

## Overview

In this lesson, students will examine primary sources from Wilson Library’s online exhibit, “[Sour Stomachs and Galloping Headaches](#),” to form new understandings and theories about the common ailments and epidemics our ancestors faced, as well as the medical “cures” they used to treat their illnesses. Students will analyze and evaluate the various primary sources in the exhibit via a [Historical Scene Investigation \(“HSI”\)](#) activity, which leads students through an investigative process similar to what crime scene investigators do when they examine evidence from a crime scene and formulate theories about what happened. In this HIS, students will first examine the evidence by filling out case reports that ask them to evaluate the primary resources from the website. Then, they will attempt to diagnose different patient illnesses and prescribe different cures to treat these patients based on what they uncovered in their case reports.

## Grades

5-8

## Essential Questions

- How do people use the resources around them to solve economic, social and medical problems?
- How did indigenous people impact early settlers’ beliefs about medical treatments and cures?
- How have early settlers’ understandings of medicine impacted our society today?
- How has our understanding of epidemics, illnesses, and medicine changed?

## Materials

- “Sour Stomachs and Galloping Headaches” website: <http://exhibits.lib.unc.edu/exhibits/show/sour-stomachs>
- Web MD (or another medical website) to help students research different medical conditions cited in the “Sour Stomachs and Galloping Headaches” online exhibit: <http://www.webmd.com/>
- Laptops or Tablets for student work groups
- Student “HSI: CASE REPORT” handout, attached
- Student “HIS: Patient Case Studies” handout, attached

## Duration

90 minutes

## Student Preparation

Students should be familiar with how to analyze and evaluate primary resources. A great set of lessons to help prepare students to “think like a historian” can be found at Stanford University’s “Reading Like a Historian” website: <https://sheg.stanford.edu/intro-materials>. Students learn about sourcing, contextualization, and corroboration through a variety of engaging activities.

## Teacher Preparation

- Teachers should be familiar with the UNC “Sour Stomachs and Galloping Headaches” website: <http://exhibits.lib.unc.edu/exhibits/show/sour-stomachs>

## Procedure

**Hook: Unconventional Medicine**

1. Begin class by posing the question: “What are some of your family’s ‘cures’ for different illnesses that are not prescribed by a doctor?” (examples: chicken noodle soup, honey/lemon tea for a sore throat, ginger ale for an upset stomach, nail polish for chigger bites, oatmeal for poison ivy or poison oak, etc.) As students share their stories, write down these non-conventional cures on the board. When everyone has had the chance to share, explain that you are now going to explore some of the “cures” early settlers in North Carolina used to combat their illnesses, diseases, and maladies.

### **HSI: Mystery Illnesses and Miracle Cures**

2. Divide the class into small groups of 3 or 4 students. Give each student a copy of the HSI Case Report. Give each group at least one laptop or tablet bookmarked with the “Sour Stomachs and Galloping Headaches” website. Explain that they will be researching various maladies and illnesses that people in North Carolina faced as well as the “cures” that doctors and families used to combat these ailments. Show students how to navigate through the website. Model how you can click on different images and blow them up to see finer details. Show them how to navigate the menu to jump to different topics.
3. Allow students to research the website and record notes on their HSI case reports. Circulate the room to make sure students stay on task and answer questions that they might have about difficult terms or historical context. Ask them questions to engage them in deeper understanding of the content. Relate the material to today’s world to see if they can make any connections and to understand how far medicine has advanced.

### **HSI: Patient Case Studies**

4. When a group has finished filling out their case reports and you have reviewed them for completeness and accuracy, give each student a copy of the HSI: Patient Case Studies. Explain to the group that they will need to use their notes from their case reports in order to diagnose the patients in the case studies. Show them that they will need to both identify the illness or illnesses that the patient has as well as prescribe a treatment for each the patient’s symptoms. They may prescribe more than one treatment.

### **Evaluation and Discussion**

5. When each group has finished the Case Studies, hold a whole-class discussion of how they diagnosed each patient and what they chose to prescribe to treat them. Discuss the similarities and differences between groups. Ask students to think about the different diseases and epidemics that we have today and how doctors are researching and experimenting with different treatments. (Example topics: Cancer, AIDS, Ebola, Zika virus, ALS, diabetes, COVID-19, etc.)

#### **Discussion Questions:**

- What do the illnesses experienced and treatments administered at various points in North Carolina’s history tell us about life during those times?
- How would you compare treatments throughout North Carolina’s past to treatments today? Which medical practices have remained (i.e. homeopathic medicine, the importance of faith and its impact on medical decisions, homemade treatments, etc.)
- How has technology impacted the way we view different diseases/illnesses and the way that we treat them?
- How have medical practices stayed the same-what do we use today that was used back then? (discussion of homeopathic
- What are some of the major diseases and epidemics that our world faces today?
- What are some diseases that we have been able to “cure” or treat with reliable medicine that were deadly in the past?
- What do you think scientists and medical professionals need to do in order to solve current problems with disease?

- Why are some people around the world still dying from illnesses and diseases that are not problematic in the US? What can we do to help?
- Are there treatments or medical procedures today that you think people in the future will look back on in surprise, just as we did with some of the historical treatments we learned about today? Explain.

**Extension Activity**

6. Allow students to pick a disease or illness and track it through time. Ask them to research the earliest diagnosis, where it began, what doctors/people believe caused the illness, and what doctors or families tried to do to treat the illness. Then, have them research the changes in how doctors understood and treated the illness over time. Ask them to research whether or not we have cases of the illness today and how it is typically treated. (Sample topics: Bubonic plague, measles, small pox, influenza (the flu), AIDS, polio, whooping cough, etc.)

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Group Members: \_\_\_\_\_

## HSI: Mystery Illnesses and Miracle Cures Case Report

**Directions:** Your mission, should you choose to accept it, is to investigate the various mystery illnesses and miracle treatments in North Carolina history. Using the website entitled [“Sour Stomachs and Galloping Headaches,”](http://exhibits.lib.unc.edu/exhibits/show/sour-stomachs) you will be tasked with analyzing various primary sources and taking notes on the different illnesses, symptoms, and treatments. This case report will serve as a basis for your next task...diagnosing and treating three patients. Good luck!

“Sour Stomachs and Galloping Headaches” website:  
<http://exhibits.lib.unc.edu/exhibits/show/sour-stomachs>

### EXHIBIT A: [TREATING THE SICK](#)

1. What is a “conjurer”?
2. How did Native Americans heal the sick?
3. List how early North Carolinians used each herb as remedies for various ailments:
  - Sage:
  - Radishes:
  - Thyme:
  - Horehound:
  - Rue:

### EXHIBIT B: [NATIVE SIMPLES](#)

4. **Milkweed**- What did Native Americans and early colonists use this plant for?
5. Look up then summarize the description and symptoms of GOUT on WebMD: <http://www.webmd.com/>

### EXHIBIT C: [BLOODLETTING](#)

6. What is bloodletting and why was it used?
7. How did doctors drain patients' blood?
  
8. What are the FOUR HUMORS and why are they so important?
  
  
9. Who died from bleeding too much when his doctors performed bloodletting? How much blood did he lose?
  
  
10. How is bloodletting used today?

**Exhibit D: Battling Epidemics**

11. What pandemic hit UNC-CH hard in 1918?
12. How did doctors treat this epidemic?
  
  
13. In the 1600s and 1700s, what disease was widespread across the state of North Carolina?
  
  
14. What are the symptoms of this disease?

**EXHIBIT E: SMALLPOX VACCINE**

15. Who developed the vaccine for smallpox?
  
  
16. Read "The North Carolina Accident" and summarize what happened:
  
  
  
  
  
  
  
  
  
  
17. Do we have cases of smallpox today (cite EVIDENCE)?
  
  
  
  
  
  
  
  
  
  
18. Why does smallpox remain a concern? What is BIOTERRORISM?

**EXHIBIT F: MIASMA AND SANITATION**

19. Why did so many people become sick and even die in North Carolina in the earlier centuries?

20. Where was the first public water system developed in North Carolina?

**EXHIBIT G: DOSES OF FAITH**

21. What did many North Carolinians believe was the true source of curing illnesses?

22. List 3 examples of superstitions or “old wives tales” listed on the website

a.

b.

c.

23. What are talismans?

24. Give an example of what you might find in a “Jo-Mo bag”:

**EXHIBIT H: HEALING THE MASSES**

25. What are patent medicines and when did they become popular in the United States?

26. What was a common “folk medicine” used in North Carolina and what was it used for?

27. How did North Carolinians use tobacco as medicine?

**28. EXHIBIT I: COME BACK STRONG**

**29.** List three medicines that originated in North Carolina and what illnesses/ailments they were marketed to treat:

1.

2.

3.

**Congratulations, you have completed your case study. Notify the lead detective (your teacher) and ask him/her to review your notes for completeness and accuracy. You are ready for stage 2 . . . Diagnosing and treating patients!**

Name: \_\_\_\_\_

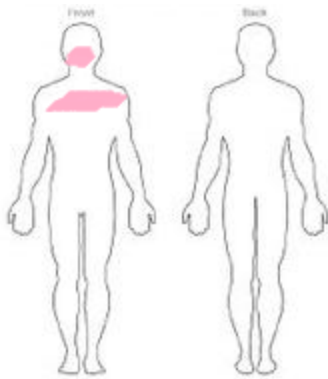
Date: \_\_\_\_\_

Group Members: \_\_\_\_\_

### HSI: Patient Case Studies

**Directions:** After reviewing the “Sour Stomachs and Galloping Headaches” resources, you are now ready to diagnose patients and give them prescriptions to help cure their ailments. Read the following patient case studies, determine what you think is wrong with the patient, and prescribe a treatment for them based on what you have read about. A patient may have more than one illness or ailment, so you may diagnose them with multiple illnesses and prescribe multiple treatments. You will need to treat the patient as a doctor would have IN THE PAST as well as how this disease or illness is treated TODAY. If you need help figuring out a treatment for today, feel free to use the WebMD website for help: <http://www.webmd.com/>

#### Patient 1



Patient presents with a cough and severe congestion in the nose and chest. Patient's throat is red, eyes are watery. Patient is coughing up phlegm and his nose is runny. Patient has a slight fever and seems lethargic (tired) due to lack of sleep from coughing all night.

Diagram: Shaded areas indicate areas where patient has congestion (nose and upper chest).

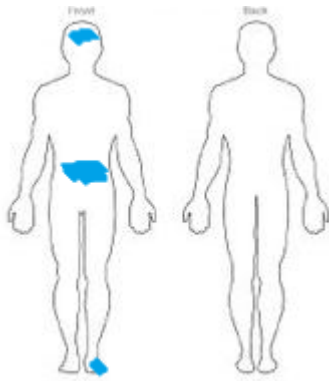
Diagnosis:

Treatment in the Past:

Treatment Today:



### Patient 2



Patient complains of severe stomach pain and a headache. Patient has not vomited, but has had abdominal pains and a headache for two days. Patient has not been able to work due to the pain. Patient has been swimming in a nearby creek that is located near a cow farm. The creek has been known to be polluted as a result of runoff from the pastures.

Patient also complains of swelling in his left foot. It appears red and tender to the touch. He has limited movement of his joints in his toes and left ankle.

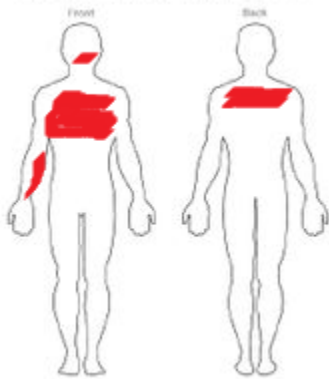
Diagram: Shaded areas indicate where patient complains of pain (head and abdomen) as well as the swollen foot.

Diagnosis:

Treatment in the Past:

Treatment Today:

### Patient 3



Patient presents with a high fever and a severe rash that has spread to the upper chest, face, upper back, and right arm. Puss-filled blisters have started to form on the upper chest. Patient complains of chills, muscle aches, and vomiting. Patient is severely dehydrated.

Diagram: Shaded areas indicate places where the rash has spread. Puss-filled blisters have only formed on the upper chest region so far.

Diagnosis:

Treatment in the Past:

Treatment Today:

## TEACHER KEY

### HSI: Mystery Illnesses and Miracle Cures Case Report

#### EXHIBIT A: TREATING THE SICK

What is a “conjurer”?

A Native American Shaman

How did Native Americans heal the sick?

They used “strange gestures” and “enchancements” to ward off evil spirits. They also believed in using “the earth for the cure of sores and wounds,” so they used the resources around them to help cure various ailments.

List how early North Carolinians used each herb as remedies for various ailments:

- Sage: Sunburn
- Radishes: Warts
- Thyme: Nervous Disorders
- Horehound: Snake Bites
- Rue: Intestinal Parasites

#### EXHIBIT B: NATIVE SIMPLE

Milkweed-what did Native Americans and early colonists use this plant for?

It was used to treat gout and severe congestion. Native Americans also used it as an ointment to treat poison ivy, rashes, acne, and other skin conditions.

Look up the description and symptoms of GOUT on WebMD: <http://www.webmd.com/>

Gout is the inflammation of a joint. Some symptoms include: severe pain/tenderness in the affected area, red/purplish skin around the affected joint, swelling, warmth, and limited movement. Gout is most often associated with the feet, but can also present in other joints.

#### EXHIBIT C: BLOODLETTING

What is bloodletting and why was it used?

Bloodletting is when doctors use leeches or fleams (special cutters) to drain a patient’s blood in order to purge the body of impurities and to restore balance.

How did doctors drain patients’ blood?

Leeches and Fleams

What are the FOUR HUMORS and why are they so important?

Blood, Phlegm, Yellow Bile, and Black Bile

The Four Humors were believed to provide the body with a perfect balance, keeping a person healthy

Who died from bleeding too much when his doctors performed bloodletting? How much blood did he lose?  
George Washington-he lost 5 pints of blood (nearly half his blood supply)

How is bloodletting used today?

Doctors still use leeches, especially after surgeries, in order to control swelling and promote healing

#### **Exhibit D: Battling Epidemics**

What epidemic hit UNC-CH hard in 1918? The Flu

How did doctors treat this epidemic? They gave patients 20-30 grains of Hippow and 10 grains of calomel along with snake-root tea. They also applied a paste of mustard, flour, and vinegar to the parts of the patient's body that were experiencing pain.

In the 1600s and 1700s, what epidemic was widespread across the state of North Carolina?

Small Pox

What are the symptoms of this disease?

Muscle aches; vomiting; high fever; chills; red spots forming along the mouth, throat, tongue, nose; a skin rash that appears on the upper chest and spreads to the face, torso, limbs (even the eyes); puss-filled blisters form on top of the rash as it spreads.

#### **EXHIBIT E: SMALLPOX VACCINE**

Who developed the disease for smallpox? Dr. Edward Jenner

Read "The North Carolina Accident"-what happened?

A law required all states to administer the vaccine. In order to promote the vaccine, Dr. Smith distributed samples across the country. Unfortunately, he accidentally mailed an envelope of live small pox scabs to Tarboro, causing 60 people to become infected (10 died).

Do we have cases of smallpox today (cite EVIDENCE)?

There has not been a documented case of small pox in the US since 1949 and the World Health Organization declared that it had been eradicated in 1979, two years after the last reported case was treated in Africa.

Why does smallpox remain a concern-what is BIOTERRORISM?

There is concern that terrorist organizations might be able to steal samples of the virus, cultivate it, and use it as a weapon against their enemies. This is an example of BIOTERRORISM, the intentional release of viruses, bacteria, etc as a method of warfare.

#### **EXHIBIT F: MIASMA AND SANITATION**

Why did so many people become sick and even die in North Carolina in the earlier centuries?

Many people died because of the lack of awareness about sanitation. Outhouses, livestock, open garbage heaps, and poor draining bred bacteria and fed disease-carrying insects that made people sick.

Where was the first public water system developed in North Carolina? Salem, NC

## EXHIBIT G: DOSES OF FAITH

What did many North Carolinians believe was the true source of curing illnesses?

Their faith in God

List 3 examples of superstitions or “old wives tales” listed on the website

- Warts-steal a dishcloth and bury it
- If a bird flies in your house, someone in your family will die
- If you observe a new moon, someone in your family will get sick
- If a bird steals a strand of your hair for its nest, you will have headaches all summer
- Nightmares-sleep with a bible under your pillow

What are talismans?

Talismans are charms or objects that were believed to protect you against sicknesses and curses

Give an example of what you might find in a “Jo-Mo bag”:

Cat’s paw, bat’s wing, rabbit’s ear, opossum toenail

## EXHIBIT H: HEALING THE MASSES

What are patent medicines and when did they become popular in the United States?

Patent medicines became popular after the Civil War. They were marketed as “sure fired” cures, though they were usually bogus.

Patent medicines were assorted tonics, pills, ointment, or powders believed to “cure” a specific ailment

What was a common “folk medicine” used in North Carolina and what was it used for?

Turpentine, kerosene, and vinegar served as bases for homemade medicines. They were often used to cure headaches.

How did North Carolinians use tobacco as medicine?

Tobacco was often prescribed for respiratory problems. Smoking tobacco was thought to help cure the lungs.

## EXHIBIT I: COME BACK STRONG

List three medicines that originated in North Carolina and what illnesses/ailments they were marketed to treat:

1. Vick’s Vaporub: used for the common cold and congestion
2. Pepsi: originally sold as a remedy for upset stomachs
3. Bromo-Seltzer: used for headaches and indigestion

**CONGRATULATIONS, YOU HAVE COMPLETED YOUR CASE STUDY. NOTIFY THE LEAD DETECTIVE (YOUR TEACHER) AND ASK HIM/HER TO REVIEW YOUR NOTES FOR COMPLETENESS AND ACCURACY. YOU ARE READY FOR STAGE 2 . . . DIAGNOSING AND TREATING PATIENTS.**

**TEACHER KEY**  
**HSI: Patient Case Studies**

**Patient 1**

Diagnosis: Cold and Congestion (some may also say the Flu)

Treatment in the Past: answers may vary-possible answers include:

- bloodletting to help restore balance
- Tobacco
- Milkweed
- Hippo, calomel, paste of mustard/flour/vinegar, snake-root tea
- Vick's Vaporub

Treatment Today: answers may vary-possible answers include:

- Over the counter medicines for cough/cold
- Nose Drops
- Humidifier
- Antibiotics
- "chicken soup" or other home remedies

**Patient 2**

Diagnosis: Intestinal parasites (some may say stomachache/headache) and Gout (some students may say a snake bite for the swollen foot)

Treatment in the Past:

Intestinal Parasites: Rue

Headaches/Stomach Aches: Pepsi, "Folk Medicine" (turpentine, kerosene, or vinegar base), Jo-Mo Bag, Bromo-Seltzer

Gout: Milkweed (possibly might also list Bloodletting)

Treatment Today:

Intestinal Parasites: Antibiotics/prescription medicine to treat the specific parasite

Headaches: Aspirin, Advil, Alleve, etc

Stomachaches: Pepto-Bismol, Maalox, etc (some might also mention ginger/ginger ale/etc)

Gout: Ice, Anti-Inflammatory drugs (NSAIDs), prescription corticosteroids

**Patient 3**

Diagnosis: Smallpox

Treatment in the Past:

Might mention using Milkweed to treat the skin condition, or bloodletting to restore balance

Might suggest talismans/Jo-Mo bags or Faith in God

Could also mention the Vaccine developed by Dr. Jenner

Treatment Today:

Smallpox vaccine