



Improving Myself through TeleHealth

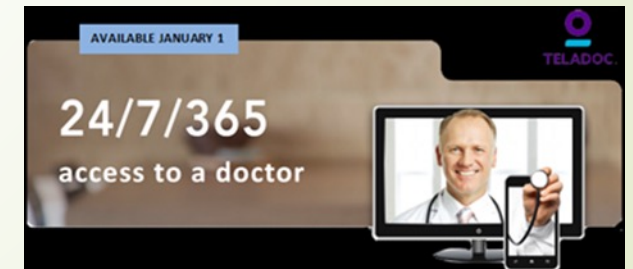
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Objectives



- Review the foundational aspects of TeleHealth
- Identify and understand ways for population health improvement through telehealth
- Review how TeleHealth can extend Healthcare Provider's Career



About Me....



- Devon Lehman Jr. MSN, RN, CCRN-E
 - 20 years Registered Nurse
 - 15 years Critical Care
 - Retired US Army- Major
 - Fulltime employee at the VA TeleICU
 - Adjunct Xavier School of Nursing



- These are my Ideas.. I do not endorse any of the products in this presentation



TeleHealth- to Nursing Students

- ▶ Following slides are a few of what I teach New and upcoming Students to be prepared for TeleHealth
- ▶ Normally about 1 hour presentation, Scenarios/Case Study, Q&A
- ▶ Scenarios-
 - ▶ Code Stroke
 - ▶ Code Blue
 - ▶ Nurse to Nurse consult
 - ▶ Nurse to Provider SBAR-Q

Telehealth



<https://youtu.be/7xOixuZ-lco>

2011 State of the Union Address

“Within the next five years, we will make it possible for business to deploy the next generation of high-speed wireless coverage to 98% of all Americans. This isn't just about a faster internet and fewer dropped calls. It's about connecting every part of America to the digital age. It's about a rural community in Iowa or Alabama where farmers and small business owners will be able to sell their products all over the world. It's about a firefighter who can download the design of a burning building onto a handheld device; a student who can take classes with a digital textbook; or a patient who can have face-to-face video chats with her doctor.”

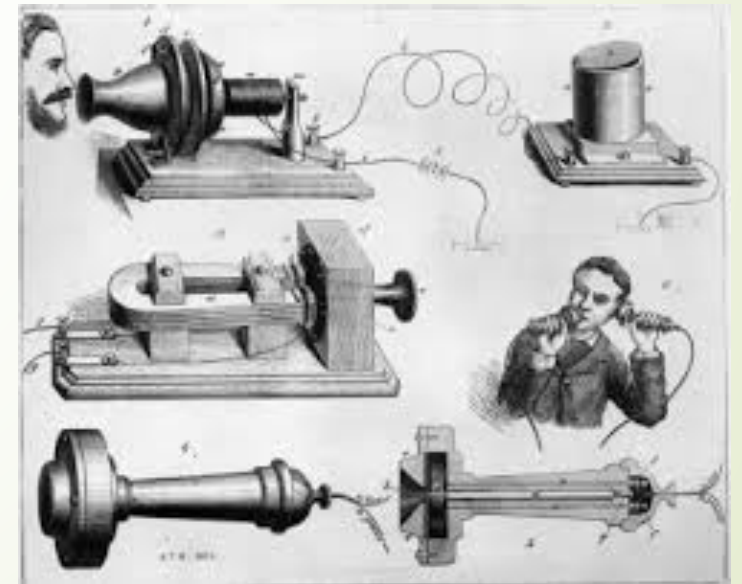
First Call for Medical Assistance

➔ 10 March 1876-



...e here, I want you."

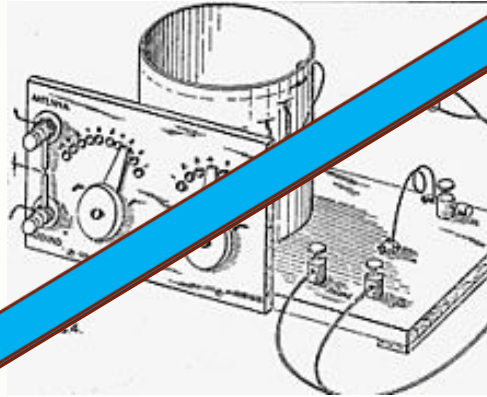
...ing the transmitter thus spilling sulphuric



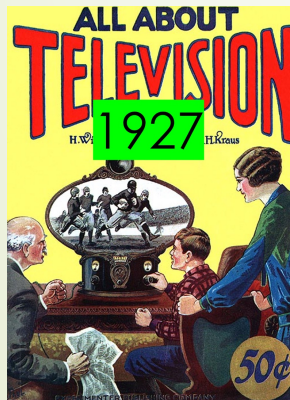
Foreshadowing Telemedicine

“The Radio Doctor - Maybe!”

- 1900 - Reginald Fessenden made a weak transmission of voice over airwaves



- 1927- The first experimental television transmission did not occur until



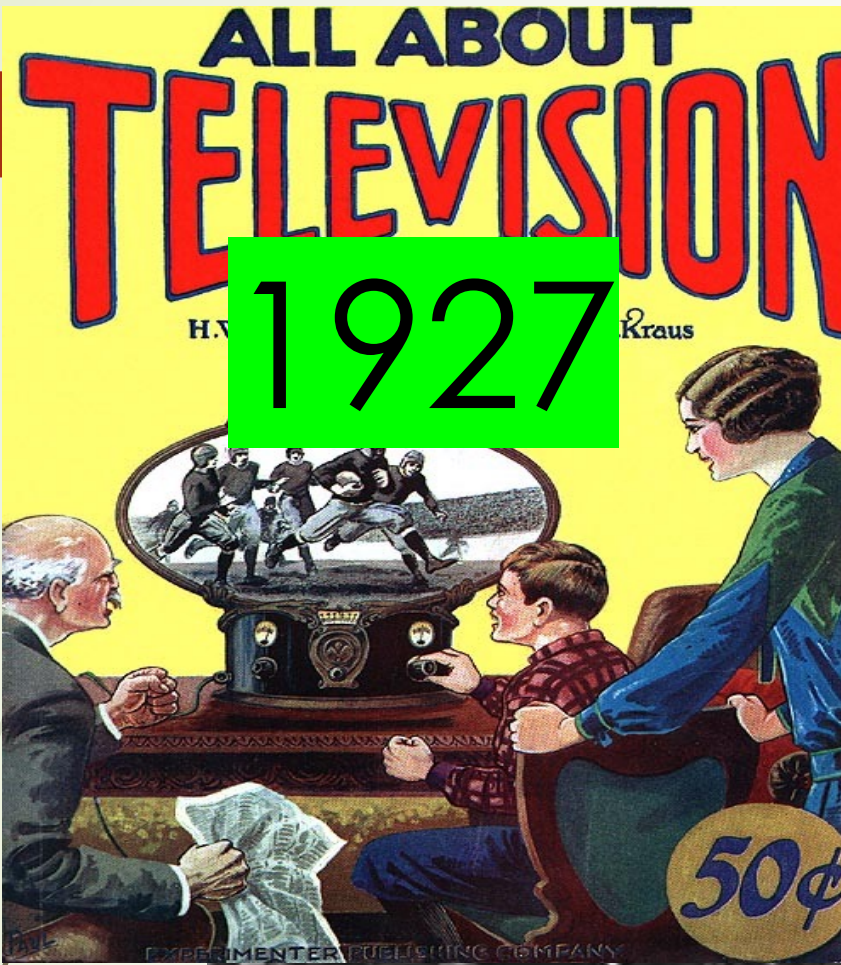
April 1924, *Radio News*



(Institute of Medicine, 1996)

Telehealth vs. Telemedicine





History (CDW Healthcare, n.d.)



1948 - First radio
images sent via
across 24 miles
Pennsylvania



links Indian
reservations
support units
(AHC)

of the internet
the way for
telehealth

President Obama
and Defense
and medicine

Telehealth - Access

Bring Healthcare to
the Patient

- Primary Care
- TeleStroke/Neurology
- Cardiology
- Intensivist (inpatient/ICU)
- Pediatrics
- Optometry
- Dermatology
- Urology
- Gastrointestinal
- Psychology/Psychiatry
- TeleRetinal
- Obstetrics
- Pain Management
- Infectious Disease
- Rheumatology
- Sports Medicine
- Oncology
- Neurology



Telehealth- Primary Care

Multiple appoints for
Medication management

Chronic Condition Management

- ▶ Diabetes
- ▶ Hypertension
- ▶ Coronary artery disease
- ▶ Cardiac arrhythmia
- ▶ End stage renal disease
- ▶ Hepatitis
- ▶ Asthma / COPD
- ▶ Obesity
- ▶ Oncologic co-morbidities
- ▶ Neurodegenerative diseases



Wellness Exam

Follow-up

- ▶ Colonoscopy / sigmoidoscopy results
- ▶ Mammogram results
- ▶ Cholesterol levels
- ▶ STD testing
- ▶ CBC results
- ▶ Blood glucose levels
- ▶ Liver function testing
- ▶ Pap smear results
- ▶ Blood electrolytes

Telehealth - Pros/Cons

➤ Pros

- Aging In Place
- Population health/**Health promotion**
- Increases accessibility to specialists/consults
- More convenient, accessible care for patients
- Saves on healthcare costs
- Extends access to consults from specialists
- Improves response time (faster access to specialists/highly trained staff)
- Complement to traditional in-person medical care
- Increases patient engagement
- Provides better quality patient care



Telehealth - Pros/Cons

► Cons

- Requires technical training and equipment
- May reduce in-person interactions with doctors
- Many providers/Insurance Companies charge a “convenience fee”
- Navigating the changing policy and reimbursement landscape can be tricky



Telehealth – ICU



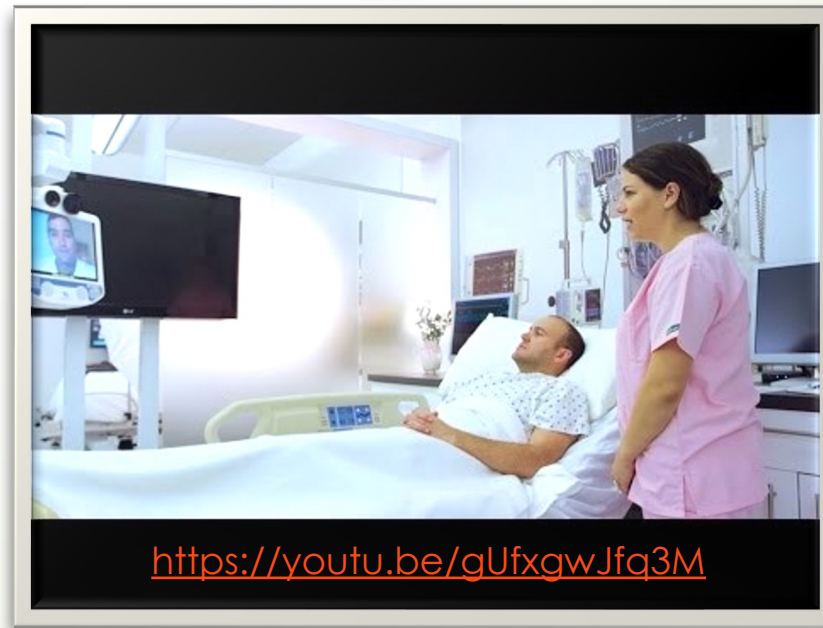
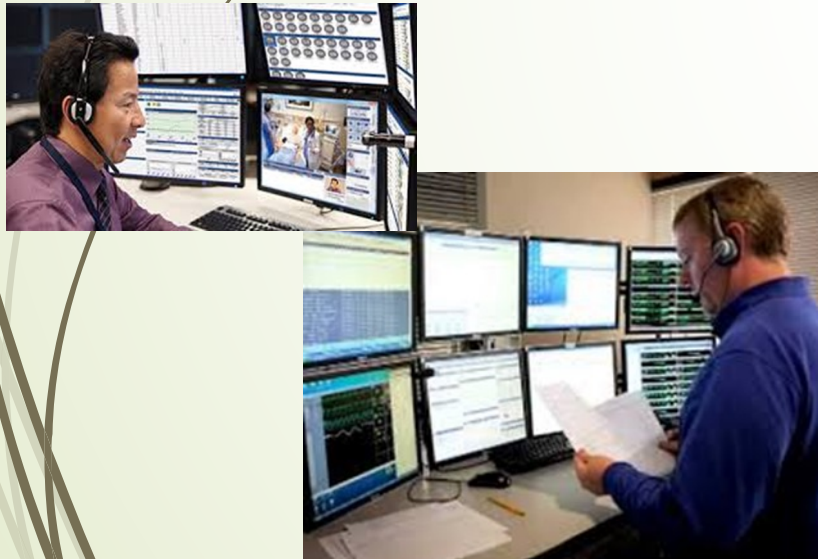
TeleICU- VA

- ▶ eLerts
- ▶ Phone Call/Signout
- ▶ Alarms- Algorithms/Parameters
- ▶ Orders - Verify



Telehealth – ICU cont'd

- Bidirectional Audio/ Visual Content Sharing
- Immediate Intensivist coverage
- Highly experienced critical care nurse involvement
- Mortality rate reduction of 13.6% to 11.8% (Sadaka, et al., 2013)
- LOS 13.3 to 9.8 days



<https://youtu.be/gUfxgwJfq3M>





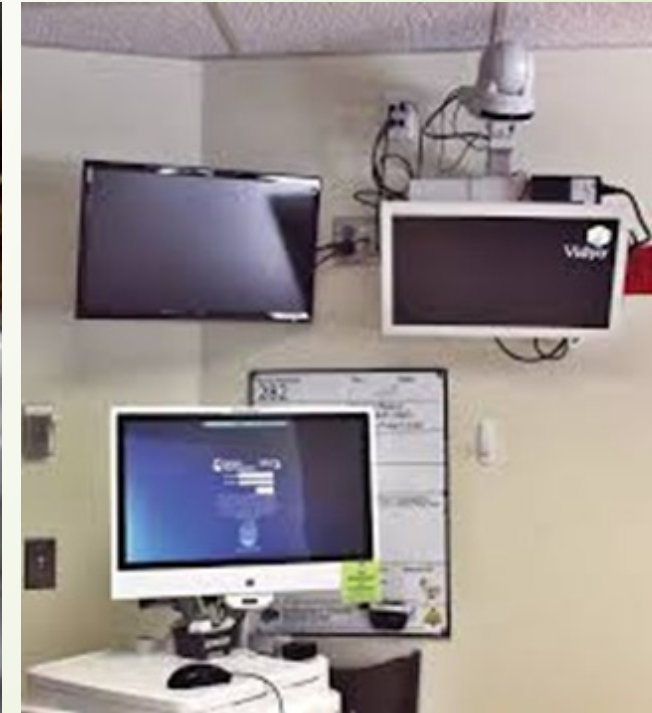
TeleICU- What can we do

- Vitals/Labs- Second set of eyes
- 2nd Verifications – Blood; Timeout; High Risk Medications
- Run an Emergency/Code
 - Watch other patients during Event
- Verify Orders/Procedure
- Check on Patient without use of PPE
- Share information – Do not Silo information
- Read Images - Provider
- Stat Orders - Provider

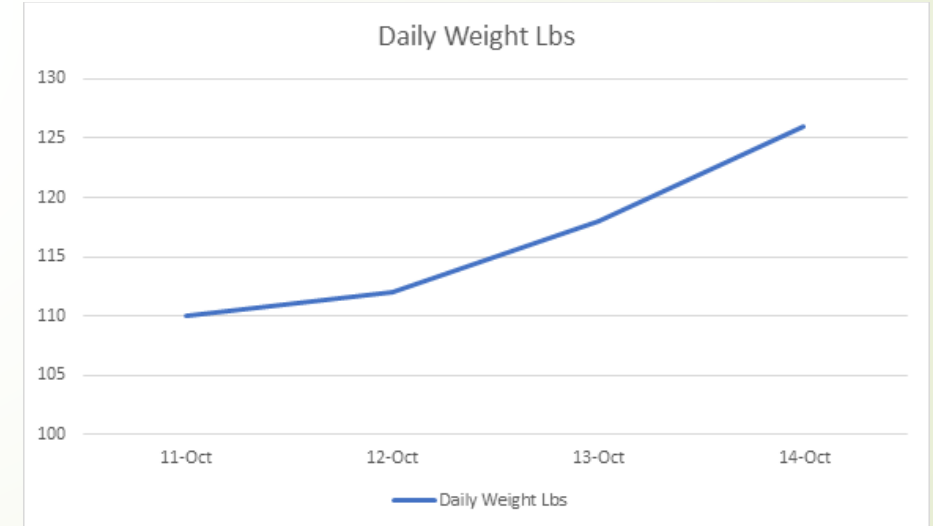
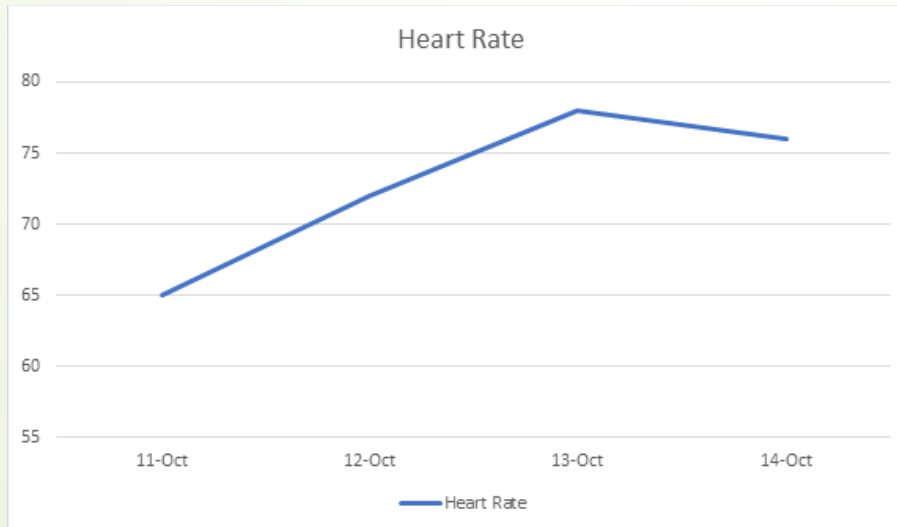
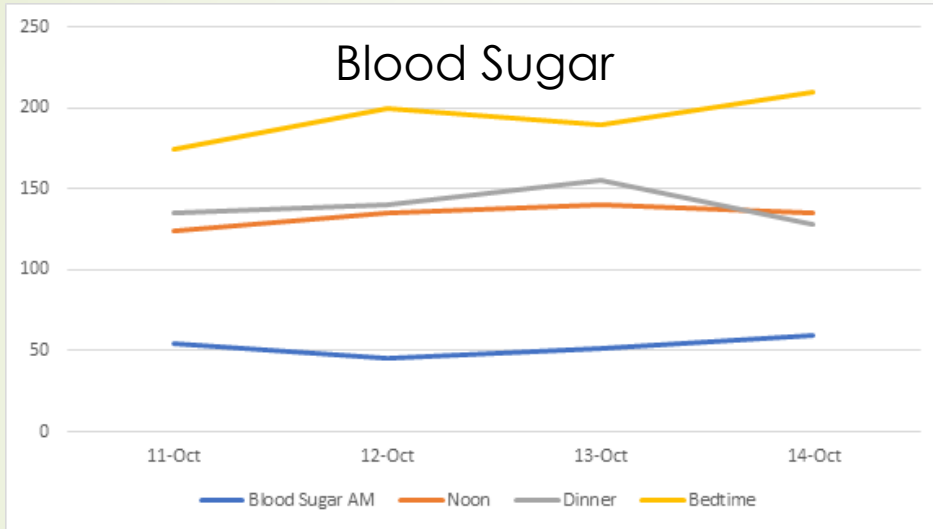


TeleICU- What can we Not do

- ▶ Tele-Sitter
- ▶ Restraints
- ▶ Some medications/narcotics
- ▶ Reduce Staffing
- ▶ Hands on Patient
 - ▶ Assessment
 - ▶ Grief
- ▶ Smell

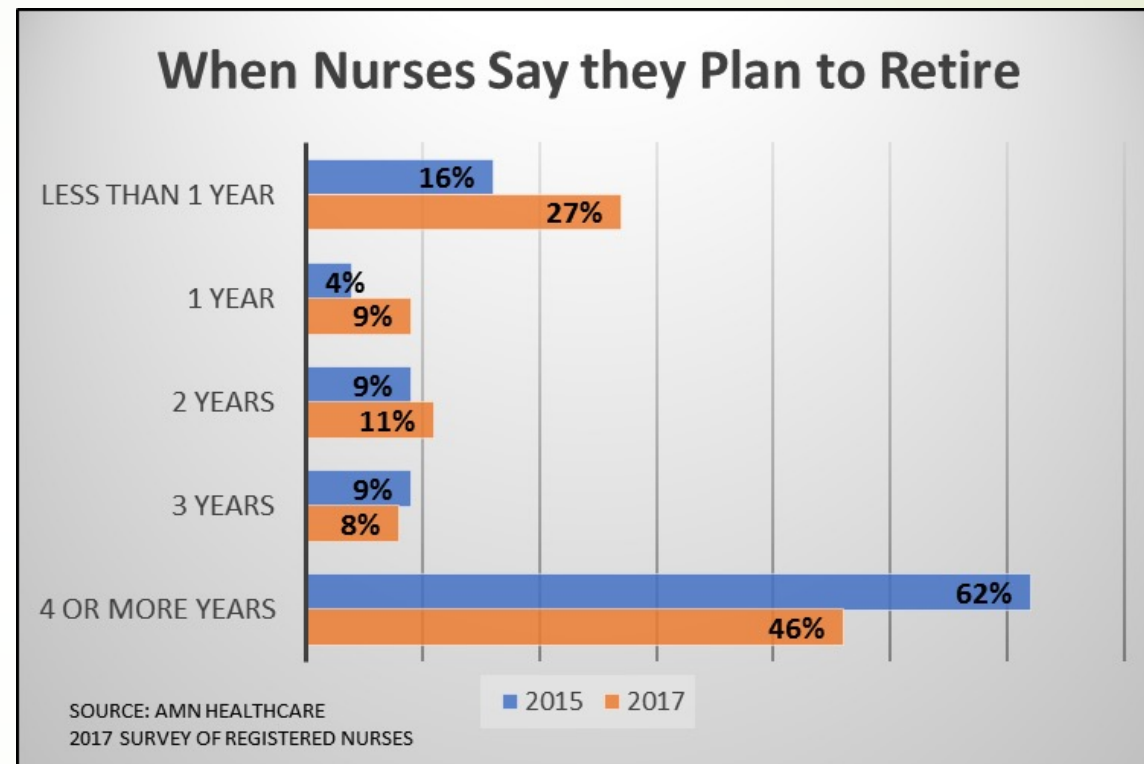


Telehealth - Trends/Alarms



Telehealth- Statistics

- The 2017 survey also showed that 73% of Baby-Boomer nurses who are planning to retire say they will do so in three years or less.
- How can Telehealth support this turnover???
 - New Graduate
 - Keep Staff from Early Retirement



TeleICU - Transporting Patients

\$4.5 million savings
over 4.5 years!!!!

- In one study, Natafji, et al. (Oct 2009-Feb 2014) identified 1,175 avoided transfers out of 9,048 encounters in 85 rural hospitals across seven states.
 - Cost savings of \$3,823 per avoided transfer (\$4,492,025) while accounting for tele-emergency costs.
- Home Visits vs. Doctor's Office
- Specialists (Neurology/Dermatology/Cardiac etc.) - Office vs Telehealth
- Transportation from home/facilities-
 - Weather
 - Insurance (ambulance, auto, medical)
 - Cost (ambulance, EMTs, RNs, supplies)
 - Time/Distance (Who is driving them?/ Who is accepting them)
 - Building/Office Space (utilities, space, diseases, property insurance)
 - Safety



AVAILABLE JANUARY 1



Telehealth - Future

- ▶ Telehealth apps (office visits from your phone)
 - ▶ Primary/Follow-up
 - ▶ Specialty
 - ▶ Therapy
- ▶ Health promotion
- ▶ Worldwide access to specialists/providers
- ▶ Immediate access
- ▶ Cost savings

7/365
a doctor



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