

OVERVIEW

BIG IDEA

The rapidly changing face of healthcare delivery has both positive and negative consequences.

OBJECTIVE

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

AGENDA

1. The Automobile & The Internet
2. Reflection
3. Telemedicine Terms
4. Analyzing Research
5. Impact on Patient Interactions

HOMEWORK

Conduct research on telemedicine technologies. Choose one app, software package, platform or system and complete a thorough review.

LESSON 6.8

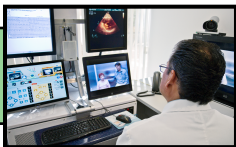
Telemedicine

SUMMARY:

Students will examine the changing role of technology on healthcare with a specific focus on mental healthcare for rural populations. Students will reflect upon analogies to the way the information age is changing medicine, examine how this technology might impact themselves personally, learn the basic terminology in this emerging field, and analyze one study of patient satisfaction in telepsychiatry. After gaining this foundation, students will infer how telemedicine might impact various elements of the healthcare provider-patient interaction.

STANDARDS:

NHES 2.12.6: Evaluate the impact of technology on personal, family, and community health.



MODULE 5: RURAL HEALTH

LESSON 5.8

Telemedicine

Obj. 5.8: 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...?

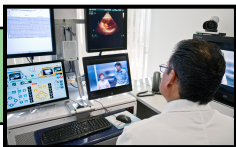
Consider this scenario and discuss your responses with a partner.

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?

DO NOW: Possible ANSWERS: Automobile changed transportation world—suddenly goods, services, people, and ideas traveled further, faster, more often. Internet does the same thing on a large scale (moving information, ideas, services, and enabling people to facilitate travel or delivery of products)

DISCUSS: Explain that this is just one example of how telemedicine can be used—for one-on-one mental health visits for diagnoses and treatments. There are many other ways that we will examine briefly, but we will focus primarily on this particular use for this lesson.



NEW
INFO

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#UvFEVHewKgk>

DISCUSS

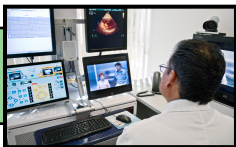
What are some potential drawbacks, challenges, or difficulties with telemedicine?

NEW INFO: Telemedicine really took off in the 90's but still have not become standard practice. It has had its fits and starts, and ultimately depends on a variety of factors including policy, funding, resource allocation, medical education & continuing medical education, and the resistance or adoption by practitioners and patients. For more info on telemed, see: <http://en.wikipedia.org/wiki/Telemedicine>

Telemental health will be the focus of the upcoming population-based case study!

BENEFITS: Ask students, why would access improve? Why would it be less costly? Why might quality improve? Do you think patients would demand this type of care. When might they prefer it, even if an in-person option was available?

DISCUSS: Some possibilities: Difficult communication; less ability to read body language or perform physical exams; less intimate; patient may be agitated, nervous, or anxious; unexpected problems with technology, initial funding/start up costs needed to implement tech, initial training and continual training needed to get providers prepared; training may be inadequate...



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"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2) Explanations the care provider gave you about your problem or condition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3) Concern the care provider showed for your questions or worries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4) Care provider's efforts to include you in decisions about your treatment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5) Information the care provider gave you about medications (if any)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6) Instructions the care provider gave you about follow-up care (if any)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7) Degree to which care provider talked with you using words you could understand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8) Amount of time the care provider spent with you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9) Your confidence in this care provider	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10) Likelihood of your recommending this care provider to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<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?

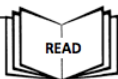
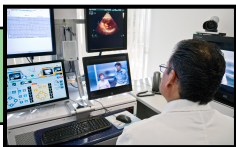
THINK:

Source of survey: <https://healthcare.utah.edu/fad/pressganey.php>

THINK:

Example answers:

- Might be **POSITIVELY** affected: Amount of time with provider (less travel and wait time); Information and instructions given (tech can simultaneously be used to show visuals, display information, etc.)
- Might be **NEGATIVELY** affected: friendliness & concern provider shows (lack of intimacy and in-person contact may leave the interaction feeling a bit distant)
- Advantages: more can be accomplished with the time & technology; better quality care because the best experts/doctors are accessible, no matter the distance; Disadvantages: Some things may be lost in translation if direct dr-patient interaction is missing



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.

Table 3
Studies of Patient Satisfaction With Telepsychiatry

Study	N	Participants	KBS/Notes	Location	Comment(s)
Baer et al ¹⁶	26	Patients with OCD	128/NS	US	Equal to or better than in-person care
Baigent et al ¹⁷	63	Adult state hospital inpatients	128/NS	Australia	Many patients were satisfied and preferred it to in-person consultation
Blackman et al ¹⁸	43	Child outpatients	NS/NS	US	Parent satisfaction was very good
Bratton et al ¹⁹	20	Geriatric patients in a retirement community	128/NS	US	Satisfied despite problems with hearing and poor image
Callahan et al ²⁰	93	Adult primary care outpatients	128/15	US	Equal to a nonpsychiatric population
Choe et al ²¹	30	Adult outpatients	33/NS	Korea	Equal to usual in-person care
Dongler et al ²²	50	Adult and child outpatient	Closed circuit television/NS	Canada	Equal to usual in-person care
Eftord et al ²³	23	Children and parents; psychiatrist	336/NS	US	Patients: doctor diagnosis and treatment recommendations equal to usual in-person care; psychiatrists: decreased satisfaction versus usual in-person care
Eftord et al ²⁴	30	Children, adolescents, and parents	336/NS	US	All noted anxiety starting that abated through the interview. Overall satisfaction for parents was 4.9 and for adolescents was 4.6, on a 5-point Likert scale
Graham ²⁵	39	Adult outpatients	768/NS	US	Positive patient acceptance of telepsychiatry aftercare (90% positive ratings)
Hilty et al ²⁶	40	Adult primary care outpatients	384/15	US	Equal to in-person when patient given the choice; 71% pick in-person evaluation and 65% pick in-person follow-up
Johnston et al ²⁷	40	Nursing facility residents	128/NS	US	Patients and families expressed appreciation for the service
Kopel et al ²⁸	82	Child rural outpatients	NS	Australia	Over 90% rated the service "good" or "excellent" on quality and overall satisfaction; 90% rated it "as good as" in-person.
McCloskey et al ²⁹	236	Adult outpatients	128/NS	US	High satisfaction; would have had to travel significantly
Mielonen et al ³⁰	14	Adult inpatients	NS/NS	Finland	High patient satisfaction; 80% considered it useful
Ruskin et al ³¹	NA	Geriatric outpatients	NA	US	Similar to adult satisfaction
Trott et al ³²	50	Adult and child outpatients	NS/NS	Australia	Equal to usual in-person care; psychiatrist satisfaction: lower than in-person

KBS=kilobits per second; OCD=obsessive-compulsive disorder; NS=not specified; US=United States; NA=not available.
Hilty DM, Neuhoff TS, Marks SL, Callahan EJ. *Primary Psychiatry*. Vol 9, No 9, 2002.

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



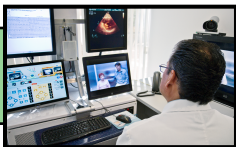
What do results from this study suggest about the impact of the telemedicine visit on patient satisfaction?

READ:

ASK: Based on the participants in these studies that were reviewed, are researchers neglecting any specific populations which we might predict would have a different opinion or outcomes using telepsychiatry?

DISCUSS:

Results show that overall, patients seem satisfied with the telepsychiatry care. There is a lot of depth here that students can dig into.



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 and cons of this specific technology.
3. Who is the target audience or users, of this technology?
4. Would you recommend this this technological product for telemedicine? Why or why not?

HOMEWORK:

The purpose of this assignment is for students to become immersed in the expansive telemedicine marketplace to build there awareness of all the possible technologies that can be used and implemented. By providing a critique or review of one product, they will also build critical thinking skills.

One starting point for students is the site: www.telementalhealthcomparisons.com/ which allows comparisons of technology based on the target user and the type of technology needed.