Telemedicine: Innovations to Advance Care

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Objectives

• Outline telehealth opportunities in clinical care.
• Discuss the risks and benefits of opportunities in telehealth.
• Delineate potential future directions for developments in telehealth.
Telemedicine

The Institute of Medicine defines telemedicine as “the use of electronic information and communications technologies to provide and support health care when distance separates the participants.”
telemedicine

= medicine at a distance
Teleconsultation
Clinical Opportunities
Teleconsultation Modalities

• Real-time
  – Fully interactive videoconferencing
  – Use specific attachments for the physical exam
  – Requires scheduling of teleconsultant, telepresenter and patient

• Store-forward
  – Transmit information for later interpretation
  – Requires scheduling of teleconsultant
What Makes a Good Teleconsultation?

• Understand the goal of the consultation
  – Increase access to specialty care
  – Confirm diagnosis
  – Assist in triage

• Assure complete data and diagnostic images

• Built in quality review
Visual Specialties

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Technology provides images/sounds
“The talk is the treatment”

• Psychiatry/psychology
• Genetic Counseling
• Nutrition
• Physical activity
• Support group
• Hospice care
Videoconferencing and Store-Forward Applications

- Infectious disease
- Geriatrics
- Pain Management
- Pharmaceutical review
- Oncology
Some Highlights!
Teleradiology
Digital Mammography
Fetal Ultrasound
Telepathology

• Common area of need

• Barriers:
  – Inability to review all the tissue
  – Length of fixation
  – Cumbersome nature of robotic microscopy
Bundling of Services
Tele-Stroke

• Tele-emergency medicine
• Teleradiology
• Teleneurology
Teleoncology

*Use of telehealth technology in cancer care.*

- Multidisciplinary in nature:
  - Prevention, early detection, diagnostic consultation, surgical oncology, medical oncology, radiation oncology evaluation, clinical trial education and evaluation, supportive care and follow-up, palliation, tumor board and chart review models of care.
Telemedicine e-ICU scenarios

http://www.forbes.com/sites/patrickmoorhead/2014/05/13/vidyo-gets-the-jump-on-next-generation-telemedicine/
Diabetes Days

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Clinic Room Design

• Economic use of space
  – Camera placement
  – Mic placement
  – Patient exam area
  – Lighting
  – Background

• Easy to use equipment
  – Ergonomics

• Key to success: a Telemedicine Site Coordinator
Home Health Care Applications

• Wound care  
• Post-operative care  
• Pre-organ transplantation  
• Physical therapy
Tele-Home Health

Blood Glucose Monitor

Central Nurses Station

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Tele-Home Health

Colostomy

Urostomy

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Portable Telemedicine System

- Canon G2 4.0 M pixel Digital Camera
- American TeleCare Digital Stethoscope
- Koss Porta Pro 15-25,000 Hz Headphones
- Starview SV 8000i IP Videophone
  - to Wireless LAN Connection
  - to 100V-240V AC

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Professional Clinical Education

Chart Rounds

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Patient Tele-Education

St. Elizabeth of Hungary Clinic
Tucson

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Newest Health Care Tool
In US,
64% own a smartphone
90% own a cell phone
70% shop online regularly
15% do not use the internet*

*Pew Research Center
Patient reported outcomes

– Reporting vital signs from a distance
– Reporting of symptoms from a distance
– Telenursing contact when initiated by
  • Patient symptom prompt
– Teleoncology contact initiated by nurse
– Feasibility, clinical/cost efficacy
Symptom Monitoring
There’s an App for That!

http://www.imedicalapps.com/2015/01/physicians-medicare-telemedicine-reimbursement/
The *Virtual* House Call
Limitations
Virtual Reality Palpation
Payer rules on telehealth vary by state

- Medicaid and private insurance coverage for telehealth
- Medicaid coverage for telehealth
- Private insurance coverage for telehealth
- No required coverage for telehealth/no data

Source: National Conference of State Legislatures

http://cqrcengage.com/aacu/file/LumAGoog2s7/Telehealth-map.jpg
Telemedicine Reimbursement Policy in the 50 States

Parity laws for telemedicine reimbursement by state vary widely. This map summarizes telehealth parity rules for private insurance or Medicaid in all 50 states. Federal rules for telemedicine reimbursement are limited under Medicare. A new Medicare telemedicine parity bill introduced this year could be changing this.
Northwest Regional Telehealth Resource Center

https://nrtrc.org

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Alaska, Idaho, Montana, Oregon, Utah, Washington, and Wyoming
Thank You to...

• The participants
• The collaborators/partner sites
• The funders:
  – Better Than Ever
  – Health Resources and Service Administration
  – Arizona Biomedical Research Commission
  – National Cancer Institute
Thank you!

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