managing their condition. Examples of chronic health conditions are asthma, diabetes, food allergies, poor oral health, and epilepsy or other seizure disorders. Research shows that some students with chronic health conditions may miss school more often than others. Eventually this may have an impact on academic performance. Schools can help students with chronic health conditions by providing services through a school nurse or at a school-based health center. School health services staff can help students stay at school, safely and ready to learn. In addition, federal and state regulations require schools to provide services and accommodations for students with chronic health conditions (CDC 2022c).

Care coordination: Care coordination in schools involves school nurses organizing the care of students by sharing information and maintaining communication among those concerned with the needs and care of students with chronic health conditions. An integrated approach may include families, health care providers, teachers, and administration. Care coordination can provide students with chronic health conditions with the improve medical management, provide more detailed follow-up and linkages to other services, and provide additional resources such as eligibility and enrollment assistance for health insurance. Some students may have an Individualized Education Plan or an

Individualized Health Plan that helps them to learn in an environment that can support their needs. The school nurse plays an important role in establishing these plans (CDC, 2022a).

Family engagement: School health services can engage families of all students so that they are aware of services available at school and how they can benefit their children. In schools where services are minimal or lacking, families can voice their support for increased nursing and health services. Involving families in school health activities can be an important strategy to support students with chronic health conditions because they can encourage schools to provide a healthy environment and health services. These relationships can promote ongoing communication between the school, the family, and health care providers to follow the health care plan for that student. There are several benefits to family engagement in school health services, including health status updates, timely distribution of medication, testing during the school day as needed (e.g., blood sugar levels for diabetic students), and dietary and physical activity considerations (CDC, 2022a).

Health screening: Health screening in schools helps to identify health conditions at an early stage, allowing for interventions that address the symptoms and improve quality of life. Screening for children at risk for social/emotional, language, cognitive, gross and fine motor movement, sensory perception, and mental health concerns allows for earlier intervention and promotes a student's health, development, and learning.

The school nurse does not typically provide service in the lunchroom or assist with disciplinary actions for students.

FOCUSED GUIDE

Health Care Access and Quality is an important part of school nurse's referral network. By connecting students to health insurance and community resources, the parents, school staff, and community can work together to help meet the healthcare needs of students, with chronic health conditions and those for whom the nurse's assessment in the school requires further evaluation (CDC, 2021a).

Healthy People 2030 addresses the importance of increasing core clinical prevention and population health education in nursing schools, nurse practitioner and physician assistant programs, and medical, dental, and pharmacy schools.

The American Association of Colleges of Nursing (AACN) established a cooperative agreement titled *Academic Partnerships to Improve Health* (APIH), with the CDC. APIH focuses on improving the health of individuals and communities through alliances among academic associations and the CDC. The APIH drives the improvement of health outcomes by:

- Working within the educational systems for nursing, public health, and medical students to enhance teaching of population health concepts
- Aligning academic approaches (curricula, teaching materials, or methods) and field experiences with ground-level public health priorities and practice needs
- Fostering inter-professional collaboration and learning in health professional education
- Strengthening academia's linkages to public health practice
- Providing opportunities for hands-on experience for students working with communities and public health partners (AACN, 2023)

Recognition of the importance of population health is essential to decrease health disparities and improve the health of our nation.

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Dr. Dawn Bowker is a nurse practitioner, educator, and researcher with over 40 years of nursing experience. Dr. Bowker is the Director of Nursing Education and Clinical Associate Professor of Nursing at Iowa State University. Dr. Bowker obtained a PhD in Nursing Science from New Mexico State University, a master's degree in Transcultural Nursing and Community from Augsburg University in Minneapolis, and a Women's Health Nurse Practitioner with clinical experience in private and community sectors. Dr. Bowker serves as a transcultural clinician and consultant on cultural discordance issues in the delivery of healthcare and is passionate about population health, public policy, advocacy, and increasing awareness of the impact social determinants of health have on health outcomes. Dr. Bowker is a visionary leader in nursing education with expertise in curriculum development, innovative educational strategies, and integrating social determinants of health and meaningful population-based clinical experiences in nursing curricula.



Karla Kerkove is an experienced educator with a background teaching in associate and baccalaureate degree nursing programs. Karla is a Clinical Assistant Professor at Iowa State University. She received her master's in nursing education and holds two national certifications as a Certified Nurse Educator and Critical Care Nurse. Karla has over 10 years of nursing experience, including intensive care, clinical education, and academic nursing education. She has served as a change agent, developing multiple educational opportunities and leading initiatives to foster the development of both nurses and student nurses. Karla's primary interest in nursing education includes innovative educational approaches, including e-learning, flipped classroom, classroom facilitation, coaching, and enhancing technology in the classroom. Additionally, her passion supports the socialization and development of nursing faculty to support an evolving and diverse future of nursing.