TELEMEDICINE 101
FOR INTERNISTS

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CONSIDERATIONS FOR TELEMEDICINE

- What is a doctor?
- How do we practice?
- What are the elements for a visit?
- What are the type of telehealth?
- How can it work?
- What are the rules?
WHAT IS A DOCTOR?

- Definition: “a qualified practitioner of medicine”, a “physician”

- Derivation:
  - Latin – teacher – from the verb “docere” – to teach
  - Middle English – learned person

- A learned person who is a teacher.

- Note: It’s not to order tests, follow quality metrics, prescribe medications at every visit, etc.
• **Bernard Lown (Physician, Nobel Peace Prize Laureate) – 75% of diagnosis from history alone.**

• **BMJ – 82% from history alone; W J Med – 76%**

• **Arch IM – BASIC physical exam adds about 18%**
WHAT IS TELEMEDICINE?

• Telemedicine is the remote delivery of health care services and clinical information using telecommunications technology; i.e., internet, wireless, satellite, and telephone media. --- by a licensed medical professional!
**TERMINOLOGY**

**Telehealth** – health education services, remote monitoring of vital signs, ECG or blood pressure and remote doctor-patient consultations (telemedicine). It also allows for e-prescribe medications and remotely prescribed treatments.

**Telecare** – mobile monitoring devices, medical alert systems, and technology like computers and telephones. Continuous remote monitoring of patients enables telecare to track lifestyle changes over time as well as receiving alerts relating to real-time emergencies.

**Telemedicine** – use of information technologies and electronic communications to provide remote clinical services to patients including digital transmission of medical imaging.
WHEN DID TELEMEDICINE START?

- So, when did it start?
- 1948 – PA – first radiographs sent by phone
- Late 1950s – U NE – first CCTV in medicine
- Late 1960s – Miami – sent EKGs over EMS radio to EDs.
  - Also joint venture between NASA and Nebraska Psychology Institute
- Late 1970s – remote patient monitoring joint venture between Kaiser Foundation and Lockheed Missile & Space
- 1993 – formation of American Telemedicine Association
- 2009 – HITECH Act

- Question: Is not giving advice over the phone to your patient or covering for your practice partner also telemedicine?
WHAT
TELEMEDICINE
IS NOT

• A computer evaluating, diagnosing, and treating a patient.

• A robot seeing you from beginning to end.

• A physician simply being an operator of a device rather than an expert.

• A survey/questionnaire that is reviewed later and then treatment prescribed.

• A way for patients to get medications that they think they need and are entitled to.

• A cash cow or pure service industry (e.g. Burger King).
TYPES OF TELEHEALTH

- Live (Synchronous) Videoconferencing
- Store-and-Forward (Asynchronous) Videoconferencing
- Remote Patient Monitoring (RPM)
- Mobile Health (MHealth)
OPERATIONAL TYPES

DIRECT TO CONSUMER (DTC)

SECOND OPINION

CONSULTATIVE/ASSISTANCE TO ANOTHER PHYSICIAN (USUALLY GEOGRAPHICALLY OR RESOURCE LIMITED)

OUTPATIENT MANAGEMENT

POST DISCHARGE FOLLOW-UP
IN THE HOSPITAL (BRIEFLY)

• Hospitalists
  • Tele-presence robots in the acute care hospital and skilled nursing facility
    • Remotely navigated
    • With electronic stethoscope, ophthalmoscope, otoscope only requiring nurse or aide to assist
  • 2-way communication – video and audio
  • Tele-neurology – e.g. stroke evaluation
  • Tele-infectious disease – for wound evaluation, interview, antibiotic stewardship
  • Tele-dermatology
  • Tele-ICU
  • Post-discharge care e.g. CHF/cardiac monitoring
  • Etc.
WHAT CAN PHYSICIANS DO?

Direct to Consumer through private telemedicine companies

Acute care visits – UTI, “sinusitis”, emergency NCD med refills, general counseling

Chronic care – DM2, HTN

Wellness – cardiac risk reduction – diet, exercise, stress management, sleep, etc. – Lifestyle Medicine

Patients pay cash, through their private insurance, or as part of employee benefit plan.

Creating and curating mHealth educational information

Research/development of new AI-driven telehealth products
PROS AND CONS

• Pros:
  • Patients love the convenience, quick access, one on one interaction without being late or rushed.
  • Practice your interviewing and diagnostic skills.
  • Can set up follow up online appointments, follow patients, order labs.
  • Can help patients with anxiety about their condition and/or second opinions.
  • Interact with patients worldwide.

• Cons:
  • Limitation of technology. Can’t diagnose and treat many conditions.
  • Difficult to console patients. No hands-on support.
  • Patients sometimes have unrealistic expectations because of the convenience – “I paid for this consult to get an antibiotic and now you’re not going to give me one!”
• You must practice the same level of care as you would an in-person visit understanding current technological limitations.

• Examples: You can’t diagnose cardiac chest pain through current technology.

• You can advise on treatment for an URI based on history and exam (look at their throat, have them palpate sinuses, feel neck, listen to their breathing and voice, observe their skin) – since most URIs are viral anyway.
EXAMPLES OF VISIT CONDITIONS

- UTI
- Conjunctivitis
- URI
- Medicine Refill
- Depression
- Birth Control
- ED
- Lab/Test review
- Rash
EXAMPLE 1

• Conjunctivitis:
  • Can easily see an eye on video to assess for injection, icterus and symmetry
  • Visual acuity with help of eye chart applications which can be downloaded while on the phone
  • Instruct patients to move eyes to evaluate extra ocular movements
  • Have the patient use a flashlight to evaluate for reactivity

• *These are all very basic and not comprehensive of what I do in every such consult.
EXAMPLE 2

- Pharyngitis:
  - Finagle the camera to evaluate the tonsils for redness, exudates and swelling
  - Ask the patient to evaluate if they have tenderness over their lymph nodes
  - Observe if they cough, or have a runny nose, and observe them take their temperature
EXAMPLE 3

- Ankle Pain:
  - Use the Ottawa Ankle rules
  - Ask whether they were bearing weight at time of injury
  - Have patient the family or patient palpate over the specific areas of bony tenderness included in the rule
  - Evaluate whether they can bear weight
  - If it is all negative, you can save most patients a visit to the urgent care or emergency department for an X-ray.
• General operational guidelines – American Telemedicine Association

CONCERNS

- Is there higher antibiotic prescribing through telemedicine versus primary care offices. Answer: No it’s the same.


• Does telemedicine result in less inappropriate ordering and resources used?

• Answer: It can.

GENERAL LAWS

- It’s variable and changes annually but generally you must have a minimum of a telephonic encounter. Most states require video for diagnosis and prescribing for a new doctor-patient relationship.

- DEA requires an exam to prescribe (can do this through video but debatable through phone).

- You cannot prescribe controlled substances through telemedicine per DEA regulations – yet.

- You must be licensed in the state where the patient is located.
  - If the patient lives in Florida but you are seeing the patient for the first time or for a new problem and they’re in California, you MUST be licensed in California.
ETHICS

• New guidance (2019) from American College of Physicians

• World Medical Association
  • https://www.wma.net/policies-post/wma-statement-on-the-ethics-of-telemedicine/

There must be a valid patient–physician relationship for a professionally responsible telemedicine service to take place.

A telemedicine encounter itself can establish a patient–physician relationship through real-time, technically appropriate audiovisual technology.

In the absence of direct previous contact or an existing relationship before a telemedicine encounter, the physician must take appropriate steps to establish a relationship based on the standard of care required for an in-person visit, or consult with another physician who does have a relationship with the patient.

The benefits of increased access to care through telemedicine must be balanced with risks from the loss of the in-person encounter—for example, misdiagnosis potential; overprescribing; absent in-person interactions, including the therapeutic value of touch, and body language; and continuity of care.
THE FUTURE

- AI – Augmented not Artificial Intelligence
- Not replacing physicians but assisting their decision analysis, diagnostics, and treatment options/paradigms as well as ongoing care.
- Use of remote devices and wearables – CERTIFIED
- Interoperability of records and data
SELECTED RESOURCES

- International Society for Telemedicine and eHealth (Basel, Switzerland) – www.isfteh.org
- Center for Telehealth and eHealth Law – www.ctel.org – advocacy
- Center for Connected Health Policy – www.cchpca.org – regulatory education
- HealthIT.gov – federal telemedicine policy
- Norwegian Centre for Integrated Care & Telemedicine (Tromsø, Norway) – www.telemed.no (one of the best in the world – degree education also)
RELATED CONFERENCES

- American Telemedicine Association – annual conference
- CTeL – biannual workshops/roundtables
- Consumer Electronics Show (Las Vegas, January) – large eHealth section
- HIMSS (Health Information and Management Systems Society) – annual
FLORIDA TELEMEDICINE LAW

- Took BOM Rule as Its Base, BUT:
- Out of State Providers Do NOT need Florida license, but do need
  - Accountability to Florida Courts; and
  - Accountability to Florida Board of Medicine
- No controlled substance prescribing via telemedicine (except psychiatric and hospice)
- Standard of Care Does Not Change
- Telemedicine may be used for initial visitation
- Payment issues persist
QUESTIONS

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