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 theUnited 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?
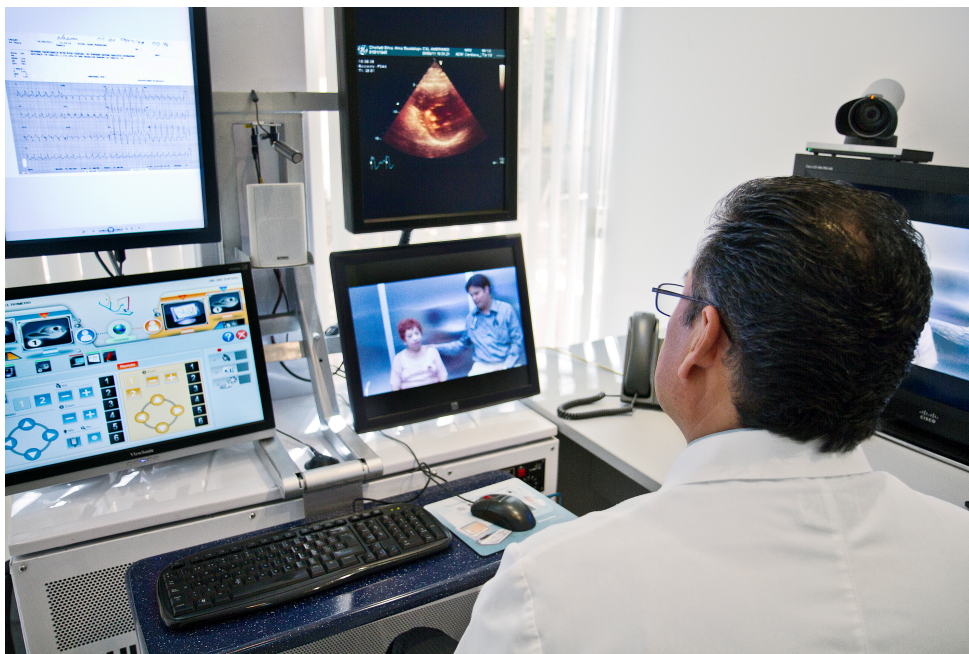
Flickr by IntelFreePress

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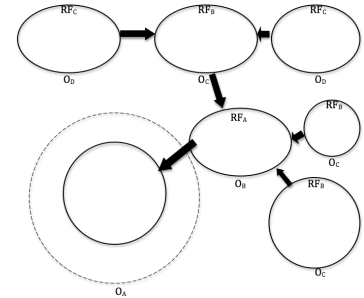
Create a Factor-Outcome web that connects factors and variables related to mental health, telemedicine, and rural health. You may choose to organize this web in any way that makes the most sense to you; it should be a visual map to track your thinking!

Explore the Problem:

IDENTIFYING NEEDS:

Interview:

CHALLENGE:

As a team, find a health professional to interview about telemedicine and mental health in rural communties. 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 Skyppe/ 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:
Source *(title, author, name of site, date, and URL below)*	
Important Evidence #1 *(statistic, results of research, etc.)*	
Based on the evidence above, what solutions for this risk/protective factor might work?	
Important Evidence #2 *(statistic, results of research, etc.)*	
Based on the evidence above, what solutions for this risk/protective factor might work?	
Summary of Article	

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 inluding 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 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? Rspond 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 plaigiarism!

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.