

STUDENT WORKBOOK



Module 6: Rural Health

TABLE OF CONTENTS

Intro to Rural Health (Lesson 6.1).....	2
Access, Quality, & Cost (Lesson 6.2).....	7
Rural Poverty (Lesson 6.3).....	12
Chronic Disease (Lesson 6.4).....	17
Preventable Injuries (Lesson 6.5).....	22
Migrant Worker Health (Lesson 6.6).....	27
Mental Health (Lesson 6.7).....	32
Telemedicine (Lesson 6.8).....	37
OPQRST Symptom Assessment (Lesson 6.9).....	42
Hattie's Heart (Case Study 6.10).....	47
Survey Design (Lesson 6.11).....	58
Telemental Healthcare (Case Study 6.12).....	63

Rural Health

Obj. 6.1: Identify a community's assets and needs related to rural health.



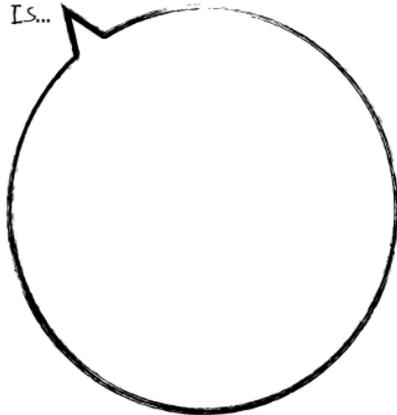
Rural Health Instagram

Goal: Collectively portray rural health using a series of representative images.

Directions:

1. Brainstorm: What is rural health? List your ideas in the bubble below. Aim for quantity with this brainstorm--the more ideas the better!
2. Choose one idea about rural health and imagine that idea as a simple image. Make a quick rough sketch of that image in the Instagram photo square below.
3. Draw the final version of your image on the Instagram square that is passed out.

RURAL
HEALTH
IS...



DISCUSS

Present your idea to the class as you hang your Instagram square on the wall. As you listen to your classmates present, think about the following questions:

1. Which ideas were most surprising or unique?
2. What were the most common themes?
3. Do you think any of the ideas presented are stereotypes about rural health?
4. What proportion of the ideas had a positive versus negative association?

NEW
INFO

What is Rural Health?

Rural health does not have a simple, one-size-fits-all definition. This is because no two places have the same characteristics. Differences in geography, population, economy, infrastructure, policies, resources, and ecosystems can all influence health, and these factors make each place that human call home incredibly unique.

In order to improve the health status of all people, we must carefully examine how certain environments influence health. Both urban and rural communities face significant **health disparities**, unmet needs and challenges that affect people's health on a daily basis and over a lifetime. However, there are also a wealth of **assets** in these communities, which can be capitalized upon in order to establish better health outcomes in rural communities.

VOCABULARY:

rural: geographic area located outside of cities and towns; usually having low population density

health disparity: a type of difference in health that is closely linked with social or economic disadvantage

assets: a useful or valuable thing, person, or quality



Challenges and Assets

Goal: Consider the needs and assets in a community that may influence health.

Directions: For each of the following vignettes, list at least one need and one asset in the table.

Vignettes	Rural health...	
	Challenges	Assets
<p>1: During a football game, a young quarterback is knocked unconscious. The trainer is on the field immediately, and assesses the player's head injury. The nearest hospital is 40 minutes away, but luckily an ambulance is on-call at the game. At the hospital, the player's parents are told about dangers of repetitive head injuries from contact sports, but they don't understand the doctor's explanation because of the complex medical language he uses.</p>		

Vignettes	Rural health...	
	Challenges	Assets
<p>2: June is a single-mother raising two children on a farm. Her husband died four years ago in a farming accident. June provides her children with fresh fruits and vegetables from a small garden she planted years ago for the family. But managing the farm has become difficult without her husband. June does not have health insurance and struggles to pay the bills every month. Despite all her struggles, whenever June gets too stressed, she takes long walks around in the woods surrounding the farm. The clean air, wildlife, and nature have a way of calming her.</p>		
<p>3: Dennis is a single middle-aged man, working as a custodian. He has dealt with mental health issues his whole life, but recently his bouts of depression seem to be coming more often and lasting longer. He has never been diagnosed or treated, but his family and neighbors have long suspected and they tend to help him through his most difficult times with small gestures of kindness. Dennis is also obese. He limits his trips to the grocery store to every six weeks (due to distance) and doesn't have another source for fresh produce.</p>		


DISCUSS

Write another vignette related to your community. Include at least one asset and one challenge. Then exchange vignettes with a partner and have them identify the challenge(s) and asset(s).

Vignette	Challenges	Assets



Letter from Obama

On November 15, 2013, President Obama wrote an open letter in honor of National Rural Health day. As you read the President's words, highlight to indicate the positive factors (assets) and the disparities and challenges (needs) mentioned.



THE WHITE HOUSE
WASHINGTON

November 15, 2013

I send greetings to all those observing National Rural Health Day on November 21.

Rural towns and communities are central to the American way of life. They supply our food, fiber, and energy. They safeguard our natural resources and help drive developments in science and innovation. And the spirit of integrity, community, and self-discipline we associate with small towns reflects the values that built our country and the very best of our national character.

National Rural Health Day provides a special opportunity to celebrate the important role rural America plays in the life of our country. It also helps highlight the unique health challenges faced in rural communities across our country. Americans living in rural areas often suffer from increased rates of disease, disability, and mortality as well as inequities in access to health services, including preventive care.

My Administration remains committed to ensuring all Americans can get the care they need and deserve at a price they can afford, and we have taken important steps to make sure this extends to small towns and rural communities. Through the Improving Rural Health Care Initiative, we have partnered with local leaders to support the health care workforce and expand the use of health information technology. And by assisting Regional Extension Centers, we are addressing barriers facing rural providers and hospitals in implementing these technologies. In 2011, I established the White House Rural Council to strengthen rural communities and promote economic growth, and its efforts include expanding health services for veterans in these areas. Through the Affordable Care Act, we are helping uninsured rural Americans gain unprecedented access to coverage. And we are improving health care for millions across our country—helping ensure they have the security of high-quality, affordable health insurance.

On National Rural Health Day, let us extend our thanks to the health care providers tirelessly serving rural America, reaffirm our commitment to meeting the needs of these communities, and celebrate the lasting contributions they have made to our national life.

**Think-PairShare:**

1. **THINK:** Choose one asset and one need that you found most compelling and explain why each is significant in rural health.

Asset (positive factor):	Need (disparity or challenge):

2. **PAIR SHARE:** Share your answers with a partner.

**Instagram or Interview!**

Choose one of the options below for your homework assignment:

1. **Instagram:** Your challenge is to take 3 photos that capture the spirit of rural health in your community. They can portray the assets or challenges, and you are encouraged to be creative. For each photo, write a short caption explaining it. Listen carefully for instructions on how to submit your photos.

I should submit my photos in the following way:

2. **Interview:** Your challenge is to interview someone in the community about the assets and challenges they observe related to health in your community. Record the questions you ask and a summary of their responses on a separate paper.

Access, Quality, & Cost

Obj. 6.2: Evaluate resources in terms of access, quality, and cost in order to promote health.



Use the following statistics to answer the questions below.

& National Rural Health Snapshot	Rural	Urban
Percentage of USA Population**	nearly 25%	75% +
Percentage of USA Physicians**	10%	90%
Num. of Specialists per 100,000 population**	40.1	134.1
Population aged 65 and older	18%	15%
Population below the poverty level	14%	11%
Average per capita income	\$19K	\$26K
Population who are non-Hispanic Whites	83%	69%
Adults who describe health status as fair/poor	28%	21%
Adolescents (Aged 12-17) who smoke	19%	11%
Male death rate per 100,000 (Ages 1-24)	80	60
Female death rate per 100,000 (Ages 1-24)	40	30
Population covered by private insurance	64%	69%
Population who are Medicare beneficiaries	23%	20%
Medicare beneficiaries without drug coverage	48%	31%

Statistics used with permission from "Eye on Health" by the Rural Wisconsin Health Cooperative, from an article entitled "Rural Health Can Lead the Way," by former NRHA President, Tim Size; Executive Director of the Rural Wisconsin Health Cooperative.

- 1. Reflect:** Which of these statistics is most concerning, in your opinion? Why?
- 2. Predict:** What other statistics that do not appear on this list do you think represent disparities in rural health?
- 3.** Choose one statistic that you think best represents a problem with **cost**, one that represents a problem with **access**, and one that represents a problem with **quality** of healthcare. Write each words ("COST," "ACCESS," and "QUALITY") next to the statistic you choose.



The “iron triangle” of healthcare is an observation about the relationship between cost, access, and quality. Wherever one aspect is improved, another is impacted negatively.



Let's use a fitness club as an example:

1. Imagine the owner of the fitness club wants to purchase brand-new, cutting edge weightlifting machines to replace its old, outdated ones (quality improves), but it will need to increase membership prices (costs increase) to pay for these expensive new machines.
2. Now the owner wants to acquire a greater number of treadmills because they are all occupied during peak hours. Buying more treadmills (access increases) causes membership fees to go up again (costs increase).
3. Alternatively, let's say that a wholesale fitness machine retailer offers the fitness club an opportunity to trade in 20 of its current treadmills for a 40 of a more basic model at no cost. The basic treadmills would have less features (reduced quality), but more would be available for members (increased access).

In healthcare, the tradeoffs are not always as exact or easily measurable. But cost, access, and quality do act as competing interests in many situations. However, creative solutions can sometimes manage to cut costs, while improving quality and access.



Think about the last time you visited a health care professional. Consider your experience in terms of cost, access, and quality. Which of the three was most positive? Which was most negative in your experience? Explain.



Three Corners

Often legislators, public officials, policymakers, health care professionals and patients are forced to make decisions between cost, access, and quality. Let's go back to the fitness club example. Imagine you are in charge of improving the health of your community by getting people to exercise more. If no fitness club exists, or one exists that is a great distance for people to travel to, you may believe that **ACCESS** should improve. If a fitness club is nearby, but its membership costs are so great that few people can afford it, you may believe that **COST** should improve. If the fitness club is rundown and people do not feel comfortable or excited to use it, you may believe that **QUALITY** should improve. The table below summarizes some questions you may ask yourself about a resource like the fitness club.

COST	Should this resource be more affordable for people? Should more funding be devoted to this resource?
ACCESS	Do more people need access to this resource? Is this resource absent or lacking in the community? Does it need to become easier for people to get to or use this resource?
QUALITY	Is this resource effective ? Is it working for people? Does this resource actually do its job ? Does it improve health?

For each of the following resources in your community health ecosystem, ask yourself: Which aspects need to improve most: **COST**, **ACCESS**, or **QUALITY**? You may believe that more than one of these factors should be improved; however, you must choose the one you believe is **MOST** in need. Place a checkmark in one box for each resource below.

Resource	COST	ACCESS	QUALITY
1. Healthy food			
2. Primary care (<i>ex: pediatricians, urgent care, etc.</i>)			
3. Substance abuse treatment			
4. Dentists (oral health care)			
5. Sexual health services (pregnancy, STIs)			
6. Mental health care			
7. Pharmacy			
8. Homeless shelters			
9. Health education			
10. Green spaces for outdoor recreation			
11. Specialty care (<i>ex: dermatologist, pain specialist</i>)			
12. Hospital			
13. Emergency response			



Three Corners *(cont.)*

Now, you will share your thinking by standing up and getting moving. Three corners of the classroom are labeled: **COST**, **ACCESS**, and **QUALITY**. When each resource is called, silently go to the corner of the room based on the factor you believe most needs to be improved. Be sure to report to the corner you initially checked, even if it's not the popular answer.



Mini-Debate

1. *NOW GO TO THE CORNER THAT ANSWERS THE FOLLOWING QUESTION:*

Which of the three (**COST**, **ACCESS**, and **QUALITY**) did you choose most often? (If you chose each of the three approximately equally, choose the one you think your community needs the most help with, overall.)

2. *TALK TO YOUR FELLOW CLASSMATES IN YOUR CORNER ABOUT WHY YOU CHOSE THAT FACTOR.*
3. *DEFEND YOUR CHOICE TO THE CLASS.*



You have been given \$100,000 to spend on improving the health of your community in ONE way. Which resource is most needed in your community? You must choose only ONE of the resources listed in the previous activity (Ex: dentists). In the space below:

1. Explain WHICH resource you chose and WHY that resource is the most important for your community.
2. Explain at least one way that you would use the money to improve **QUALITY** of this resource, one way you would improve **ACCESS** to this resource, and one way you would improve **COST** so that it is financially realistic for people.

Rural Poverty

Obj. 6.3: Examine poverty-related barriers that can hinder healthy living.



Cost of Living Estimate

Estimate how much money you spend on an average day. Consider food, transportation, recreational spending, and any other costs you can estimate for a single day. Add every cost you can think of, no matter who pays for it (you, your parents, or someone else).

Item/Expense	Estimated Cost
Total Cost:	



Extreme Poverty

In 2011 extreme poverty in the United States, meaning households living on less than \$2 per day before government benefits, was double 1996 levels at 1.5 million households, including 2.8 million children. This would be roughly 1.2% of the US population in 2011, presuming a mean household size of 2.55 people.

"Extreme Poverty in the United States, 1996 to 2011." National Poverty Center, February 2012.

Reflect upon the following questions, then discuss your answers with a partner.

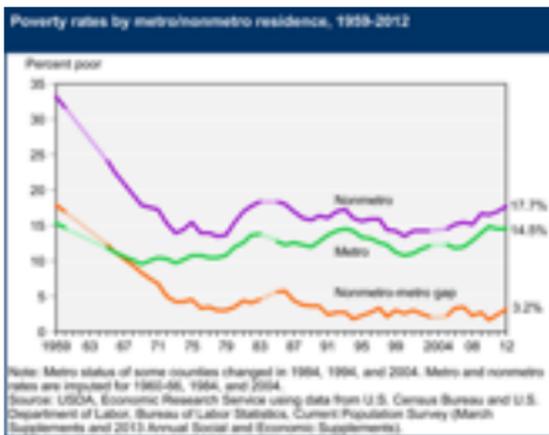
1. Was it difficult or surprising to calculate your daily expenses? What was the biggest source of expense?
2. If you had to live on significantly less per day, how might this impact your life and your health?
3. One dictionary definition of poverty is, "the state of one who lacks a usual or socially acceptable amount of money or material possessions." Beyond this definition, how would you define poverty?



How is Poverty Defined?

Any individual with total income less than an amount deemed to be sufficient to purchase basic needs of food, shelter, clothing, and other essential goods and services is classified as poor. The amount of income necessary to purchase these basic needs is the poverty line or threshold and is set by the Office of Management and Budget (OMB). The 2012 poverty line for an individual under 65 years of age is \$11,945. The poverty line for a three-person family with one child and two adults is \$18,480. For a family with two adults and three children the poverty line is \$27,400. Income includes cash income (pretax income and cash welfare assistance), but excludes in-kind welfare assistance, such as food stamps and Medicaid. Poverty thresholds are set for families by size and composition, and they are updated annually to correct for inflation.

"Geography of Poverty." U.S. Department of Agriculture. <http://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being/geography-of-poverty.aspx#Uu16O3ewKak>



1. What has happened to Nonmetro (rural) poverty since 2004?
2. What overall trend do you notice about the Nonmetro-metro gap?



In Rural Poverty, Showing Up is the First Step.

Listen to the audio recording as you read the following transcript:

STEVE INSKEEP, host: So that city gets a visit from John Edwards today, and tomorrow he visits Kentucky, which is where writer and rural advocate Dee Davis has witnessed the visits of politicians past.

Mr. DEE DAVIS (Director, Center for Rural Strategies): My corner of rural America is the Kentucky coalfields. When Bobby Kennedy came in '68, I was a high school Republican but rushed home to brush my hair so it flipped across my forehead just like his. And that afternoon, I found myself walking alongside him as he toured a street of ramshackle houses in my town.

He stepped into one home that I knew. I'd played ball, even had fistfights with the boys in that house. And as I stood there looking through the window, me and the national press corps, I realized not just that those boys were poor but that the whole country was going to see it.

A short time later, Kennedy was gone and so were those rough houses, replaced by sturdy subsidized homes. Big yards. And the kids we watched through that window all grew up good.

In 1998, Minnesota Senator Paul Wellstone came to make the same tour. His wife Sheila had family all up in here and they asked me to drive the van. We talked about the RFK trip, schools, health, the joys of rural life. Wellstone was a big cut-up. He challenged his wife's uncle to a wrestling match and explained to a room full of dinner guests that he had converted - he had become a hillbilly Jew.

The last place I took Senator Wellstone was a meeting of young miners on respirators. Over the soft hiss of oxygen tanks, these men pulled down their masks, smothering to explain in coarse whispers how coal dust health and safety laws were routinely disregarded.

Afterwards he asked me: Where is the Kentucky delegation? He went back to Washington and dedicated himself to fixing our coal dust issues. Paul was a senator from somewhere far bigger than Minnesota.

This week, presidential candidate John Edwards is coming to retrace the RFK visit. I wish they were all coming. These things matter. It is not about party; it's about eyeballs. And there are sights that need seeing.

When no one shows up to witness the obliteration of mountaintops - vast hillsides being shoved into creek beds - then desperate mining practices flourish.

When the rest of the country never sees the broken families and children cut adrift from addiction, then a pharmaceutical company can get off with a fine and a pat on the rump for years of dumping pain drugs like OxyContin into these rural communities.

People will tell you government doesn't work. But I've seen it work. It starts with somebody showing up and making an effort. I have also seen it fail. Mostly that happens when no one's paying attention.

*Source: "In Rural Poverty, Showing Up Is a First Step." Dee Davis. NPR. 7/17/2007.
<http://www.npr.org/templates/story/story.php?storyId=12017456>*

DISCUSS

How do you think Dee Davis would describe the effect of poverty on health?



Poverty-related Barriers to Health

Poverty is linked to many health disparities. In some cases, poverty is a direct cause of the health effect. For example, if one does not have enough money to purchase food, hunger and malnutrition will result. In other cases, poverty may contribute to a problem or the relationship may be difficult to determine. We might say that these types of negative health effects are correlated with poverty. For example, a person in poverty may be more likely to consume more sugary beverages. This could be due to a number of factors, but one contributor might be that poverty in their neighborhood left their school system struggling, which led to poor education in health, which leaves them unaware of the health dangers of high levels of sugary beverages in the diet.

Those in poverty often lack access to basic rights of shelter, sanitation, water, information, nutrition, health, and education. A few of these, like sanitation and water, are less of a concern in the United States than they are in other countries, especially developing ones. Those ones are done as an example in the table below. For each basic right, list the barriers and the possible effects on health.

Human Right	Barrier related to poverty	Possible effect on health
Water	<i>Example: Lack of infrastructure for clean water</i>	--Exposure to waterborne diseases (bacteria, parasites, etc.) --Dehydration, diarrhea, etc.
Sanitation	<i>Example: Lack of infrastructure for waste removal (human waste, garbage, etc.), bathing, and hand washing</i>	--Exposure to infectious diseases --Lack of privacy, difficulty maintaining hygiene & cleanliness
Shelter		
Information		
Nutrition		
Health		
Education		



Short Story

Write a **short story** about one day in the life of a fictitious character growing up in **poverty** in a **rural community**. In the story, include at least **three poverty-related barriers** and their **effect on the health** of your character.



Representations of Poverty & Health

Find a representation of poverty and its impact on health on the Internet. This could be a news article, blog post, poem, short story, book, film, political cartoon, or work of art. You are not limited to those options, but those are examples of resources that can all be accessed through google searches online.

1. Describe your representation of poverty.
2. What barriers did it represent?
3. How does poverty impact the health of the subject?

Chronic Disease

Obj. 6.4: Identify risk factors and preventative strategies for reducing chronic disease.



Rural vs. Urban Mortality Rates

Use the following data table to answer the questions below.

Age-Adjusted Mortality Rates Per 100,000 Females Aged 15 and Older, by Leading Cause of Death and Rural/Urban Residence,* 2009

	Rural Rate (Rank)	Urban Rate (Rank)
Total	868.2 (1-0)	764.2 (1-0)
Heart Disease	201.2 (1)	177.3 (2)
Malignant Neoplasms	194.8 (2)	184.7 (1)
Chronic Lower Respiratory Diseases	98.7 (3)	46.9 (4)
Cardiovascular Diseases (Strokes)	58.3 (4)	46.1 (3)
Unintentional Injury	42.1 (5)	27.8 (6)
Alzheimer's Disease	36.2 (6)	31.2 (5)
Diabetes Mellitus	27.1 (7)	21.8 (7)

*Defined as residence in non-metropolitan (rural) and metropolitan (urban) statistical areas; all estimates are age-adjusted.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, Underlying Cause of Death 1999-2010 on CDC WONDER online Database, released 2012. Data for year 2010 are compiled from the Multiple Cause of Death File 2010, Series No. 201-2012. Retrieved from <http://wonder.cdc.gov/ucd10.html>

Note: Malignant Neoplasms = Cancer.

1. Which of the causes of death listed are preventable?
2. Which cause of death had the greatest disparity (difference) between rural and urban populations?
3. What are the leading causes of death for urban and rural females, respectively?

Personal Connection

Do you know anyone who has dealt with any of the health issues shown in the data table above?



Chronic Disease

Write the definitions of each term in the table:

Term	Definition
Chronic disease	
Acute disease	
Communicable disease	
Noncommunicable disease	

Review the *CDC Chronic Disease Fact Sheet*. Use it to fill in the following statistics:

Chronic Disease Rates:

- ___ out of 10 deaths among Americans each year are from chronic diseases.
- In 2005, 133 million Americans – almost ___ out of every 2 adults – had at least one chronic illness

Four Common Causes of Chronic Disease:

Four modifiable health risk behaviors— are responsible for much of the illness, suffering, and early death related to chronic diseases. They are:

- _____
- _____
- _____
- _____



Chronic Disease Assignments

Your team will be assigned to one of the following chronic diseases or conditions: (1) *heart disease*, (2) *diabetes*, (3) *cancer*, (4) *hypertension*, (5) *obesity*, (6) *chronic obstructive pulmonary disease*, (7) *stroke*, (8) *arthritis*. Write your disease assignment below:

Our Chronic Disease/Condition: _____



Chronic Disease Research

Using the following table, any informational handouts provided, and the Internet, complete the graphic organizer below with information about your disease. Focus in particular on the bolded rows (risk factors and prevention strategies).

Category	Information
Disease Name	
Disease description	
Symptoms	
Physiological cause of symptoms	
Risk factors	
Diagnostic Tests <i>(or screening procedures)</i>	
Treatment	
Prevention strategies	



Health Fair Booth Challenge

Your team will present a health fair booth to the community, delivering information on your chronic disease or condition. Your goal is to reduce the prevalence of your chronic disease or condition through education. Your booth should be engaging and build awareness with clear and accurate information. Use the graphic organizer on the following page to plan your booth.



Health Fair Booth Planning

Plan your health fair booth using the following table:

Question	Your Plan:
Title of Booth <i>(clever, catchy, or simple)</i>	
Target Population <i>(Who is most likely to benefit?)</i>	
Knowledge <i>(What information will be communicated?)</i>	
Method of Presentation <i>(draw/sketch booth on a separate page as well)</i>	
Attraction of Audience <i>(How will you draw people in to your booth?)</i>	
Interactive Element <i>(How will audience engage with the material?)*</i>	
Evidence of Success <i>(How will you know if you increased knowledge or awareness?)</i>	
Roles <i>(What will each team member do or say at the booth to play a role?)</i>	

Interactive Element: The audience could fill out a questionnaire, take a quiz, compete in a competition to guess something, answer questions, ask questions, play a game, etc.



Check Your Knowledge

List 2 risk factors and 2 strategies for preventing your chronic disease or condition.

Chronic Disease or Condition: _____	
Risk Factors	Strategies for Prevention



Create Your Health Fair Booth

Plan your tasks to accomplish to create your booth:

Team Member	Task	Deadline

Preventable Injuries

Obj. 6.5: Analyze risk factors for unintentional injuries in order to provide safety recommendations.



Leading Causes of Nonfatal Injuries

Use the following chart (see full PDF handout) to answer the questions about causes of injuries.

National Estimates of the 10 Leading Causes of Nonfatal Injuries Treated in Hospital Emergency Departments, United States - 2011

Age Group

Rank	<5	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	Unintentional Falls									
2	Unintentional Poisoning									
3	Unintentional Fire, Smoke, or Hot Objects Injuries									
4	Unintentional Motor Vehicle Occupant Injuries									
5	Unintentional Motor Vehicle Non-Occupant Injuries									
6	Unintentional Falls from Stairs or Ladders									
7	Unintentional Falls from Same Level Surfaces									
8	Unintentional Falls from Objects or Structures									
9	Unintentional Falls from Vehicles									
10	Unintentional Falls from Trains									

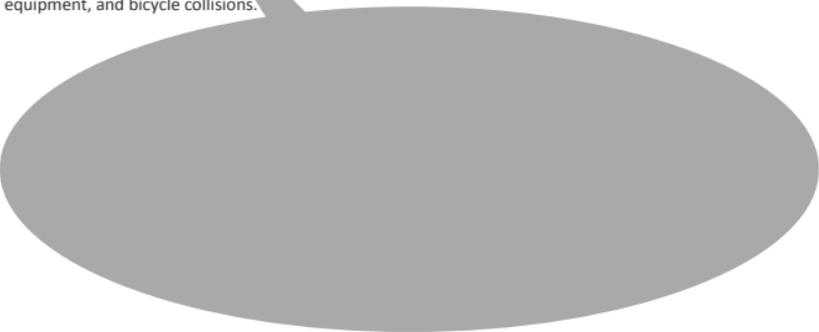
The "DO NOW" column contains estimates of deaths from each condition in each year. It represents the capacity of students. All rankings are based on the number of injuries treated in hospital emergency departments. For more information, see the full PDF handout.

1. What is the overall leading cause of nonfatal injuries? _____
2. What is the leading cause of nonfatal injuries among 15-24 year olds? _____
3. For 15-65+ year olds, in what rank place does "Unintentional MV-Occupant" place? ____ *Note: MV-Occupant stands for Motor Vehicle Occupant)*
4. Are bicycle injuries or motor vehicle injuries more common among 5-9 year olds? _____
5. What trend do you notice in unintentional poisoning injuries? What do you think is contributing to this trend?
6. The local fire department is starting a campaign to educate people on testing their smoke alarms. For which age groups would this intervention most likely reduce nonfatal injuries?

DISCUSS

Brainstorm

With a small group, list as many specific examples of types of injuries as you can in the bubble below. You may use the chart from the Do Now exercise to help, but be sure you add more specific injury examples. For example, the category “Unintentional Struck By/Against” might include injuries from sports, playground equipment, and bicycle collisions.

**A Cup of Health with CDC Podcast**

Listen to the Podcast, “What We’re Learning About Deaths from Unintentional Injuries,” and follow along on the transcript handout. Answer the questions below based on Dr. Moffett’s responses.

1. Why do researchers use the term “unintentional injury” instead of “accident?”
2. Give three examples of things that qualify as “unintentional injuries” and one example of something that does not.
3. What is the #1 leading cause of death from unintentional injury? _____
4. What is one cause of unintentional injury that is on the rise among adults? _____
5. On the individual level, what are two things parents can do to prevent injuries for their children?
6. By how much have unintentional injury rates increased recently? ____%



The 3 E's of Injury Prevention

Review the definitions below, then read about the 3 E's of injury prevention.

Did you know?

- Violence and injuries together kill more people ages 1–44 in the U.S. than any other cause (*NCIPC: WISQARS*)
- Violence and injuries cost more than \$406 billion in medical care and lost productivity each year (*Finkelstein EA et al 2006*)

Unintentional injury: any injury that was unplanned and does not result from intent (as in violence); the most common unintentional injuries result from motor vehicle crashes, falls, fires/ burns, drowning, poisonings, and aspirations

Injury prevention: an effort to prevent or reduce the severity of bodily injuries caused by external mechanisms before they occur

Injury prevention strategies are often categorized as the 3 E's: **E**ducation, **E**ngineering modifications, and **E**nforcement/enactment. In the table below, examine some examples related to traffic and automobile safety and then write your own examples for drownings.

3 E's	Traffic & Auto Safety	Drowning
Education	-promote seat belt use -discourage impaired driving -promote child safety seats	
Engineering	-vehicle crash worthiness -seat belts, airbags, locking seat belts for child seats	
Enforcement/enactment	-passage and enforcement of primary seat belt laws, speed limits, impaired driving enforcement	



3E Interventions to Reduce Injuries

Challenge: Team up to improve health and safety by reducing unintentional injuries in your community!

Directions:

- 1) Choose one type of injury to focus on. Our injury type is: _____
- 2) Choose one of the 3 E's. We will approach the problem through: **E** _____
- 3) Create an intervention that helps reduce injury. Use the planning table on the next page to work on it together in class. Then assign tasks to finish creating and implementing the intervention for homework.
- 4) Be ready to present your 3E intervention during the next class period.



3E Intervention Planning

Question or Consideration	Ideas & Action Plan
<p>What evidence do you have that your specific type of injury is a problem in your community?</p>	
<p>Why did you choose to target the injury with your chosen method--the "E" you selected?</p>	
<p>Describe your intervention:</p>	
<p>Plan out your intervention to consider the 4 W's:</p>	<p><i>Who:</i></p> <p><i>What:</i></p> <p><i>When:</i></p> <p><i>Where:</i></p>
<p>What evidence will you collect to determine if your intervention was successful?</p>	
<p>What tasks do you need to accomplish to create and implement your intervention? <i>(Make a specific list, using team member names, and deadlines)</i></p>	



Risk Factors and Injury Prevention

For each of the following types of injury, list one risk factor and one preventative strategy.

1. Childhood poisonings

- Risk factor:
- Preventative strategy:

2. Burns

- Risk factor:
- Preventative strategy:

3. Motor vehicle crashes

- Risk factor:
- Preventative strategy:



Create Your 3E Intervention:

Plan your tasks to accomplish to create your injury prevention intervention:

Team Member	Task	Deadline

Migrant Worker Health

Obj. 6.6: Analyze the relationship between access to care and health status for migrant workers



Brainstorm

Examine image below. What kind of unique health concerns might the migrant workers in this image face? List as many as you can think of in the box below.



Image: UC Davis Annual Report (http://annualreport.ucdavis.edu/2009/features/health/improved_migrant_health_care.html)

Health Issues:

DISCUSS

Access to Health Care for Migrant Workers

A recent headline for a news story proclaimed, "Fear keeps migrant workers from getting health care." Consider this headline as you discuss the questions below:

1. How might fear be a barrier to healthcare?
2. What other barriers might migrant workers face?
3. If migrant workers do not access health care when they need it, how might this affect their health?



READ

Farmworker and Clinician

Anita de la Vega was a lifelong champion of farmworkers. She hailed from a unique perspective, having been both a farmworker herself and, later, a migrant health clinician.

The excerpt below from her speech at the 1996 MCN Unsung Hero Award (12 years before her death) is an eloquent statement on the life of farmworkers and the dedication of the clinicians who serve them.

I am the product of undocumented parents who dared to swim across the Rio Grande so that they could find a better opportunity for themselves and their children... My mother had no prenatal care and none was available to her... I lived in tents, I picked fruit so I could get through school along with my other family members. I have had to deal with not wanting to be Hispanic because of the language and cultural barriers and what it did to women...

I am the eldest of five children and became my parents' advocate because they could not speak English... Being an advocate at the age of seven, when I learned English as a second language, I encountered a system that was not very sensitive to people who had a different culture and a different language... And so, as I picked grapes and I was on my knees spreading those grapes for raisins, I decided that someday I would hope to work in the system. That I would try to change it so that it would be sensitive and poor people would get care with love,... dignity, and respect for their cultural barriers...

It is difficult being a clinician when you work with the poor... I am a graduate of (two universities). I choose to work with the poor and farmworkers. I want to be there as a role model and to develop programs that they can further themselves... Also, with my two languages, I can empower them to use a system that is sometimes very negative and very hard and very cruel. My people, like my parents, are being beaten because they try to come to this country to find opportunities...I think it is incumbent on all of us to remember where we came from and turn our face around to the injustices. And that together we make a difference.

Source: <http://www.migrantclinician.org/issues/migrant-info/voice.html>

DISCUSS

Reflect:

Anita de la Vega was motivated to work as a migrant health clinician by her own experiences as a migrant farmworker. She argues that the healthcare system is often not sensitive to the needs of migrant workers. In what ways is the healthcare system she discusses failing migrant workers? (*Use examples from Anita's story as well as your own inferences.*)

**Introduction to Migrant Issues**

Those working in farm labor tend to be either newly arrived immigrants with few connections or individuals with limited opportunities or skills who rely on farm labor poorly regulated for survival. Increasingly, such laborers are filling needs in other industries with high demand for low-cost labor. Employment in construction and meatpacking is also common. Other than low pay, these jobs also share high risk; the construction industry has the third highest rate of occupationally-related injury, behind farm work and mining.

The risks for these workers and their families, are not limited to those faced while on the job. This population, largely from Mexico and other Central American countries, also face a myriad of environmental exposures in their "home environments", such as they are. A mobile lifestyle combined with the vicissitudes of economic insecurity, language barriers and the discomfort of prejudice imposed by the outside world, result in the isolation of these workers and their families from mainstream community life and its related services. The United States has had a spotty history of providing a consistent level of health care, housing, and sanitation for migrant workers. Today, migrant workers still suffer mortality and morbidity rates greater than the vast majority of the American population, due in part to the combination of poverty, limited access to health care, and hazardous working conditions.

A migrant is defined as an individual who is required to be absent from a permanent place of residence for the purpose of seeking employment. National data on all migrants is largely unavailable. The best data comes from the migrant farmworker population.

Source: <http://www.migrantclinician.org/issues/migrant-info.html>

DISCUSS

What health risks do migrant workers and their families face?



Migrant Health Issues

The health issues that face migrant and other mobile underserved populations are similar to those faced by other disadvantaged groups, including the poor, and especially rural poor, and recent immigrants. These illnesses are caused by poor nutrition, lack of resources to seek care early in the disease process, and infectious diseases from overcrowding and poor sanitation. However, the health problems migrants and their families face because of their low-income status and unfamiliarity with the culture are compounded by a migratory lifestyle and the inherent dangers and health risks involved in their occupations. Migrants and their dependents experience more frequent and more severe health problems than the general United States population. Only a limited number of scientific studies have been made on the health status of migrants and other mobile underserved populations.

High Risk General Problems

The overall medical and dental problems encountered in migrant populations are not dramatic, except on a quantitative basis. There seems to be more of everything, and common conditions have been allowed to progress to very serious stages. Migrants experience a large number of minor ailments. They also identify and treat some conditions as ailments which are actually underlying symptoms of other illnesses and which would be taken as signs of more serious health problems if they were clearly presented to health professionals. The potential lack of awareness that a condition, such as diarrhea or fever, might indicate a more serious underlying problem will sometimes cause delays in seeking professional medical attention: an earache is a minor condition if treated properly, but it can lead to deafness if not treated. Deafness is in no way a minor problem, and is one of the frequently mentioned major health problems in the migrant population.

All of the health care problems found in the general population are found in migrant groups. Some, however, occur more frequently. These include diabetes, cardiovascular disease, and asthma. Tuberculosis deserves special mention. Active cases are consistently found, and there are a high proportion of reactors among migrants, consequently it is necessary to be selective in choosing which patients will follow conventional therapy.

Dental problems abound in migrant populations, yet dental care takes very low priority in the help-seeking behavior of migrants. Routine examinations of both children and adults reveal catastrophic dental sequelae. Bottle mouth caries is a relatively common problem, and gingivitis is rampant among adults.

Prenatal care for migrant mothers is difficult, and many of the pregnancies are high risk. There are high numbers of pregnancies in both very young and much older women. The absence of prenatal care, especially early in the pregnancy, is common, as are multigravida females. These conditions lead to a high incidence of premature births, preeclampsia, and other complications.

There is probably no other population in the United States that has had simultaneously high incidences of both over-immunization and under-immunization of children. Many pediatric migrant patients have been immunized four or five times in the same season, due to the problems of continuity of care, while others have been missed completely for the same reason.

Depression is another concern among adult migrants which may be related to isolation, economic hardship or weather conditions which can hamper work. Adult men are vulnerable to substance abuse that can be related to poverty, stress, lack of mobility or recreational opportunities.

Source: <http://www.migrantclinician.org/issues/migrant-info/health-problems.html>



Migrant Health Skits

As a team, create a skit depicting an scenario involving migrant workers and a health issue. Be creative! Be sure to portray how barriers may limit access to care and how this in turn impacts health status. Outline your ideas and write a script in the space below:



Migrant Health Disparities

List and explain **three** health disparities related to migrant worker health.

(1)

(2)

(3)



Let's Eliminate These Disparities!

Choose one of the disparities you explained above in the previous section. Brainstorm possible solutions and choose one idea to explain in detail. Write a short explanation.

Mental Health

Obj. 6.7: Determine when professional mental health services are required.



Who are Mental Health Professionals?

Review the table listing various mental health professionals. Then answer the questions below.

Occupation	Degree	Prescription Privileges	Average Income (\$US)
Psychiatrist	MD/DO	Yes	\$200,000
Clinical Psychologist	PhD/PsyD	No	\$85,000
School Psychologist	PhD/EdD/PsyD or MA/MS	No	\$78,000
Counselor/Psychotherapist	PhD/EdD/PsyD or MA/MS	No	\$49,000 - \$75,000
Clinical or Psychiatric Social Worker	MSW/DSW/PhD	No	\$46,170 - \$50,700
Occupational Therapist	MOT, MSOT, OTD, ScD, PhD	No	\$69,630
Psychiatric and Mental Health Nurse Practitioner	MSN/DNP/PhD	Yes	\$80,711
Physician Assistant (PA)	MPAS/MHS/MMS/DScPA	Yes	\$80,356
Expressive/Art Therapist	MA	No	\$45,000

Source: Wikipedia (Mental Health Professional)

1. A psychiatrist is a medical doctor who evaluates, diagnoses and treats mental illness. If you were to become a psychiatrist, what might you like and dislike about the career?
2. An occupational therapist may work with those who have mental health problems by choosing activities to help them learn to engage and cope with daily life. What types of activities might these include?
3. Which mental health professionals may have the ability to prescribe medicines?
4. Of these mental health careers, which interests you most? Why?



What are the **benefits** and **challenges** of having such a wide variety of professionals who may support a person with mental health needs?

NEW
INFO

What is Mental Illness?

A mental illness is a medical condition that disrupts a person's thinking, feeling, mood, ability to relate to others and daily functioning. Just as diabetes is a disorder of the pancreas, mental illnesses are medical conditions that often result in a diminished capacity for coping with the ordinary demands of life.

Serious mental illnesses include major depression, schizophrenia, bipolar disorder, obsessive compulsive disorder (OCD), panic disorder, post-traumatic stress disorder (PTSD) and borderline personality disorder. The good news about mental illness is that recovery is possible.

Mental illnesses can affect persons of any age, race, religion or income. Mental illnesses are not the result of personal weakness, lack of character or poor upbringing. Mental illnesses are treatable. Most people diagnosed with a serious mental illness can experience relief from their symptoms by actively participating in an individual treatment plan.

Source: http://www.nami.org/Template.cfm?Section=By_Illness

READ

Mental Health in Rural Settings

People in rural areas often experience problems with access to behavioral health services for both mental health disorders and substance abuse and a combination of both as in co-occurring disorders. There are an inadequate number of providers in rural areas and **stigma** regarding obtaining behavioral health treatment continues to exist. Both of these factors often prevent people from accessing needed behavioral health services.

Integrating primary care and behavioral health increases access to behavioral health care for people in rural areas. When behavioral health services are provided in the same health care setting as primary care services, people are more likely to take advantage of the behavioral health services. Resources should be provided to encourage integrated care and to increase the number of behavioral health providers practicing in primary care settings.

- Crisis intervention, diagnosis, primary outpatient treatment (including medication management), prevention, and referral, including services for adults, children, adolescents and families³⁶
- Referral mechanisms to specialists and inpatient mental health services in other communities with referrals back to local community outpatient providers³⁷

Source: "The Future of Rural Health." National Rural Health Association Policy Brief. Feb. 2013.

DISCUSS

1. What is **stigma**? Which mental illnesses do you think carry the most stigma?
2. In addition to stigma, for what other reasons might people avoid mental health care?
3. Why might rural communities have higher rates of mental illness?



Seeking Mental Health Care

Read the reference article “Seeking Mental Health Care: Taking the First, Scary Step,” by Roxanne Porter for Psych Central. In the table below, briefly explain each strategy discussed in the article.

Strategy for Seeking Mental Health Care	Explanation
Figure out why you are reluctant	
Use anonymous help lines	
Stop using pejorative language	
Ask around	
Talk it out	
Ask for company	
Keep a journal	
Consider support groups	
Consider what to expect	
Set limits	

Mental Illness Facts and Numbers

Review the handout, “Mental Illness Facts and Numbers.” Among the statistics presented, is the following:

“One-half of all chronic mental illness begins by the age of 14; three-quarters by age 24.15 Despite effective treatment, there are long delays—sometimes decades—between the first appearance of symptoms and when people get help.”

What can be done to get people help sooner? Brainstorm some ideas with a partner.



Mock Hotline Call: Mental Health Support for Rural Teens

Challenge: You have created a mental health hotline specifically for a target population of rural teenagers. With a partner, create a realistic fictional call into the hotline from a teen who might be struggling with a mental health illness. Be sure the mental health counselor on the hotline call includes at least two of the strategies for seeking mental health care in the advice given to the teen. Remember, their purpose is not to diagnose the teenager's mental health illness over the phone, but rather to listen, to ensure they are safe, and to provide support, encouragement, and resources for seeking professional mental health care.

Possible Mental Health Illnesses: *Remember, these illnesses will not be diagnosed specifically, but choosing one (or more) will help you frame the symptoms or feelings that the teenager may be calling about.*

- Anxiety Disorders
- Attention-Deficit/Hyperactivity Disorder (ADD/ADHD)
- Bipolar Disorder
- Borderline Personality Disorder
- Depression
- Dissociative Disorders
- Eating Disorders or Substance Abuse
- Obsessive-Compulsive Disorder (OCD)
- Panic Disorder
- Posttraumatic Stress Disorder (PTSD)
- Schizoaffective Disorder or Schizophrenia
- Seasonal Affective Disorder

Before writing your script on a separate paper, plan out the scenario using this table:

Question	Details
Who is the caller? What is their gender, age, and other characteristics?	
What mental illness or specific symptoms/problems is the person calling about?	
What prompted the call? Was there an event or incident?	
How does the caller feel about mental health services? Is he/she resistant? Does she lack access or knowledge?	
What strategies for seeking mental health care will the counselor use? What will be the outcome of the call?	



Accessing Mental Health Care

1. Explain why the teenager in your hotline scenario should seek mental health care?
2. What were the barriers for seeking mental health care that the teen faced?
3. What specific strategies or resources did the mental health counselor on the hotline offer to help?



Hotline Skills

For your homework, you will prepare to present your hotline scenario to the class. You will enact your hotline call script in a live skit or record the audio or video. One partner should act as the mental health counselor and the other should be the teenager who is calling in. Make an action plan with your partner so that you are prepared to do this:

Action Plan:

Telemedicine

Obj. 6.8: Evaluate the impact of technology on rural mental health care outcomes



The Automobile & The Internet

How is the invention of the Internet similar to the that of the automobile? How is it different?



DISCUSS

Just Like Skype...?

Consider this scenario and discuss your responses with a partner.

You are getting used to life in the country by now, but you still love to Skype and FaceTime with your friends from Chicago, where you grew up in until age 14. You are starting to make new friends, your parents and siblings all seem happy, and you are doing well in school. But you just can't shake a feeling of hopelessness that has been bothering you for many months. You start to sleep in late into the day on weekends because it is so difficult to get out of bed. You haven't told anyone about your feelings; after all, no one wants to hear about a sad, lonely teenager. And then you start cutting yourself. You cannot figure out why you are doing it and the frustration makes things even worse. But it is the only way you feel better, even if it is fleeting. Your mother confronts you and takes you in to the only clinic in the small town. There is no mental health care practitioner on staff, but the nurse practitioner suggests you use their new "telemental health room" to connect on a video screen with a psychiatrist in a larger city just a few hours away. The nurse must have noticed your look of surprise, because she says, "It is no big deal, just like Skyping your friends. But it's secure and private." You ask to go to the bathroom and sit down in the stall for a moment to gather your thoughts.

- 1) What do you think about the idea of "Skyping" with a doctor?
- 2) What are the pros and cons of seeing a mental health professional in this way?
- 3) Who might this technology appeal to most? Least?



Telemedicine Terms

telemedicine: The use of medical information exchanged from one site to another via electronic communications to improve a patient's health status. Telemedicine includes a growing variety of applications and services using two-way video, email, smart phones, wireless tools and other forms of telecommunications technology. (*American Telemedicine Association*)

telemental health: The use of telecommunications (video conferencing) technology to provide mental health services (also known as telepsychiatry)

Examples:

- 1) providing direct mental health care consultations through two-way interactive systems
- 2) providing health workers in remote areas with continuing education on mental health
- 3) videoconferencing on mental health cases using a "virtual" case management team

What Are the Benefits of Telemedicine?

Telemedicine has been growing rapidly because it offers four fundamental benefits:

- **Improved Access** – For over 40 years, telemedicine has been used to bring healthcare services to patients in distant locations. Not only does telemedicine improve access to patients but it also allows physicians and health facilities to expand their reach, beyond their own offices. Given the provider shortages throughout the world—in both rural and urban areas—telemedicine has a unique capacity to increase service to millions of new patients.
- **Cost Efficiencies** – Reducing or containing the cost of healthcare is one of the most important reasons for funding and adopting telehealth technologies. Telemedicine has been shown to reduce the cost of healthcare and increase efficiency through better management of chronic diseases, shared health professional staffing, reduced travel times, and fewer or shorter hospital stays.
- **Improved Quality** – Studies have consistently shown that the quality of healthcare services delivered via telemedicine are as good those given in traditional in-person consultations. In some specialties, particularly in mental health and ICU care, telemedicine delivers a superior product, with greater outcomes and patient satisfaction.
- **Patient Demand** – Consumers want telemedicine. The greatest impact of telemedicine is on the patient, their family and their community. Using telemedicine technologies reduces travel time and related stresses for the patient. Over the past 15 years study after study has documented patient satisfaction and support for telemedical services. Such services offer patients the access to providers that might not be available otherwise, as well as medical services without the need to travel long distances.

Source: American Telemedicine Association <http://www.americantelemed.org/learn/what-is-telemedicine#UvFEVHewKqk>

DISCUSS

What are some potential drawbacks, challenges, or difficulties with telemedicine?



Telemedicine and Patient Satisfaction

Examine the patient care survey example below, created by an independent patient satisfaction company called Press-Ganey. After you review the survey, answer the questions below.

CARE PROVIDER	Very Poor 1	Poor 2	Fair 3	Good 4	Very Good 5
During your visit, your care was provided primarily by a doctor, physician assistant (PA), nurse practitioner (NP), or midwife. Please answer the following questions with that health-care provider in mind.					
1) Friendliness/courtesy of the care provider	<input type="radio"/>				
2) Explanations the care provider gave you about your problem or condition	<input type="radio"/>				
3) Concern the care provider showed for your questions or worries	<input type="radio"/>				
4) Care provider's efforts to include you in decisions about your treatment	<input type="radio"/>				
5) Information the care provider gave you about medications (if any)	<input type="radio"/>				
6) Instructions the care provider gave you about follow-up care (if any)	<input type="radio"/>				
7) Degree to which care provider talked with you using words you could understand	<input type="radio"/>				
8) Amount of time the care provider spent with you	<input type="radio"/>				
9) Your confidence in the care provider	<input type="radio"/>				
10) Likelihood of your recommending this care provider to others	<input type="radio"/>				
11) Comments (describe good or bad experience):					

- Based on the questions on this survey, which areas of the patient experience do you think would be most **POSITIVELY** affected by a telemedicine doctor-patient visit (*Note: You can assume this means that the doctor and patient are using 2-way video streaming*)? Why?
- Based on the questions on this survey, which areas of the patient experience do you think would be most **NEGATIVELY** affected by a telemedicine doctor-patient visit? Why?
- Predict:** What specific *advantages* and *disadvantages* would you expect to find during a telemedicine doctor-patient visit?



Telepsychiatry & the Doctor-Patient Relationship

Read the excerpts from the literature review study below. Then answer the final question based on the results you gather.

Effects of Telepsychiatry on the Doctor-Patient Relationship: Communication, Satisfaction, & Relevant Issues.

The assessment of telepsychiatry's impact on the doctor-patient relationship is complicated by the many types of patients, settings, and practice styles for which it is employed. Patient types vary by mental disorder, age, culture, and setting. Sites of service include primary care and mental health clinics, medical and psychiatric emergency rooms, nursing homes, shelters, hospices, schools, forensic facilities, the battlefield, public health, and academic centers

Communication

A host of factors affect perception of the telemedicine visit and communication by participants. Disclosure is affected by the presence of others in the room, belief of being videotaped, and stigma. In addition, if participants have never used telemedicine before, they may feel anxious, distracted due to the equipment, and self-conscious when seeing themselves on the screen.

Author	Year	Study	Participants	Location	Comments
Regehr et al ¹⁷	95	Adults in a psychiatric hospital	100/74	USA	Used to compare their experience with that of patients who visited in person.
Regehr et al ¹⁸	95	Adults in a psychiatric hospital	100/74	Australia	Many patients were satisfied and preferred it to in-person consultation.
Regehr et al ¹⁹	95	Child outpatients	100/74	US	Parent satisfaction was very good.
Regehr et al ²⁰	95	Geriatric outpatients in a retirement community	100/74	US	Satisfied despite problems with hearing and vision usage.
Goldman et al ²¹	95	Adult primary care outpatients	100/74	US	Used to compare satisfaction.
Chen et al ²²	95	Adult outpatients	None	None	Used to study in person case.
Stanger et al ²³	95	Adult outpatients	100/74	Canada	Used to study in person case.
Wood et al ²⁴	95	Children and parents, physicians	100/74	US	Patients, doctors, diagnosis and treatment recommendations appear to be similar. In-person case significantly decreased satisfaction levels about in-person case.
Wood et al ²⁵	95	Children, adolescents, and parents	100/74	US	All noted anxiety, stating that doctors through the monitor. Clinical preference for in-person case if it were available, with less of a parent-child case.
Stanger ²⁶	95	Adult outpatients	100/74	US	Positive patient experience in relation to satisfaction and clinical preference.
Wu et al ²⁷	95	Adult primary care outpatients	100/74	US	Used to compare urban culture with the culture of rural in-person outpatients.
Johnson et al ²⁸	95	Working family residents	100/74	US	Patients and families expressed appreciation for the service.
Wood et al ²⁹	95	Child outpatients	100	Australia	Used to compare the quality of in-person and telemedicine. Satisfaction with telemedicine was better in the group of in-person.
McCracken et al ³⁰	2006	Adult outpatients	100/74	US	High satisfaction, would have had to have significantly.
Wolstein et al ³¹	10	Adult outpatients	100/74	Canada	Used to compare satisfaction with in-person.
Quinn et al ³²	10a	Geriatric outpatients	100	US	Used to study satisfaction.
Quinn et al ³²	10b	Adult outpatients	100/74	Australia	Used to study in person case satisfaction with telemedicine. High in-person.

Reprinted and revised with permission from the American Psychiatric Association. Reprinted from the Journal of Telemedicine and Telecare, 10(1), 2005, pp. 1-6.

Source: Hilty et al. Primary Psychiatry, 2002. <http://primarypsychiatry.com/effects-of-telepsychiatry-on-the-doctor-patient-relationship-communication-satisfaction-and-relevant-issues/>



What do results from this study suggest about the impact of the telemedicine visit on patient satisfaction?



Impact of Telemental Health Technology on Rural Mental Health Care

A. Name **3 ways** that telemental health may **improve** rural mental health care?

- 1.
- 2.
- 3.

B. Name **1 challenge or drawback** from using telemental health for rural mental health care?

- 1.



Telemedicine Technology Review

Conduct research on a telemedicine technology of your choice using any online resources. You may choose any technology that falls into the scope of telemedicine. Some examples include: an app for patients or healthcare providers, a software package for clinics, a platform or system for telemedicine networks, or an online website-based tool. Once you have investigated it thoroughly, provide a review using the questions below.

1. Describe your telemedicine technology. (Include your sources)
2. What are the **pros & cons** of this specific technology?
3. Who is the **target audience or users** of this technology?
4. Would you **recommend** this technological product for telemedicine? Why or why not?

OPQRST Symptom Assessment

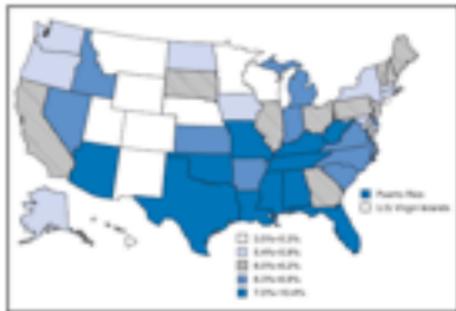
Obj. 6.9: Obtain subjective information from a patient using the OPQRST mnemonic



Heart Disease in the U.S.

Use the map below to answer questions 1-3.

FIGURE. Self-reported prevalence^a of history of myocardial infarction or angina/coronary heart disease among adults aged ≥ 18 years — Behavioral Risk Factor Surveillance System, United States, 2005



^aAge adjusted to the 2000 U.S. standard population of adults.

Note: Myocardial infarction = heart attack; angina = heart pain

1. What was the self-reported prevalence of history of heart attack or heart disease in your state?
2. What geographical trends do you notice in the prevalence of heart attack/heart disease?
3. What factors do you think may account for these trends?

DISCUSS

Identifying Heart Attacks

Why do you think many heart attacks are difficult to predict and diagnose early?

NEW
INFO**Acute Illnesses & OPQRST****Review:**

The SOAP note (Subjective, Objective, Assessment, Plan) is a method of documentation used by providers to write out notes in a patient chart. The Subjective portion of the SOAP consists of all the questions asked to gather information. The SAMPLE history (Signs/symptoms, Allergies, Medications, Past history, Last oral intake, & Events leading to illness/injury) is an important part of the Subjective data gathering.

OPQRST-AAA:

Another critical portion of the Subjective section for an **acute illness** is the specific set of questions about the symptoms and history of present illness which may help in diagnosis and treatment. One **mnemonic** for this set of questions is OPQRST. This particular set of questions is often used methodically when a heart attack is suspected, but can also be used for a range of other illnesses such as headaches, stomach pain, and more. The table below summarizes the questions included in OPQRST.

VOCABULARY:

Acute illness: a disease with a rapid onset and/or a short course

mnemonic: a learning device that helps one remember information

provocation: creating a negative response (in this case, the symptom in question)

palliation: to relieve the symptoms of a disease

Letter	Meaning	Questions
O	Onset	What were you doing when it started (active, inactive, stressed)? Did it start suddenly, gradually, or is it part of an ongoing chronic problem?
P	Provocation or Palliation	Does any movement, pressure, or other external factor make the problem better or worse? Are the symptoms relieved with rest?
Q	Quality of the pain	Can you describe the pain? Is it sharp, dull, crushing, burning, tearing, or some other feeling? Is there a pattern, such as intermittent, constant, or throbbing?
R	Region and Radiation	Where is the pain located on the body? Does it radiate (extend) or moves to any other area? (<i>Heart attacks can radiate through the jaw and arms. Other referred pains can provide clues to underlying medical causes.</i>)
S	Severity	How would you rate your pain on a scale of 0 to 10? (0 is no pain and 10 is the worst possible pain.) Either "... compared to the worst pain you have ever experienced") or "... compared to having your arm ripped off by a bear".
T	Time (history)	How long has the condition been going on? How has it changed since onset (better, worse, different symptoms)? Has it ever happened before?

Note: The questions do not have to be asked in the exact order listed. The patient interview should be conversational and have a smooth flow, so sometimes the order should be adjusted.



Know the Signs and Symptoms of a Heart Attack

About Heart Attack

- A heart attack happens when the **blood supply** to the heart is **cut off**. Cells in the heart muscle that do not receive enough oxygen-carrying blood begin to die. The more time that passes without treatment to restore blood flow, the greater the damage to the heart.
- Every year about **785,000 Americans** have a heart attack. Of these, **525,000** are a first heart attack and **190,000** happen in people who have already had a heart attack.
- About **15%** of people who have a heart attack will die from it.
- **Almost half** of sudden cardiac deaths happen outside a hospital.
- Having high blood pressure or high blood cholesterol, smoking, having had a previous heart attack or stroke, or having diabetes can increase your chance of developing heart disease and having a heart attack.
- It is important to recognize the signs of a heart attack and to **act immediately** by **calling 911**. A person's chance of surviving a heart attack increases if emergency treatment is administered as soon as possible.

Symptoms of a Heart Attack

The **National Heart Attack Alert Program** notes these major signs of a heart attack:

Chest pain or discomfort. Most heart attacks involve discomfort in the center or left side of the chest that lasts for more than a few minutes, or that goes away and comes back. The discomfort can feel like uncomfortable pressure, squeezing, fullness, or pain.

Discomfort in other areas of the upper body. Can include pain or discomfort in one or both arms, the back, neck, jaw, or stomach.

Shortness of breath. Often comes along with chest discomfort. But it also can occur before chest discomfort.

Other symptoms. May include breaking out in a cold sweat, nausea, or light-headedness.

If you think that you or someone you know is having a heart attack, you should **call 911 immediately**.

Source: CDC Heart Attack Fact Sheet

DISCUSS

One study showed that women are two times as likely than men to call 911 if they are showing signs of a heart attack. What might explain this finding?



Role Play: OPQRST Interview

Goal: Practice the OPQRST interview from both angles, the patient and the health care provider

Directions:

1. Choose your starting roles. One person will be an emergency room triage nurse. The other will be a patient who has driven to the hospital, worried about chest pain.
2. Patient uses the first column in the table to record brief details about the chest pain, so they are prepared to act convincingly and answer all questions.
3. Healthcare provider begins the patient interview by asking questions and use the first column in the table below to record the OPQRST information.
4. Switch roles and repeat, using the second column.

	Patient #1	Patient #2
O		
P		
Q		
R		
S		
T		



What was most **challenging** about the OPQRST interview? *(Consider both the healthcare provider and the patient perspectives)*



Identifying OPQRST

Identify the correct portion of the OPQRST interview for each patient statement below.

- _____ 1. The pain in my head is a 9.5. It's the worst pain I've ever felt.
- _____ 2. My head throbs all over, as if someone is squeezing my brain.
- _____ 3. When I turn off all the lights my head feels better.
- _____ 4. It started last night around 11:30pm.
- _____ 5. My headache has started to move into my neck.
- _____ 6. It stopped hurting about an hour ago.



Write An OPQRST Interview Script

Goal: Practice the OPQRST interview for an acute illness

Directions:

1. Choose any acute illness.
2. Research the illness so you understand how a patient may respond when interviewed.
3. Write out the dialogue between the healthcare provider and patient for an OPQRST interview.
4. Find a partner who will agree to help you act out your script in case you are called on to present your interview next class.

Hattie's Heart

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.



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

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	

Case Introduction:

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.

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.

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.

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.

Subjective & Objective:

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

SOAP Note	
Subjective:	
Signs & Symptoms	
Allergies	
Medications	
Past medical history	
Last oral intake	
Events leading to injury or illness	
Onset	
Provocation & Palliation	
Quality	
Radiation & Region	
Severity	
Time	
Associated Symptoms	
Aggravating & Alleviating Factors	
Objective:	
Measurements	
Vital Signs	
Exam Results	
Lab Results	

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

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	
Differential Diagnoses	1. 2. 3.
Final Diagnosis	Claim: Evidence: Reasoning:

An Update on Hattie:

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

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)	

Intervention:

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

Rubric:

You will be graded using the rubrics below.

Obj 6.10a: 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 6.10b: 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 measure 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 6 Learning Objectives:

Obj 6.1: Identify a community's assets and needs related to rural health.

Obj 6.2: Evaluate resources in terms of access, quality, & cost in order to promote health.

Obj 6.3: Examine poverty-related barriers that can hinder healthy living.

Obj 6.4: Identify risk factors and preventative strategies for reducing chronic disease.

Obj 6.5: Analyze risk factors for unintentional injuries in order to provide safety recommendations.

Obj 6.6: Analyze the relationship between access to care and health status for migrant workers.

Obj 6.7: Determine when professional mental health services are required.

Obj 6.8: Evaluate the impact of technology on rural mental health care outcomes.

ANSWER THE FOLLOWING QUESTIONS ON A SEPARATE SHEET OF PAPER.

Obj. 6.1: Think about heart disease within your own community. What **assets** and **needs** does your community have in promoting and maintaining heart health?

Obj. 6.2: Which aspect of the health care system created the biggest barrier to care in Hattie's scenario: **cost, access, or quality**? Why?

Obj. 6.3: Name three **poverty-related** characteristics common to rural communities that may contribute to high rates of heart disease or heart attack deaths.

Obj. 6.4: Name two **risk factors** and two **ways to reduce the risk** of heart disease.

Obj. 6.5: Assuming Hattie had not had a heart attack, what other types of **unintentional injuries** might she be at risk for?

Obj. 6.6: 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. 6.7: 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. 6.8: How might **telemedicine** help Hattie? What advantages and disadvantages might telemedicine provide in her case?

Survey Design

Obj. 6.11: Identify potential problems in the design of survey questions.



Survey Critique

As you take the survey below, consider any possible weaknesses in the way the questions are written.

News Habits Survey

1) When and how do you prefer to learn of the news?

- On the internet whenever I feel like it
- On the evening news
- In the newspaper in the morning
- I don't typically follow the news

2) How much does the news depress you?

1 2 3 4 5

A lot ○○○○○ Not at all

3) Approximately how much time each day do you spend on the news?

Write your answer in the box below

What problems, weaknesses, or errors did you notice in the survey questions? Record your answers below:

Question #	Problem
1	
2	
3	

DISCUSS

Survey Obstacles

A student wants to gather information on the obesity problem in her school. She decides to create a survey that will ask people about their height and weight (to calculate BMI), their eating habits, any health issues they have, and their self-perception of their own weight. What are some obstacles this student would face in designing and conducting her survey?

NEW
INFO**Primary Source: Survey**

A survey is a systematic method of collecting data from a population of interest. It tends to be quantitative in nature and aims to collect information from a sample of the population. The purpose of a survey is to collect primarily quantitative (numbers-based) information, usually through the use of a structured and standardized questionnaire. Sometimes qualitative (descriptions-based) open-ended responses are used, but their usefulness is limited.

STEPS TO CONDUCTING A SURVEY:

- 1. Clarify purpose**
Why conduct a Survey? Who are the stakeholders? Who is the population of interest?
What issues need to be explored?
- 2. Assess Resources**
What external resources will you need?
Which accessible resources (ex: within our school) can you make use of?
- 3. Decide on Methods**
Select the method that is most appropriate
- 4. Write Questionnaire**
Decide on what questions to ask. Set the types of response formats. Set the layout of the questionnaire.
- 5. Revise questionnaire**
Revise and edit the questionnaire for clarity and grammar/punctuation/spelling. It should be professional.
- 6. Prepare Survey**
Decide on the sample design, format and method.
- 7. Collect data**
Administer your survey to the selected population.
- 8. Process data**
Data entry: automatic and online
- 9. Analyze the Results**
Use statistical formulas to determine different trends.
- 10. Interpret the Results**
What are the trends in the data telling you?
- 11. Take Action**
Respond to the data with an intervention.

DISCUSS

What are the advantages and disadvantages of using surveys to collect data?



Writing Surveys

Read the following guidelines for writing excellent surveys:

1. Surveys should have a clear focus

What research question do you hope to answer from the survey?). This research question should serve as your guide to creating each survey question. If a particular question does not help you to answer your research question, do not include it in the survey.

2. Surveys should be short and questions should be concise.

When questions are stated in a clear, simple way, there is less opportunity for respondents to misread, get confused, or lose patience taking the survey.

3. Use closed-ended questions

These questions, in which respondents choose from a set of listed responses, are easier to analyze and are often easier for the respondent. Occasionally, open-ended question (also called a free-response question) are used in order to provide a greater depth of information.

4. Avoid "double-barreled" questions

A double barreled question is a single question that actually asks two different things at once. For example asking "Why do you exercise and eat right?" is actually asking two different things. People may exercise because they think its fun but eat right because they like the way healthy food tastes. Instead, the question should be separated into two different questions; "Why do you exercise?" and "Why do you eat right?"

5. Avoid "leading questions"

A leading question suggests a possible answer or makes some responses seem better than others. In the example above, respondents are asked "Why do you exercise"? However, some respondents may not exercise at all. Which option would a person choose below if they never exercised?

1. Why do you exercise? (select all that apply)
 - A. I exercise because it is fun
 - B. I exercise to stay healthy
 - C. I exercise because I feel good afterward

You could split this question into two separate questions. Alternatively, you can keep the questions combined as long as you include an "I do not exercise" response option.

2. *If you exercise*, what is the primary reason why you exercise? (select one)
 - A. I exercise because it is fun
 - B. I exercise to stay healthy
 - C. I exercise because I feel good afterward
 - D. *I do not exercise*

Another type of leading question makes the respondent think they should answer a question in a particular way. In the following example, the use of the word "love" makes one think that they should love math class. Even the responses to this question are biased.

3. How much do you love math class?
 - A. I love math class more than most people
 - B. I love math class the same as most people
 - C. I love math class less than most people

However, asking people how they feel about math class, instead of how much do they love math class, allows them to report their own feelings about the course.

4. Please rate your feelings about math class on the scale below:

1 2 3 4 5
 I love it! It's O.K. I hate it!

DISCUSS

Response Options

Surveys can have a variety of different types of response options. Some common examples are:

Response Options

- *Multiple choice* (Respondents only select one option; see example #2)
- *Choose from a list* (Respondents may select several options; see example #1)
- *Scale* (Respondents choose a degree of agreement with a statement; see example #4)

Can you think of any other types of response options?



Practice: Create Two Survey Questions

Complete Steps 1 and 4 of the “Steps to Conducting a Survey” to practice.

1. Clarify purpose

a. Select an issue you would like to collect information about:

b. Write a research question about that issue. Be sure you have two distinct variables that you hypothesize have a causal relationship. For example, if your issue is “coffee drinking and sleep” your question might be, “Do those who get less average sleep tend to be coffee drinkers?” Write your research question below:

4. Write Questionnaire

Devise one question and the corresponding response options for each variable. Avoid open-ended, double-barreled and leading questions.

Variable #1 Question:

Variable #2 Question:



Identify the Errors

Explain the error(s) or problem(s) with each question below:

1. How much do you like coffee?
 - a. I love it
 - b. I like it
 - c. I dislike it
 - d. I hate it

Error or Problem:

2. How much sleep do you get, on average?
 - a. a healthy amount (8 or more hours)
 - b. a moderately unhealthy amount (6-8 hours)
 - c. an unhealthy amount (less than 6 hours)
 - d. I don't know

Error or Problem:



Create an Online Survey

Assignment: Using the two questions you devised earlier in this lesson (or new ones if you prefer), create a fun, appropriate survey using any online survey tool. Be sure your questions are not open-ended, double-barreled, or leading!

Recommendation: Use a "Google Form" to create your survey. More information can be found online by searching for "How to create a google survey" on google.com

Challenge: Add more questions and try to use different types of response options

Telemedicine & Mental Health

OVERVIEW:

Twenty percent of nonmetropolitan counties lack mental health services versus five percent of metropolitan counties. In 1999, 87 percent of the 1,669 Mental Health Professional Shortage Areas in the United States were in non-metropolitan counties and home to over 30 million people

-Rural Healthy People 2010, Office of Rural Health Policy

Rural communities face disparities in mental health care. Telemedicine is one possible solution to solve the problem of distance and low geographic population density. Yet there are many challenges to overcome in order to implement telemedicine and apply it to mental health care for those in need.

GOAL:

Identify community needs, perceptions related to telemedicine, and attitude toward using telemental health services, by conducting a survey

ROLE:

You are yourselves, working as a team of health technology consultants charged with determining the need for telemedicine in rural communities.

OBJECTIVE:

6.12: Identify health factors in a community by designing and conducting a survey, and analyzing the results

DELIVERABLES:

- 1) Survey Results Report
- 2) Presentation

ASSESSMENT:

Your report and presentation will be graded on a rubric.

Case Introduction:

The local rural health clinic and a regional hospital are partnering to determine whether a telemental health program would benefit the citizens of your county. They have hired your team as consultants to make an assessment about how to move forward. Should the local clinic adopt a telemedicine program for patients? If so, what should the scope and extent of these services look like? Or should the clinic choose not to provide telemedicine for its patients? If not, what alternative plans can be implemented to ensure that access to mental health care improves in this rural community?



Flickr by IntelFreePress

Explore the Problem:

KNOW-NEED TO KNOW CHART:

Complete the Know-Need to Know chart below based on the following directions:

- **Know:** In this column, write any facts or information you already knew about mental health and telemedicine in rural health.
- **Need to Know:** In this column, write a list of QUESTIONS you have.

Know	Need to Know

Explore the Problem:

NEWS ARTICLE:

Rural Living Is Bad For Your Mental Health: Can Technology And Telemedicine Change That?

By Susan Scutti | Feb 6, 2014 | Medical Daily

The most recent data from the Centers for Disease Control and Prevention finds high rates of mental illness throughout the U.S., but rates are generally higher in the Southeastern and more rural states (for example, nearly 14 percent of the populations in both Mississippi and West Virginia suffer from depression). A number of recent studies have focused on mental health care in rural communities with results that suggest those who live beyond the urban reach experience greater difficulty in accessing treatment. Though the news is bleak, there is a possibility of sunshine, and it arrives by way of technology.

Expense & Stigma

Noting first that Medicaid is the largest payer of mental health care in the U.S., a team of researchers from Emory University and the University of California, San Francisco, examined the availability of outpatient mental health facilities that accept Medicaid across U.S. counties. (Medicaid is a government program that covers upward of 40 million people and provides free or lowcost health insurance coverage, primarily to those with low incomes.) Using both the 2008 National Survey of Mental Health Treatment Facilities and the Area Resource File, the researchers collected and cross referenced the relevant data and came to a disturbing conclusion: More than one third of U.S. counties do not have a single outpatient mental health facility that accepts Medicaid. Next, the researchers looked more closely at the communities in order to understand which ones were more likely to lack this necessary infrastructure. Here, they found that communities with a larger percentage of residents living in a rural area were less likely to have facilities willing to accept Medicaid payment for mental health services. The researchers concluded that, despite the current expansion of Medicaid services under the Affordable

Care Act, rural communities may continue to inadequately provide treatment to those in need of mental health services.

Another recent study focused specifically on low income rural women by examining the ways in which primary care physicians diagnosed or provided care for such women with mood and anxiety disorders. After interviewing 19 primary care physicians who serve rural communities in central Pennsylvania, the researchers determined that, compared to their urban counterparts, rural women are less likely to receive sufficient mental health care. For instance, only about one third of the doctors interviewed for the study reported that they routinely screened for depression. Worse, most of the physicians said many of their patients were underinsured or did not have any mental health coverage. Along with limited access to services, stigma also factored into the situation.

"Rural women may not want to be seen walking into the office of a mental health care provider due to fear of judgment by family and friends," wrote the researchers, led by Jennifer S. McCall Hosenfeld, assistant professor of medicine and public health sciences at Penn State College of Medicine, in a press release. Although the evidence appears bleak, hope of better mental health care does exist for those who live in rural communities and it may soon arrive in the form of technology.

eServices

An article published this month in *Military Medicine* discusses the possibility of providing video-based care for veterans suffering from posttraumatic stress disorder (PTSD). Noting the gap between need and receipt of care, a team of researchers, including scientists from Northeastern University, developed a "service location systems engineering model based on 2010 to 2020 projected care needs for veterans across New England to help determine where to best locate and use in-person and video-based care." Based on their model, the researchers find that some rural areas might be better served by video-based care as opposed to in-person care. Granted, this study simply demonstrates the feasibility of providing PTSD services via teleconference in New England, yet elsewhere such health services have not only been implemented but they continue to grow in use and availability.

Military psychologist Dr. Ray Folen, for instance, works at Tripler Army Medical Center in Honolulu, yet he has been providing treatment to patients residing on farflung bases for years via teleconference. Notably, his practice is far from unusual. For almost 20 years, the Department of Veterans Affairs as well as other government organizations have been serving patients who live in rural areas in a similar manner. One such example is Arkansas, which first implemented a telemedicine system in 2003 as a support mechanism for high-risk pregnancy consultations. Since then, the system has evolved to deliver a range of services within various medical specialties, including mental health.

In many cases, no substitute exists for in-person medical services and treatment, but certainly there are some ways in which technology may supplement if not entirely replace direct care. For instance, the Dutch have implemented a TelePsy system to help identify mental health disorders. Referred by their general practitioner, patients complete an online diagnostic and statistical screening questionnaire and then the system "recognizes" whether or not a disorder is present. This, though, is not the final step; next, a psychologist reviews and consults with the patient by phone and then the patient returns to the general practitioner in order to decide what steps need be taken.

"TelePsy is a system to help and to guide, not to replace," said Marco Essed, CEO of TelePsy. True; nevertheless, it is a gesture toward technology increasingly being used to help mental health care professionals provide better services to all of their patients and more services to those who live in rural or remote locations.

Sources:

1. ColonGonzalez, MC, McCallHosenfeld JS, Weisman CS, Hillemeier MM, Perry AN, Chuang CH. Someone's got to do it' – Primary care providers (PCPs) describe caring for rural women with mental health problems. *Mental Health in Family Medicine*. 2013.
2. Cummings JR, Wen H, Ko M, Druss BG. Geography and the Medicaid mental health care infrastructure: implications for health care reform. *JAMA Psychiatry*. 2013.
3. Musdal H, Shiner B, Chen T, Ceyhan ME, Watts BV, Bennevan J. In-person and video-based posttraumatic stress disorder treatment for veterans, a location-allocation model. *Mil Med*. 2014.
4. Lowery CL, Bronstein JM, Benton TL, Fletcher DA. Distributing Medical Expertise: The Evolution And Impact Of Telemedicine In Arkansas. *Health Affairs*. 2014.

Explore the Problem:

DATA & STATISTICS:

Mental disorders affect approximately one-half of the population over a lifetime and are among the most impairing of chronic diseases.

The suicide rate among rural males is higher than among their urban counterparts across all four regions of the nation. (Eberhardt, M.; Ingram, D.; Makuc, D.; et al. Urban and Rural Health Chartbook. *Health, United States, 2001*. Hyattsville, MD: National Center for Health Statistics, 2001.)

Nationally, an estimated 20% of children and adolescents, similar to rates among adults, suffer from emotional and behavioral disorders. About 11% of children experience significant functional impairment; 5% of children experience extreme functional impairment, and 10-15% of children and adolescents have symptoms of depression at any one time. (Gamm, L.; Stone, S., and Pittman, S.; *Mental Health and Mental Disorders—A Rural Challenge: A Literature Review*.

A study based on a 1990-92 nationwide survey found that the most youthful age group considered, those age 15-24, are most likely to report not receiving minimally adequate treatment for serious mental illness. (Wang, P.S.; Demier, O.; and Kessler, R.C. Adequacy of treatment for serious mental illness in the United States. *American Journal of Public Health*. 92(1):92-108, 2002.)

Access to mental health care and concerns for suicide, depression, and anxiety disorders were identified as major rural health concerns among state offices of rural health. (National Rural Health Research Center Director's Meeting. *Research Opportunities for Rural Health Research Centers and State Offices of Rural Health*. Washington, DC, March 5, 2001.)

Among 1,253 smaller rural counties with populations of 2,500 to 20,000 nearly three-fourths of these rural counties lack a psychiatrist, and 95% lack a child psychiatrist. (Holzer, C.E.; Goldsmith, H.F. and Ciario, J.A. Chapter 16: Effects of rural-urban county type on the availability of health and mental health care providers. *Mental Health, United States*. DHHS Pub. No. (SMA)99-3285. Washington, DC: Superintendent of Documents, U.S. Government Printing Office, 1998, 204-213

Explore the Problem:

IDENTIFYING NEEDS:

Factor Outcome Web:

Recall: A Factor-Outcome web is a tool used to show the relationship between risk or protective factors and associated outcomes, made by connecting variables with bubbles and arrows, pointed in the direction of hypothesized influence. (Lesson 3.11)



Create a Factor-Outcome web that connects factors and variables related to mental health, telemedicine, and rural health. You may choose to organize this web in any way that makes the most sense to you; it should be a visual map to track your thinking!

Explore the Problem:

IDENTIFYING NEEDS:

Interview:

CHALLENGE:

As a team, find a health professional to interview about telemedicine and mental health in rural communities. This may be an agency, organization, clinical setting, etc. focusing on general primary care, mental health, telemedicine, or any other area of healthcare. Try to find someone locally, but if necessary, reach out to expert or health professionals around the state or nation and conduct your interview via Skype/Facetime, Phone, or Email.

GOALS:

1. Engage in critical thinking and dialogue with experts and professionals in healthcare.
2. Determine specific needs related to mental health in rural settings and/or the role of technology in bridging healthcare access for rural communities.

Recall: Curiosity, initiative, problem-solving, communication, and resourcefulness are all important when you engage with professionals in the real world. (Case Study 4.11) Be sure to represent yourself well!

INTERVIEW INFORMATION:

Name of Site: _____ Visit Date/Time: _____

Address: _____

Website (if available): _____

Contact Person: _____

Phone Number: _____ Email: _____

Signature (from Site): _____ **Date:** _____

Questions *(Prepare in advance; write answers on separate sheet of paper)*

Questions:

Observations

Problems

Resources

Other Notes & Reflections

Explore the Problem:

BACKGROUND RESEARCH:

Find a credible source online to gather more information about rural health, mental health, and telemedicine.

Info Type:	Information:
<p>Source <i>(title, author, name of site, date, and URL below)</i></p>	
<p>Important Evidence #1 <i>(statistic, results of research, etc.)</i></p>	
<p>Based on the evidence above, what solutions for this risk/protective factor might work?</p>	
<p>Important Evidence #2 <i>(statistic, results of research, etc.)</i></p>	
<p>Based on the evidence above, what solutions for this risk/protective factor might work?</p>	
<p>Summary of Article</p>	

Research:

Recall: STEPS TO CONDUCTING A SURVEY (Lesson 5.11)

1. Clarify purpose

Why conduct a Survey? Who are the stakeholders? Who is the population of interest? What issues need to be explored?

2. Assess Resources

What external resources will you need?

Which accessible resources (ex: within our school) can you make use of?

3. Decide on Methods

Select the method that is most appropriate

4. Write Questionnaire

Decide on what questions to ask. Set the types of response formats. Set the layout of the questionnaire.

5. Revise questionnaire

Revise and edit the questionnaire for clarity and grammar/punctuation/spelling. It should be professional.

6. Prepare Survey

Decide on the sample design, format and method.

7. Collect data

Administer your survey to the selected population.

8. Process data

Data entry: automatic and online

9. Analyze the Results

Use statistical formulas to determine different trends.

10. Interpret the Results

What are the trends in the data telling you?

11. Take Action

Respond to the data with an intervention.

1. Clarify purpose

Your overall purpose is to survey the general public and/or health professionals in your community to determine community needs, perceptions related to telemedicine, and attitude toward using telemental health services. Think about the variables or factors you will want to ask about in your survey questions. Write your focused research question below, including all important variables.

Research Question:

2. Assess Resources

What resources will you need to access this survey data? How will you recruit people? Who do you need to ask permission from to access your target population? You will only conduct a "pilot test" of this survey, so you should aim for 20 survey-takers. A larger sample size is probably necessary to obtain statistically significant results, but for this case study we are just going to take a "snapshot" of the population.

Plan for Recruiting Target Population:

3. Decide on Methods

How will you conduct your survey? Will you use paper or will it be online? How many questions do you need? What demographic information do you need to collect (ex: age, gender, distance to healthcare facility, etc.)?

Notes on Survey Methods:

4. Write Questionnaire

Write your questions. Be sure to ask about only one variable at a time. Remember to make your survey short and your questions clear and concise. Make most or all of your questions closed-ended. Avoid double-barreled, leading, biased, offensive, or sensitive questions.

First Drafts of Questions:

Use additional paper to draft questions!

5. Revise Questionnaire

Review your survey, looking for errors, confusing questions, and places where the wording could be more concise. Look for "double-barreled" or "leading" questions. Then, have a few others take your survey for practice and give you feedback.

Feedback:

6. Prepare Survey

Finalize the design, format, and method. Obtain approval of your final survey and your target population and recruitment method from your instructor. Ensure you have a way to maintain confidentiality, anonymity, and voluntary participation by including a consent letter to your survey, similar to the one below.

Dear survey participant:

My name is _____, I am a high school student at _____ and I am conducting a research project to explore _____. Results of this project will help us learn more about the _____.

You are invited to participate in this project. Your participation is voluntary; however, your assistance would be greatly appreciated in making this a meaningful survey.

If you decide to complete this survey, it should take about _____ minutes to complete the questionnaire below. Your identity will not be revealed in the project results. Only group comparisons will be made and reported in summary form. This survey will also remain anonymous, as researchers will not be able to trace your responses to your identity.

For more information concerning the research and research-related risks or injuries, or for more information about this research project, please notify my instructor, _____, at _____@_____.com

Thank you for your participation in this survey.

Sincerely,

7. Collect Data

8. Process Data

9. Analyze the Results

10. Interpret the Results

For each of the steps above, use your problem-solving skills and teamwork to determine the best way to accomplish each step. You may divide the tasks to complete as long as each team member communicates and takes on an appropriate share of the work. In future lessons, we will learn more about processing data, analyzing results, and using statistical calculations to interpret results. For this survey, use your collective team ingenuity and creativity to determine your methods.

11. Take Action

What were the major findings from your survey? Respond to the data with recommendations for a possible intervention and/or future research priorities.

Major Research Findings:

Recommendations:

Final Report:

Prepare a 2-3 page written research report that includes the following:

- **Introduction to Problem**
- **Survey Purpose and Methods**
- **Results**
- **Recommendations**
- **Works Cited**

Each team member should contribute to the report equally. Be sure to cite all your sources appropriately to avoid plagiarism!

Final Presentation:

Prepare a 3-5 minute team oral presentation that includes the following:

- **Introduction to Problem**
- **Description of survey methods**
- **Summary of research findings**
- **Recommendations**

Each team member should contribute to the presentation equally. Practice as a team to ensure you are professional, clear, concise, and engaging. Be sure to plan your opening and closing as well as transitions between team members.

Rubric:

Your survey, final report, and final presentation will be evaluated using the criteria below.

Obj. 5.12: Identify health factors in a community by designing and conducting a survey, and analyzing the results

	Needs Improvement	Emerging Mastery	Partial Mastery	Mastery
SURVEY	Missing, underprepared, or achieved less than 3 of the 7 factors.	Achieved at least 3 of 7 factors: 1) Clear purpose; 2) Aligned questions; 3) Few or no errors in questions; 4) Professional; 5) Achieved pilot test sample minimum (n = 20); 6) Thorough and logical analysis of results; 7) Clear and accurate conclusions	Achieved at least 4 of 7 factors: 1) Clear purpose; 2) Aligned questions; 3) Few or no errors in questions; 4) Professional; 5) Achieved pilot test sample minimum (n = 20); 6) Thorough and logical analysis of results; 7) Clear and accurate conclusions	Achieved at least 6 of 7 factors: 1) Clear purpose; 2) Aligned questions; 3) Few or no errors in questions; 4) Professional; 5) Achieved pilot test sample minimum (n = 20); 6) Thorough and logical analysis of results; 7) Clear and accurate conclusions
REPORT	Missing or underprepared report; Not concise, clear, & aligned; unprofessional.	Not concise, clear, aligned, or professional; missing some sections; major spelling/grammar issues; unequal contributions	Somewhat Concise, clear, & aligned; mostly professional; comprehensive (includes all sections but some may be weak or short); some spelling/grammar issues; all team members contributed, but some more than others.	Concise, clear, & aligned; professional; comprehensive (includes all sections); few or no spelling/grammar issues; all team members contributed.
PRESENTATION	Missing presentation or underprepared; Not concise, clear, & aligned; unprofessional.	Not concise, clear, & aligned; unprofessional opening, closing, & transitions; one or more team members did not contribute	Concise, clear, & aligned; professional at most points; fairly smooth opening, closing, & transitions; all team members contributed, but some more than others.	Concise, clear, & aligned; professional; smooth opening, closing, & transitions; all team members contributed.