

Ambulatory Care Nursing Simulation Toolkit

Chronic Disease Self-Management: Pediatric Asthma

1. [Development & Background Information](#)
2. [Simulation Set-up](#)
3. [Facilitator Orientation](#)
4. [Facilitation Guide](#)
5. [Information for Acted Roles](#)
6. [Additional Materials](#)
7. [References](#)
8. [Student Guide](#)
9. [Student Observer Form](#)

Acknowledgement: This simulation was developed with support from the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$2,798,890 and with support from Coronavirus Aid, Relief, and Economic Security (CARES) Act supplemental funding totaling \$78,571, with 0 percentage financed with non-governmental sources. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS or the U.S. Government.

1. Development & Background Information

1.1 Purpose

To apply the nursing process to care of a child experiencing acute asthma and self-management education for the child and parent. The focus of the scenario is both on acute management and self-management/family management at home to prevent future exacerbations.

1.2 Learning Objectives

By the end of this simulation-based experience, the learner will be able to...

1. Complete a focused assessment of a child presenting with asthma exacerbation, prioritizing safety and immediate needs, but also attending to patient/family knowledge and ongoing care needs.
2. Integrate varied sources of information, including an organizational care pathway, into planning of immediate and ongoing care for a pediatric patient with asthma.
3. Implement an educational approach that incorporates principles of family-centered care, as well as addressing the parent and child's present knowledge and readiness to learn.
4. Evaluate the effectiveness of family teaching to identify further teaching needs.
5. Describe the roles of varied ambulatory care team members in coordinating the care of a child with a chronic health condition.

1.3 Scenario Development

Author(s):	Diana Taibi Buchanan, PhD, RN
Reviewer(s):	Amy Howells, PhD, RN
Date of initial development:	August, 2020
Last update:	May, 2022

1.4 Brief Summary

In this simulation, students are caring for a 9 year old boy whose parent brought him to the family medicine clinic requesting a visit for asthma exacerbation (they do not have a scheduled visit). The simulation takes place in three acts. The facilitator may choose to have the same student play the nurse in all three acts, or different students. Before the scenario begins, the students are told that the receptionist asked the nurse to check the child to determine if he should be seen right away. There is an available room, and Dr. Jefferies has time to fit the patient in.

In **Act 1**, the student should assess the child's urgent respiratory status (VS, focused respiratory assessment, and use of any inhalers) and apply the Seattle Children's Hospital Asthma Pathway. In **Act 2**, the student will give SBAR report to the provider. The provider will pause to "see the patient" (pause in the scenario, not acted out), then will provide orders to give albuterol and dexamethasone and monitor the patient. In **Act 3**, the student will administer the medications and will provide education to the parent and child.

This simulation is designed so it could be run [in-person](#) or [remote](#) (via video conferencing). Notes throughout this document give instructions for each type of delivery.

1.5 Activity Duration: 90-120 minutes

1.6 Clinical Performance Expectations

General	Metrics
Use Universal Precautions at all times	Washes/Gels Hands
Demonstrate safety check	Identify patient using 2 identifiers Safety Checks
Use effective communication skills	Introduces self, explains role SBAR
Demonstrate understanding of the implications of lifespan development for patient care	Correctly identify developmental stage of childhood Name interpersonal skills appropriate to the developmental stage Incorporate family-centered care into nursing practice and patient education
Scenario Specific	Metrics
Assessment:	Correct pediatric VS and focused respiratory assessment and interpretation
Diagnosis:	Identify nursing diagnoses Apply an asthma critical pathway Prioritize care to attend to safety issues first
Skills:	SBAR
Intervention:	Education with teach-back

1.7 Intended Learners

The Ambulatory Care Nursing Simulation Toolkit was designed primarily for pre-licensure nursing students who have completed foundational courses (i.e., pathophysiology, pharmacology, fundamentals of nursing care, and medical-surgical clinical training). The course is also appropriate for RN residents and for practicing RNs who are new to the ambulatory care setting.

1.8 Skills Required for Learners

Psychomotor skills required prior to the simulation:

- Taking VS on children
- Focused respiratory assessment
- SBAR
- Teach-back
- Use of an inhaler with a spacer

Knowledge required prior to the simulation:

- Pathophysiology and nursing care of asthma in a child
- Self-management guidelines for asthma
- Asthma care pathway
- Family-centered care

2. Simulation Set-up

2.1 Personnel Needed and Responsibilities

- **Simulation Technician:** program manikin before and during simulations (or help to load images during the remote simulation), reset between runs, voices child.
- **Facilitator(s):** provide briefing, facilitate the scenario and debriefing, play an acted role if needed.
- **Actor(s):** A minimum of 2 persons are required to fulfill acted roles (one may be the facilitator if needed). The patient (child) and parent participate in the scenario simultaneously and must be played by 2 persons. The provider may be played by the person who is playing the parent or patient.

2.2 Acted Roles (scripted)

Role	Description
<i>Patient</i>	<p>The patient is Enzo Anderson. He is a 9 year old who is generally healthy except for having the atopic triad – asthma, eczema, and allergic rhinitis. He is having a moderate exacerbation of asthma.</p> <p>In-person: the role will be played by staff voicing a pediatric human patient simulator (HPS).</p> <p>Remote: the role will be voiced by staff and a picture of the child will be shown on-screen as a virtual background.</p>
<i>Parent</i>	<p>Enzo’s parent (Brad Anderson or Marie Ferranti) will do most of the talking and will be voiced by staff or the facilitator. The parent is worried and would like Enzo to be seen as soon as possible. They are confused about the purpose of the inhalers (i.e., rescue vs. maintenance).</p>
<i>Provider</i>	<p>The provider will receive SBAR report and give orders. This role may be played by staff or another student (reading the script).</p>

2.3 Set-up Information

Set-up	Set-up information: In-Person	Set-up information: Remote
Setting Ambulatory care – family medicine clinic	The simulation room should be set up as an outpatient exam room.	Use a picture of a pediatric patient Load “Asthma Simulation PowerPoint.pptx” to screen share images during the simulation: <u>Act 1</u> <ol style="list-style-type: none"> 1. <i>Peds Asthma – VS1</i> 2. <i>Peds Asthma – chest</i> 3. <i>Peds Asthma – home meds</i> <u>Act 2</u> <ol style="list-style-type: none"> 4. <i>Peds Asthma – provider orders</i>

		<p>Act 3</p> <ol style="list-style-type: none"> 5. <i>Peds Asthma – VS2</i> 6. <i>Peds Asthma – VS3</i> <p>Have audio links ready to play for assessments:</p> <ul style="list-style-type: none"> • Wheeze (start at 00:40) - https://youtu.be/n6YMiox1P1k • Normal Lung - https://youtu.be/xnummmeDWrw <p>Open & ready to screen share if used by the student in teaching:</p> <ul style="list-style-type: none"> • Asthma F.A.S.T Facts for Kids • Asthma Action Plan • Authorization to Administer Medication at School 										
Manikin or task trainer	<p>Facilitator or other actor will play the parent. Sim Tech or other actor will voice the pediatric manikin. Use a medium-fidelity pediatric HPS with VS and breath sounds capability. Initial VS settings:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>HR</td> <td>105</td> </tr> <tr> <td>Spo2</td> <td>92%</td> </tr> <tr> <td>BP</td> <td>100/55</td> </tr> <tr> <td>RR</td> <td>30</td> </tr> <tr> <td>Temp</td> <td>98.3°F</td> </tr> </table> <p>Lungs: Expiratory wheezes</p>	HR	105	Spo2	92%	BP	100/55	RR	30	Temp	98.3°F	<p>Facilitator or other actor will play the parent. Sim Tech or other actor will voice the child's part of interactions.</p>
HR	105											
Spo2	92%											
BP	100/55											
RR	30											
Temp	98.3°F											
Other manikin set-up/moulage	<ul style="list-style-type: none"> • Lab coat for the person playing the provider. • The parent has brought home medications: Flovent inhaler and Zyrtec dissolve tabs only (no rescue inhaler). 	<ul style="list-style-type: none"> • Lab coat for the person playing the provider. • Meds shown by screen shared image. 										
General clinical equipment	<ul style="list-style-type: none"> • Stethoscope • VS – via simulation monitor • Have pediatric pulse ox sensor and BP cuff size available. 	<ul style="list-style-type: none"> • Vital signs images shown in screen sharing. 										
Medication & med equipment	<ul style="list-style-type: none"> • Albuterol inhaler • Inhalation spacer 	<ul style="list-style-type: none"> • Albuterol inhaler and spacer to pantomime giving to child. 										

		<ul style="list-style-type: none"> Liquid and med cup to give dexamethasone to the child
Orders and documentation	<p>In Additional Materials, print out:</p> <ul style="list-style-type: none"> Health Record Information Provider orders Authorization to Administer Medication at School <p>Use links to print for patient teaching:</p> <ul style="list-style-type: none"> Asthma F.A.S.T Facts for Kids Asthma Action Plan 	<p>Screen share when needed</p> <ul style="list-style-type: none"> Provider orders image Asthma F.A.S.T Facts for Kids Asthma Action Plan Authorization to Administer Medication at School
Other documents	<ul style="list-style-type: none"> Attendance record – print one per group Actor scripts – printout for use during scenario Observer Form – students should bring 	<ul style="list-style-type: none"> Attendance form – complete one per group Actor scripts – make sure everyone has a script ready, especially if a student plays the provider Observer Form – students should bring

2.4 Fidelity

Type of fidelity	Characteristics of the simulation: In-person	Characteristics of the simulation: Remote
Physical: Setting, patient/actors, and props are used to create realism.	<ul style="list-style-type: none"> The simulation room will be set up to appear as an outpatient clinic. Separate actors will play the parent and child. Students will perform care planning based on their actual patient assessment. 	<ul style="list-style-type: none"> Background image of the child, with the parent acted by an on-screen person.
Conceptual: Elements of the scenario relate in a realistic way.	<ul style="list-style-type: none"> Students will use a real care pathway. Students will be expected to obtain real patient education materials and will use actual clinical guidelines for decision-making. The case was modeled on commonly encountered problems (e.g., misunderstanding of inhalers). 	
Psychological: Contextual elements. E.g., noise, lighting, distractions, time pressure, etc.	<ul style="list-style-type: none"> Home medications will be “brought” by the parent (in a bag or shown on-screen). Scripting will allow for actual conversations for assessment and education. 	

3. Facilitator Orientation

3.1 Scenario Overview (with correct treatment decisions– do not share with students):

In this simulation, students are caring for a 9 year old boy whose parent brought him to the family medicine clinic requesting a visit for asthma exacerbation (they do not have a scheduled visit). The simulation takes place in three acts. The facilitator may choose to have the same student play the nurse in all three acts, or different students. Before the scenario begins, the students are told that the receptionist asked the nurse to check the child to determine if he should be seen right away. There is an available room, and Dr. Jefferies has time to fit the patient in.

- In **Act 1**, the student should assess the child (VS, focused respiratory assessment, and use of any inhalers) and apply the Seattle Children’s Hospital Asthma Pathway. Students are expected to identify that the child is in tripod posture, respiratory rate 28, counts to 8 in one breath (i.e., not able to count to 10), and has expiratory wheezes. That is 5 points on the Respiratory Score. The student should also do medication reconciliation and discover that there is no albuterol/rescue inhaler or spacer, and that the parent have the long-acting corticosteroid thinking that it was the rescue inhaler.
- **Act 2**, the student will give SBAR report to the provider. The script will cue the provider to ask about key points if these are not addressed. The provider will pause to “see the patient,” then will provide orders to give albuterol and dexamethasone, to monitor the patient, and to educate the parent and child on meds that will be given on discharge (albuterol MDI, fluticasone MDI, dexamethasone).
- **Act 3**, the student will administer the albuterol MDI and dexamethasone medications. In-person, students will get these medications from the med room. Online, students will talk through the steps. The student will provide education to the parent and child on asthma management; medications, side effects, and importance of using a spacer (albuterol as the rescue inhaler, fluticasone for maintenance, dexamethasone for the exacerbation); and when to return or seek urgent care.

3.2 Facilitator Requirements and Preparation

The facilitator must be competent in the appropriate simulation skills (i.e., briefing, acting in a simulation, and debriefing).

The facilitator should review the full simulation guide (i.e., this document). The facilitator also should review the readings/videos assigned in the Student Guide to incorporate teaching points in briefing and debriefing. Key topics include basic asthma pathophysiology and management; use of the asthma pathway; assessment of asthma signs, symptoms, and risk factors; and family education.

3.3 Level of facilitation during the scenario - Medium

Students should have completed their medical-surgical clinical rotation prior to participating in this simulation. They might need some help interacting with simulation elements, but they should be independent in clinical care as much as possibly during the scenario.

3.4 Simulation evaluation

This simulation was developed as part of a HRSA-funded Nursing Education, Practice, Retention, and Quality Research (NEPQR) project. We request that schools using this simulation ask students to complete the online evaluation form after they have participated in the simulation (including those who were observers). This evaluation includes the Simulation Effectiveness Tool-Modified (SET-M) and evaluation of the learning outcomes using the SET-M scale. We will gladly share evaluation data with schools at which the students are located, upon request (email (email Nicole Summerside at nicoles1@uw.edu)).

Online evaluation URL: https://docs.google.com/forms/d/e/1FAIpQLSeT5-xG5vHpPzHG3txIdb7FiTrGRMOQ-3PhI4Kc8Y4qCAx9nQ/viewform?usp=sf_link

4. Simulation Facilitation Guide

4.1 Simulation Scenario Suggested Timeline

Time	Event
10 minutes	Table time: learning objectives, learning preparation & essential scenario information.
20 minutes	Simulation Scenario – Acts 1 & 2 (assessment & SBAR)
10 minutes	Debriefing on SBAR and prioritization of interventions
20 minutes	Simulation Scenario – Acts 3 (medication administration & family teaching)
30 minutes	Debrief whole scenario

4.2 Briefing

- a. **Greet the group and establish a safe learning environment.**
 - a. Review the [Basic Assumption™](#) of simulation: “We believe that everyone participating in activities at (your organization’s name) is intelligent, capable, cares about doing their best and wants to improve.” Review the simulation agreement if you have one.
 - b. Remind them of the ground-rules of simulation: full participation, professional behavior, and confidentiality. Establish a fiction contract. Learners are to engage in a respectful manner, honoring diversity of thought and of personal background.
 - c. **Remote:** If the simulation is conducted over video conferencing, orient the learners to expectations pertaining to communication etiquette and use of audio, video, and mute functions.
- b. **Purpose of the Simulation (read to students).**

“The purpose of this simulation is apply the nursing process to care of a child experiencing acute asthma and self-management education for the child and parent. The focus of the scenario is both on acute management and self-management/family management at home to prevent future exacerbations.”
- c. **Learning Objectives briefly.**

The purpose of reviewing the learning objectives is to orient the students just enough that they know what to the simulation. Not all facilitation prompts need to be reviewed; select as needed.

 1. Complete a focused assessment of a child presenting with asthma exacerbation, prioritizing safety and immediate needs, but also attending to patient/family knowledge and ongoing care needs. **Facilitation prompts:** *What will be the focus of your assessment? [If not identified, make sure students consider VS, breath sounds and respiratory effort, and medications used prior to arrival]. How will you balance addressing immediate needs with longer term self-management needs? [Students should consider when such assessment and teaching should occur in the context of an acute exacerbation.]*
 2. Integrate varied sources of information, including an organizational care pathway, into planning of immediate and ongoing care for a pediatric patient with asthma. **Facilitation prompts:** *How*

would you use the care pathway to guide your practice? Is there anything not on there that you would be thinking about? [i.e., patient/family knowledge and education are not addressed.]

3. Implement an educational approach that incorporates principles of family-centered care, as well as addressing the parent and child's present knowledge and readiness to learn. **Facilitation prompts:** *How would you approach teaching this child and parent? What are some developmentally appropriate approaches for the child?*
4. Evaluate the effectiveness of family teaching to identify further teaching needs. **Facilitation prompts:** *How would you know if your teaching was effective? What could you do if it is not? [e.g., ask the parent and child how they best learn, try a different approach, etc.]*
5. Describe the roles of varied ambulatory care team members in coordinating the care of a child with a chronic health condition. **Facilitation prompts:** *Who might be involved in this patient's ongoing care?*

d. Expectations

"You'll initially assess the patient and talk to the parent to make a nursing judgment on the urgency of care, using the Seattle Children's asthma pathway. After your assessment, you'll give SBAR report to the provider. We'll take a quick pause in which we assume the provider sees the patient, then the provider will give orders. Finally, you'll carry out the provider's orders and provide teaching to the patient and child. Right after the scenario, we'll debrief."

e. Assign roles

Student/learner roles (unscripted)

Role	Description
Nurse	One or more student will play the nurse (the facilitator may choose to change the student in the nurse role for Act 2 and/or 3). The nurse will collect assessment data on the patient, present an SBAR to the provider, and implement treatment, teaching, and reassessment.
Observers	Observers will complete the observer form and will participate in debriefing.

f. Orientation to manikin and space

What should be done "for real" (e.g., VS, making phone call)	<p>In-person: You will collect vital signs on the manikin. Place the BP cuff and pulse ox, then use the monitor to run VS. You'll actually count respirations on the manikin. You'll also listen to breath sounds and speak with the patient. You can ask about things that the manikin can't simulate like posture. You will get any medications from the med room and prepare them using best practices. Use the provider orders since we don't have an EHR for this simulation. You'll just pretend to give medications when you arrive at that step.</p> <p>Remote: State what you are assessing and we will either display results or tell you what the results are. If you are to give any medications, talk through the steps of obtaining these and doing your checks. Then talk to the parent and child as you normally would when giving medications.</p>
What do observers do?	Observers should complete the Observer Form. Notes will be used to participate in debriefing.

g. Clinical Case Background/Learner Brief – to be read to the students immediately before the simulation scenario

“You are working in a family medicine primary care clinic. It’s mid-morning. The receptionist asks you to take a look at child in Room 4. The parent brought the child in for asthma and seems very worried. Dr. Jeffries will have time after his/her current appointment, but the receptionist feels that it would be safest to have a nurse check the child right away. You start the scenario by going in to meet the parent and child.”

4.3 Simulation Facilitation & Operation: Scenario Progression Outline

Act, Timing (approx.)	Technical Notes	Student Performance Expectations	Facilitator Notes										
<p>Act 1 (10 min)</p>	<p>In-person: Manikin in chair sitting next to parent.</p> <table border="1" data-bbox="373 380 627 586"> <tr> <td>HR</td> <td>105</td> </tr> <tr> <td>Spo2</td> <td>92%</td> </tr> <tr> <td>BP</td> <td>100/55</td> </tr> <tr> <td>RR</td> <td>28</td> </tr> <tr> <td>Temp</td> <td>98.3°F</td> </tr> </table> <p>Remote: Set Virtual Background – <i>Peds Asthma Background</i> Images in PPT to screen share when needed:</p> <ul style="list-style-type: none"> • <i>Peds Asthma – home meds</i> • <i>Peds Asthma – VS1</i> • <i>Peds Asthma – chest retractions</i> <p>Sounds:</p> <ul style="list-style-type: none"> • Auscultation – play “Wheeze” audio (at time mark 00:40). 	HR	105	Spo2	92%	BP	100/55	RR	28	Temp	98.3°F	<ul style="list-style-type: none"> • Introduce self • Use 2 patient identifiers • Hand hygiene (state for remote) • Get vital signs • Perform focused respiratory assessment • Obtain symptom history • Medication reconciliation (discover missing albuterol & spacer, and misuse of fluticasone). • Asthma score is 5. • Place on pulse ox. • No need for O2 (>90%) 	<p>To start the scenario as parent: “Hi, thanks for seeing us so quickly. I’m so worried. Enzo has never had wheezing like this.”</p> <p>Actor Info for playing parent (see script for more info):</p> <ul style="list-style-type: none"> • Generally pleasant but worried about son. • If asked about medicine, show one inhaler, “this is all he takes right now”. You do not have another inhaler or spacer. • Symptoms: son seems tired, out of breath. You can hear wheezing. • History: just diagnosed with asthma a year ago.
HR	105												
Spo2	92%												
BP	100/55												
RR	28												
Temp	98.3°F												
<p>Act 2 SBAR (5 min)</p>	<p>In-person: Make sure the nurse and PCP are audible to observers.</p> <p>Remote: PCP on-screen.</p>	<p>Example SBAR:</p> <p>S: 9 y/o boy brought in for asthma exacerbation, parent is very worried.</p> <p>B: A&O, short of breath. HR 105, RR 28, BP and temp normal, O2 92%. Resp score 5 based on RR 28, counts to 8 in one breath, and wheezing throughout expiration. Has only fluticasone inhaler, child and parent used this as rescue inhaler. No spacer or other meds.</p> <p>A: acute asthma exacerbation, need for better ongoing management.</p>	<p>A student can play the PCP to receive the SBAR report. The PCP might need to ask, “do you have any ideas for the plan of care?” if the student does not offer recommendations.</p> <p>After SBAR say, “ok, I have the time to see them now.” Pause, then proceed: “You’re right, I’d say the Resp score is 5. Let’s give 8 puffs of albuterol with the spacer. Work with him to make sure he understands how to do it. We’ll also give</p>										

		<p>R: medicate following asthma pathway & reassess, provide albuterol inhaler and spacer, provide educational materials and teaching. Follow up nurse call in a few days to reassess understanding of asthma care.</p>	<p>some dex. I'll put in the order. They definitely need some teaching and follow up. Mom/dad also says he can't have the inhaler at school, so let's get them an authorization form for that."</p> <p>If in-person, give the nurse the orders and Authorization to give Medication at School.</p> <p>If remote, show the provider orders in screen sharing.</p>																		
<p>Act 3 (10 min)</p>	<p>In-person: VS below for recheck soon after albuterol, then in 45-60 min (can "fast-forward" time).</p> <table border="1" data-bbox="373 704 764 979"> <thead> <tr> <th></th> <th>After albuterol</th> <th>After "45 min"</th> </tr> </thead> <tbody> <tr> <td>HR</td> <td>100</td> <td>90</td> </tr> <tr> <td>Spo2</td> <td>95%</td> <td>97%</td> </tr> <tr> <td>BP</td> <td>100/55</td> <td>102/58</td> </tr> <tr> <td>RR</td> <td>24</td> <td>22</td> </tr> <tr> <td>Temp</td> <td>98.2°F</td> <td>98.3°F</td> </tr> </tbody> </table> <p>Breath sounds: clear after albuterol given</p> <p>Remote: images for when needed</p> <ul style="list-style-type: none"> • <i>Peds Asthma – VS2</i> (after albuterol) • <i>Peds Asthma – VS3</i> (45 min recheck) • Auscultation – play "Normal Lung" audio 		After albuterol	After "45 min"	HR	100	90	Spo2	95%	97%	BP	100/55	102/58	RR	24	22	Temp	98.2°F	98.3°F	<ul style="list-style-type: none"> • Prepare and give the medicines using the 5 rights (person, drug, dose, route, time) and 3 checks (when taking from drawer, when closing drawer, just before giving). • Provide education on proper inhaler use with spacer, purpose of the rescue and maintenance inhalers, purpose and side effects of dexamethasone, and when to follow up or seek urgent care. • Provide Authorization to Administer Medication at School • If time, reassess VS, breath sounds, and asthma score. 	<p>Parent script points:</p> <p>Albuterol:</p> <ul style="list-style-type: none"> • "That seems like a lot of puffs. Is that ok?" <p>Ask if the nurse doesn't explain...</p> <ul style="list-style-type: none"> • Purpose of dexamethasone • Purpose of spacer. "I think we had one of those. Is it important?" • Difference between the inhalers. • "How do I know if it's really serious, like when to come back or go to the ER?" • If the school form is not mentioned, ask about it (say the doctor mentioned it).
	After albuterol	After "45 min"																			
HR	100	90																			
Spo2	95%	97%																			
BP	100/55	102/58																			
RR	24	22																			
Temp	98.2°F	98.3°F																			

4.5 Debriefing

LET THE STUDENTS DO MOST OF THE TALKING

First, invite only active scenario participants to debrief, and ask observers to wait to speak until later in the debriefing. Remind students that simulation performance and debriefing are confidential. Briefly review the learning objectives.

Reaction Phase

1. How would you describe your experience? (Alternatively, “How did you feel during the scenario?”)

Analysis

Plus/Delta questions

2. What worked well? What would you do again?
3. If you could do this scenario again, what would you do differently?

Scenario-Specific Questions: Assessment & Planning

4. Was the care pathway useful to your nursing care? How so? How could it have been more useful?
5. How did the assessment inform your plan of care? What was the most important data you gathered? Is there anything else you would want to know that you didn’t assess?
6. What are your top concerns for the safety of this patient? (e.g., timely care for exacerbations, correct medication use, not sharing medications.)
7. What were your most important concerns for long-term management? (Students should identify proper medication use, reduction of triggers, and appropriate medication access at school).

Scenario-Specific Questions: Collaboration and Care Delivery

8. How did the SBAR go? Is there anything you’d change about it?
9. Who else might be part of the team involved in the care of this child? (Other family members, school nurse, teachers).
10. What are ways in which ambulatory care can continue to support this patient moving forward?

Scenario-specific Questions: Teaching and Self-management

11. How did the teaching go? What went well? What would you have done differently?
12. What are some strategies you used in teaching the parent and child?
13. How did you decide on your approach to teaching the child? How would you include development into your planning? How would you balance the child and parents’ responsibilities?

Application

14. How would you summarize your experience? What are your “take aways”?

5. Acted Roles

Scripts:

1. Patient
2. Parent
3. Provider

Acted Role: Patient

Description of the patient	9 year old boy, average height, average weight.
Mood, demeanor, approach to responding to questions	Tired, a little moody. Irritated that you can't breathe well. Just a little short of breath when answering questions (can get through most of a sentence, but not the whole thing before you have to breathe).
Relationship with person present	Close relationship with your mom/dad.
Response to other questions	"I don't feel good. Maybe Mom/Dad can tell you more."
Patient History	
Personal History	In 4 th grade. Enjoy your friends.
Social History	You play outside and play video games a lot. On a little league team but sometimes it is hard to participate with asthma.
Family History	Parents are divorced for 4 years. Live with current parent and 12 year-old sister (with other parent now).
Past Medical History	If asked about your medical history... <ul style="list-style-type: none"> • I have lots of allergies • Sometimes I get rashes. Mom/dad uses cream on it. • "I've had lots of ear infections. I had tubes a couple of times when I was little. They took out my tonsils too. I was mad because I missed Halloween."
Medications	You don't know. Sometimes you take an inhaler for your asthma but it doesn't seem to help. And sometimes your parent gives you the pill that dissolves in your mouth.
Allergies	No drug allergies

Acted Role: Parent

Relationship to patient	Mother (Marie Ferranti) or father (Brad Anderson). You have a warm relationship with your son, Lorenzo “Enzo” Anderson (DOB 8/1/20XX – 9 years old).
Role in the scenario	You brought the child in without an appointment because you are worried about his wheezing. Your role is to provide information to guide the student’s decision-making, but try to let the student ask before offering information. The main things the student should discover are: <ol style="list-style-type: none"> 1. You’re confused about the inhalers and have been having Enzo use Flovent as a rescue inhaler (and not using it daily). 2. A recent trigger might be that the other parent moved to a new house that Enzo thinks smells moldy. The other parent also smokes (outside, but the smoke on clothing might be partially triggering the asthma).
Mood, demeanor	You are pleasant but worried. You’ll do most of the talking in the scenario, but do include Enzo if the nurse is <i>only</i> talking to you (e.g., “Did that make sense to you, buddy?” or “How are you feeling now?”).
Act 1 – assessment	<ul style="list-style-type: none"> • Appreciative for being seen so soon. • Worried about why the medicine isn’t working (don’t realize that you’re using the maintenance inhaler instead of the rescue inhaler). • This “asthma attack” started this morning and isn’t getting better. • Seems to have had more asthma in the past few weeks. “Maybe we need to try Zyrtec again”. • Only if asked about smoking – you don’t smoke, but the other parent does (smokes outside on the porch). • You are not aware of any asthma triggers in the home (mold, etc.) except perhaps wall-to-wall carpet. The other parent just moved to a new house, and Enzo thinks it might be moldy.
Act 3 – treatment & teaching	<p>When the nurse is giving the medicines:</p> <ul style="list-style-type: none"> • You are agreeable to teaching about the albuterol. “I didn’t know the inhalers were different. I feel so bad that I’ve been having him use the wrong thing!” • If the nurse doesn’t explain the higher-than-usual amount of albuterol, ask, “That seems like a lot of puffs. Is that ok?” <p>If the nurse doesn’t resume teaching, you can say, “Ok, I’m ready to learn more about what to do. I want to get this right.” Ask if the nurse doesn’t explain...</p> <ul style="list-style-type: none"> • Purpose, dosing, and side effects of dexamethasone • Purpose of spacer. “I think we had one of those. Is it important?” • Difference between the inhalers. • “How do I know if it’s really serious, like when to come back or go to the ER?”

	<ul style="list-style-type: none"> If the school form is not mentioned, ask about it (say the doctor mentioned it).
Child's History	
Personal History	Enzo is 4 th grade. Enjoys his friends.
Social History	Enzo plays outside and loves video games (you think he plays too much). He is on a little league team but sometimes it is hard to participate with asthma.
Family History	You also have a 12 year old daughter (with her father at present). You are divorced from the children's father/mother (4 years) but have a civil relationship and share custody.
Past Medical History	<p>If asked about Enzo's medical history...</p> <ul style="list-style-type: none"> Allergic to mold, dust mites, pollen Atopic dermatitis (sometime use OTC cortisone cream) Recurrent otitis media (last episode 3 months ago) Tympanostomy at age 2 and 4 Tonsillectomy/adenoidectomy at age 4
Medications	<p>You have "his inhaler" that you give him when he has "asthma attacks." It is fluticasone (Flovent). You remember "the orange" inhaler but didn't realize that it was different.</p> <p>You sometimes give him Zyrtec dissolvable tablets (10 mg once daily) "if his allergies seem bad".</p>
Allergies	Enzo has no drug allergies

Acted Role: Provider

Instructions: You are a physician working in a family practice care clinic. You will receive SBAR report from the nurse in Act 2, when the nurse has completed their assessment. You are friendly and collaborative. You should probe for details that the nurse might have missed in assessment or forgotten to mention. See cues below.

The following information is expected in the SBAR. Ask the nurse questions if the items are omitted.

SBAR	Ideal Report Content	Provider Questions
Situation	The patient is Lorenzo Anderson, goes by “Enzo”. He’s a 9 year old whose parent brought him in without an appointment for acute asthma exacerbation.	
Background	<ul style="list-style-type: none"> • A&O, short of breath. • HR 105, RR 28, BP and temp normal, O2 92%. • Resp score 5 based on RR 28, counts to 8 in one breath, and wheezing throughout expiration. • Has only fluticasone inhaler, child and parent used this as rescue inhaler. No spacer or other meds. • More asthma in the past 3-4 weeks. • Maybe some allergens in the home (carpet) and school (moldy building) 	Ask about missed items <ul style="list-style-type: none"> • Vitals • Respiratory score • How’s the asthma been lately? • Triggers • Use of rescue inhaler
Assessment	Acute asthma exacerbation, need for better ongoing care related to environmental triggers and medical management.	
Recommendation	The nurse should commit to some specific recommendation. The following are potential recommendations: <ul style="list-style-type: none"> • medicate & monitor following asthma pathway • reassess in an hour • provide albuterol inhaler and spacer • provide educational materials and teaching on medicines and environmental triggers • follow up nurse call in a few days to reassess understanding of asthma care 	If no recommendation given, ask “what is your recommendation for this patient?”

After the SBAR report say, “Thanks, I actually have a few minutes right now. I’ll take a quick look to see if we should get a treatment started.”

Pause and say, “I just examined Enzo. I agree with your assessment. He’s wheezing a lot, and they really need some teaching about asthma. I’m entering orders for albuterol MDI, 8 puffs with a spacer. Coach him on using that – I don’t think he remembers. We’ll also give a course of steroids, so I’m putting in for some dex. He’ll take the second dose at home in 24 hours. Let’s keep him here for a bit and recheck him. Mom/dad also said that he wasn’t allowed to have the inhaler at school. I’ll sign an authorization form for that. Let’s have a nurse call in a few days to check how he’s doing and see if they understood the teaching.” If the simulation is in-person, give the nurse the two forms (Provider Orders, and Authorization to Administer Medication at School).

6. Additional Materials

Other materials this document: (if **remote**, use separate files for screen sharing as indicated in the guide):

1. Patient Health Record Information
2. Provider orders
3. Attendance Form (Print one for every group going through the simulation. There are only 10 rows because simulation groups may not exceed 10 students)

Additional materials available by web links or separate files:

1. [Asthma F.A.S.T Facts for Kids](#)
2. [Asthma Action Plan](#)
3. [Authorization to Administer Medication at School](#)

Health Record Information

DOB: 8/1/20XX (9 years old)

Height: 54 in

Weight 66 lb

Medications and Allergies:

- No known drug allergies
- Current medications
 1. Albuterol MDI (90 mcg/puff), 2 puffs every 4-6 hours as needed for symptoms
 2. Fluticasone MDI (110 mcg/puff), 1 puff twice daily
 3. Hydrocortisone cream, 10%, apply to affected area 2 times per day as needed
 4. Cetirizine dissolvable tablet, 10 mg once daily

Medical History:

- Allergic to mold, dust mites, pollen
- Atopic dermatitis
- Recurrent otitis media (last episode 3 months ago)
- Tympanostomy at age 2 and 4
- Tonsillectomy/adenoidectomy at age 4

Family:

- Has 12 year old sister, history of seasonal allergies

Provider Orders

Albuterol MDI (90 mcg/puff), 8 puffs with spacer now

Dexamethasone (0.6 mg/kg), 2.6 mL by mouth now

Discharge orders

Albuterol MDI (90 mcg/puff), 2 puffs every 4-6 hours as needed for symptoms

Fluticasone MDI (110 mcg/puff), 1 puff twice daily

Dexamethasone solution (0.5mg/5 mL), 2.6 mL by mouth, give 24 hours after first dose

Follow up with RN in 3 days

**Chronic Condition Self-management: Pediatric Asthma
Attendance Sign-in**

Print one page per learner group.

Date: _____ **Group** _____

Name	Role	<i>Instructor use – prep done?</i>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>
	<input type="checkbox"/> Observer <input type="checkbox"/> Nurse <input type="checkbox"/> Other	<input type="checkbox"/>

7. References Used in Scenario Development

- American Academy of Ambulatory Care Nursing. (2017). *Ambulatory care registered nurse residency program: Transition to the specialty of ambulatory care*. Pitman, NJ: AAACN.
- Asthma*. (March 24, 2022). National Heart, Lung, and Blood Institute. Retrieved from <https://www.nhlbi.nih.gov/health-topics/asthma>.
- INACSL Standards Committee. (2021). Healthcare Simulation Standards of Best Practice™. *Clinical Simulation in Nursing*, <https://doi.org/10.1016/j.ecns.2021.08.018>.
- Laughlin, C. B., & Witwer, S. G. (Eds.). (2019). *Core curriculum for ambulatory care nursing* (4th edition). American Academy of Ambulatory Care Nursing.
- Marquess, N. J., & Shen, C. (April, 2020). *Pediatric asthma management* [Lecture]. 31st Annual Pacific Northwest Ambulatory Care Nursing Conference, Seattle, WA.
- National Heart, Lung, and Blood Institute. (2012). *Asthma care quick reference: Diagnosing and managing asthma*. Retrieved August 14, 2020 from <https://www.nhlbi.nih.gov/sites/default/files/publications/12-5075.pdf>
- Seattle Children's Hospital. (April, 2020). *Asthma v7.0* [Care pathway]. Retrieved August 14, 2020 from <https://www.seattlechildrens.org/pdf/asthma-pathway.pdf#:~:text=Phase%20Change%20by%20Respiratory%20Score%20is%20the%20standard,%C2%B7%20Provider%20to%20assess%20pt%20every%202-3%20hrs>

Chronic Condition Self-management: Pediatric Asthma: Student Guide

Please be sure to complete the [online evaluation](#) after your simulation session!

The **purpose** of this simulation is for students to apply the nursing process in providing nursing care and education for a child experiencing acute asthma. The focus of the scenario is on both acute management and self-management/family management at home to prevent future exacerbations.

Learning Objectives

By the end of this simulation-based experience, the learner will be able to...

1. Complete a focused assessment of a child presenting with asthma exacerbation, prioritizing safety and immediate needs, but also attending to patient/family knowledge and ongoing care needs.
 2. Integrate varied sources of information, including an organizational care pathway, into planning of immediate and ongoing care for a pediatric patient with asthma.
 3. Implement an educational approach that incorporates principles of family-centered care, as well as addressing the parent and child's present knowledge and readiness to learn.
 4. Evaluate the effectiveness of family teaching to identify further teaching needs.
 5. Describe the roles of varied ambulatory care team members in coordinating the care of a child with a chronic health condition.
-

Expectations

Learners are expected to arrive having (1) fully reviewed this student guide, (2) completed the assigned readings and videos, and (3) completed the application questions. All students are expected to have the first 2 pages of the [Seattle Children's Hospital Asthma Pathway](#) ready to use (if assigned the nurse role) or follow along (if an observer). Students are also expected to have the Observer Form to complete should they be assigned that role.

The clinical scenario will be an unscheduled family clinic visit with a 9 year old boy experiencing an asthma exacerbation, and his accompanying parent. You'll initially assess the patient and talk to the parent to make a nursing judgment on the urgency of care, using the Seattle Children's asthma pathway. After your assessment, you'll give SBAR report to the provider. We'll take a quick pause in which we assume the provider sees the patient, then will give orders. Finally, you'll carry out the provider's orders and provide teaching to the patient and child.

The briefing, scenario, and debriefing will take about 90 minutes.

Topics

- Asthma
 - Care pathway
 - Pediatric care
 - Family-centered care
 - SBAR communication
 - Medication administration (oral and inhaled)
 - Patient teaching
-

Preparation (Readings and Videos)

For this simulation, you will need to be generally familiar with treating an acute asthma exacerbation and managing chronic asthma. The preparation materials are listed below, along with how you should focus as you review these materials

Asthma assessment & treatment

- *Asthma*. (March 24, 2022). National Heart, Lung, and Blood Institute. Retrieved from <https://www.nhlbi.nih.gov/health-topics/asthma>. This website is oriented toward educating patients, but it provides an excellent overview of asthma, including treatments. As you review the website, think about how you would also use this information in teaching a parent and child. Make sure you clearly understand the purpose of short term and controller medications (under “Treatment”).
- Seattle Children’s Hospital [Asthma Pathway](#). Read pages 1, 2, and 6 (“Criteria and Respiratory Score”, “ED Management”, and “Respiratory Scoring Tool”). You will apply this pathway during the scenario for planning acute care management. It is optional to skim the remainder.

Patient Education Materials – In addition to reviewing the NHLBI Website linked above, review the materials listed below to be prepared to provide patient education.

- *How to use your inhaler correctly*. (March 7, 2018). Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/asthma/inhaler_video/default.htm. You only need to review the first video, *Using a Metered Dose Inhaler with a Spacer*.
 - *Asthma FAST facts for kids*. (n.d.). Centers for Disease Control and Prevention. Retrieved from https://www.cdc.gov/asthma/pdfs/kids_fast_facts.pdf. Review this sheet to strategize how you would provide teaching to a child.
 - *Asthma action plan*. (April, 2007). National Heart, Lung, and Blood Institute. Retrieved from <https://www.nhlbi.nih.gov/sites/default/files/publications/07-5251.pdf>. Review this guide for an understanding of chronic asthma management. Page 1 focuses on medication, and Page 2 focuses on environmental triggers.
-

Pre-simulation Reflection Questions

1. What are some strategies you could use to build rapport and enhance **communication** with a 9-year-old patient? How would you balance your attention to the parent versus the patient?

You will apply the **nursing process** to all telehealth encounters. The questions below will prepare you for an organized approach to the patient care scenario.

2. What **assessment** data would you want to collect regarding the parent’s primary concern about the patient? What would you want to know immediately for treatment of the child versus information for chronic management?
3. When **implementing** the nursing intervention, what are your top priorities? What are your longer term priorities?
4. How would you approach **teaching** the parent and child? What strategies would you use? How would you engage them as active partners in their care?
5. How would you **evaluate** the outcomes of the nursing intervention during this patient encounter?
6. What **follow-up care** would be appropriate for chronic care management?
7. What would you want to **document** after the visit?
8. Complete a brief **Medication Administration Record (MAR)** on the following drugs so you are ready to work with these in the simulation.

<u>Medication</u> <i>Name, Dose; Frequency; Schedule, Route</i>	<u>Drug Class/ Mechanism Of Action</u>	<u>Medications Purpose for this Patient</u>	<u>Nursing Considerations (adverse effects, contraindications, monitoring</u>
Albuterol MDI (90 mcg/puff), 2 puffs every 4-6 hours as needed for symptoms			
Fluticasone MDI (110 mcg/puff), 1 puff twice daily			
Dexamethasone solution (0.5mg/5 mL), 2.6 mL by mouth, give 24 hours after first dose			

Observer Form

Learners who are not active participants in the scenario are expected to complete an Observer Form. Observers' insights offer key learning opportunities during debriefing. Have this form ready to fill out during the scenario.

Chronic Condition Self-management: Pediatric Asthma: Student Observer Form

Instructions: This Student Observer Form is to help you apply critical thinking as you watch the simulation and to prepare you to actively participate in the debriefing. As you observe, complete the checklist based on are the simulation learning objectives and take notes on the debriefing questions.

Performance	Notes (What went well? What could have gone differently?)
<input type="checkbox"/> Learning Objective 1: Complete a focused assessment of a child presenting with asthma exacerbation, prioritizing safety and immediate needs, but also attending to patient/family knowledge and ongoing care needs.	
<input type="checkbox"/> Learning Objective 2: Integrate varied sources of information, including an organizational care pathway, into planning of immediate and ongoing care for a pediatric patient with asthma.	
<input type="checkbox"/> Learning Objective 3: Implement an educational approach that incorporates principles of family-centered care, as well as addressing the patient and child’s present knowledge and readiness to learn.	
<input type="checkbox"/> Learning Objective 4: Evaluate the effectiveness of family teaching to identify further teaching needs.	
<input type="checkbox"/> Learning Objective 5: Describe the roles of varied ambulatory care team members in coordinating the care of a child with a chronic health condition.	