Clinical perspectives on telehealth and mhealth
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Definitions

- **Telemedicine**
  - Use of medical information exchanged via electronic communication to improve pt health

- **Remote monitoring**
  - Uses devices to remotely collect and send data to a monitoring station for interpretation

- **Method of Delivery**
  - **mHealth**: use of mobile devices
  - **eHealth**: web based portals
Benefits of Telehealth

- Increase **Access** to Care
  - Readily available specialists
- Decrease **Cost** of Care
  - Decreased complications
  - Decreased travel/transfers
  - Improved prevention
- Improve **Quality** of Care
  - Reduced readmissions
  - Increased compliance with EBM
  - More immediate care
Clinical Examples

- 16 yo with muscular dystrophy
  - Ventilator, wheelchair, feeding tube
  - Long hospital stay, open abdominal wound
  - Needs weekly wound checks
  - Needs ventilator adjustments

- Options for Care
  - Management by telephone
  - Travel by ambulance with equipment, parent, nurse
  - Take cell phone photos and text to doctor
  - Home nurse visits with videoconferencing unit
  - Has unit in home for on demand access to doctor
Use of Mobile Phones

- **Evidence**
  - Has been assessed in evaluation of wounds, burns and dermatologic lesions
  - 60–90% concordance with in person evaluation

- **Limitations**
  - Security and privacy
  - Quality of image
  - Time to response
  - Storage of image
Texting

- One way transmission of information
  - Appointment reminders
  - Pre-packaged information
    - Text 4 Baby
    - Diabetes Education
  - Outcomes: favorably received, limited studies, ? benefit

- Two-Way Interactive Texting
  - Security and Privacy Issues
  - Access
  - Time to Response

- Text + Web Portal
  - There’s an app for that
ninjabetic
#bgnow 122 #cgmsnow

dorkflower
first test of the day(yes i mean lunch hour): 7.8! yipee! #bgnow

colcalli
#bgnow #bgwed 91 post 150 prelunch #diabetes

dimpleshudson
Okay, I have the heat on

Settings
Readings Graph

Labels, Colors & Reminders

Day starts at 6:00 AM

Sharing

Connects with Microsoft HealthVault

Email
Pros and Cons

- Pros
  - Instant Feedback
  - Community
  - Paperless
  - Portal log in controls access

- Cons and Potential Cons
  - Response Time?
  - Interoperability
  - Equal Access?
  - Cell Phone Dead Zones and Internet Down Times
Home Health Visit with Connection

- Requires Skilled user
- Allows for more thorough assessment
- Must be scheduled visit
- Need to have internet connection
Home Telehealth Unit

- Connect stethoscope or peripherals
- Allows on demand access

CONS
- Training
- Maintenance
- Interoperability
- Internet Connection
Home Telehealth Units

- **Monitor**
  - Glucose
  - Oxygen
  - Weight
  - Blood pressure

- **Send to Patient**
  - Reminders
  - Photos

- **Send to Provider**
  - Result Data

- **Alert Monitoring Site**
  - Change in routine
  - No response
School & Child Care Based Health

- Chronic Disease Management
  - Asthma, diabetes, psychiatry
- Scheduled Visits
- Acute Care Visits
- Benefits
  - Improved compliance
  - Connection with own primary care physician
  - Preserves the medical home
  - Prevents unnecessary ED visits
  - Prevents parent loss of time from work
Getting to Implementation

- Needs
  - Setting expectations
  - Setting limits while allowing growth
  - Delivering a consistent standard of care

- Acceptance and Engagement
  - Patients/Parents
  - Providers
  - Payors
  - Tech Support
  - Regulators
Needs

- Access
  - Geographic
  - Technology
- Quality
  - Evidence Based Standards
  - Consistent Quality & Training
  - Guidelines for providing care
- Cost
  - Rapid Expansion of Devices
  - Affordability of Connections
  - Reimbursement for Providers

"It probably cannot handle streaming video or provide a consistent, reliable internet connection"
Allowing for Growth

- **Patients**
  - Acceptance of new technology
  - Understanding limitations and time frames

- **Providers**
  - Adapting practice for continuous flow of information
  - Adhering to standards and guidelines
  - Continuing to collect evidence

- **Policy Makers**
  - Adapting regulations to allow payment
  - Removing barriers to licensing
  - Adapting systems and regulations for a more patient-centered and connected world
Questions?

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