

Hattie's Heart

Planning Notes:

- 1) **Teams:** 4-5 students
- 2) **Length:** 2-3 class periods (45-75 minutes each)
- 3) **Resources:** Student workbook; Computers/Internet for research and preparing presentation

INTRODUCTION:

Hattie is a 68-year old retiree living in a rural community. She has been experiencing some minor chest pain and other symptoms for a few days, but she has gotten used to little aches and pains coming and going in her older age so she doesn't get too worried. When her chest pain worsens, she reluctantly agrees to make the 30-minute trip to the doctor upon her husband's prodding.



Lesson 6.9, focusing on the OPQRST symptom interview will be an important preparation for this case study. Encourage students to use their workbook and notes!

GOAL:

Collect a complete Subjective patient history for Hattie and determine if emergency medical response is required.

ROLE:

You are a team of health care professionals working at a health clinic in a small town, located in a large rural county. You are all primary health care providers.

OBJECTIVE:

Obj 6.10a: Identify OPQRST subjective data in a patient case scenario.

Obj 6.10b: Deliver health information to a target audience in a clear, compelling, and accurate way.

DELIVERABLES:

- 1) SOAP Note
- 2) Heart Attack Symptoms Intervention
- 3) Presentation

NHES STANDARDS:

6.12.1: Assess health practices and overall health status

8.12.4: Adapt health messages and communication techniques to a specific target audience

Health Care Provider Roles:

Determine the role of each team member on the patient care team:

| Role | Description | Team Member |
|-------------------------------------|--|-------------|
| Nurse (RN) | Takes vitals & measurements (request from instructor); interviews patient initially (SAMPLE); helps coordinate treatment plan | |
| Primary Care Physician (PCP) | Asks questions, focusing on OPQRST; consults with other health care professionals to make final diagnosis; helps coordinate treatment plan | |
| Health Educator | Helps communicate information about health status, possible risk factors, and treatment plan | |
| Pharmacist | Helps reinforce health information; checks drug interactions; helps patient understand plan and maintain compliance | |

Ask students which of these roles would be common in a rural health setting. Ask what other roles they might add to this list. Allow students to choose roles that interest them most. The roles are not essential as all students will be responsible for all parts of the case, but will allow them to divide the tasks and consider how teamwork is accomplished in the healthcare setting.

Case Introduction:

Many of these details may not end up being completely relevant to the specific diagnosis, however solving a mystery like this requires that students are tracking all clues like sleuths, so at first, none should be overlooked!

Hattie is a spunky and stubborn 68-year-old, married for 40 years to the doting and selfless Otis. They live on a 10-acre farm outside of a small town with a population of 12,000. Hattie, a former bank clerk, has been retired for six years, while her husband sold his small business, a fishing bait and tackle store, just three years ago. They have enjoyed retirement so far, but keep mostly to their home sharing their love for crossword puzzles, reading, good television shows, and Scrabble. Hattie also loves to sew and quilt and makes many gifts for her seven grandchildren and four children.

Her hobbies are largely sedentary. A sedentary lifestyle is a risk for heart disease.

Hattie considers herself to be in fairly good health for someone her age. She makes sure to visit the doctor annually, and although she knows the doctor will talk about her need to lose weight and quit smoking, she usually maintains a positive attitude about these visits. She has tried to quit smoking at least once or twice every year, but can never seem to last longer than a week or two. Hattie feels that she gets a good amount of exercise, as she is the one responsible for walking Rascal and Dixie, her cocker spaniels, every day for at least 15-20 minutes. She also cooks all of their meals at home and they rarely eat out. Otis is a lover of red meat, and she has quite a sweet tooth, so together they have their vices. But they rationalize these habits with the fact that they always eat a vegetable with their dinner.

Walking the dogs is great exercise. But she should increase the pace or length to get more benefits.

Hattie's mother died of ovarian cancer at age 72 and her father from a heart attack at age 73. She doesn't have any allergies, but takes a few acetaminophen tablets 2-3 times per week for chronic lower back pain. She also takes a multivitamin and calcium supplement daily. Her knees and shoulders ache sometimes, but the pains always seem to go away before she gets around to taking pain relievers. Hattie attributes most of her minor health inconveniences to the aging process.

Family history of heart disease (father) increases her risk.

Two days ago, Hattie began having mild chest discomfort, but did not tell Otis because the grandchildren were scheduled to visit from out of town and she assumed it would go away. Yesterday, she told Otis that her chest was feeling a bit heavy, but had a difficult time describing the feeling to her husband and still believed it was not a big concern. Today, Otis has convinced her that they must drive into town to the only health clinic in the area to get it checked out, before the grandchildren arrive. Hattie balks and tries to argue, but she is a bit short of breath so finally relents.

Ask students: "How would you approach the patient knowing all this information? How will this information help you provide better care?" Point out that usually all this is not known by the healthcare providers. Ask students how important it is to know all about their patients' lives. How important is a close doctor-patient relationship?

RED: Indicates details that can be found in the Introduction. BLUE: Indicates information revealed in the OPQRST interview. GREEN: Indicates results of labs/tests that students will need to request on an individual team basis.

Subjective & Objective:

Record information from the story in the appropriate sections of the SOAP note.

| SOAP Note | |
|--|---|
| Subjective: | |
| Signs & Symptoms | chest pain, shortness of breath, lightheadedness, |
| Allergies | none |
| Medications | Acetaminophen approx 3x/wk, multivitamin, calcium supplement |
| Past medical history | overweight, family history of heart disease (father) and ovarian cancer (mother); cook with butter and red meat frequently; 15m walking/day; sedentary activities; retired, former job sedentary |
| Last oral intake | Unknown |
| Events leading to injury or illness | 2d ago, chest discomfort; 1d ago - chest felt heavy, worsened |
| Onset | 2 days ago |
| Provocation & Palliation | worsened over time, not due to any specific factor patient recalls |
| Quality | started out as squeezing, pressure - changed to a heaviness; "like someone is giving me a bear hug" |
| Radiation & Region | center of chest; jaw and arms |
| Severity | 8 out of 10 on pain scale |
| Time | symptoms intermittent at first, but constant in the past 4 hours |
| Associated Symptoms | slight shortness of breath; jaw pain since the morning; arms achy |
| Aggravating & Alleviating Factors | nothing seems to improve symptoms; lying down does not help |
| Based on these symptoms, Hattie is likely experiencing a mild heart attack. This can be confirmed with the tests listed below. | |
| Objective: | |
| Measurements | 68 years old; 5'4"; 153 lbs |
| Vital Signs | HR: 82 beats/min BP: 150/90 RR: 26 breaths/min Temp: 99.5 deg F |
| Exam Results | Electrocardiogram (EKG): heartbeat shows irregularity indicative of heart attack Chest X-Ray: heart appears enlarged and small amount of fluid in lungs |
| Lab Results | Echocardiogram: heart beat is weaker in left ventricle due to a small heart attack, causing necrosis (death) of some cardiac muscle CAT scan or angiogram: shows partial blockage in coronary artery |

Students don't need to request all of these, but more than one would be appropriate. Usually a few of these tests would be performed in sequence, but it depends on the unique circumstances of each individual patient. Understanding exactly which tests would be most critical and how to interpret technical findings is beyond the scope of this case study. Students should be able to understand the main purpose of each test and how they work, however. Ask students, which of these tests would be available in an outpatient rural health clinic. Would Hattie need to be transferred to a nearby hospital?

An actor should act as Hattie. If additional actors are available, Otis could be present as well. This information should be studied by the "actor" (although it does not have to be strictly memorized, can hold the paper and refer to it as needed). The actor could be you (the instructor), another teacher, student selected ahead of time, a parent, a local alumnus interested pursuing a health career, etc.

Patient Interview:

Conduct the OPQRST portion of the subjective interview with the patient and add the new information to the SOAP note.

Research:

Make brief hypotheses about what types of illnesses or diseases Hattie may have. Use your initial list to determine: 1) whether the patient needs critical emergency care; 2) what tests would need to be run to gather data.

| Hypothesized Diagnosis | Objective Data Needed / Tests to Perform |
|------------------------|--|
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Gather Objective Information:

Select the tests or labs Hattie needs in order to determine what is happening with her health. Be sure to consider cost, access, and quality, but always make the decisions in the best interest of the patient's health.

Assessment:

Complete the Assessment for Hattie:

| Assessment: | |
|-------------------------------|---|
| Summary | Hattie, a 68-year-old overweight smoker, presents with severe chest pain that has worsened over 2 days, mild shortness of breath, and jaw and arm ache. |
| Differential Diagnoses | <ol style="list-style-type: none"> 1. Heart attack 2. Angina (chest pain) 3. Heart burn, muscle strain in chest, or anxiety attack |
| Final Diagnosis | <p>Claim: Heart attack (not full cardiac arrest, where heart stops), but a more mild heart attack. If Hattie had not come in, the heart attack may have possibly progressed to cardiac arrest.</p> <p>Evidence: Symptoms + test results (students should have at least the chest pain that does not go away and worsens, shortness of breath, and jaw/arm pain for symptoms and minimum of 2 test results)</p> <p>Reasoning:</p> <p>Symptoms of heart attack vary from person to person. The only way to know for sure is to seek medical attention immediately if you suspect you are having one or notice the symptoms of one. Data gathered through objective tests can confirm this (and life-saving treatment can be given) or show that you are not having one, which will allow doctors to determine another diagnosis.</p> |

An Update on Hattie:

Listen carefully as your instructor provides an update on Hattie's condition.

Hattie did indeed have a mild heart attack. She is in stable condition and doctors are ready to release her after overnight observation. Based on her echocardiogram and angiogram, the tiny blockage in her coronary artery moved through on it's own so she does not need heart surgery at this point. However, she will need to be monitored closely and make some major lifestyle changes to prevent a recurring heart attack in the near future.

Plan:

Create a plan for Hattie, using information you research about the treatment and management of his diagnosed illness or disorder.

Plan:**Steps of Plan**

(Consider mental, social and physical health; short- and long-term needs, and follow-up care required)

The plan should include, at minimum:

- Stop smoking (specific advice/support on strategies for quitting)
- Change diet (reduce or eliminate red meat, butter, and other sources of cholesterol; increase intake of fiber)
- Get exercise (minimum 45m per day; walking at a fast pace is ok)
- Medication (warfarin/coumadin daily; this is a blood thinner that will help reduce clots--be sure students note that it can have several drug interactions and warn patient to check in before taking any other medicines)
- Mental health support (counseling) recommended, as this is a stressful life event

Intervention:

Students should conduct research and create their intervention. Examples include: brochures, posters or videos playing in health clinic, script/notes for conversations during patient care visits for those at risk; PSAs or other ways of distributing information in the community; health fair; etc.

Hattie's outcome may have been better if she sought out medical care sooner. As a team of health professionals working in the local rural health clinic, design an educational intervention aimed the residents of your community. Your goal is to build awareness of the warning symptoms of heart attacks. Use the questions below to brainstorm and plan your intervention:

- 1) What are the warning signs of a heart attack?
- 2) When should someone dial 9-1-1 to seek emergency medical attention?
- 3) What target population should be educated about this health issue?
- 4) What are some possible ways this message could be delivered?
- 5) Which method of building awareness would be most effective? Why?
- 6) How would you measure the effectiveness of the educational intervention?

Final Presentation:

Your health education intervention is a huge success. Heart attack deaths have dropped by 6% in your community over the past year and more people are seeking help sooner. You are asked to present your intervention at a statewide medical conference. Prepare a 2-4 minute presentation.

| PRESENTATION PLANNING | | |
|-----------------------|-------------------------|-------|
| Team Member | Portion of Presentation | Notes |
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Rubric:

You will be graded using the rubrics below.

Obj 5.10a: Identify OPQRST subjective data in a patient case scenario.

| Needs Improvement | Emerging Mastery | Partial Mastery | Mastery |
|--|--|--|--|
| Data is unorganized and not recorded with precision, clarity, and accuracy, and very little data is aligned within the appropriate section or category; much essential data is missing | Some data is organized and recorded with precision, clarity, and accuracy, and some data is aligned within the appropriate section or category; some essential data may be missing | Most data is organized and recorded with precision, clarity, and accuracy, and most data is aligned within the appropriate section or category | All data is organized and recorded with precision, clarity, and accuracy, and all data is aligned within the appropriate section or category |

Obj 5.10b: Deliver health information to a target audience in a clear, compelling, and accurate way.

| Needs Improvement | Emerging Mastery | Partial Mastery | Mastery |
|---|--|---|--|
| Intervention is missing or incomplete, or provides inaccurate information | Intervention provides information in that has errors or is not presented in an engaging manner; target audience and/or measurement of success may be missing | Intervention provides clear and accurate information in a somewhat compelling and engaging manner; is aligned to a some target audience, and attempts to measures its impact. | Intervention provides clear and accurate information in a compelling and engaging manner, is aligned to an appropriate target audience, and measures its impact in a scientific way. |

Post-Case Wrap-up Questions:**Module 5 Learning Objectives:**

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|---|
| Obj 5.1: Identify a community's assets and needs related to rural health. |
| Obj 5.2: Evaluate resources in terms of access, quality, & cost in order to promote health. |
| Obj 5.3: Examine poverty-related barriers that can hinder healthy living. |
| Obj 5.4: Identify risk factors and preventative strategies for reducing chronic disease. |
| Obj 5.5: Analyze risk factors for unintentional injuries in order to provide safety recommendations. |
| Obj 5.6: Analyze the relationship between access to care and health status for migrant workers. |
| Obj 5.7: Determine when professional mental health services are required. |
| Obj 5.8: Evaluate the impact of technology on rural mental health care outcomes. |

ANSWER THE FOLLOWING QUESTIONS ON A SEPARATE SHEET OF PAPER.

Obj. 5.1: Think about heart disease within your own community. What **assets** and **needs** does your community have in promoting and maintaining heart health?

Obj. 5.2: Which aspect of the health care system created the biggest barrier to care in Hattie's scenario: **cost, access, or quality**? Why?

Obj. 5.3: Name three **poverty-related** characteristics common to rural communities that may contribute to high rates of heart disease or heart attack deaths.

Obj. 5.4: Name two **risk factors** and two **ways to reduce the risk** of heart disease.

Obj. 5.5: Assuming Hattie had not had a heart attack, what other types of **unintentional injuries** might she be at risk for?

Obj. 5.6: Imagine Hattie is a **migrant worker** and faces the same health situation as she did in this case. What additional barriers to accessing health care for her problem might she face?

Obj. 5.7: When Hattie returns for her follow up appointments, her physician asks about how she is feeling? She has become increasingly paranoid about the slightest symptoms, has been crying every night, and started having anxiety attacks. What **barriers to accessing mental health** care might Hattie face in her rural community?

Obj. 5.8: How might **telemedicine** help Hattie? What advantages and disadvantages might telemedicine provide in her case?