DISCLOSURE

No financial disclosures to make

The contents of this presentation should not be construed as legal or medical advice

This information is current as of September 2016
OBJECTIVES

- Recognize how telehealth can be used clinically in Pediatrics
- Understand legal and regulatory barriers to be addressed to launch and maintain a successful telehealth program
- Formulate strategies for effective interdisciplinary and post-graduate education using telehealth
A PERSONAL JOURNEY

• Practicing clinician in rural Kentucky (2005-2008)
• After moving to academic practice in semi-urban 100 miles away, what happens to my rural patients’ access?
• Partnered with rural hospitals and clinics to use telehealth to continue to provide access
• Expanded to other rural areas across eastern Kentucky (2008-2012)
• Moved to LA, why need telehealth in a metropolis? ACCESS
• Developed telehealth program for valley areas with community clinic (2013)
• Moved to central PA, continued to expand and develop new programs in telehealth, moved into administrative role beyond my specialty
DEFINITIONS

• Telehealth is the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration.

HRSA’s Office for the Advancement of Telehealth

• Telehealth refers to a broader scope than telemedicine, which is specifically remote clinical services, while telehealth includes non-clinical services (provider training, continuing medical education), in addition to clinical services and encompasses clinical services from many allied health providers.
RATIONALE

• Some patients can not/will not travel from their communities (access barriers, cultural reasons)
• Professional isolation – difficult to recruit/retain healthcare professionals to more rural areas
• Patients self-refer around community resources to urban medical center and can disrupt medical home models (mostly in adults)
• Unproductive travel time for specialists performing outreach
HISTORY OF TELEHEALTH IN THE US

• Military was early adopter
• 1980’s – Videoconferencing for distance learning
• Early 1990’s – Medical applications – Grant funded
• Cumbersome, expensive technology
• Required very high speed (high cost) communication lines
• No clinician reimbursement
TECHNOLOGY OPTIONS

• Fixed hardware solutions
• Software-based solutions
• Mobile solutions
• Peripherals
• Kiosks
Increasing broadband and wireless network coverage across the United States

• Dropping cost and increasing quality of video conferencing (VC) solutions

• Explosion in smart mobile device penetration
TELEHEALTH SOLUTIONS

ASYNCHRONOUS: store-and-forward involves recording medical information at 1 site and transmitting to another for evaluation later.

SYNCHRONOUS: real-time interaction between patient and healthcare provider.

REMOTE MONITORING: clinician monitors patients real time at any location using patients’ data (manually entered or digitally transmitted).

mHEALTH: using mobile and wireless devices to improve health outcomes, health care services, and health research.
CASE EXAMPLES

• ACUTE INPATIENT
  • ED TeleTriage
  • Tele-ICU
  • Tele-Stroke
  • Inpatient Tele-psych

• OUTPATIENT CONSULTS
  • All medical (and some surgical specialties)
  • Team evaluations (incl ancillary providers)
MORE EXAMPLES

• E-Visit: On-demand, anywhere, mobile accessible healthcare
  • Improved patient access
  • Potential for savings through utilization shift
  • Reduced burden of acute care visits (Urgent Care, ED)

• Remote Patient Monitoring: Data collected from patient aiding in decision making
  • Real-time data flow
  • Chronic disease mx on non-episodic data collection
  • Close gaps in care
TELEHEALTH TRENDS

DIRECTIONS

• Increasing emphasis on access and convenience (some consumer-driven) and reducing cost.
• Expansion from acute conditions to chronic and population based health.
• Shift from hardware and “fixed” systems to mobile

CHALLENGES

• Payment reform and new models (incl next-Gen ACOs)
• EHR integration
• Direct-to-consumer and retail focus
• Artificial intelligence and analytics
BUSINESS DECISIONS AROUND TELEHEALTH

• Operational Efficiencies
• Improved Patient Experience
• New patient capture/retention of existing patients (Market Share)
• Downstream Revenue Shift
• Direct Revenue Stream (e-Visits)
• Reductions in transfers (reduced CMS penalties)
REGULATORY ISSUES

- License
  - State restrictions (Federal program exceptions)
  - Interstate Compact
- Reimbursement
  - CMS
  - Private payers
- Credentialing
- Malpractice
LICENSURE REGULATIONS

Within state: exclusive telemedicine vs. “full license”

Federal programs: DOD, Indian Health Service and VA only require clinician to be licensed in home state

Interstate: A few states have reciprocity agreements; however, individual applications are still required. Some states also have special telemedicine licenses.

AL, GA and TX require an in-person follow-up after a telemedicine encounter
INTERSTATE MEDICAL COMPACT

• Allows eligible physicians (specialty certification and full and unrestricted medical license for at least 3 years) to apply for expedited medical licensure in participating states
• Legally binding agreement between states developed by state medical boards under the auspices of FSMB
• Already model in Nurse Licensure Compact, which allows nurses in 24 states to have 1 multistate license
• Enacted: AL, ID, MT, UT, SD, WY, WV, NH, NV, MN, IA, IL, WI
• Active legislation: PA, MI
• Introduced: AK, AZ, CO, KS, MD, MS, NE, OK, RI, VT, WA
In 2011, CMS published rule that stated:

- If both hospitals are Medicare participants, originating site can accept privileges of the tertiary care/provider facility.
- If originating site non-Medicare participant, if written agreement between facilities then can proceed same way.

CMS defines “reimbursable telemedicine” as interactive audio-video telecommunications permitting real-time communication between the distant site practitioner and beneficiary.

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<th>Medicaid recipients and private insurance reimbursement determined by individual states, Medicare determined by federal and generally least permissive</th>
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• 48 states have some form of reimbursement for telehealth in their Medicaid program (except for CT and RI)

• 23 states and the District of Columbia have enacted full parity laws. AZ has enacted a partial parity law, but limit coverage to a certain geographic area (e.g., rural) or a predefined list of health care services.
SITE OF DELIVERY & IMPLICATIONS

- Definitions: “originating” (where the patient is, where encounter originates) and “distal” (where the clinician is)
- Medicare has restrictions around originating site, both in terms of type of site, but also in terms of HPSA/MUA designation
- 24 states and D.C. do not specify a patient setting or patient location as a condition of payment for telemedicine
- 82% of the states cover telemedicine services state-wide without distance restrictions or geographic designations
MICHIGAN MEDICAID POLICIES

- a real time interactive system not synchronous
- “no distance requirements between the originating and distant site”
- Eligible originating sites:
  - County mental health clinic
  - Federally Qualified Health Center (FQHC) Rural health clinic
  - Hospital (inpatient, outpatient, or CAH)
  - Practitioner Office
  - Renal Dialysis Centers (including satellites)
  - Skilled nursing facility
  - Tribal Health Center (THC)
  - Commercial Payers Contracts shall not require face-to-face contact between a health care professional and a patient
CMS ELIGIBLE ORIGINATING SITES

US Census Bureau, 2013
## TELEHEALTH & MALPRACTICE

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<tr>
<th>Physicians providing telemedicine have the same responsibilities and obligations of care to patients as in-person visits</th>
<th>For PCP-telemed consultant (without patient), a physician-patient relationship is not typically established and generally shielded from malpractice liability.</th>
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<td>Malpractice against telemedicine providers only a fraction of total malpractice. Most claims have been settled, and non-disclosure/sealed claims are not reported.</td>
<td>Majority of cases involved alleged negligence claims concerning physicians prescribing medications to patients across state lines without previously examining the patient.</td>
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HIPAA AND TELEHEALTH

• Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule applies to covered healthcare entities and practitioners
• Inherent suspicion among unfamiliar with telehealth, that a clinical encounter would violate HIPAA with protected health information (PHI) “floating around the internet”.
• Ways to protect similar to traditional encounters.
  - All procedures (records, privacy notification, education and compliance) must be adhered to in telehealth encounters, both at originating and distal sites.
  - Technical staff must comply with HIPAA if they have occasion to encounter PHI.
  - Using secure connections reduces the likelihood of an encounter being “hacked”, particularly “closed sessions” held point-to-point
Authorized Practitioners licensed, registered where the beneficiary is located. Enrolled in MI Medicaid to be reimbursed

- Physicians (MD, DO, DPM)
- Nurse Practitioners (NP)
- Physician Assistants (PA)
- Nurse Midwives
- Clinical Nurse Specialist (CNS)**
- Clinical Psychologist (CP) **
- Clinical Social Workers (CSW) **

** These professionals cannot bill MDCH directly. Services must be provided through a Prepaid Inpatient Health Plan (PIHP)/CMHSP, FQHC, or THC. Psychotherapy services that include medical evaluation and management services cannot be provided by Psychologists or Social Workers.
PATIENT CONSIDERATIONS

• Important factors are:
  • convenient scheduling options and less time waiting
  • lower cost

• Hesitation may stem from
  • fears over lack of choice
  • lack of familiarity with the provider they see

75% reported they either would not trust a diagnosis made via telemedicine, or would trust this method less than an in-doctor visit.

65% more likely to conduct virtual appointment if they had previously seen doc in-person.

Only about 17% of 18-24 year olds, and 24% of 25-44 year olds said they wouldn’t trust a virtual diagnosis.
PHYSICIAN CONSIDERATIONS

- Limited body of literature (except patient satisfaction) on outcomes, cost-effectiveness
- Concerns about sabotaging trust and impeding physician-patient relationship
- Not supportive of telemedicine outside context of medical home
- Lack of comfort with the technology and lack of awareness of limitations
- Compared to practicing physicians, 70% of residents said they would have no issue videoconferencing with a patient.
METRICS

- Business (Return on Investment - ROI)
  - Direct revenue
  - Indirect revenue (growth)
  - Cost shift

- Clinical
  - Patient Outcomes
  - Patient Satisfaction
  - Access
RESEARCH GAPS

• Telemedicine programs are all designed differently: apples to oranges comparison

• Often descriptive studies, lack of detail of subjects, metrics or methods

• Inadequate (till now) critical mass of academic researchers to investigate the field

• Newer approaches (like e-Visit) have almost no outcomes, other than 1 vendor supported analysis which showed diversion of about 20% of simple acute visits away from ED/Urgent Care
SO WHAT IS EVIDENCE BASE?

- Satisfaction... Done (>98%) and no rationale to repeat
- Access.... Done, though variable metrics, mostly geographic access
- Sufficient evidence for:
  - RPM for chronic conditions
  - Psychotherapy for behavioral health
  - Counseling and patient education for chronic conditions
- Gaps:
  - Impact on revenue and payment models
  - Patient outcomes vis-à-vis standard delivery for acute, and pediatric care
POLICIES AND GUIDELINES

• American Telemedicine Association
  • Live, On Demand Primary and Urgent Care 2014
  • Core Operational Guidelines Involving Provider-Patient Interactions 2014
  • Video-Based Online Mental Health Services 2013
• State and specialty-specific (e.g. OH Telepsychology Guidelines, 2010)
• FSMB Model Policy for the Appropriate Use of Telemedicine Technologies in the Practice of Medicine 2014
PEDIATRIC TELEHEALTH

• AAP Section of Telehealth Care (SOTC) has organized Meet the Expert, Section programs and Seminars since 2009 with presentations on telehealth at AAP National Conference & Exhibition (NCE)

• The American Telemedicine Association (ATA) Pediatric Special Interest Group has been collaborating with the AAP Council on Clinical Information Technology (COCIT) to have regular articles related to telehealth in AAP News

• Recent article in Pediatrics

• AAP statements
AAP POLICY STATEMENT

• Telemedicine technologies, applied to the medical home and its collaborating providers, can increase communication among clinicians, resulting in more efficient, higher quality, and less expensive care, and serve as a platform for providing more continuous care, linking primary and specialty care to support management of the needs of complex patients.

• If telemedicine is used for episodic care outside of the medical home, potential to disrupt continuity of care and to create redundancy and imprudent use of resources.

• Recommends that advocates and policymakers work to avoid fragmentation and establish policies to ensure that telemedicine, like all primary and specialty services, be coordinated through the medical home.

Marcin et al, July 2015
AAP RECOMMENDATIONS

Research on the effectiveness of telemedicine to address workforce needs, improve care, reduce costs and ensure satisfaction should be supported.

Providers of educational programming should be encouraged to tap into telemedicine technologies.

Telemedicine topics should be integrated into medical school, residency and continuing medical education curricula.

Regulatory and licensing authorities should partner with medical organizations and other health care stakeholders to overcome barriers.

Efforts to facilitate interstate licensure to increase accessibility of pediatric physicians to children in underserved areas should be supported.
AAP RECOMMENDATIONS

The Academy and its chapters should advocate for the reduction of barriers to telemedicine to extend the reach of and access to pediatric physicians.

Physicians should receive equitable payment for their telemedicine services to increase availability of pediatric health care for all children.

Telemedicine services for episodic care should be done within the medical home.

Public and private payers should develop stable funding mechanisms to support continued development of telemedicine.

Financial incentives should be offered to physicians and health systems that demonstrate improved health care access and outcomes through implementation of telemedicine and other technological innovations.
Telemedicine Medical Home Strong Memorial Rochester, NY

• The *Health-e-Access Telemedicine Program* allows patients with minor illness to be seen at conveniently located neighborhood sites by providers from their own primary care medical home.

• Resulted in fewer ED and office visits, cost reduction and fewer absences due to illness for both students and parents.

• Over 10,000 telemedicine visits with pediatricians, NPs and PAs to provide remote diagnosis/consultation for sick kids in child care centers and schools. A provider from the family’s own primary care medical home sees the patient for 80% of visits (99% for one of the six currently participating practices).
NATIONAL INITIATIVES

*Antenatal & Neonatal Guidelines Education & Learning System*

Allows families with neonate with lethal condition to deliver in community hospital and provide palliative care

— Provides more efficient, timelier consults with subspecialists
— Provider Education through regular conferences
— Webcam access to nursery baby for family
NATIONAL INITIATIVES

• UC Davis PICU, NICU and ED specialists conduct an average of 2,800 inpatient and outpatient telemedicine consultations each year to remote hospital EDs, newborn nurseries and inpatient wards; and mobile carts within UC Davis Children’s Hospital.

• Also do Tele-Newborn Feeding, Audiology, PCIT (for behavior support)

• Researchers found the average cost for a telemedicine consultation was $3,641 per child per year in 2013, when factoring in implementation costs. However, each telemedicine consultation resulted in a $4,662 cost reduction per child per year. Additionally, telemedicine consultations led to 31% fewer patient transfers.

• The return on investment for this telemedicine project equaled approximately a $1.96 return for each dollar invested.

Yang, Dharmar et al (2015)
INTERNATIONAL TELECONSULTATION

- Globalization and international partnerships are “in”
- Telehealth viable due to interconnectivity with low cost
- Complementary skills sets and need bind organizations (need for Dermatology and Tropical Med from India; Rheumatology and DB Peds from US)

| Pre- and Post-op speech-language assessment of Cleft Lip/Palate patients in Nicaragua by ENT team at Johns Hopkins. |
| Miami Children's Hospital via Global Telehealth Command Center provides pediatric video consults in the Caribbean. |
| UPMC oncology, pulmonology and colorectal surgery consults available to physicians in India. |
TELE-EDUCATION

• Earliest and still most common use of telehealth
• Grand Rounds, symposia, didactics obviates travel for participants
• Real-time participation, or stored on server for later recall
• For rural/suburban practitioners, with limited access to health information, professional development and CME
• Tele-education can help with
  - recruitment and retention
  - increased knowledge and expertise
  - maintenance of certification
  - virtual peer group of subspecialists and colleagues

Gonzalez-Espada WJ, et (2009)
THE GLOBAL CONFERENCE HALL

• AR Peds Place/ANGELS

• Network includes Australia, Azerbaijan, Belgium, Canada, Ecuador, Egypt, Georgia, Germany, India, Ireland, Italy, Japan, Lithuania, Mexico, Moldavia, Nigeria, Norway, Philippines, Qatar, Saudi Arabia, Slovakia, Switzerland, Thailand, Turkey, United Arab Emirates, and the UK
MODELS FOR TRAINING

WEST VIRGINIA UNIVERSITY

- Pediatric and Family Medicine residents WVU participate in noon conference didactics
- Residents also “sit in” on DBP weekly TM clinics with opportunity to observe, discuss and participate in feedback

LTMG HOSPITAL, MUMBAI, INDIA

- Pediatric Post-graduates
- Case conferences over variety of topics
- Participation of faculty from both institutions
- Direct engagement in fellowship training
THINK ABOUT...

• What are your greatest needs that can be addressed through telehealth?
  • Improving patient access
  • Improving clinical workflows

• What barriers do you foresee in deploying telehealth solutions in your practice? What resources would you need to overcome these barriers?
  • technology
  • resources
  • education
RESOURCES

Organizations
• American Telemedicine Association
  www.americantelemed.org
• AAP Section on Telehealth Care
  www2.aap.org/sections/telecare/default.cfm

Publications
• Telemedicine and e-Health
• Journal of Telemedicine and Telecare

Position statements
• Federation of State Medical Boards
• AAP
REFERENCES

• Committee on Pediatric Workforce The Use of Telemedicine to Address Access and Physician Workforce Shortages *Pediatrics* 2015-1253

• Federation of State Medical Boards  


