Health Informatics

Telemedicine



Disclosure

I do not have any financial arrangements or affiliations with any commercial entities whose products, research or services may be discussed in these materials.



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Section 1 Objectives



Six learning objectives

Upon completion of this program, participants should be able to:

- 1. List several new applications of Health Informatics
- 2. Describe the different types of telehealth
- 3. Provide telehealth workflow examples
- 4. Recognize the role of staff buy-in for successful telehealth implementation
- 5. Address barriers to patient engagement
- 6. Describe how health informatics can reduce adverse outcomes



Section 2

Brief overview of Health Informatics



What is Health Informatics?

According to AMIA, "Biomedical and health informatics applies principles of computer and information science to the advancement of life sciences research, health professions education, public health, and patient care. This multidisciplinary and integrative field focuses on health information technologies (HIT), and involves the computer, cognitive, and social sciences."

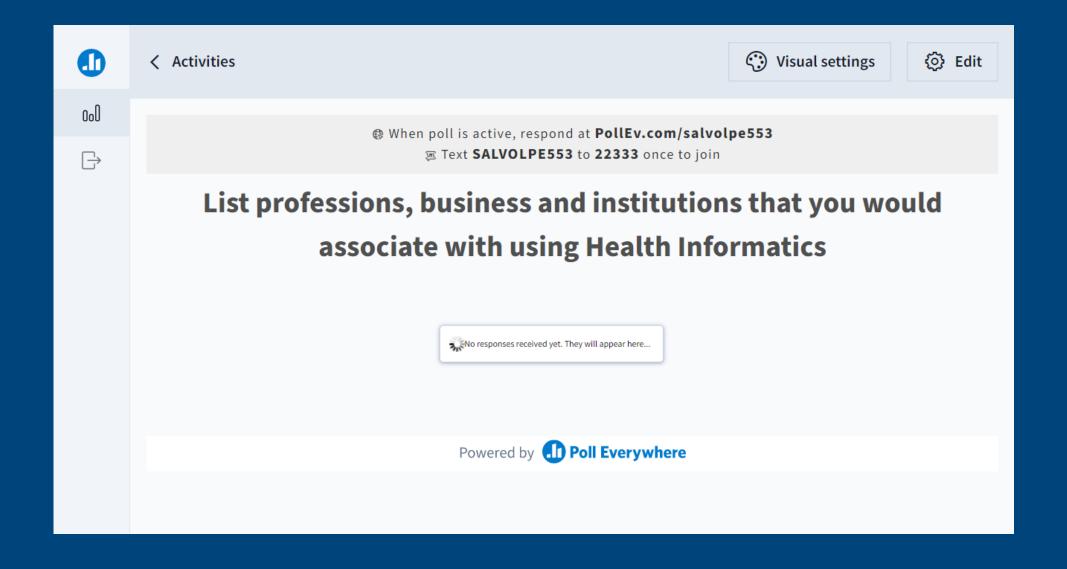
According to HIMSS, "health IT is interprofessional by nature and must be reflected in education and training."



Application of Health Informatics by multiple professions



Professions





Professions and Businesses

Attorneys

Dentists

Geneticists

Health Insurance Companies

Hospitals

Nurses

Nurse Practitioners

Pharmacists

Physicians

Physician Assistants

Privacy and Security Experts

Public Health Officials

Workforce



Types of Telehealth

Synchronous Live audio or audio/video communication

Asynchronous Store and forward (ie. Dermatology photographs) Remote patient monitoring (ie. ECG, BP)

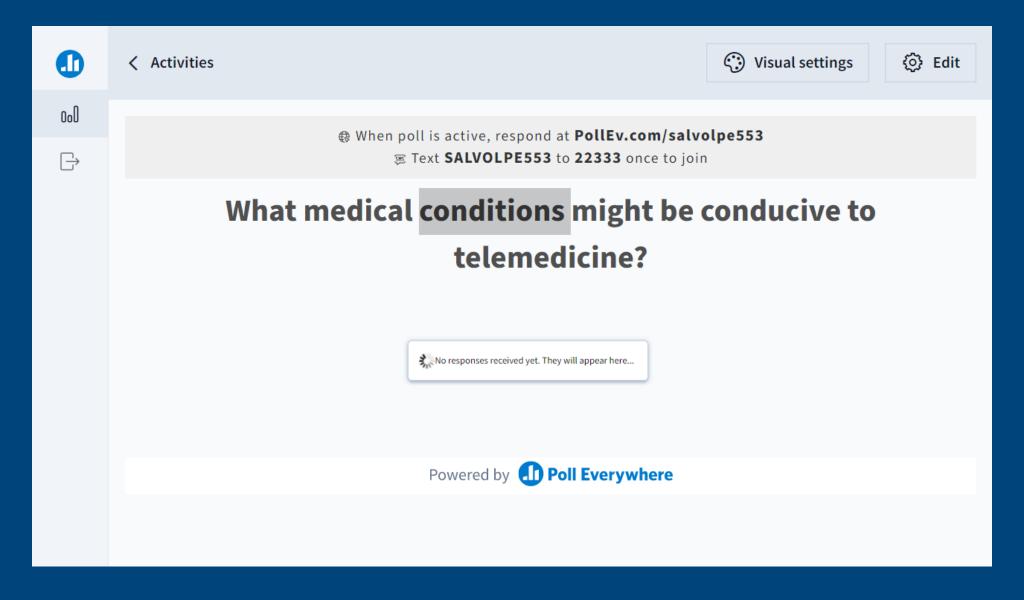


Section 3

Telemedicine use cases



Medical Conditions





Medical Use Cases: Acute care

Allergies, asthma and sinus issues
Arthritis pain
Colds, Bronchitis and Flu
Diarrhea
Infections and insect bites
"Pink Eye" and rashes
Sore throats
Sports injuries
Sprains & strains
UTIs

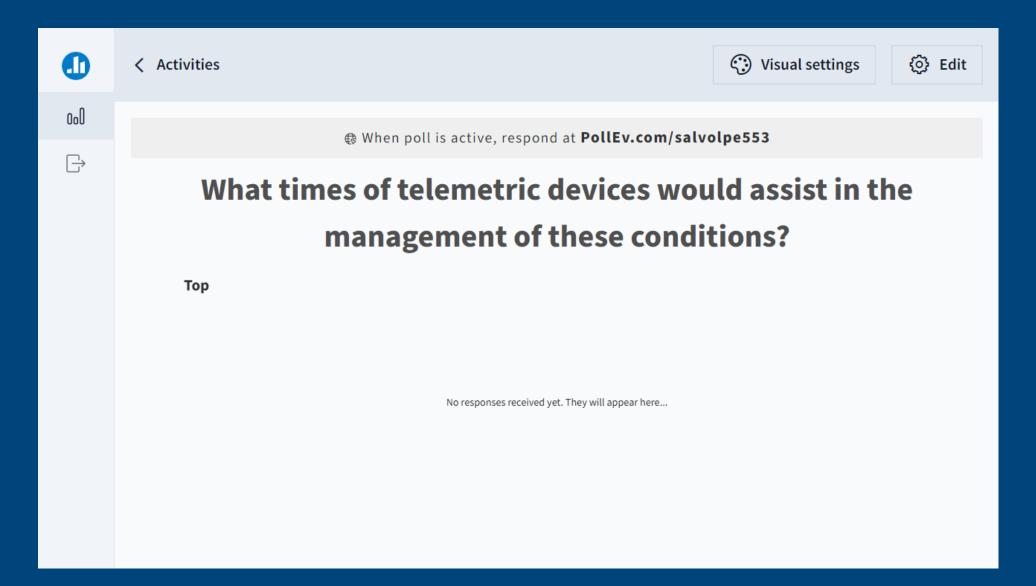


Medical Use Cases: Chronic care

Asthma
CHF
COPD
Diabetes
Hypertension



What times of telemetric devices would assist in the management of these conditions?





Behavioral Health Use Cases

Anxiety Depression



Section 4

Choosing a platform



Questions to Ask the Vendor

- 1. Pricing model
- 2. Is a virtual waiting room available?
- 3. Is collaboration with multiple providers or family members an option?
- 4. Sandbox with access

Physicians

Medical Assistants

Clerical staff

Billing staff



Questions to Ask the Vendor

- 5. Demo with a live interpreter, if practice normally requires one
- 6. Demo of transcription in multiple environments:
 - Within the telemedicine application
 - In conjunction with an EHR that already has transcription
 - In conjunction with a free-standing transcription application,

like Dragon, which some practices without EHRs may use



Questions to Ask the Vendor

- 7. Which biometric devices can be connected, ie. weight scales, automated BP machines
- 8. Contact information of similarly sized practices
- 9. Confirmation of which data files (appointments, CCD (continuity of care document), demographics, problem list, medications, allergies, etc.) can be exchanged with you're EHR
- 10. If the entire Telehealth visit cannot be exported to the EHR, can it be printed?
- 11. Is there a read-only option if the contract is canceled?
- 12. List of HIEs with which data is exchanged and what can be exchanged (CCD, demographics, problem list, medications, allergies, etc.)



Section 5

Workflows and deployment



Workflow

Pre-visit questionnaire: Chief Complaint, Vitals. With or without patient portal

Triage

Engage Interpreter Service?

Engage caregiver?

Documentation: one or two screens

Prescriptions

Referrals: one or two screens?



Workflow

Patient education materials Billing Follow up



Back-up plan during "technical difficulties

Need to have a back-up plan for communication when the patient:

Cannot login

Forgets their password

Does not have access to or use computers/electronics

Not proficient in language of health care provider



Back-up plan during "technical difficulties

Special Case: Senior patients using telemedicine

Older patients may have some degree of difficulty with hearing and/or vision:

Ensure the provider's face is visible

Make sure the office area is well lit

Avoid shadows on the provider's face so that facial expressions can also be communicated

Use non-verbal gestures to augment the spoken words

Encourage the use of headphones with volumes turned up

Minimize background noise

Use closed-captioning if your platform has this feature



Patient Portal Services

Patients and caregivers can:

Request an appointment
Request a prescription renewal
Request a referral to another physician
Review bill balances and make payments
Review medical visit notes
Review diagnostic test results
Review consultation notes



Deployment

Staff Must be "Recruited" First

A successful Telehealth implementation begins with complete staff buy-in and enthusiasm.

Review with the staff the advantages to the patient

Review with the staff the increased professional satisfaction of being more involved with patient care management, ie. CCM (chronic care management)

Staff incentives



Enrolling the patient

Location, location Posters in waiting room and exam room Staff buttons Kiosks in waiting room and/or exam rooms Website notice FAQs Handout



Enrolling the patient

Patient advantages: timely appointments, no commute, no time spent in waiting room, no risk of COVID-19, care giver involvement

Medication refills, appointment requests, etc.

Positive reinforcement helps sustain continued use

Many patients may initially sign up for the portal, but if
they are not using it, an alternative form of
communication must be used.



Engaging the patient

Virtual visits are a change in healthcare delivery Technological prowess is not a part of every generation: While Millennials have never known life without technology, this is not the case for all Technology impacts both sides of the healthcare team Factors to consider with each encounter: Appropriateness for the presenting condition/health issue Cognitive, hearing and visual abilities of the patient Access to equipment and internet Compatibility of equipment and systems Personal willingness to participate and preferences Audio/telephonic or audio with visual



Engaging the patient

Strategies can be employed to ease the transition to a virtual visit:

Before the scheduled appointment:

Confirm the patient has the proper equipment

Consider having staff perform a "dry run" call prior to scheduled event

At the onset of the appointment:

Confirm that the patient can see and hear the provider

Ensure privacy is addressed

Engage the patient in the process

During the appointment:

Monitor for any cues that the patient is not engaged in the telehealth visit

At the close of the appointment:

Summarize the visit and discuss next steps/plan

Use teach-back for any education provided

Allow for questions



Population Health and Chronic Care Management (CCM)

Frequent contact helps keep patients and care givers engaged as "team members"

Outreach campaigns: mammograms, colonoscopies, immunizations etc.

Patient portals can also be used in conjunction with automated text and voice messaging

Pemote patient monitoring

Remote patient monitoring

Remote care plan displays



Section 7

Liability reduction



Liability Reduction

Communication is encrypted and HIPAA* compliant
No threat to a privacy breach
Improves physician-patient communication
Demonstrates physician is proactive and communicating with the patient
Establishes access to the physician

*The United States Health Insurance Portability and Accountability Act of 1996 (HIPAA) is a federal law that required the creation of national standards to protect sensitive patient health information from being disclosed without the patient's consent or knowledge.



Liability Reduction

The Law On Protection of Personal Data is a general law on protection of personal information, including personal medical data.

The Law of the Republic of Armenia on Medical Assistance and Service to the Population, defines what constitutes private information and how confidentiality should be maintained.



Liability Reduction

Audit system findings document physician-patient communication. It may clarify events during deposition.

For example: Patient may state they were not feeling well and told their physician. A focused audit of the portal system may refute such statements.



Section 6

The age of COVID-19



The Age of COVID-19

Health Outcome Disparities
SDoH
Fear
Inadequate awareness of Telemedicine



Interactive Case Study

A surgical center has recently opened in a rural community.

The care is provided by staff that is rotated from the large teaching hospital.

It is a hardship for the local citizens to visit their healthcare providers due to the distances that have to be traversed and the lack of adequate public transportation.

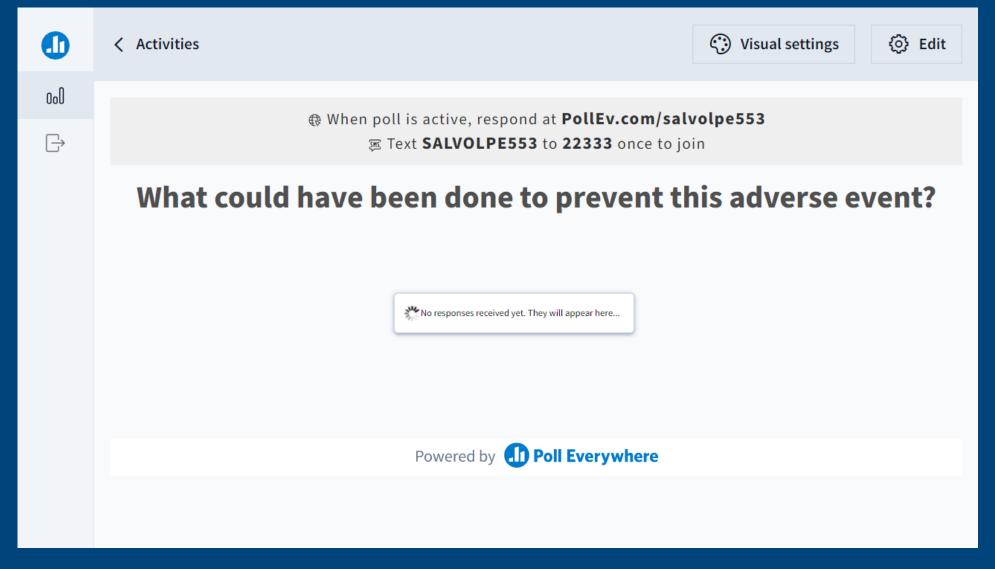
A young man had complications while being prepared for a preoperative MRI to address a torn meniscus. The nurse which had usually worked on a pediatric unit was filling in due to COVID-19 related staff shortages.

She injected the patient with vecuronium (a paralytica agent) instead of Versed (a sedative) and then left the room to attend to the next patient.

By the time the patient was seen again, she was brain-dead.



What could have been done to prevent this adverse event?





Interactive case study

It is a hardship for the local citizens to visit their healthcare providers due to the distances that have to be traversed and the lack of adequate public transportation.

A 62 years old woman lives alone after her spouse passed away six months ago. She is not fluent in the language of the community in which she lives. She is rushed to the hospital in congestive heart failure. None of the hospital staff members are fluent in her language but they do their best to make her comfortable as she is given medication to assist release the excess fluid.

This happens every 4-6 weeks.



What interventions could be used to address these readmissions?





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Thank You



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