**November 17, 2016**

**8:00am – 11:00am**

**Location:**  Safety Harbor Resort and Spa  
105 North Bayshore Drive  
Safety Harbor, Florida 34695

**Teleconference:** 866-901-6455  
**Access Code:** 804-252-433

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:05</td>
<td>Roll Call, Welcome &amp; Introductions</td>
<td>Chair Senior</td>
</tr>
<tr>
<td>8:05 - 8:10</td>
<td>Review &amp; Approval of October Minutes</td>
<td>Chair Senior</td>
</tr>
<tr>
<td>8:10 - 8:30</td>
<td>Welcome from Representative Chris Sprouls</td>
<td>Representative Sprouls</td>
</tr>
<tr>
<td>8:30 - 8:45</td>
<td>Southeastern Telehealth Resource Center</td>
<td>Rena Brewer</td>
</tr>
<tr>
<td>8:45 - 9:15</td>
<td>Federation of State Medical Boards</td>
<td>Lisa Robin</td>
</tr>
<tr>
<td>9:15 – 9:30</td>
<td>Questions and Discussion with Lisa Robins</td>
<td>Council Members</td>
</tr>
<tr>
<td>9:30 - 9:45</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>9:45 - 10:00</td>
<td>Telehealth Survey Update</td>
<td>Nikole Helvey</td>
</tr>
<tr>
<td>10:00 -10:30</td>
<td>Member Discussion &amp; Next Steps</td>
<td>Council Members</td>
</tr>
<tr>
<td>10:30 - 10:45</td>
<td>Public Comment</td>
<td>Chair Senior</td>
</tr>
<tr>
<td>10:45 - 10:55</td>
<td>2017 Meeting Schedule</td>
<td>Council Members</td>
</tr>
<tr>
<td>10:55-11:00</td>
<td>Wrap Up &amp; Closing</td>
<td>Chair Senior</td>
</tr>
</tbody>
</table>

Meeting Materials and Information will be available at: [www.AHCA.myflorida.com/Telehealth](http://www.AHCA.myflorida.com/Telehealth)  
Additional comments and information may also be sent to: [Telehealth@ahca.myflorida.com](mailto:Telehealth@ahca.myflorida.com)
Members Present
Justin M. Senior, Chair
Dr. Celeste Phillips
Dr. Ernest Bertha
Leslee Gross
Darren Hay (virtually)
Dr. Kim Landry
William Manzie
Elizabeth Miller
Dr. Steven Selznick
Mike Smith
Matthew Stanton
Monica Stynchula
Dr. Sarvam TerKonda

Members Absent
Dr. Anne Burdick
Dr. Kevin O’Neil

Staff Present
Nikole Helvey
Pam King
Mallory McManus
William “Bill” Roberts
Dana Watson (virtually)

Others Present
Rep. Travis Cummings
Sen. Aaron Bean
Interested Parties (Attachment A)

Welcome and Opening Remarks
Chair Senior called the meeting to order at 9:00 a.m.

Nemours – Carey Officer
Ms. Carey Officer, Nemours Children’s Specialty Care, Director of Service Delivery Innovation welcomed the Telehealth Advisory Council, Representative Cummings, and all others in attendance. She expressed appreciation on behalf of Nemours ability to host the Council’s first meeting.

Ms. Officer shared a story with the Council about the use of telehealth technology at Nemours. She noted that this technology allows them to provide the right health care services at the right time for their pediatric patients.

Roll Call
Chair Justin M. Senior welcomed the group and gave a brief outline of the charge of the Council. Chair Senior directed Ms. Nikole Helvey to call the roll and a quorum was present.

Welcome and Introduction to the Issue - Rep. Travis Cummings
Rep. Cummings gave a brief history of the telehealth legislation and provided insight as to the legislative intent. He noted that the House of Representatives (House) was supportive of reimbursement to health care providers for treating patients through the use of telehealth services. Rep. Cummings opined that the House was looking forward to learning more about who is currently using telehealth in Florida and for what purposes. He also advised that the House would prefer to allow the private market and stakeholders to determine reimbursement amounts rather than mandating reimbursement levels.

**Legislative Intent from the Senate – Sen. Aaron Bean**

Sen. Aaron Bean greeted the Council with enthusiasm. He shared with the Council that the telehealth legislation took four years to pass. He noted that the Senate is supportive of the benefits of using Telehealth to provide health care. He thanked the Council members for their time and is looking forward to receiving their report, which will help answer questions regarding how regulations will be set and implemented; as well as who should be eligible to participate.

**Member Introductions and Background – Council Members**

Sen. Bean recognized the diverse experience and knowledge of all Council members. He read through the biographies of the members and reiterated his thanks to all for their service on the committee.

**Florida Sunshine Laws – William “Bill” Roberts, Deputy General Counsel, Agency for Health Care Administration**

Mr. Bill Roberts gave a presentation on the Florida Sunshine and Public Record Laws. He advised the Council that they are considered a collegial body, which subjects them to the Sunshine Law, noting where they could find the specific law. Mr. Roberts highlighted specific provisions prohibiting communication about Council matters outside of publicly noticed meetings, the noticing of meetings, and the maintenance of meeting minutes.

Additionally, he discussed the laws related to public records. He informed the Council that all materials created or received relating to the Council are public record and therefor subject to public requests for inspection and copy. He went on to explain that it is possible that records created by the Council will include information that is considered confidential and exempt from the Public Records Law. He provided examples.

Mr. Roberts advised the Council that Florida Statutes requires members of the public be given reasonable opportunity to be heard on a proposition that is before the Council. The Council may develop guidelines for public participation such as providing time limits for speakers, having a single group representative, using speaker cards, or designating time for public comments.

Mr. Roberts finished his presentation with a review of the penalties of violating the Sunshine Laws.

After the presentation, Chair Senior told the Council that the Agency would handle the notice, the minutes, and any other ministerial requirements of the Council.

**Member Introductions and Background (continued)**

Chair Senior introduced himself and shared his background as it relates to telehealth. He then requested the Council members introduce themselves and give brief descriptions of their workplaces and interest in telehealth.
Implementation and Direction – Nikole Helvey, Bureau Chief, Florida Center for Health Information and Transparency

Ms. Nikole Helvey spoke about the Council’s legislative charge as well as the definition of telehealth. She provided a description of requirements for Chapter 2016-240, Laws of Florida, which requires the Agency to report on current capabilities, coverage levels for national and state utilization of telehealth; barriers to using or accessing telehealth services; types of health care services provided via telehealth; costs and cost-savings associated with using telehealth, the extent of insurance coverage, and how such coverage compares to coverage for in-person health services. The language also charges the Council with making recommendations to increase the use and accessibility of services provided via telehealth using licensee survey results, national and local research, as well as public testimony given at the meetings or submitted to the Agency. The Council recommendations are to be provided in a report to the Governor, Speaker of the House, and Senate President by October 31, 2017. This section of law expires June 30, 2018. Ms. Helvey showed the Council a tentative implementation timeline culminating on October 31, 2017.

Next, Ms. Helvey discussed some of the nuances related to definitions around the topic of telehealth. Specifically, she pointed out the use of the terms telehealth and telemedicine, suggesting that the Council may want to accept the use of the terms as synonymous for the purpose of discussion and testimony. Ms. Helvey also shared various definitions and suggested the Council may want to initially accept the World Health Organization’s definition of telehealth and then determine if another definition would be more appropriate.

Council Vision and Goals – Justin M. Senior, Interim Secretary, Agency for Health Care Administration & Dr. Celeste Philip, State Surgeon General and Secretary of Health

Justin M. Senior – Chair Senior requested that the members share their vision and goals for the Council. He believes the Council needs to have a clear definition of their goals to determine success. He stated that his goal for the Council was to make recommendations that promote the use of telehealth and improve access, without causing inflation to the healthcare system while strengthening the patient/doctor relationships.

Dr. Celeste Philip - Dr. Philip shared that having worked with the Department of Health in the County Health Departments, her focus for the Council is directed toward public health and reducing barriers for families who faced challenges and barriers in regard to health care access. She said that while there are barriers to telehealth, she believes there are also tremendous benefits to using Telehealth.

Dr. Kim Landry – Dr. Landry reported that he had three points that he would share with the Council. First that telehealth is not a “one size fits all” solution. He explained there are multiple models to consider when using telehealth. Second, telehealth provides an opportunity for patients to receive health care services in their home. He noted that some of the barriers that providers face, such as requirement for the patient and the provider each be located in a brick and mortar facility, inhibit this type of care. Third, he wants to be sure that any recommendations do not decrease the standards of care. He said the standard of care could be decreased if there are limitations to what a provider can do through telehealth, giving the example that providers cannot prescribe controlled substances for pain using telehealth, while they are able to if the patient is standing in their brick and mortar office.
Dr. Sarvam TerKonda – Dr. TerKonda commented that the standard of care should not be different when providing treatment whether those services are offered using telehealth or through a face-to-face transaction. He agreed that increasing the use of telehealth would improve health care, but wants to be certain that telehealth technologies and standards are meeting the same expectations as face-to-face visit.

Various Council members discussed barriers related to location of the patient versus the health care provider when using telehealth to provide treatment. It was suggested that the Council research what other states are doing in regards to licensure and telehealth. Additionally, it was noted that maintaining high standards of care should be kept in consideration; both through the regulatory boards, as well as medical malpractice insurance requirements.

William Manzie - Mr. Manzie noted his interest in looking at telehealth for more than physician care. He referenced other health services that would benefit from using telehealth such as nutritionist, physical therapists, and speech therapists. Mr. Manzie would like to see the Council look at the broader picture and research what other provider types would benefit from telehealth.

Elizabeth Miller – Ms. Miller suggested that the Council make a recommendation regarding how providers account for network adequacy. Chair Senior explained the term “network adequacy” as a series of standards applied in the Medicaid program Health Maintenance Organizations that generally involve time and distance for both urban and rural areas; ratios relating to general primary care providers and specialists; and the number of hospital beds to people in an area. This is done on a regional basis. However, providers often work at more than one physical location and in different regions with each location having its own Medicaid contract. He said that he would like to include pediatric psychologist and other specialists because there may be a shortage of specialists in the Medicaid program, or there may be a shortage in the entire state.

Mike Smith - Mr. Smith stated that thirty-one states throughout the U.S. are successfully using telehealth. He suggested that telehealth provides an opportunity for Florida to become more competitive on a national and international level.

Monica Stynchula - Ms. Stynchula brought up the 60,000 people on waiting lists for needs based services in Florida. Through the use of telehealth, the list could be filtered and the patients could receive treatment. She expressed concern with the Council focusing too much on licensure when there are other barriers that inhibit the use of telehealth.

Dr. Steven Selznick – Dr. Selznick clarified for the Council that all health care providers, whether physicians, clinical social workers, licensed therapists, or pharmacists must have a Florida license to use telehealth. He said that whether the provider is working inside or outside of Florida, they must hold a Florida license.

Matthew Stanton - Mr. Stanton suggested that bureaucracy was a barrier that also needed to be explored; providing an example of higher learning facilities that agree with the use of telehealth in theory, but are not moving forward with implementation. He suggested that the Council look at policies that may stymie use and access to telehealth services. Additionally, he noted that a large part of telehealth is asynchronistic. Sharing that in order to care for large groups of chronic care patients, the vast majority of the expense will be to monitor the populations in between visits to be sure providers know what is happening with their patients when they aren’t with the providers. He wants the recommendations to include the use of asynchronistic visits as well as quality control.
The Council members discussed cost barriers related to individual health practitioners in using telehealth to provide care. Dr. Selznick shared that 30 states have parody laws which allow for reimbursement for synchronous and asynchronous care. He noted that Nursing Homes would benefit by not having to be transported to a hospital or provider, which will help cut readmission rates.

Chair Senior elicited comments from the payers on the Council regarding payment barriers. Ms. Miller and Dr. Bertha noted opportunities for using telehealth for treatment, but advised that additional pilots were needed to determine how to implement the services best. They also noted that upfront costs of having telehealth technology are extensive. Ms. Miller specifically noted that WellCare had seen a positive impact on re-hospitalizations for behavioral health patients which has improved their quality outcomes from a HEDIS perspective.

The Council discussed the need to look at sustainable telehealth business models. Mr. Smith suggested that the Council look to hospitals like Mayo or Nemours who have telehealth programs in other states. It was noted that in some instances cost off-sets provide sustainability in some cases. Other members reiterated the need for reimbursement to truly have a sustainable model. It was suggested that value based care models with telehealth as an initiative for reimbursement may be beneficial. Dr. Terkonda remarked that when looking at value based and population health models, the savings do come back in soft money. He noted that the savings come to the patients through quality and the population health care models will provide the largest savings. Ms. Stynchula suggested that the Council focus on value based care and how to develop and make telehealth a model for the future.

**Council Vision and Goals Review**

Chair Senior highlighted the issues and topics that the Council indicated they would like to research further. He specifically noted the following:

- Breaking down of barriers, including bureaucratic barriers
- Finding cost savings for the use of telehealth to provide services
- Licensure issues for all provider types using telehealth
- Maintain high standards of care
- Exploring different payment models and value based purchasing
- Review of other states and countries that currently have good telehealth models

It was also noted that the telehealth survey results may provide additional information on needed research.

Chair Senior noted that the goal of the Council is to determine the best business model for Florida expanding the use of telehealth.

**Additional Council Discussion**

Ms. Helvey informed the Council that the next meeting’s agenda will include introduction of the members of the Council who were unable to attend. The Council will also hear from Rep. Chris Sprowls who will discuss the telehealth legislation passed during the 2016 legislative session. Ms. Lisa Robin from the Federation of State Medicine Boards will present to the Council regarding other states telehealth services. Dr. Terkonda requested that Ms. Robin also speak on the subject of instate compacts and licensure.
Dr. Philip requested that the Council also look at large health systems as models for implementing telehealth services. She noted that health systems are better at understanding metrics and may have archives going back 10 to 20 years. The Council can look at how a health system began and expanded its telehealth services over time, as well as determine if their patients are in better health today than they were 10 to 20 years ago.

Mr. Smith inquired as to the expectation of the Council and if sub-committees or ad hoc committees may be needed to accomplish their goals. Chair Senior noted that due to the Sunshine Laws, if the body were to break up into subcommittees, each meeting would need to be individually noticed. He suggested that different individuals on the Council could take assignments from the meetings and report back to the Council.

**Public Testimony**

**Sandy Davis, Florida Physical Therapy Association** – Ms. Davis shared with the Council that the association is enthusiastic for patients and therapists in rehabilitation to be able to use telehealth. She stated that the use of telehealth increases access and lowers costs. She left the members of the Council with a packet of information to back up the use of telehealth by physical therapists.

**Dave Sharland** – Mr. Sharland, a physical therapist for the North Florida/South Georgia Veteran’s Administration (VA), reported that during his career he has participated in over 800 physical therapy visits in home settings and they have been very positive. The Council questioned Mr. Sharland on licensure requirements, technical platform, types of services offered, and patient and patient representative access to services. Mr. Sharland to explain the healthcare providers working with the VA are only required to obtain a license in one state, but they are limited to providing services to only VA patients. He noted that that necessary technology is sometimes provided directly to patients and that in other instances the patient is responsible for purchasing the equipment themselves; indicating that they currently use a technical platform that can be plugged directly into a patient’s personal computer. Mr. Sharland also shared that the VA has plans to grow exponentially through telehealth by expanding in the areas of tele-audiology, tele-neurology, and tele-cardiology. He noted that patient caregivers are also provided training in order to assist with the use of telehealth services if needed. He also noted the VA covers the costs for these services and the costs for the necessary hardware.

**Drew Kiser, Director of Rehabilitation, Brooks America Home Health Division** – Mr. Kiser told the Council that they had partnered with Reflection Health in California using a system called VERA, which stands for virtual exercise rehabilitation assistant. The program uses both synchronous and asynchronous telehealth models which perform the rehab for the patients. He stated that telehealth allows rehabilitation providers and health systems to effectively use time to see additional patients while providing quality care. The Council asked for clarification on criteria for patients using telehealth services and how the service costs were covered. Mr. Kiser responded that patients have to meet a specific criterion for a patient to receive telehealth services. He stated that telehealth will never replace face-to-face visits with a provider; however, it is used as another tool to improve the quality of care for their patients. He also shared that the VA covers the costs for these services and the costs for the necessary hardware.
Dr. Ronald Renuart, President-elect, Florida Osteopathic Medical Association, Dr. Renuart stated that telehealth technology would bring changes to the practice of medicine and the standards that are currently in place. He said that FOMA recognizes the benefits of telehealth, which is not to replace the doctor/patient face to face relationship, but as a tool in improve that relationship. He expressed concern in allowing out-of-state physicians to provide telehealth services without appropriate licensure in Florida, noting the variance in standards of care from state to state and even nation to nation. He noted that Florida licensure protects patients in the state, ensures liability coverage of providers, and holds practitioners accountable for services provided. Dr. Renuart asked that the Council look at determining “what are the limits” and “what is appropriate use” of the telehealth technology. He shared that he knows that telehealth can work, as he was able to use telehealth in Kabul, Afghanistan when he was in the military to treat patients.

John Whitman, MBA, Executive Director, The TREC Institute & faculty at Wharton MBA Health Management Program. Mr. Whitman share with the Council the results of a study Wharton had completed on the impact of using telehealth in skilled nursing facilities in New York. He specifically noted the prevention of hospital readmissions and overall costs savings found in the study. He also noted that an additional study in Florida was planned for the near future.

The Council moved to extend the time 10 more minutes and the motion was approved.

The Council requested additional information regarding the study including funding and sustainability of the program. Mr. Whitman advised that funding for the program came from two sources: a Samuels Foundation grant covered telehealth costs and a CMS grant covered the readmission study. He noted that the participants agreed to continue the program for at least two years after the completion of the study, the program’s costs savings were identified in order to increase the opportunity for sustainability. He also noted an overview of the study results were provided to staff. Ms. King noted that a copy of the information provided would be shared with the Council.

Kevin Bloomfield – Mr. Bloomfield, a forensic psychologist, complimented the amount of knowledge the Council holds. He gave multiple examples of the current uses of telehealth and other industries using tele-monitoring. He suggested that offices using telehealth should employ a technical person. Mr. Manzie mentioned an application that is being developed to assist patients in locating specific provider types. He used the example Florida’s shortage of child psychologists/psychiatrist.

The Council moved to extend the time by 5 minutes and the motion was approved.

Amy Blakely, Blakely and Associates – Ms. Blakely noted that her firm provides telehealth consulting and represents a non-profit behavioral health program. They have provided over 14,000 Medicaid consultations with over 50 providers in the state. She noted that while using telehealth they have run into bureaucratic barriers and would like the Council to work on addressing those barriers.

Next Meeting

Ms. Helvey noted that the next meeting of the Council is scheduled for Friday, November 18, 2016 in Safety Harbor, Florida.
Adjournment

The Council adjourned at 12:15 p.m.
Interested Parties in attendance at the October 18 Telehealth Advisory Council Meeting

Interested Parties Present:

Dee Alexander, Florida Senate; Steve Bahmer, Leading Age Florida; Geoffrey Becker, Medtronic; Amy Blakely, Blakely and Associates; Stephen Bloomfill, Florida Psychology Association; Bryan Campbell, Duval County Medical Society; Chris Chaney, Cardenas Partners; David Charland, North Florida/South Georgia Veteran’s Health Service; William Carrieve, Family Care Partners; Stuart Clarry, University of Florida; Charles Corley, Department of Juvenile Justice; Christine Creel, Florida Blue: Walt Culbertson, Travis Cummings, Florida House of Representatives; Richard Curley, Stewart-Marchman-Act Behavioral Healthcare; Sandra Davis, Florida Physical Therapy Association; Kate Doyle, Florida Hospital Association; Joel Embry, Civil Telehealth; Sabrina Gallo, Greenberg Traurig; Diane Godfrey, Florida Hospital; Patricia Green, Metz, Husband and Daughton; Janet Herron, Westminster Communities of Florida; Brittney Hunt, Florida Chamber of Commerce; Drew Kayser, Florida Physical Therapy Association; Laura Lenhart, Moffitt Cancer Center; Deanna McDonald, Health Planning Council; Derick McGhee, Johnson and Blanton; Jay Millson, Florida Academy of Family Physicians; Jennifer Pidcock, Florida Blue; Paul Quinn, VRI Cares; Prache Rathe, Prism Health Services LLC; Tim Raveli, The Centers; Ronald Renuart, Florida Osteopathic Medical Association; Shannon Robinson, Aspire Health Partners; Paul Runk, Department of Health; Layne Smith, Mayo Clinic; Tina Smith, University of Florida Jacksonville; Chris Snow, Florida Association of Speech Language Pathologists and Audiologists; Christopher Sullivan, Image Research; Jean Turcotte, Adventist Heart Systems; John Whitman, Wharton School, Allison Wiman, Florida Tax Watch; Jennifer Young, Florida Academy of Family Physicians; and W. Young, University of Florida.

Press Present: Ryan Benk, Public Radio WSCT.
Southeastern Telehealth Resource Center

Lloyd Sirmons, SETRC Director
Rena Brewer, PI, Program Oversight

On August 20, 2010, Georgia Partnership for TeleHealth was awarded a HRSA grant from the Office for the Advancement of TeleHealth: Southeastern TeleHealth Resource Center. 
Grant Re-Awarded AUG 2013 & 2016

Goal: To offer technical assistance in order to advance telehealth services in the region: GA, FL, AL, SC.
**SETRC** provides an **applied approach to telehealth education and technical assistance services** in order to streamline implementation and better utilize telehealth applications and technology in the region.

- **Telehealth Workgroups**
  - Form & Facilitate State Workgroups to advance telehealth, address barriers, and encourage collaboration among existing telehealth networks and programs.

- **Telehealth Education**
  - The National School of Applied Telehealth
  - www.nsat.us

- **Telehealth Awareness & Technical Assistance**
  - Speak at a variety of venues & provide technical assistance:
    - One to One
    - One to Many
    - Peer to Peer
NSAT is the education arm of the SETRC and delivers standardized, accredited, and affordable telehealth instruction.

The online Telemedicine / Telehealth Certification courses instruct on the essentials of telehealth and prepare individuals to become valuable members of a telehealth team. A completion certificate with 0.3 CEU/3 credit hours for this course will be awarded when all Learning Outcomes Conditions have been met.

As an IACET Authorized Provider, HomeTown Health University (NSAT) offers continuing education units (CEUs) for its programs that qualify under IACET guidelines (www.iacet.org)

NSAT TeleHealth Courses

Certified Telemedicine Presenter Course
- designed so that its graduates will gain insights and skills in order to correctly and confidently present patients during virtual encounters with healthcare providers and a variety of specialists.

Certified Telehealth Coordinator Course
- designed so that its graduates will gain insights and skills to successfully implement, coordinate, and manage a telehealth program.

Certified Telehealth Liaison Course
- designed so that its graduates will gain insights and confidence to successfully serve as a leader, promoter, and marketer in the telehealth industry.
University of Virginia Project

- JAN 2014 & Ongoing: Collaboration with UV to provide Telehealth Training to 350+ healthcare workers from across the state of Virginia.
- NSAT provides the curriculum & online training.
- UV provides “hands on” lab.

Other Projects.....

- California Telehealth Resource Center
- Upper Midwest Telehealth Resource Center
- The National Coordinating Center for Regional Genetic Counseling Services
- The Star Institute School of Allied Health, Falls Church, VA
NATIONAL SCHOOL OF APPLIED
	telehealth

www.nsat.us

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Federation of State Medical Boards

- Presentation Handout – Telemedicine: Addressing Regulatory Complexities
- FSMB – Telemedicine Policies by State
Telemedicine: Addressing Regulatory Complexities

Lisa Robin
Chief Advocacy Officer
Federation of State Medical Boards
November 17, 2016

About FSMB

- FSMB offices in Euless, TX and Washington, DC
- Established in 1912
- Represents 70 state medical and osteopathic boards
- Nonprofit 501(c)6 organization with approximately 185 staff
FSMB and Telemedicine

- FSMB's role as leader in regulatory policy for the regulation of telemedicine
  - Model Act for the Practice of Medicine Across State Lines (1998)
  - Model Guidelines for the Use of the Internet in Medical Practice (2002)
  - Model Policy for the Appropriate Use of Telemedicine Technologies in the Practice of Medicine (2014)
- Recipient of federal grants to address license portability
  - Uniform Application for Physician Licensure
  - Technical enhancements to FCVS
  - Expedited endorsement policies
  - Interstate Medical Licensure Compact

Telemedicine: Benefits and Challenges

- **Benefits**: Increased access to care, expanded utilization of specialty expertise, potential to improve quality and reduce cost

- **Challenges**: Maintaining the same level of patient protection afforded by the current state-based regulatory system . . . ensuring patient safety, accountability, consensus as to standard of care, and privacy

- **Challenges**: Conflicting state regulatory statutes, reimbursement, licensure, credentialing, privileging, infrastructure costs
Telemedicine: Benefits and Challenges

- **Challenge:** Board generated rules could be challenged as anti-competitive
- **2015:** Supreme Court ruled in favor of FTC
  - Constrained the application of state action immunity by state regulatory boards
  - Must be clearly articulated and affirmatively expressed as state policy
  - Must be actively supervised by the State itself
- **Teladoc vs. Texas Medical Board**

Addressing Challenges and Barriers

- State Medical Boards' Appropriate Regulation of Telemedicine Workgroup
  - Develop model guidelines in evaluating the appropriateness of care as related to the use of telemedicine between a physician in one location and a patient in another, with or without an intervening health care provider
- FSMB Workgroup on Telemedicine Consultations
  - Inform state medical boards about the types of consultations and regulatory frameworks for the oversight of physicians who offer consulting services via telemedicine technologies
- The **Interstate Medical Licensure Compact** was determined to be a feasible mechanism to facilitate multistate practice, including telemedicine across state lines.
Model Policy for the Appropriate Use of Telemedicine Technologies in the Practice of Medicine (2014)

- A guidance document for state medical boards intended to remove regulatory barriers to expanding telemedicine while protecting public health and safety.
  - Regulating the use of telemedicine technologies in the practice of medicine
  - Educating licensees as to the appropriate standards of care when delivering health care services directly to patients via telemedicine
  - Although written primarily for physicians, it is in large part applicable to physician assistants or other health professionals who may be regulated by the medical board
  - Supported by regulatory, professional, and private sectors

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Model Policy Guidelines

- Defining “Telemedicine”:
  - The practice of medicine using electronic communications, information technology, or other means between a licensee in one location and a patient in another location with or without an intervening health care provider.

  - Generally, telemedicine is not an audio-only telephone conversation, email/instant messaging conversation, or fax.

  - It typically involves the application of secure videoconferencing or store-and-forward technology to provide or support health care delivery by replicating the interaction of a traditional, in-person encounter between a provider and a patient.
Model Policy Guidelines

- Physicians providing care electronically or otherwise should:
  - Place patients' welfare first
  - Maintain acceptable standards of practice
  - Comply with recognized professional codes of conduct

- Patient-physician relationship established upon agreement for diagnosis and treatment:
  - Whether or not there has been an in-person encounter
  - The same standard of care applies

- Physician discouraged from rendering care without:
  - Verifying patient identity and location
  - Disclosing credentials and identity
  - Obtaining consent from the patient

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Model Policy Guidelines

- Licensure
  - Physician is under the jurisdiction of the state where the patient is located
  - Practice of medicine occurs where the patient is located at the time telemedicine technologies are used

- Evaluation and Treatment
  - Physician must collect relevant clinical history prior to treatment
  - Treatment held to same standards of appropriate practice as in traditional (in-person) setting

- Prescribing
  - Same level of professional accountability as prescriptions delivered during an in-person encounter
  - Sole use of online questionnaire is not acceptable
Model Policy Guidelines

- Informed Consent
  - Identification of individuals and technologies
  - Types of transmissions permitted
  - Patient agreement as to the discretion of the physician to determine whether or not the condition is appropriate for a telemedicine encounter

- Continuity of Care
  - Patient access to follow-up care or information from the provider of telemedicine services

- Referral for emergency services
  - Written protocol appropriate to services rendered

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Model Policy Guidelines

- Medical Records
  - Complete and accessible for both parties
    - eg, copies of all communications, prescriptions, evaluations, informed consent

- Privacy and Security
  - Transmissions secure within existing technologies

- Parity of Professional and Ethical Standards
  - Applies to all aspects of physician’s practice
State Telemedicine Policy Overview

• Licensure
  • 51 boards specifically state that physicians engaging in telemedicine be licensed in the jurisdiction where the patient is located
  • Special Telemedicine Licensure/Registration
    • 15 boards are authorized to issue a special-purpose license, telemedicine license, or certificate, and four require registration
  • Reimbursement
    • 29 states (including DC) require both private insurers and Medicaid to reimburse to the same extent as face-to-face
    • 18 states require reimbursement parity within the Medicaid program
    • One state reimbursement requirement is limited to only private insurers

State Telemedicine Policy Overview

• Standard of Care
  • 29 boards require the same standard of care be applied to telemedicine encounters as face-to-face
  • Physician-Patient Relationship
    • Four states require in-person exam prior to telemedicine encounter, and three require in-person follow-up
  • Informed Consent
    • 19 states have informed consent requirements
  • Other telemedicine-specific provisions
    • Prohibit the prescribing of controlled substances
    • Specifically exclude “audio only”
State Legislative Activities

- Telemedicine
  - 245 bills in 2016 Legislative session
    - 50 signed into law
  - Wide range of issues:
    - Definition of telehealth/telemedicine
    - Establishment of standards
    - Reimbursement & Insurance Parity
    - Prescriptive authority/e-prescribing
  - Indiana, South Carolina, and West Virginia recently enacted legislation establishing standards for the practice of telemedicine.

Federal Legislative Activity

- Sen. Brian Schatz (D-HI) and Rep. Diane Black (R-TN) introduced CONNECT for Health Act (HR 4442 and S 2484)
  - Would promote cost savings and quality care under the Medicare program through the use of telehealth and remote patient monitoring services
  - Was the most likely legislative proposal to pass; endorsed by more than 60 organizations (AMA, AOA, FSMB, ATA)
Federal Legislative Activity

- **National Defense Authorization Act (NDAA)**
  - **Sec. 705. Enhancement of Use of Telehealth Services in Military Health System, (d) Location of Care**
    - This section would, for the purposes of reimbursement, licensure, and professional liability, redefine the practice of medicine as occurring at the location of the provider, rather than the patient.
    - Provision further applies this expansion of state licensure exceptions to the TRI-CARE program, affecting 9.4 million TRICARE beneficiaries around the world.
    - Co-signed a letter opposing with nearly 20 organizations, including state licensing board associations, provider associations, specialty associations, hospitals, and telehealth providers.

Additional Federal Legislative Activity

- Reps Devin Nunes (R-CA) and Frank Pallone (D-NJ) / Sens Mazie Hirono (D-HI) and Jodi Ernst (R-IA) introduced **Telemedicine for Medicare Act of 2015 (HR 3081 and S 1778)**
  - Would allow a physician to treat Medicare beneficiaries via telemedicine in another state without having to be licensed where the patient is located.

- Rep Charlie Rangel (D-NY) and Sen Joni Ernst (R-IA) introduced **Veterans E-Health & Telemedicine Support Act of 2015 (HR 2516 and S 2170)**
  - Would allow a covered health care professional (including contractors) of the Department of Veterans Affairs to practice from any location in any state, the District of Columbia, or a commonwealth, territory, or possession of the US, regardless of where the health care professional or the patient is located, if the health care professional is using telemedicine to provide treatment to an individual.
Achieving Medical License Portability

- Health care delivery – a changing paradigm
  - Growth of telemedicine and advancing technologies
  - Workforce disparities
    - Integration of health care delivery systems
    - Increase in multistate practice
      - 916,264 licensed physicians in the US (2014)
      - 16% of physicians are licensed in two states
      - 6% of physicians are licensed in three or more

- Goal: Facilitate multistate practice without compromising patient safety or quality

Interstate Medical Licensure Compact

- A new, voluntary expedited pathway to facilitate multistate practice, increasing access to health care for patients in underserved and rural areas and allowing them to more easily connect with medical experts through the use of telemedicine technologies

- [www.licenseportability.org](http://www.licenseportability.org)

Enactments: 18  Active Legislation: 1
What is an Interstate Compact?

- A contract between compact states
- Constitutionally authorized
- Retains state sovereignty on issues traditionally reserved to state jurisdictions
- Protects state autonomy while promoting uniformity
- Protects state-specific imperatives

Interstate Medical Licensure Compact

- Voluntary expedited pathway to licensure for qualified physicians who seek to practice in multiple states
- Qualifications:
  - Successfully passed USMLE or Comprehensive Osteopathic Medical Licensing Examination-USA
  - Successful completion of a graduate medical education program
  - Specialty certification or a time-unlimited certificate
  - No discipline on any state medical license
  - No discipline related to controlled substances
  - Not under investigation by any agency
IMLC Progress

- Interstate Medical Licensure Compact
  - 18 States Enacted
  - Legislation still active in Michigan
  - Expecting upwards of a dozen or more states to introduce model Compact language in 2017
  - IMLC Commission goal of accepting applications beginning on January 1, 2017

Thank you!
Questions?

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Chief Advocacy Officer
Federation of State Medical Boards
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Email: LRobin@fsmb.org
Telemedicine Policies
Board by Board Overview

Document Summary:
- Forty-eight (48) state boards, plus the medical boards of District of Columbia, Puerto Rico, and the Virgin Islands, require that physicians engaging in telemedicine are licensed in the state in which the patient is located.
- Fifteen (15) state boards issue a special purpose license, telemedicine license or certificate, or license to practice medicine across state lines to allow for the practice of telemedicine.
- Four (4) state boards require physicians to register if they wish to practice across state lines.
- Twenty-eight (28) states, plus the District of Columbia, require both private insurance companies and Medicaid to cover telemedicine services to the same extent as face-to-face consultations.
- Eighteen (18) states currently require only Medicaid to cover telemedicine services.
- One (1) state requires only private insurance companies to reimburse for services provided through telemedicine.

<table>
<thead>
<tr>
<th>State</th>
<th>License Required</th>
<th>Reimbursement Parity</th>
<th>Other Rules/Regulations (citation only)</th>
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<td></td>
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<td>Ala. Admin. Code § 540-x-16</td>
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</tbody>
</table>
| AK    | ✓                | Medicaid Only.       | “Telehealth Statutes, Regulations & Policy”  
|       |                  |                      | Alaska Dept. of Health and Social Services  
|       |                  |                      | SB 74 of 2016, Chapter 25 SLA 16  
|       |                  |                      | “Board Issued Guidelines: Telemedicine”  
|       |                  |                      | Alaska State Medical Board, Nov. 2014  |
|       |                  |                      | “Issue Brief: Telemedicine”             |
|       |                  |                      | Arizona State Senate, Nov. 10, 2014    |
|       |                  |                      | “Issue Brief: Telemedicine”             |
|       |                  |                      | Arizona State Senate, Nov. 10, 2014    |
| AR    | ✓                | Medicaid & Private.  | AR Code § 17-95-206                    |
|       |                  |                      | AR Stat. 10-3-1702(10)                 |
|       |                  |                      | “When Does Telemedicine or Internet-Based Patient Healthcare Violate Regulation 2.8?”  
|       |                  |                      | AR State Med. Board Newsletter Fall 2012 |

* denotes that a state may issue a special purpose license, telemedicine license or certificate, or license to practice medicine across state lines to allow for the practice of telemedicine.
<table>
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<td>Ca. Business &amp; Prof. Code § 2290.5 Medical Board of California</td>
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<td>Medicaid &amp; Private.</td>
<td>DC Code § 31-3861 “Telemedicine Policy” DC Board of Medicine, Nov. 2014</td>
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<td>GU</td>
<td>#²</td>
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<td>10 GCA § 12202(b)</td>
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<td>Idaho Code Ann. § 54-5601</td>
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<td>225 ILCS 60/49.5</td>
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<td>IAC 653 – 13.11</td>
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<td>KS</td>
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</table>

¹ Guam Code, 10 GCA § 12202(b), requires only that physicians are licensed somewhere within the United States.
<table>
<thead>
<tr>
<th>State</th>
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<th>Notes</th>
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</table>
Ky. Rev. Stat. § 311.5975  
“Policy: Telemedicine Statement”  
Kentucky Board of Medical Licensure, Sept. 1997  
“Board Opinion regarding the use of Telemedicine Technologies in the Practice of Medicine”  
Kentucky Board of Medical Licensure, June 2014 |
| LA    | ✓    | Medicaid & Private. | La. Rev. Stat. § 37.1276.1  
La. Rev. Stat. § 37.1271  
La. Rev. Stat. § 40.1223.3  
La. Admin. Code 46:XLV.408  
“Advisory opinion: The use of telemedicine technologies with established patient”  
LA State Board of Medical Examiners, March 24, 2014 |
| ME-M  | ✓    | Medicaid & Private. | 32 MRSA § 3300-D  
“Guidelines: Telemedicine”  
Maine Board of Licensure in Medicine, Sept. 2014  
“Policy: Medical Practice Across State Lines”  
Northeast Region State Medical Boards, Sept. 1999  
“Advisory Ruling: Telemedicine – Radiology”  
Maine Board of Licensure in Medicine, May 1994  
“Advisory Ruling: Telemedicine – Psychotherapy”  
Maine Board of Licensure in Medicine, August 1993 |
Northeast Region State Medical Boards, Sept. 1999 |
| MD    | ✓    | Medicaid & Private. | Code of Maryland and Rules (COMAR) 10.32.05  
“Telemedicine”  
MD Dept. of Health and Mental Hygiene |

³ ✓ denotes that Maryland Revised Statutes § 14-302 exempts physicians licensed in adjoining states from being required to obtain a Maryland license.
<table>
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<td>243 CMR 2.01(4)</td>
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<td>MS</td>
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<td>MS Code Ann. § 73-25-34</td>
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<td>MS Admin Code title 30, part 2635, ch. 5</td>
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<td>New Hampshire Board of Medicine Policy,</td>
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<td>NJ Rev. Stat §§ 45-9-21(b-c)</td>
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<td>North Carolina Medical Board,</td>
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<td>N.D. Cent. Code § 54-52.1-04.13</td>
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<td>“Statement on Telemedicine Policy”</td>
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<td>ND Board of Medical Examiners, March 21, 2014</td>
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* ✓ denotes that a state requires physicians to register if they choose to enter practice medicine across state lines.
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| OH    | √*  | Medicaid Only | OAC § 4731-10-11 ORC § 4731.296  
"Position Statement on Telemedicine" State Medical Board of Ohio, May 2012 |
Oklahoma Admin. Code § 435  
**Amendments to OAC § 435, May 2016**  
"Adopted Telemedicine Policy (Mental Health)"  
Oklahoma Medical Board, Sept. 18, 2008  
"Definition of Face to Face Encounter by Telemedicine in Oklahoma"  
Oklahoma Medical Board, Sept. 25, 2013 |
| OK-O  | √*  | Medicaid & Private | "Licensure"  
Okla. Stat. § 59-633  
"Guidelines on Telemedicine"  
Oklahoma State Board of Osteopathic Examiners |
| OR    | √*  | Medicaid & Private | Or, Rev. Stat. § 677.139  
Or, Rev. Stat. § 743A.058  
Or, Admin. Code 410-130-0610  
"Statement of Philosophy"  
Oregon Medical Board, January 2012 |
| PA-M  | √*  | Medicaid Only | Pa. Code § 17.4 |
| PR    | √   | -- | 20 LPRA § 6001 et seq. |
| RI    | √   | -- | RI Gen Laws § 5-37-12  
"Guidelines for Appropriate Use of Telemedicine and Internet in Medical Practice"  
Rhode Island Board of Medical Licensure and Discipline |
| SC    | √   | Medicaid Only | P.A. 210 of 2016  
"Telemedicine Advisory Opinion"  
South Carolina Board of Medical Examiners, August 2015  
"Establishment of Physician-Patient Relationship as Prerequisite to Prescribing Drugs"  
South Carolina Board of Medical Examiners, August 2015 |
| SD    | √   | Medicaid Only | SD Codified Laws § 36-4-41  
SD Codified Laws § 36-2-9 |
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<td>Tenn. Comp. R. &amp; Regs. 1050-02.17</td>
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<td>22 Tex Admin. Code § 174 &lt;br&gt;“Out-of-State Telemedicine License” &lt;br&gt;Texas Medical Board</td>
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<td>UT-M</td>
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<td>RCW 18.57.040</td>
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<td>WV-M</td>
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<td>W Va. Code § 30-3-13 &lt;br&gt;“Position Statement on Telemedicine” &lt;br&gt;West Virginia Board of Medicine, Nov. 2014</td>
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<td>WY Board Rules § 1.4(g)</td>
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For informational purposes only: This document is not intended as a comprehensive statement of the law on this topic, nor to be relied upon as authoritative.

Non-cited laws, regulations, and/or policy could impact analysis on a case-by-case or state-by-state basis. All information should be verified independently.
Chapter 2016-240, Laws of Florida:

- **Survey** for current capabilities, utilization and coverage levels:
  - National and state utilization of telehealth
  - Barriers to using or accessing telehealth services
  - Types of health care services provided via telehealth
  - Costs and cost-savings associated with using telehealth
  - Extent of insurance coverage and how such coverage compares to coverage for in-person health services

- AHCA to submit a report of **survey findings** to the Governor, Senate President, and Speaker of the House by **12/31/2016**
Survey Methodology

- **Agency for Health Care Administration**
  - Direct email (with survey link) to listed contacts of selected facility types (11,902 contacts)
  - Follow-up requests to facility types with low response rates

- **Department of Health**
  - Integrated survey into license renewal system (ongoing data collection)
  - Coordination and promotion of voluntary effort for rapid data collection

- **Office of Insurance Regulation**
  - Deployed survey through internal systems
  - Targeted follow-up with non-responsive plans

---

**Response Rates and Telehealth Usage**

*Segment of Clinical Laboratories in Physician Office*
Barriers to Implementing
Facilities currently using telehealth

"On a scale of 1-5, with one (1) being no barrier and five (5) being a major barrier, how would you rate the barriers experienced by this facility during implementation of telehealth services?"

- Inability to connect at needed internet bandwidth speeds
- Lack of facility executive support
- Concerns related to privacy and security
- Limitations related to on-line prescribing
- Inability to obtain practitioner credentialing/licensing at...
- Restrictions related to health practitioner licensure
- Lack of community/patient acceptance of telehealth services
- Inability to get Medical Malpractice and Professional Liability...
- Inability to develop partnerships with referring sites
- Inability to develop partnerships with presenting sites
- Lack of funding
- Inability to secure support from physicians in using the technology
- Unable to determine return on investment
- Inability to electronically exchange patient medical...
- Lack of health insurance reimbursement for telehealth services

Barriers to Implementing
Facilities that have tried to used telehealth

"On a scale of 1-5, with one (1) being no barrier and five (5) being a major barrier, how would you rate the barriers experienced by this facility when trying to implement telehealth services."

- Inability to connect at needed internet bandwidth speeds
- Lack of facility executive support
- Concerns related to privacy and security
- Limitations related to on-line prescribing
- Inability to obtain practitioner credentialing/licensing at...
- Restrictions related to health practitioner licensure
- Lack of community/patient acceptance of telehealth services
- Inability to get Medical Malpractice and Professional Liability...
- Inability to develop partnerships with referring sites
- Inability to develop partnerships with presenting sites
- Lack of funding
- Inability to secure support from physicians in using the technology
- Unable to determine return on investment
- Inability to electronically exchange patient medical...
- Lack of health insurance reimbursement for telehealth services
**Barriers to Implementing**

**Comparison of Current and Former**

- Inability to connect at needed internet bandwidth speeds
- Lack of facility executive support
- Concerns related to privacy and security
- Limitation related to on-line prescribing
- Inability to obtain practitioner credentialing/privileging at...
- Restrictions related to health practitioner bonuses
- Lack of community/patient acceptance of telehealth...
- Inability to get Medical Malpractice and Professional...
- Inability to develop partnerships with originating sites
- Inability to develop partnerships with presenting sites
- Lack of funding
- Inability to secure support from physicians in using the...
- Unable to determine return on investment
- Inability to electronically exchange patient medical...

**On-Going Challenges**

"On a scale of 1-5, with one (1) being no challenge and five (5) being a major challenge, how would you rate the on-going challenges this facility encounters in offering telehealth services?"
Reimbursement

"On average, what percentage of telehealth services are reimbursed by health plans at this facility?"

Facility Benefits

"What benefits has your facility attained as a result of implementing telehealth services? (Select all that apply)"

- Broader access to specialists
- Better care coordination
- Patient convenience
- Better patient outcomes
- Reduced hospital readmissions
- Wider population access
- Filling local coverage gaps
- Not Applicable
- Other (please specify)
Cost Savings

"What percent of cost-savings to this facility, if any, can you attribute to providing telehealth services?"

- Zero: 31%
- 1-25%: 37%
- 26-50%: 4%
- 51-75%: 1%
- 76-100%: 26%
- Unknown: 0%

Reported Needs

"What would assist you, if anything, in implementing, sustaining, or expanding telehealth services?"

- Education, training, and evidence based resources
- Reimbursement
- Funding
- Resources
QUESTIONS / DISCUSSION
Member Discussion & Next Steps

Reference Material:

- 2016 Florida Telehealth Summit Poster Proposals for Telehealth Use Cases
- Northeast Telehealth Resource Center listing of Resources on Cost Benefits and Major Clinical Outcomes of Telehealth
- Case Study from Mayo Clinic: Telesstroke Networks for Management of Acute Ischemic Stroke
- Digital Health Study from American Medical Association: Physicians’ motivations and requirements for adopting digital clinical tools (submitted by Matthew Stanton)
- American Hospitals Association Issue Brief – Telehealth: Helping Hospitals Deliver Cost-Effective Care

- Articles:

- interested Party Correspondence:
  - Manal Durgin, M.D.
  - David Moskowitz, M.D.
2016 Florida Telehealth Summit
Poster Proposals for Telehealth Use Cases

1. The Rural Veterans TeleRehabilitation Initiative Creative Arts Therapy program (RVTRI CAT)
   Charles E. Levy, MD
   Keith J. Myers, PT, MBA
   Elizabeth Snow, MA
   Jennifer Baxley-Lee, MA, BC-DMT
   Jill Sonke, MA
   Heather Spooner, MA, ATR-BC

   Contact:
   Heather Spooner, MA, ATR-BC
   Assistant Scholar in Arts in Medicine, UF Center for Arts in Medicine
   Board Certified Art Therapist, Rural Veterans Telerehabilitation Initiative,
   Malcom Randall VA Medical Center
   PO Box 100141
   Gainesville, FL 32610
   352.376.1611 x5371
   hspooner@arts.ufl.edu

2. The Multiple Sclerosis Clinical Video Telehealth (MS-CVT) for Neurology
   Amy Kunce
   Jina Fritz

   Contact:
   Amy Kunce
   MS, BSRS, CNMT, ARRT
   Project Lead-Office of Rural Health VAMHCS
   Clinical Research & Special Projects Coordinator
   Radiology Dept. @ VAMC Baltimore
   Radiology (114)
   10 N Greene Street
   Baltimore, MD 21201
   Office: 410-605-7000 ext. 6271
   amy.kunce@va.gov
3. Infused (Integrated)Telemental Health Home Monitoring-Right care; Right time; Right Place
Deborah A. Harris-Cobbinah

Contact:
Deborah Harris-Cobbinah, RN
212-686-7880 Ext.5499
Deborah.Harris-Cobbinah@va.gov

4. “Let me see my Grandchildren”---Using Mobile VA Tablets in BROS
Linda Dennison RN

Contact:
Linda Dennison RN
Facility Telehealth Coordinator
West Palm Beach VA Medical Center
Office: 561-422-7726 Rm1a-366
Alias: 9502961
Linda.Dennison@va.gov

5. Enhanced Communication for ICU Patients to Remote Family Members using an AV
Telecommunication Platform
Jason Siegel, MD, Ronald Porter, Alva Roche Green, MD, Maisha Robinson, MD, Sarvam TerKonda, MD,
Wendy Hattery, W. David Freeman, MD

Contact:
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Mayo Clinic Florida
4500 San Pablo Rd
Jacksonville, FL 32224
Phone (B): 904-953-2000
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6. Provision of Genetic Counseling through the Newborn Screening Program for Cystic Fibrosis
in 4 States – Improving Access and Education of Families.
Amy Jonasson, Roberto Zori, Sylvia Delgado, Heather Stalker

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8. A Virtual School Based Convenient Care Program for Children across the Educational Continuum
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Objectives
The Rural Veterans TeleRehabilitation Initiative Creative Arts Therapy program (RVTRI CAT) is a telehealth-based creative arts therapy program. The program aims to: 1) enhance Veterans' overall health and wellbeing 2) improve Veterans’ perceived quality of life 3) allow Veterans opportunities to communicate, externalize and process life events 4) expand access to creative arts therapies for rural Veterans by facilitating sessions via telehealth

Methods
Following an initial in-person evaluation, Veterans participate in weekly sessions with a creative arts therapist via telehealth. Veterans complete a series of pre and post self-report assessments including the WHOQOL-BREF, MOCA, PANAS-X, URICA and FEATS. They also complete a qualitative interview with their provider after two months to evaluate program impact and progress towards their treatment goals.

Results
Veterans who participate in the program have reported positive changes in their overall emotional state and perceived quality of life. Evaluation of pre and post assessments is currently underway and demonstrates positive change, although it is not yet clear if results will be statistically significant due to the current small sample size. 30 unique Veterans have been followed via telehealth for over 200 encounters during this fiscal year.

Conclusion
Providing creative arts therapy via telehealth has successfully increased access to treatment for rural Veterans. The RVTRI CAT program appears to be an effective treatment option for improving Veterans' overall emotional outlook and perceived quality of life. The positive feedback obtained from participants suggests that expanding this program to additional participants is warranted. This will allow continued refinement of treatment methods and improved service delivery.

Impact
The VA Office of Patient Centered Care (OPCC) recognizes arts programs as a component of integrated, whole person health care. Creative arts therapy programs are increasingly being recognized and implemented as a cost effective and evidence supported treatment for a variety of conditions commonly faced by active military service members and Veterans. Additionally, congress appropriated an additional $2.4 million this year to the National Endowment for the Arts specifically to expand arts and creative arts therapy programs for active military service members and Veterans. This Office of Rural Health funded clinical demonstration project
demonstrates that creative arts therapy can be successfully implemented via telehealth to expand service delivery to Veterans who live in rural areas. Consideration is warranted for ongoing federal support and funding for the development and expansion of similar arts-based treatment and programming for Veterans in other geographical regions.
Title: The Multiple Sclerosis Clinical Video Telehealth (MS-CVT) for Neurology

Authors: Amy Kunce, Jina Fritz

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Jina Fritz, Veteran Rural Health Resource Center, jina.fritz@va.gov

Background: The Multiple Sclerosis Clinical Video Telehealth (MS-CVT) for Neurology Follow-up progressed from a successful pilot to a multi-site demonstration project concluding in FY13. The MS CVT Neurology project developed to provide Specialty Neurology Care Follow-up to Veterans with mobility and geographic limitations at the most proximate Community Based Outpatient Clinic (CBOC) location to their home residence. The project rated highly on patient and provider satisfaction saved the Veteran and care giver hours of travel time and the VA reimbursable travel. During the neurological exam, providers noted that many of the Veterans would benefit from a physical therapy referral. Recent data found that 28, 352 Veterans have been diagnosed with MS (Culpepper, WJ unpublished). Nearly 45% of these patients live in rural or highly rural areas requiring greater than a 2.5 hour drive to the medical center for medical appointments, outpatient physical therapy, or exercise. Distance technology provides the opportunity for a clinical provider to have direct patient access in the comfort and safety of the participant’s residence. Telerehabilitation is an expanding healthcare delivery model that displays improvements in functional status and high patient acceptance (Finkelstein, J, JRRD, 2008; Cha, E. AMIA Annu Symp Proc, 2007)). This program allows patients with MS the opportunity to transition from the neurology follow-up to the standard of care physical therapy administered in the Veteran’s home through clinical televideo. We have 5 collaborative sites that have previously participated in the MS-CVT-Neurology Follow-up/rehab project. The collaborative sites are Baltimore, MD; East Orange, NJ; Buffalo, NY; Gainesville/Lake City, FL; Seattle, WA; and Washington, DC. The collaborative group includes Directors of the Veterans Rural Health Resource Center-Togus, and both Multiple Sclerosis Centers of Excellence East and West.

Purpose and Objectives: The purpose of this project is to extend Specialty Care from Neurology into Physical Medicine and Rehabilitation for the care of MS Veterans experiencing access issues to physical therapy. The objective is to develop the cross disciplinary relationships necessary to evaluate and implement “Promising Practices” in Neurology and Physical Medicine and Rehabilitative Care to rural Veterans in the home. The extension and implementation of clinical video telehealth for rehabilitative care has the potential to improve quality of life and maintain functional independence in Veterans with MS. Secondarily, maintenance of current function or increased functional capacity through rehabilitation has the potential to decrease caregiver burden and overall healthcare costs during the course of the disease.

Methodology: Sixty volunteers (n=10/site) with progressive MS (18 years and up no upper limit) will be enrolled in the dual CVT Neurology/CVT Rehabilitation demonstration project. Following the functional neurological examination and referral for physical therapy, qualifying patients will undergo an in-person functional assessment by a licensed physical therapist. Follow-up rehab and neurology visits will be conducted in person or via CVT at the physical therapist or clinicians’ discretion.

Impacts: The demonstration project is focused on improving access to Specialty Care for rural MS Veterans. This project allows for coordination and collaboration between the Neurology and Physical Medicine specialty services to maintain the continuum of care. Access is improved in areas where fee based care is unavailable or face to face Veteran care would require approximately 2 hours of roundtrip travel for (1) 45 minute therapy appointment. The project has decreased missed appointments, and no show rates in the multi-disciplinary clinic.

Innovation: The objective of this demonstration project is to improve the continuum of care and enhance access and delivery to individuals with MS living in rural areas or experiencing access limitations. Results from this demonstration project can be used to address other neurologic, neurodegenerative disease that would benefit from an integration of neurologic and rehabilitative care.

Initial Year Outcomes: The data listed in the following table is for the North Florida region, which was the initial site where the telerehab program developed from under the supervision of Dr. Toni Chiara.
MS Pilot Project CVT-Rehab Results

- Mean Age: 59
- Gender: 19 M/15 W
- Type: 67% SP; 25% RR; 8% PP

<table>
<thead>
<tr>
<th>Measure</th>
<th>PRE</th>
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<tr>
<td>2 Min Walk Test</td>
<td>252.2</td>
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<td>MCCA</td>
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</tr>
<tr>
<td>Vet Rand-12</td>
<td>39.7</td>
<td>44.8</td>
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Following 12 weeks of 1-2 sessions per week MS Veterans:
- Improved 2 min walking distance by 66 feet; improved walking speed by 10 m/min
- Improved Quick Dash Scores by 32% (Measure of upper limb disorders)
- Improved Vet-Rand-12 Scores by 11% (Measure of Health Related QOL)
- Satisfaction with CVT was > 95% for patient and provider
- Saved an average of 177 miles/3.25 hours (round trip) / session
Interested in presenting a poster presentation for the THIRD ANNUAL-FLORDIA TELEHEALTH SUMMIT.

Name and Contact presenter:
Deborah Harris-Cobbinah,RN
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Title of presentation:
"Infused (Integrated)Telemental Health Home Monitoring-Right care; Right time; Right Place"

Objectives Of telehealth and content of project:
The poster will provide current information to health clinicians regarding expanded provisions of care beyond mental health institutional settings to Veterans with mental health and co-morbid medical diagnosis using health informatics, integrated Telemental health and medical disease management protocols and Telehealth technologies.

2. It will demonstrate that Telehealth technologies need to continue to evolve. This evolution of new software should provide holistic disease management protocols that address both mental health and medical needs of the Veterans.

Description of the telehealth use case and how the technology brought value to the problem

A retrospective chart review was conducted from 2013 to 2015. Charts were selected based on the following criteria:

- veterans who were enrolled in the New York Harbor Telemental Health program for more than 12 months
- had mental diagnosis and co-morbid medical diagnosis
- the number of mental health admissions and medical admissions
- 90 charts were selected and reviewed

Results and outcomes of Infused Telemental Health monitoring:
- 85% of the veterans in the Telemental Health had at least one co-morbid medical diagnosis
- there is a need to have Telemental health DMPs with co-morbid medical DMPs
- facilities access to care
- improves the health of veterans

- is a holistic and cost effective way of managing mental health patients with co-morbid medical disorders.

Thanks in advance for reviewing my poster presentation.

I will be on medical leave until 9/16/16. If further information is need. Feel free to contact me at 718-733-7880/ or my PSA, Cynthia Miller3552.
Title: “Let me see my Grandchildren”---Using Mobile VA Tablets in BROS

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Problem: Severe Visual Impairment is a problem that can affect every aspect of a person’s life. Functional losses may include decreased ability to read or recognize faces, problems with paying bills, writing checks and taking care of personal finances, difficulty with watching television, cooking, and participating in hobbies or avocational activities. Vision loss can have a profound effect on mobility, with the loss of ability to drive, or worse, the loss of safe ambulation. A significant problem for elderly Veterans may be the inability to self-medicate because of the inability to read the labels on medicine bottles. Feelings of isolation, loss of self-esteem and depression are common.

Our veterans may also have concomitant health problems that intensify the difficulty of low vision. They may have to rely on family or caregivers to accomplish routine activities of daily living. Often, transportation to the VA for care is problematic, resulting in missed opportunities or increased cost to service in providing transportation.

Through its Visual Impairment Services Team (VIST) and Blind Rehab Outpatient Specialist (BROS), the VA is committed to assisting our veterans with a wide range of specific health, independence, and lifestyle modification services. We also support family and significant others to better understand visual impairment and foster the provision of appropriate support, to assist in enhancing home environments and to reduce caregiver burden.
The BROS program in WPB endeavors to maximize the residual vision of sight impaired Veterans. This is accomplished through comprehensive low vision evaluation, provision of optical and non-optical devices, instruction and provision of adaptive computer software and equipment, counseling, education, and home follow up visits.

The BROS instructor has advanced technical knowledge and competencies in orientation and mobility; living skills; manual skills and visual skills; and has been cross-trained to acquire broadly based knowledge in each of the BRC disciplines including computer access training.

Adaptive computer software such as ZOOM and VOICEOVER plays a large role in helping our veterans utilize their personal computers and electronic Notepads, but using these requires skill acquisition with personalized instruction.

The Home visit by a Blind Rehab Outpatient Specialist is an effective but costly treatment modality. The Specialist assesses, advises, treats and observes outcome in the environment most often occupied by the Veteran. Course of treatment usually spans at least six months to a year with Bi-weekly visits as the most effective interval.

Challenges to treatment:

- **Mobility issue**—veteran may not be able to travel to appointments
- **Accessibility**—Provider is highly skilled individual, time spent traveling can be better utilized seeing Veterans,
- **Frequency**—Travel issues may force fewer visits than desirable for optimum results.

**Solution:** The newest weapon in our VA Telehealth Arsenal is the BL Heath Tablet. This is a commercial, off-the-shelf, Mobile Tablet device that has been retro-fit and locked for VA use only. It is designed to be deployed to patients and used to connect with clinicians and requires minimal support. The tablet allows for real-time audio/video connection of patient to provider. The provider calls the veteran using any of the VA’s videoconferencing devices or Jabber software. There are multiple modes of connectivity, including 4G or Wi-Fi, which has been pre-configured and activated. The Tablet stays with the Veteran for the course of treatment. When treatment goals are met, the Tablet is returned to the VA and refurbished for deployment to another Veteran.

The BL Mobile Tablet allows the Specialist to remotely contact and educate the Veteran in his/her own home. It allows for real-time observation of the veteran’s use of adaptive equipment. The Specialist can then provide personalized feedback and further direction to the veteran. The Tablet enables more frequent visits and reaches more veterans than previous home visits accomplished. Transportation issues for the Veteran are eliminated, and travel time for the provider is reduced.

The project began in July 2016 at the West Palm Beach VA Medical Center, with the deployment of 6 tablets. The devices were well received by the Veterans and were able to be put in use after one time instruction by the Provider.
Case Description: Our Veteran, Mr. C., received COTS BL Tablet and was instructed in its use by BROS, Joy McGraw. This patient’s goal was to be able to use adaptive software on his own I-pad. Using the Tablet, Joy was able to engage the patient more frequently and teach/observe him using his own computer equipment. Mr. C. learned skills that now allow him to send e-mail, use the internet and conduct video chat. Adaptive software allows him to enlarge the display and interact via voice.

He is thrilled to be able to contact his granddaughter and “see” her in video-chat. Future goals are channeled toward more independent functioning such as conducting online banking, and ordering medications.

We believe that Mr. C will be the first of many Veterans to take advantage of this technology in order to make their lives more meaningful and maintain independent living.

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http://www.va.gov/OPTOMETRY/Low_Vision_Rehabilitation.asp

http://www.rehab.va.gov/PROSTHETICS/blindrehab/outpatient.asp

http://www.prosthetics.va.gov/

http://vaww.telehealth.va.gov/
Enhanced Communication for ICU Patients to Remote Family Members using an AV Telecommunication Platform

Jason Siegel, MD,1,4 Ronald Porter2, Alva Roche Green, MD3, Maisha Robinson, MD3, Sarvam TerKonda, MD5, Wendy Hatten5, W. David Freeman, MD1,6,7

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Introduction: Intensive care units (ICU) admit patients with critical illness and life-threatening disorders. Shared-decision making and communication in these patients is crucial for optimal outcomes and patient/family satisfaction. Telephonic communication is limited to pure audio information and verbal description by medical providers to remote family members. AV (Audiovisual) communication adds the visual layer which can provide an additional level of understanding of the complexity of critical illness and visualization of the ICU environment. We describe two cases of Mayo Connected Care (CC) systems utilizing an AV platform to provide communication between family members and patients.

Methods: This is a small case series of 2 patients and a literature review. We searched the National library of Medicine (NLM, Pubmed) using search terms “ICU, critical care unit, family, communication, telemedicine” and combinations and found no reports of such enhanced remote AV communication to family members in the ICU setting.

Results: There were numerous reports of telemedicine use for medical providers in the ICU, including one report of improved family satisfaction with Robotic telepresence. The Mayo AV mobile CC platform is a rolling cart with AV camera capabilities using a Vidyo router for secure information. In the first case, a 62 year old male advanced heart failure patient was hospitalized for left ventricular assist device placement prior to his daughter’s wedding, approximately 6 hours from our facility. We installed AV equipment at the wedding venue in order to provide high quality video/audio to the patient’s hospital room. The patient and family were greatly appreciated of the AV method compared to non-realtime visualization or audio of the event alone. The second patient was a 78 year old male who had a massive stroke and was comatose on a breathing ventilator. His children were unable to travel due to their own health and financial issues. They wanted to “see” their father before removal from artificial life support. They were appreciative of the ability using their own personal computer and the Mayo CC platform.
Conclusion: We found no studies reporting ICU remote family communication possibly due to an evolving technological landscape and technical limitations in other ICUs. While our cases are limited in sample size, the outcomes reported by the family, including the enhanced ability to for patients and family members to visualize each other was positive compared to the telephone communication. Further trials should investigate bidirectional feedback between medical providers and patient/families perception about using AV telemedicine to communicate in the ICU setting. There are limitations technically that may not apply to all hospitals, ICUs, and countries due to resource limitations that must be considered.
Provision of Genetic Counseling through the Newborn Screening Program for Cystic Fibrosis in 4 States – Improving Access and Education of Families.

Amy Jonasson1, Roberto Zori1, Sylvia Delgado2, Heather Stalker1

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2 – Division of Pediatric Pulmonary, University of Florida, Gainesville, FL

INTRODUCTION: Notification of a positive newborn screen (NBS) results in tremendous anxiety and uncertainty in parents from their first contact from the NBS program until resolution of the screen. Much of this anxiety is related to the fear of the unknown and an unrealistic expectation as to risks that their child might have CF. Most NBS programs mandate genetic counseling, but this service can quite variable depending on the Center. Genetic counseling is frequently not provided by genetic counselors (GCs) due to funding constraints or availability of a genetic counselor within the CF treatment centers. A GC is not a routine part of most pulmonary clinics, and as such, must be brought in from another program. In smaller or more rural centers, access to a GC might not be possible. The use of telemedicine has allowed access to genetic counseling services in many regions that would not otherwise have had access to these services either geographically or financially. There are two major issues that are significant to the provision of better GC services to families who are identified through the CF NBS program: reducing inappropriate anxiety by ensuring that families have appropriate information about the screen, the risks of CF, and the process that will be involved in coming to diagnostic resolution about their child, and ensuring that families have a better understanding of the genetic implications of having a child identified as being a carrier for CF, the possibility of having a future child who has CF, and the screening of other family members that is appropriate given the specific structure of the family and the specific mutations identified.

METHOD: We have provided GC via telemedicine to patients identified as having abnormal newborn screens for CF at four disparate locations across the country: UF, UConn, WVU and the State of Utah. Following provision of GC, families completed a satisfaction survey regarding the quality of the information provided to them, and their comfort with the use of the telemedicine modality for provision of this information. Further evaluation of knowledge about CF based on the CIske index and an interview that was analyzed for content themes.

RESULTS: Analysis of satisfaction survey revealed enthusiasm and comfort for the process of GC and for its provision via telemedicine. Overall comfort was rated at 4.77 out of 5 across 10 questions related to satisfaction. Analysis of CIske data revealed that knowledge of genetic issues related to CF was generally quite good.

CONCLUSIONS: Provision of GC via telemedicine is well tolerated and appreciated by families faced with an abnormal nbs for CF with no differences noted between the Centers involved in this study. Families report increased understanding of the process of NBS and decreased anxiety about process. Analysis of the CIske knowledge acquisition tool revealed good understanding about the implications of the CF gene in the family. The ability for one GC to provide services throughout the country makes this a financially viable approach to provision of a much needed service.
2016 Florida Telehealth Summit Call for Posters on Telehealth Use Cases

Presenter:
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Bio:
Evelyn Terrell, OTD, MHSA, OTR/L, is the Regional Director of Rehabilitation Services and Telehealth Operations at Nicklaus Children’s Hospital – Miami Children’s Health System where she oversees both service lines. She holds a Bachelor of Science in Occupational Therapy degree from Florida International University, a Master of Science in Health Services Administration from Barry University and a Doctor in Occupational Therapy degree with a concentration in administration and practice management. Evelyn has held multiple speaker engagements and served as adjunct faculty for local university programs, in the areas of leadership, management, and telehealth. She routinely interacts with policymakers, community leaders, and professionals to increase awareness to telehealth and implement best practice programs. She is a member of the American Telemedicine Association Telerehabilitation Special Interest Group and has served as conference Peer Reviewer, ePoster Reviewer and in the Education Subcommittee. She served on the American Occupational Therapy Association Ad Hoc Committee on Licensure Portability.

POSTER #1

Title:
A Multidisciplinary Tele-Intervention Rehabilitation Services Model for Underserved Children and Families.

Objective(s):
1. Describe the role of telehealth in facilitating an early intervention consultative service delivery model to meet the needs of high risk children with chronic care needs.
2. Use cases will be presented demonstrating how TeleHealth can be used to increase early identification, access to care, and functional outcomes for children and families in rural and underserved regions.
Description:
Children and families living in rural and underserved areas experience education and healthcare disparities. Telehealth is an innovative adjunct service delivery model in promoting early intervention for infants and toddlers and an effective tool in overcoming barriers associated with critical shortage of professionals. There is strong correlation with early access to rehabilitation services and long term functional and educational outcomes for children with special needs, as well as an increasing body of evidence in tele-rehabilitation for promoting clinical outcomes in children with chronic conditions.

This poster presentation provides an overview of a tele-intervention program for at risk children and families living in rural and underserved areas, clinical and learning outcomes with results on key quality indicators for over 100 consults conducted within three disciplines. The program supports improvement of children’s developmental health and family well-being at the population level to maximize functional and therapeutic outcomes. Utilizing a consultative program model, this partnership with the state/local early intervention program and Infant Toddler Developmental Specialists (ITDS), offers equitable access to Pediatric Rehabilitative Healing Arts Specialists in the areas of consultation, monitoring, supervision, parent education, counseling and professional development for home and pre-school based patients and providers. Consultative services assist parents, caregivers, or other members of the healthcare team to implement developmentally appropriate learning opportunities during every day activities and routines, determine treatment options and program recommendations for gaining functional outcomes in the child’s natural environment, enhancing the child’s development and participation in school and community life.

The poster presentation will provide use cases and lessons learned regarding program development, sustainability and the ongoing collaborative multidisciplinary relationship of the healthcare team using telehealth.

Results and outcomes:
The program facilitates access to a comprehensive team of professionals to support children and caregivers from birth to transitions through the continuum of care into pre-school settings. Parents and providers have reported growth in the children’s development and overall satisfaction with the service with successful participation in the therapeutic process. Telehealth has been proven to optimize parent/caregiver education and training in promoting social and communication interactions, independence in daily activities and carryover of home programs. The program has resulted in cost savings and avoidance of travel related expenses for patients and providers.
POSTER #2:

Title: A Virtual School Based Convenient Care Program for Children across the Educational Continuum

Objective(s):
1. Describe general guidelines for implementing evidence-based clinical interventions, technology applications and operational programming relevant to the delivery of telehealth services in schools.
2. Identify the role of telehealth in facilitating access to basic, acute, primary and chronic care services to meet the educational, health and wellness needs of students in schools.
3. Describe challenges and opportunities faced by the practice of telehealth as we journey to value based care models in school based settings to decrease the cost of care.
4. Use cases will be presented demonstrating how telehealth can improve clinical and educational outcomes for school aged children.

Description:
Telehealth is an innovative adjunct service delivery model in promoting access to health and wellness services for school based students in rural, urban or underserved regions to overcome barriers to access which include the critical shortage of healthcare professionals, lack of access and other education and healthcare disparities. This poster session will provide an overview of a telehealth school based program providing acute, primary and chronic care services to meet the educational, health and wellness needs of students in a variety of school settings. The program facilitates access to a comprehensive team of professionals to support children and caregivers through the continuum of care from school to community settings and provides comprehensive services in the areas of consultation, monitoring, supervision, education, counseling and professional development for school based patients and providers. The poster presentation will describe general guidelines for implementing evidence-based clinical interventions, technology applications, mobile health solutions and operational programming considerations for telehealth services in schools. Presenter will discuss challenges and opportunities faced by the practice of telehealth as we journey to value based care models to decrease the cost of care.

Results and outcomes:
Clinical and educational outcomes will be presented demonstrating how telehealth services have resulted in improvements in student attendance, educational performance and consumer satisfaction for students, parents and school personnel. Cost savings/avoidance implications include reduction in emergent and urgent care visits, and travel related expenses. The session will highlight collaborate efforts with partners and stakeholders in meeting mandates related to school health services for acute health conditions, health promotion, and chronic disease management for at risk students.
Resources on Cost Benefits and Major Clinical Outcomes of Telehealth


Briefs for policy makers
ATA. Examples of research outcomes: Telemedicine’s impact on healthcare cost and quality. American Telemedicine Association, 2013 (pdf)
ATA. State policy toolkit: improving access to covered services for telemedicine. American Telemedicine Association, April 2013 (pdf)

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**Home telehealth and remote monitoring**

**Recommended overviews:**
Center for Connected Health Policy. Literature review: The Triple Aim and home telehealth for patients with chronic disease. National Telehealth Policy Resource Center, August, 2013 (htm)
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**Research studies**
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Moreno L, Dale SB, Chen AY, Magee CA. Costs to Medicare of the Informatics for Diabetes Education and Telemedicine (IDEATel) home telemedicine demonstration: findings from an independent evaluation. Diabetes Care 32(7):1202-1204, 2009 (htm)


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Tele-critical care/ICU

Telepsychiatry/tele-mental health

Other specialty telemicine
McConnochie KM. Remote visits by pediatricians for sick children at inner-city and other child care centers/schools reduce absences and emergency department use—University of Rochester Medical Center. AHQR Innovations Exchange Service Delivery Innovation Profile, 2014 (htm)
Framework

- Clinical problem
- Description of telestroke networks
- Clinical outcomes and cost / cost-effectiveness
- Implications of broad diffusion of best practices
- Impact on quality and outcomes
- Conclusions
Challenges in Acute Stroke Care

- Intravenous thrombolysis reduces long-term disability and is cost-effective in acute ischemic stroke (AIS)
- Intravenous thrombolysis must be delivered within a narrow time window in order for the treatment to be effective
- Lack of stroke specialists and lack of access to endovascular revascularization therapies, especially in rural areas, account for low utilization of intravenous thrombolysis
  - Rate of intravenous thrombolysis is <5% of AIS cases

Telestroke Network Overview

- Telestroke networks leverage the capabilities of telemedicine specifically for stroke care
- Hub-and-Spoke telestroke network
  - Connects multiple spoke hospitals to one hub hospital to provide stroke consultation
  - Spoke hospitals
    - Typically smaller hospitals with less extensive neurology services
    - Underserved hospitals in rural or suburban areas
  - Hub hospitals
    - Typically primary stroke centers with advanced neurological capabilities
    - 24 x 7 support with in-house neurology staff
Hub-and-Spoke Telestroke Networks

- Hub-and-spoke telestroke networks can:
  - Overcome geographic barriers to acute stroke care;
  - Enhance stroke diagnosis;
  - Increase intravenous thrombolysis administration rates;
  - Improve long-term outcomes

- A study published in 2011 found that hub-and-spoke telestroke networks were cost-effective in the long term from a societal perspective

Source:

Patient Flow in Hub-and-Spoke Telestroke Network

- For patients presenting at the Emergency Department at a hub hospital, no major change in patient flow

- For patients presenting in the Emergency Department at a spoke hospital, variations in:
  - Administration of intravenous thrombolysis
  - Treatment with endovascular therapy
  - Transfers from a spoke hospital to hub hospital
  - Discharge status (e.g., another facility, home or in-hospital death)
Study Findings: Clinical Outcomes

> Research study conducted in part at Mayo in 2012 assessed cost-effectiveness of telestroke networks from individual hospitals' perspectives.

> Study population

  > Telestroke network with 1 hub and 7 spoke hospitals
  > Total of 1,112 unique AIS patients presenting to the emergency departments in the network hospitals per year

> Clinical outcomes

  > About 114 fewer AIS patients would be admitted to the hub hospital each year, whereas approximately 16 more patients would be admitted to each spoke hospital compared with a no network setting
  > 45 more patients would be treated with intravenous thrombolysis and 20 more with endovascular stroke therapy in a telestroke network per year

Source:
Study Findings: Cost Effectiveness Analysis

- Costs
  - An estimated average cost savings of $358,435 per year for all patients could be achieved with a telestroke network versus without a network during the first 5 years.

  ![Cost Savings Diagram]

  Net savings to network for all patients: $358,435/year
  Per hospital savings for all patients: $44,804/year

Source:

Study Findings: Sensitivity Analysis

- Authors of the study conducted a sensitivity analysis based upon ranges of specific parameters:
  - Network characteristics
    - Number of spokes (1 to 40)
  - Setup and maintenance costs of telestroke systems
  - Marginal costs for treating AIS at the hub or spoke
  - Discharge dispositions associated with endovascular stroke therapy

- Majority of inputs varied by ± 25% of the base-case value
- Sensitivity analyses demonstrated that results of the study were robust overall

Source:
Impact of Broad Diffusion of Telestroke Networks

- Analysis conducted to assess the implications of expanding the establishment of telestroke networks, leveraging best practices

- Research examined the savings potential to hospitals impacted by the following changes in the number of Medicare patients:
  - Increase in number receiving intravenous thrombolysis
  - Increase in number receiving endovascular therapy
  - Decrease in number transferred from spoke to hub hospitals

- Research examined the impact on costs associated with initial hospitalization, recurrent stroke, nursing home care, and rehabilitation

- Research examined the impact on Medicare expenditures (plus Medicaid expenditures for nursing homes for dual eligibles)

Broad Diffusion of Telestroke Networks: Methodology

- Researched current telestroke networks and determined Medicare patient volume in relevant Medicare Severity Diagnosis Related Groups (MS-DRG) for each hub hospital
  - Patient volume from the American Hospital Directory, which summarizes MedPAR data by MS-DRG

- Extrapolated results of Switzer study onto Medicare patient population at hub hospitals to determine patient flow with and without telestroke networks

- Assumed a shift in patients due to establishment of telestroke networks:
  - Patients being administered intravenous thrombolysis
  - Patients receiving endovascular therapy
  - Patients transferring from spoke to hub hospitals

- Applied cost and reimbursement information for initial hospitalization from Switzer to Medicare patient population
  - Applied cost data from Fagan study of the cost-effectiveness of IV thrombolysis in AIS and revenue margins from MedPAR 2013 databook for future hospitalization for stroke, nursing home, and rehabilitation to determine impact of increased administration of IV thrombolysis

- Estimated impact of further expansion
  - Modeled impact of increasing number of telestroke networks

Source:
Broad Diffusion of Telestroke Networks: Data Inputs

<table>
<thead>
<tr>
<th>Data Input</th>
<th>Source</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of telestroke networks</td>
<td>Internet research, mining data from <a href="http://www.telemedicine.com">www.telemedicine.com</a></td>
<td>Identified 51 telestroke networks, assumed 7 episodes per hub (per best estimates)</td>
</tr>
<tr>
<td>Number of telestroke hospitals</td>
<td>Annapolis Hospital District, 2011 MedPAR data</td>
<td>Assumed that volume of telestroke reflects actual volume admitted through the hub hospital ED, as well as patients that are admitted from spoke hospitals. Applied average number of patients per hub to hub hospitals that would be included in the expansion.</td>
</tr>
<tr>
<td>Patient growth rate</td>
<td>Congressional Budget Office (CBO)</td>
<td>Applied annual growth rate to number of cases</td>
</tr>
<tr>
<td>Patients treated by telestroke</td>
<td>Switzer, Fagen</td>
<td>Applied findings on rate of teleconsultation, rate of transfer, rate of IV discharges and rate of endovascular therapy.</td>
</tr>
<tr>
<td>Costs</td>
<td>Switzer, Fagen</td>
<td>Used Switzer data on costs of implementation and operation of telestroke network, data for downstream-related costs, data for hospitalization costs. Calculated 80% of network costs to Medicare population. Used Switzer data on the cost of future hospitalization for stroke, nursing home, and rehabilitation with and without IV thrombolysis.</td>
</tr>
<tr>
<td>Growth rate in cost</td>
<td>SLB</td>
<td>Used projected costs of the Consumer Price Index for Urban Consumers (CPI-U) for medical care</td>
</tr>
<tr>
<td>Remittance costs</td>
<td>Switzer, Medicare Physician Plan, Bluecross, MedPAR 2013 data, American Health Care Association</td>
<td>Used Switzer data on payments as a proxy for payment hospital reimbursement, ambulances and air transport reimbursement, and teleconsultation reimbursement. Used MPIF relative weights and conversion factors, utilization data from ProvenCare Supplier Performance Summary and MPIF Nation crosswalk, length of stay per CMS as reported in MedPAR. Estimated remuneration for network telestroke, nursing home, and rehabilitation using conversion factors.</td>
</tr>
<tr>
<td>Growth rate in remittance</td>
<td>Social Security Act, CBO</td>
<td>Updated prospective payment system updates included market basket update, productivity adjustment, and other adjustments specified by law.�</td>
</tr>
</tbody>
</table>

Broad Diffusion of Best Practices: Findings

> When analyzing only Medicare patients, telestroke networks currently result in net savings to hospitals

Annual Net Savings to Hospitals for Medicare Patients

<table>
<thead>
<tr>
<th>Number of Telestroke Networks</th>
<th>Total Patients with AIS served by networks</th>
<th>Total Annual Net Savings*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>23,569</td>
<td>$ 3.5 M</td>
</tr>
<tr>
<td>50% Networks</td>
<td>35,084</td>
<td>$ 5.3 M</td>
</tr>
<tr>
<td>100% Networks</td>
<td>46,778</td>
<td>$ 7.0 M</td>
</tr>
<tr>
<td>150% Networks</td>
<td>56,473</td>
<td>$ 8.8 M</td>
</tr>
</tbody>
</table>

*Net of reimbursements and costs

Net annual savings to network: $ 68,628 / year
**Broad Diffusion of Best Practices: Findings**

- Overall, telestroke networks result in net total cost savings, considering initial hospitalization, recurrent stroke, nursing home and rehabilitation costs.

**Changes in cost, by setting and type of care, for Medicare patients**

<table>
<thead>
<tr>
<th>Number of Telestroke Networks</th>
<th>Initial Hospitalization</th>
<th>Recurrent Stroke</th>
<th>Nursing Home*</th>
<th>Rehabilitation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$8.4 M</td>
<td>-$3.3 M</td>
<td>-$1.8 M</td>
<td>-$10.9 M</td>
<td>-$17.6 M</td>
</tr>
<tr>
<td>1 Networks by 50%</td>
<td>$12.7 M</td>
<td>-$5.0 M</td>
<td>-$2.6 M</td>
<td>-$16.3 M</td>
<td>-$14.2 M</td>
</tr>
<tr>
<td>2 Networks by 100%</td>
<td>$17.0 M</td>
<td>-$6.6 M</td>
<td>-$3.5 M</td>
<td>-$21.8 M</td>
<td>-$14.9 M</td>
</tr>
<tr>
<td>3 Networks by 150%</td>
<td>$21.2 M</td>
<td>-$8.3 M</td>
<td>-$4.4 M</td>
<td>-$27.2 M</td>
<td>-$18.7 M</td>
</tr>
</tbody>
</table>

* Nursing home costs for those patients who are dual eligible (Medicaid and Medicare)

---

**Broad Diffusion of Best Practices: Findings**

- Overall, telestroke networks result in reductions in Medicare reimbursements, considering initial hospitalization, recurrent stroke and rehabilitation revenues.

**Changes in Medicare and Medicaid reimbursements, including dual eligibles, by setting and type of care**

<table>
<thead>
<tr>
<th>Number of Telestroke Networks</th>
<th>Initial Hospitalization</th>
<th>Recurrent Stroke</th>
<th>Nursing Home*</th>
<th>Rehabilitation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$8.4 M</td>
<td>-$3.3 M</td>
<td>-$1.8 M</td>
<td>-$10.9 M</td>
<td>-$17.6 M</td>
</tr>
<tr>
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<td>-$21.8 M</td>
<td>-$14.9 M</td>
</tr>
<tr>
<td>3 Networks by 150%</td>
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<td>-$8.3 M</td>
<td>-$4.4 M</td>
<td>-$27.2 M</td>
<td>-$18.7 M</td>
</tr>
</tbody>
</table>

* Nursing home costs for those patients who are dual eligible (Medicaid and Medicare)
Impact of Telesstroke Network on Quality of Care and Outcomes

➢ Improved patient outcomes from intravenous thrombolysis:
  ➢ Improved functional outcomes – higher percent with no significant disability
  ➢ Reduction in handicap
  ➢ Significantly higher overall self-report health
  ➢ 584 quality-adjusted life years (QALY) saved over 30 years per 1,000 patients treated

➢ Intravenous thrombolysis coupled with endovascular therapy:
  ➢ Improved neurological status within 24 hours and after 90 days

Conclusions

➢ Telesstroke networks achieve net annual cost savings for Medicare patients and for all patients

➢ Medicare expenditures decrease overall when considering inpatient, recurrent stroke and rehabilitation reimbursements
  ➢ Increase in initial hospitalization expenditures offset by decrease in expenditures for recurrent stroke and rehabilitation care
  ➢ Further decreases realized from dual eligibles in reduction in nursing home payments

➢ Increase in telesstroke networks also leads to improved patient outcomes and quality of care
  ➢ Networks create increased access to effective treatments such as IV thrombolysis and endovascular therapy

➢ Continued expansion of telesstroke networks across the country benefits patients, hospitals, and Medicare
Appendix: Stroke Occurrence

- Approximately 795,000 Americans experience a stroke each year

- Approximately 185,000 strokes each year are recurrent strokes
  - Within 5 years of a stroke, 24 percent of women and 42 percent of men will experience a recurrent stroke
  - Recurrent strokes often have a higher rate of death and disability because parts of the brain already injured by the original stroke may not be as resilient

Appendix: Detailed Patient Flow in Telesstroke Network
Appendix: Impact on Medicare Expenditures

- Due to increase in patients receiving IV thrombolysis and/or endovascular therapy, Medicare expenditures for the initial stroke hospitalization may increase
  - An analysis of Medicare expenditures with networks estimates < 5% increase compared to no networks
  - Overall expenditures reduced considering recurrent stroke, inpatient rehabilitation and nursing home expenditures (the latter in dual eligibles)

- Potential impact on Medicare expenditures for initial inpatient hospitalization:

<table>
<thead>
<tr>
<th>Number of stroke networks</th>
<th>Total Medicare Expenditures</th>
<th>% Change, Medicare Expenditures: 4.8%</th>
<th>No change as number of networks increases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$754M</td>
<td>$790M</td>
<td>4.8%</td>
</tr>
<tr>
<td>0 Networks by 50%</td>
<td>$1.1B</td>
<td>$1.2B</td>
<td>4.8%</td>
</tr>
<tr>
<td>2 Networks by 100%</td>
<td>$1.5B</td>
<td>$1.6B</td>
<td>4.8%</td>
</tr>
<tr>
<td>3 Networks by 150%</td>
<td>$1.8B</td>
<td>$1.6B</td>
<td>4.8%</td>
</tr>
</tbody>
</table>
Digital Health Study
Physicians’ motivations and requirements for adopting digital clinical tools
1
Introduction: Digital Health Tools

What attracts physicians to digital tools? What are their requirements for adoption?
Key findings

1. Where is the digital divide?
Most US physicians are using a few digital tools today and expect to use more in the near future. Heavier users tend to be PCPs and physicians in large and complex practices. Age is less of a factor than practice size and setting.

2. What’s the appeal of digital tools?
Physicians want digital healthcare tools to do what they do better
- Improve practice efficiency
- Increase patient safety
- Improve diagnostic ability
- Reduce burnout
- Improve physician patient relationship

3. What do physicians require for adoption?
Physicians require digital tools to fit within their existing systems and practices
- Coverage for liability
- Data privacy is assured by experts
- Linked to EMR
- Billing/reimbursement

4. How do they want to be involved?
Whether employees or owners physicians want to be part of the decision making but they look to others as well
- IT experts for technical issues such as data safety
- Practice leaders for buying decisions
2 Study background
Digital Health Tools: What attracts physicians? What are their requirements for adoption?

**Objective**

Interest in digital healthcare tools is high among developers, regulators, insurers as well as some patients and physicians. However, given the challenges of implementing electronic patient records there is a need for rigorous understanding of physicians’ motivations and their requirements for successful integrating these technologies into their practices.

**Action**

The AMA will use this study as it develops principles and best practices to

- Support its advocacy on behalf of physicians
- Affect the trajectory of the digital health marketplace
- Connect the voice of the physician to new technologies being developed
Study methodology

- The AMA contracted with TNS, the largest custom research company, to study US physicians' enthusiasm, needs and requirements for digital tools in general and seven tools in particular.
- The study and analysis was conducted under the direction of Lynne Thomson, PhD.
- Working in concert with the AMA TNS developed and administered a 15 minute online survey.

TNS used WebMD to recruit a sample of 1,300 practicing US physicians. Physicians were incentivized: $45/PCP, $55/Specialist.

Requirements for participation:
- Age 28-65
- Practicing physicians including those focused on research, academia or public health
- Full-owner, part-owner or employee of a practice (not an independent contractor)
- Provide a minimum of 20 hours of direct patient care each week

- Stakeholder review and market scan completed
- Literature review
- Eight thought-leader interviews
- Qualitative pre test of questionnaire
- Quantitative fieldwork conducted July 7-18, 2016

<table>
<thead>
<tr>
<th>Total Physicians</th>
<th>PCPs</th>
<th>Specialists</th>
<th>Age &lt;40</th>
<th>Age 41-50</th>
<th>Age 51+</th>
<th>Solo Practice</th>
<th>Group Practice</th>
<th>Other Practice</th>
<th>AMA Members</th>
<th>Non-Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=1300</td>
<td>N=650</td>
<td>N=650</td>
<td>N=289</td>
<td>N=449</td>
<td>N=562</td>
<td>N=196</td>
<td>N=879</td>
<td>N=225</td>
<td>N=359</td>
<td>N=941</td>
</tr>
</tbody>
</table>

Digital Health Study
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Survey instrument

Definitions

**Digital healthcare:** Digital health encompasses a broad scope of tools that engage patients for clinical purposes; collect, organize, interpret and use clinical data; and manage outcomes and other measures of care quality. This includes, but is not limited to, digital solutions involving telemedicine and telehealth, mobile health (mHealth), wearables (e.g., Fitbit), remote monitoring, apps, and others.

<table>
<thead>
<tr>
<th>Specific tools</th>
<th>Remote monitoring for efficiency</th>
<th>Remote monitoring and management for improved care</th>
<th>Clinical decision support</th>
<th>Patient engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tele-visits/ Virtual visits</td>
<td>Point of care/ workflow enhancement</td>
<td>Consumer access to clinical data</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**EHR app store:** Imagine that you could improve or extend the features in your EHR by purchasing apps from an app store that would securely integrate into the EHR workflow. This would be a special app store just for clinicians, not an existing store (i.e., Google Play, iTunes). The apps would add capabilities like improved data visualization, decision support, improved documentation in the patient record and integration with other tools and services.

Questions

**Overall Involvement in Digital Health**
- Impact of on ability to provide care
- Overall motivators/attractants
- Overall functional requirements

**Specific digital tools**
- Familiarity
- Current use
- Relevance for practice
- Enthusiasm
- Timeline for incorporating into practice
- Ideal level of involvement in Digital Health, in general

**Individual tool deep dives**
(Ask for up to two relevant solutions, not currently being used)
- Overall motivators/attractants towards solution
- Rank of top 3 motivators/attractants
- Overall functional requirements of solution adoption
- Rank of top 3 functional requirements
- Level of disruption caused by solution
- Ideal level of involvement with decision to incorporate solutions

**EHR app store evaluation**
- Current use of EHR
- Interest in purchasing from app store (definition above)
- Decision maker for app store purchases
- Importance of app selection criteria

**Physician profile**
- Age, gender, state, specialty, practice type, practice ownership, years in practice, hours of patient care, professional organization membership
- Enthusiasm for tech in professional setting
- Influence on tech decision making
Foundation concepts to understand tech adoption

Disruptive innovation

Disruptions that overturn markets are a hot topic across business and technology; however, rigorous study of tech adoption shows that fitting into current goals and processes is critical to adoption.

New technologies are adopted rapidly – or at all – to the extent that they
- Solve a problem users readily recognize
- Fit within existing physical environments and processes
- Leverage analogs to telegraph what it does and how it works

Once a new technology is firmly in place it can facilitate disruption, but the promise of disruption is unlikely to lead to adoption.

Innovation and Diffusion by Bronwyn H Hal, National Bureau of Economic Research, Working Paper 10212

Crossing the chasm

Tech adoption tends to follow a normal curve. Many innovations start strong but stall at 15% penetration; they never cross to the mainstream market.

Innovations with penetration > 15% have significant potential to become mainstream. Those ≤15% are still works in progress.

Crossing the Chasm, Geoffrey Moore, 1991
3
Physicians’ perceptions of digital health

- What’s attractive about them
- What do physicians require for adoption
- How do they want to be involved in decisions on adoption and deployment
Most physicians see potential for digital tools to improve patient care

“How much of an advantage do digital health solutions give to your ability to care for your patients?”

- **Definite Advantage**
- **Some Advantage**
- **No Advantage or Disadvantage**
- **Some/Definite Disadvantage**

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Physician Age</th>
<th>Ownership</th>
<th>AMA Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCPs (50%)</td>
<td>&lt;40 (22%)</td>
<td>Sole owner (25%)</td>
<td>Non-Member (28%)</td>
</tr>
<tr>
<td>Specialists (50%)</td>
<td>41-50 (35%)</td>
<td>Part owner (25%)</td>
<td>AMA Member (72%)</td>
</tr>
<tr>
<td></td>
<td>51+ (43%)</td>
<td>Employee (50%)</td>
<td></td>
</tr>
</tbody>
</table>

Q16. Considering the overall impact, how much of an advantage do digital health solutions give to your ability to care for your patients?

Base: Total Physicians (n=13300), PCPs (n=6500), Specialists (n=6500), Age <40 (n=2899), Age 41-50 (n=4409), Age 51+ (n=562), Solo Practice (n=1966), Group Practice (n=4797), Other Practice (n=2253), AMA Member (n=3593), Non-Member (n=941) *Statistically significantly different at 95% confidence interval

Digital Health Study
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Physicians are attracted to digital health tools they believe will improve current practices

Younger and female physicians are also optimistic digital tools will improve practice for physicians and patients

<table>
<thead>
<tr>
<th>What Attracts Physicians to Digital Health Tools?</th>
<th>The broad appeal of digital tools is improving efficiency, patient safety and diagnostic ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improves work efficiency</td>
<td>48</td>
</tr>
<tr>
<td>Increases patient safety</td>
<td>47</td>
</tr>
<tr>
<td>Improves diagnostic ability</td>
<td>41</td>
</tr>
<tr>
<td>Helps to reduce stress and burn-out</td>
<td>39</td>
</tr>
<tr>
<td>Improves the patient-physician relationship</td>
<td>38</td>
</tr>
<tr>
<td>Increases patient adherence</td>
<td>36</td>
</tr>
<tr>
<td>Increases patient convenience</td>
<td>32</td>
</tr>
<tr>
<td>Improves resource allocation for staff</td>
<td>28</td>
</tr>
<tr>
<td>Allows me to see more patients</td>
<td>27</td>
</tr>
<tr>
<td>Allows me to provide care to my patients</td>
<td>26</td>
</tr>
<tr>
<td>remotely</td>
<td></td>
</tr>
<tr>
<td>Provides a new stream of revenue</td>
<td>25</td>
</tr>
<tr>
<td>Demonstrates awareness of the latest</td>
<td>22</td>
</tr>
<tr>
<td>technologies</td>
<td></td>
</tr>
<tr>
<td>Differentiates my practice from others</td>
<td>21</td>
</tr>
<tr>
<td>Patients demand it</td>
<td>13</td>
</tr>
</tbody>
</table>

Physicians are less interested in doing something different – seeing more patients or uncovering a new revenue stream

Q17. When thinking about incorporating digital health solutions into your practice, how important would each factor be?
Base: Total Physicians (n=1390)

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Physicians need tools to fit within current systems
Look to tech experts to insure privacy, security

What Requirements Must be Met by Digital Health Tools?

<table>
<thead>
<tr>
<th>Requirement</th>
<th>5 - Very Important</th>
<th>4 -</th>
<th>3, 2, 1 - Not Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is covered by my standard malpractice insurance</td>
<td>52</td>
<td>39</td>
<td>14</td>
</tr>
<tr>
<td>Data privacy/security is assured by my EHR vendor</td>
<td>50</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>Is well integrated with my EHR</td>
<td>48</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td>Data privacy is assured by my own practice/hospital</td>
<td>47</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Can be reimbursed for time spent using it</td>
<td>43</td>
<td>32</td>
<td>28</td>
</tr>
<tr>
<td>It is supported by my EHR vendor</td>
<td>40</td>
<td>36</td>
<td>24</td>
</tr>
<tr>
<td>Is proven to be as good or superior to traditional care</td>
<td>40</td>
<td>37</td>
<td>23</td>
</tr>
<tr>
<td>Intuitive; requires no special training</td>
<td>36</td>
<td>38</td>
<td>22</td>
</tr>
<tr>
<td>It is the standard of care</td>
<td>33</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>Its safety and efficacy is validated by the FDA</td>
<td>33</td>
<td>36</td>
<td>31</td>
</tr>
<tr>
<td>Its safety and efficacy have been demonstrated in peer reviewed publications</td>
<td>32</td>
<td>39</td>
<td>31</td>
</tr>
<tr>
<td>The leaders within my practice/area of specialty recommend it</td>
<td>18</td>
<td>37</td>
<td>42</td>
</tr>
<tr>
<td>Other physicians I know are using it</td>
<td>14</td>
<td>30</td>
<td>54</td>
</tr>
</tbody>
</table>

Malpractice coverage, data privacy and workflow integration are essential
Physicians should be able to be reimbursed for time spent
Tools should be easy to use and as effective as current methods of care.

Q18. How important are each of the attributes below in facilitating the adoption of digital health solutions into your practice?
Base: Total Physicians (n=1300)
Physicians want to be part of the decision making process, but only owners expect to be responsible

"How involved would you want to be in the adoption of digital health solutions into your practice?"

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Physicians</td>
<td>PCPs (50%)</td>
</tr>
<tr>
<td>Responsible</td>
<td>46</td>
</tr>
<tr>
<td>Consulted</td>
<td>43</td>
</tr>
<tr>
<td>Informed</td>
<td>7</td>
</tr>
<tr>
<td>Don't Know</td>
<td>4</td>
</tr>
</tbody>
</table>

Q40. Ideally, how involved would you want to be in the adoption of digital health solutions into your practice?
Base: Total Physicians (n=1300), PCPs (n=650), Specialists (n=650), Solo owner (n=329), Part owner (n=319), Employee (n=652)
*
Statistically significantly different at 95% confidence interval

Digital Health Study
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Physicians want extended capabilities in their EHRs but look to practice leaders to make buying decisions

Apps that extend your EHR system's capabilities and are securely integrated into the EHR workflow

Likelihood for practice to buy?

<table>
<thead>
<tr>
<th>Extremely Likely</th>
<th>Very Likely</th>
<th>Somewhat Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>32</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>16</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>

Who will make the buying decision?

<table>
<thead>
<tr>
<th>Total Physicians</th>
<th>PCPs (50%)</th>
<th>Specialists (30%)</th>
<th>Sole owner (25%)</th>
<th>Part owner (25%)</th>
<th>Employee (50%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>40</td>
<td>55</td>
<td>21</td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td>Practice Leadership</td>
<td>36</td>
<td>59</td>
<td>77*</td>
<td>45*</td>
<td>75*</td>
</tr>
<tr>
<td>Someone Else</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>8*</td>
</tr>
</tbody>
</table>

Q33. How likely are you or your practice to purchase apps that extend your EHR system's capabilities and are securely integrated into the EHR workflow?

Q34. If there were an app store for your EHR system...?

Base: Use EHR: Total Physicians (n=1182), PCPs (n=602), Specialists (n=591), Sole-owner (n=319), Part-owner (n=319), Employee (n=652)

*Statistically significantly different at 95% confidence interval

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4 Physicians’ perceptions of seven digital health tools

- Current use and enthusiasm for specific tools
- Profile of digital users
- Plans for adoption for tools not yet utilized
Nearly half of all physicians are enthusiastic about new digital solutions.

<table>
<thead>
<tr>
<th>Works in Progress/ Early Adopters</th>
<th>Established Solutions/ Early Majority</th>
<th>Mainstream Innovation/ Late Majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tele-visits / virtual visits</td>
<td>Clinical decision support</td>
<td>Consumer access to clinical data</td>
</tr>
<tr>
<td>Remote monitor for efficiency</td>
<td>Patient engagement</td>
<td>Point of care/ workflow enhancement</td>
</tr>
<tr>
<td>Remote monitor &amp; mgt for improved care</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q24. Which, if any, of these do you currently incorporate into your practice?

Q25. Which, if any, of the solutions below are you enthusiastic about?

*Room: Total Physicians (n=13800)

*Descriptions of digital solutions can be found on Slide 9

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# Digitals tools are used by all types of physicians

Younger physicians are slightly more likely to use more digital tools. Tenure is a small predictor of use but not enthusiasm.

<table>
<thead>
<tr>
<th>Physician age</th>
<th>% of sample</th>
<th>Using now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>28-40 (22%)</td>
<td>2.6</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>41-50 (35%)</td>
<td>1.9</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>51-65 (42%)</td>
<td>1.7</td>
<td>3.1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>% of sample</th>
<th>Using now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (69%)</td>
<td>2.0</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Female (31%)</td>
<td>1.9</td>
<td>3.3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years in practice</th>
<th>% of sample</th>
<th>Using now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 10 (28%)</td>
<td>2.0</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>11-20 (39%)</td>
<td>2.0</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>21+ (33%)</td>
<td>1.6</td>
<td>3.1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tech enthusiasm</th>
<th>% of sample</th>
<th>Using now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skeptical/Hesita...</td>
<td>1.2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Neutral (46%)</td>
<td>1.6</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Eager/Early (39%)</td>
<td>2.3</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Member status</th>
<th>% of sample</th>
<th>Using now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMA member</td>
<td>2.2</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Non-member</td>
<td>1.8</td>
<td>3.1</td>
<td></td>
</tr>
</tbody>
</table>

PCPs and those in larger, more complex practice settings use and want to use slightly more digital tools.

<table>
<thead>
<tr>
<th>Practice setting</th>
<th>% of sample</th>
<th>Using Now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialist (50%)</td>
<td>1.6</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>PCP (50%)</td>
<td>2.0</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Solo practice (15%)</td>
<td>1.5</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Single specialty (41%)</td>
<td>1.7</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Hospital* (12%)</td>
<td>2.1</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Multi-specialty (27%)</td>
<td>2.2</td>
<td>3.4</td>
<td></td>
</tr>
<tr>
<td>Med School/Fac (3%)</td>
<td>2.1</td>
<td>3.8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Practice size</th>
<th>% of sample</th>
<th>Using Now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 (22%)</td>
<td>1.4</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>4-8 (26%)</td>
<td>1.9</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>9-27 (26%)</td>
<td>1.9</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>28+ (25%)</td>
<td>2.3</td>
<td>3.5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Owner ship</th>
<th>% of sample</th>
<th>Using Now Avg=1.9</th>
<th>Enthusiastic to use Avg=3.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full owner (25%)</td>
<td>1.7</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Part owner (25%)</td>
<td>1.6</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>Employee (50%)</td>
<td>2.0</td>
<td>3.3</td>
<td></td>
</tr>
</tbody>
</table>

*Hospital includes Ambulatory Surgery Centers and Urgent Care

Q22. Which, if any, of the solutions below are you enthusiastic about?

Q22. Which, if any, of these do you currently incorporate into your practice?

*Total Physicians (n=1300)

---

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Physicians anticipate rapid adoption, minimal disruption from digital tools

<table>
<thead>
<tr>
<th>Works in Progress/ Early Adopters</th>
<th>Established Solutions/ Early Majority</th>
<th>Mainstream Innovation/ Late Majority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tele-visits / virtual visits</td>
<td>Clinical decision support</td>
<td>Patient Engagement</td>
</tr>
<tr>
<td>Remote monitoring for efficiency</td>
<td></td>
<td>Point of care / workflow enhancement</td>
</tr>
<tr>
<td>Remote monitoring for improved care</td>
<td></td>
<td>Consumer access to clinical data</td>
</tr>
</tbody>
</table>

Beyond a Year

<table>
<thead>
<tr>
<th>Not using, not enthusiastic to use</th>
<th>Among those not yet using but classifying the tool as relevant to their practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within the Year Already Using</td>
<td>Some disruption, not discouraging</td>
</tr>
<tr>
<td></td>
<td>No disruption</td>
</tr>
<tr>
<td></td>
<td>Substantial disruption</td>
</tr>
</tbody>
</table>

Q23. When would you expect to start incorporating this solution into your own practice?
Q22. This digital health solution would...
Base: Total Physicians
Base: Total Physicians, Evaluated Solution: Each solution (n=351)

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Elements that attract physicians to digital health overall are consistent across all tools.

- Niche Need
  - Allows me to provide care remotely
  - Provides new stream of revenue
  - Helps reduce stress, burn-out
  - Allows me to see more patients
  - Differentiates my practice
  - Patients demand it
  - Demonstrates awareness of technologies

- Key Motivator
  - Improves work efficiency
  - Increases patient safety
  - Improves diagnostic ability
  - Increases patient adherence
  - Improves patient-physician relationship
  - Increases patient convenience
  - Improves resource allocation for staff

- Secondary Driver

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Likewise, there is consistency in what would be required to adopt specific digital health tools.

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Thank you
Key definitions in the study

**Digital tools in general**
Digital health encompasses a broad scope of tools that engage patients for clinical purposes; collect, organize, interpret and use clinical data; and manage outcomes and other measures of care quality. This includes, but is not limited to, digital solutions involving telemedicine and telehealth, mobile health (mHealth), wearables (e.g., Fitbit), remote monitoring, apps, and others.

**Seven specific tools**

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote monitoring for efficiency</td>
<td>Smart versions of common clinical devices such as thermometers, blood pressure cuffs, and scales that automatically record readings in the patient record so you do not have to type it</td>
</tr>
<tr>
<td>Remote monitoring and management for improved care</td>
<td>Apps and devices for use by chronic disease patients for daily measurement of vital signs such as weight, blood pressure, blood glucose, etc. Readings are visible to patients and transmitted to the physician's office. Alerts are generated as appropriate for missing or out of range readings</td>
</tr>
<tr>
<td>Clinical decision support</td>
<td>Clinical decision support - Modules used in conjunction with the EHR or apps that integrate with the EHR that highlight potentially significant changes in patient data (e.g., gain or loss of weight, change in blood chemistry)</td>
</tr>
<tr>
<td>Patient engagement</td>
<td>Solutions to promote patient wellness and active participation in their care for chronic diseases (e.g., adherence to treatment regimens)</td>
</tr>
<tr>
<td>Tele-visits/virtual visits</td>
<td>An audio/video connection used to see patients remotely (i.e., simple acute illness, adjusting therapy, etc.)</td>
</tr>
<tr>
<td>Point of care/workflow enhancement</td>
<td>Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care</td>
</tr>
<tr>
<td>Consumer access to clinical data</td>
<td>Secure access allowing patients to view clinical information such as routine lab results, receive appointment reminders and treatment prompts, and to ask for prescription refills, appointments and to speak with their physician</td>
</tr>
</tbody>
</table>

**EHR app store**
Imagine that you could improve or extend the features in your EHR by purchasing apps from an app store that would securely integrate into the EHR workflow. This would be a special app store just for clinicians, not an existing store (i.e., Google Play, iTunes). The apps would add capabilities like improved data visualization, decision support, improved documentation in the patient record and integration with other tools and services.
Details by individual tools
Tele-visits / Virtual Visits
An audio/video connection used to see patients remotely (i.e., simple acute illness, adjusting therapy, etc.)

This tool has not yet crossed the chasm of adoption and enthusiasm is not universal. It could improve work efficiency and patient convenience and safety, but would have to be covered by standard liability systems and also allow for easy reimbursement.

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements
1. Increases patient convenience
2. Improves work efficiency
3. Allows me to provide care remotely
4. Improves patient-doc relationship
5. Increases patient safety
6. Provides a new stream of revenue

Key Functional Requirements
1. Covered by standard malpractice
2. Can be reimbursed for time spent
3. Requires no special training
4. Well integrated with EHR
5. As good as traditional care

Disruption
- 50: Great deal of disruption, would consider not using
- 29: Great deal of disruption, but benefits outweigh inconvenience
- 15: Some disruption, but not discouraging
- 4: No disruption

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Remote Monitoring for Efficiency

Smart versions of common clinical devices such as thermometers, blood pressure cuffs, and scales that automatically record readings in the patient record so you do not have to type it.

This tool has not yet cross the chasm of adoption but there is some enthusiasm, driven by PCPs. It would need to be proven to improve efficiency and diagnostic ability while being well integrated into current data systems.

Evaluation among Total Physicians

<table>
<thead>
<tr>
<th>Current State</th>
<th>Current Incorporation</th>
<th>Enthusiasm</th>
<th>Relevance (T2B)</th>
<th>Familiarity (T2B)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
<td>45</td>
<td>61</td>
<td>59</td>
</tr>
</tbody>
</table>

Drivers among Physicians where Tool is Relevant, but Not Yet Used

<table>
<thead>
<tr>
<th>Most Attractive Elements</th>
<th>Above average importance &amp; usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Improves work efficiency</td>
</tr>
<tr>
<td>2.</td>
<td>Improves diagnostic ability</td>
</tr>
<tr>
<td>3.</td>
<td>Increases patient safety</td>
</tr>
<tr>
<td>4.</td>
<td>Increases patient convenience</td>
</tr>
<tr>
<td>5.</td>
<td>Increases patient adherence</td>
</tr>
<tr>
<td>6.</td>
<td>Improves patient-doc relationship</td>
</tr>
</tbody>
</table>

Key Functional Requirements (above average importance & usage)

| 1.                      | Well integrated with EHR vendor |
| 2.                      | Data security assured by EHR vendor |
| 3.                      | As good as traditional care     |
| 4.                      | Requires no special training    |

Disruption

| 1.                      | Great deal of disruption, would consider not using |
| 2.                      | Great deal of disruption, but benefits outweigh inconvenience |
| 3.                      | Some disruption, but not discouraging |
| 4.                      | No disruption |

Base: Evaluated Solutions: Total Physicians (n=351)

Timeline of Adoption

<table>
<thead>
<tr>
<th>Already using</th>
<th>Immediately</th>
<th>Next 6 months</th>
<th>Next year</th>
<th>Next 2-3 years</th>
<th>Some other time</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>9</td>
<td>13</td>
<td>24</td>
<td>31</td>
<td>3</td>
</tr>
</tbody>
</table>

Base: Total Physicians, Excited About Solution: Remote Monitoring for Efficiency (n=591)
Remote Monitoring & Management for Improved Care

Apps and devices for use by chronic disease patients for daily measurement of vital signs such as weight, blood pressure, blood glucose, etc. Readings are visible to patients and transmitted to the physician's office. Alerts are generated as appropriate for missing or out of range readings.

This tool has not yet cross the chasm of adoption but there is some enthusiasm, driven by PCPs. Improved safety and adherence would motivate use, as long as it was easy to adopt and well integrated with current systems.

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements

1. Increases patient safety
2. Increases patient adherence
3. Improves diagnostic ability
4. Improves work efficiency
5. Improves patient-doc relationship
6. Allows me to provide care remotely

Key Functional Requirements

1. Well integrated with EHR
2. Requires no special training
3. As good as traditional care
4. Safety demo’d in peer reviewed pub.

Disruption

- Great deal of disruption, would consider not using
- Great deal of disruption, but benefits outweigh inconvenience
- Some disruption, but not discouraging
- No disruption
Clinical Decision Support

Modules used in conjunction with the EHR or apps that integrate with the EHR that highlight potentially significant changes in patient data (e.g., gain or loss of weight, change in blood chemistry)

This tool is in the early stages of adoption and physicians are moderately enthusiastic. Attractive because it could increase patient safety and improve physicians' current ways of working, the tool would have to work well with current data systems and be easy to use

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

Most Attractive Elements (above average importance & novelty)

1. Increases patient safety
2. Improves diagnostic ability
3. Improves work efficiency
4. Increases patient adherence
5. Improves patient-doc relationship

Key Functional Requirements (above average importance & novelty)

1. Well integrated with EHR
2. Requires no special training
3. Covered by standard malpractice
4. As good as traditional care

Disruption

- Great deal of disruption, would consider not using
- Great deal of disruption, but benefits outweigh inconvenience
- Some disruption, but not discouraging
- No disruption

Timeline of Adoption

- Already using
- Immediately
- Next 6 months
- Next year
- Next 2-3 years
- Some other time

Base: Total Physicians, Enrolled in Solution: Clinical Decision Support (n=588)

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Patient Engagement

Solutions to promote patient wellness and active participation in their care for chronic diseases (e.g., adherence to treatment regimens)

This tool is in the early stages of adoption and physicians, particularly PCPs and those in Group practice, show some enthusiasm. Physicians would be motivated to use in order to increase patient safety and adherence as well as to improve current ways of working. The tool would have to work well with current data and liability systems and be easy to use.

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

<table>
<thead>
<tr>
<th>Most Attractive Elements</th>
<th>Above average importance &amp; rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increases patient adherence</td>
<td></td>
</tr>
<tr>
<td>2. Increases patient safety</td>
<td></td>
</tr>
<tr>
<td>3. Improves work efficiency</td>
<td></td>
</tr>
<tr>
<td>4. Improves patient-doc relationship</td>
<td></td>
</tr>
<tr>
<td>5. Improves diagnostic ability</td>
<td></td>
</tr>
<tr>
<td>6. Increases patient convenience</td>
<td></td>
</tr>
</tbody>
</table>

Key Functional Requirements (Above average importance & rating)

- Well integrated with EHR
- Covered by standard malpractice
- Requires no special training
- As good as traditional care
- Can be reimbursed for time spent

Disruption

- Great deal of disruption, would consider not using
- Great deal of disruption, but benefits outweigh inconvenience
- Some disruption, but not discouraging
- No disruption

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Consumer Access to Clinical Data

Secure access allowing patients to view clinical information such as routine lab results, receive appointment reminders and treatment prompts, and to ask for prescription refills, appointments and to speak with their physician.

This tool has already moved into the later stages of adoption. Enthusiasm may be waning. Increases in patient safety and convenience, along with a more efficient workflow, attract physicians to this tool. Assurances of data security and liability coverage are necessary in order to encourage continued use.

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

- **Most Attractive Elements**
  - Above average importance weight
- **Key Functional Requirements**
  - Above average importance weight

Timeline of Adoption

Base: Total Physicians, Excited About Solution: Consumer Access to Clinical Data (n=545)

Disruption

Base: Evaluated Solution: Total Physicians (n=351)
Point-of-care / Workflow Enhancement

Communication and sharing of electronic clinical data to consult with specialists, make referrals and/or transitions of care

This tool has already moved into the later stages of adoption and enthusiasm remains high, particularly among PCPs. Attractive because it could increase patient safety and improve physicians’ current ways of working, the tool must work well with current data and liability systems in order to encourage continued use.

Evaluation among Total Physicians

Drivers among Physicians where Tool is Relevant, but Not Yet Used

- **Most Attractive Elements**
  - Improves work efficiency
  - Increases patient safety
  - Improves diagnostic ability
  - Improves patient-doc relationship
  - Helps reduce stress, burn-out

**Key Functional Requirements**
- More average importance & ranking
  - Well integrated with EHR
  - Covered by standard malpractice
  - Requires no special training
  - As good as traditional care

Disruption

- Great deal of disruption, would consider not using
- Great deal of disruption, benefits outweigh inconvenience
- Some disruption, but not discouraging
- No disruption
Introduction

Telehealth is increasingly viewed as a cost-effective method to deliver patient care and expand access. The growing use of telehealth reflects larger health care trends that place the patient’s care and experience at the center of treatment decisions. Telehealth connects patients to vital health care services through videoconferencing, remote monitoring, electronic consults and wireless communications. These links allow patients to access their care team remotely and remove potential barriers to care.

By increasing access to physicians and specialists, telehealth can help ensure patients receive the right care, at the right place, at the right time. However, coverage for telehealth services – especially in Medicare – has not kept pace with technological and care delivery innovations.

Private payers have made more progress in recognizing the benefits of telehealth services through their coverage and reimbursement guidelines, while retail clinics are incorporating telehealth to increase convenience and patient access to doctors. As telehealth technologies evolve, it will be important for policymakers to understand the prospective benefits and embrace a framework that allows patients, providers and payers to incorporate technological innovations in care delivery.

**KEY MESSAGES:**

1. Growing evidence indicates that telehealth lowers health care costs, while improving access and quality of care.

2. Medicare currently provides limited coverage for telehealth; other payers have more quickly incorporated telehealth coverage for a range of services and geographies.

3. Coverage for telehealth should be incorporated into emerging payment models.

4. Support for additional research is needed to evaluate how telehealth can best advance care delivery and enhance the patient experience.

Limited coverage impedes the expansion of telehealth services

Limited coverage for telehealth services is a major obstacle to greater adoption. Among public payers, Medicare offers the most limited coverage of telehealth, paying for a narrow set of services and only in rural areas. CMS has recently allowed for expanded use of telehealth by waiving the geographic and practice setting limitations for providers participating in certain experimental Medicare payment initiatives, such as the Bundled Payments for Care Improvement Initiative (BPCI) and the Next Generation Accountable Care Organization (ACO) model.

Most state Medicaid programs cover some telehealth services, although the criteria for coverage vary from state to state. Private payers have been more willing to embrace telehealth as a covered service for beneficiaries. Many private payers are aligning incentives to ensure that patient quality of care is high – in order to avoid costly readmissions and other adverse outcomes – and financial resources are used wisely in order to control costs.

The Congressional Budget Office (CBO) has long held the view that expanding access to telehealth would increase spending due to higher utilization. Specifically, the CBO states “if rural or urban enrollees would otherwise not have received care because of difficulties in obtaining access to doctors, providing telemedicine might well increase spending on services Medicare covers instead of substituting for services that would have been covered without telemedicine.” However, the CBO has significantly overestimated the cost of adopting telehealth in previous
bills that became law. In 2001, Congress authorized the current limited guidelines on telehealth coverage for Medicare; the CBO predicted telemedicine would cost Medicare $150 million in the first five years after the law was passed. In practice, the program has spent only $57 million on telehealth services over 14 years, according to the Center for Telehealth and eHealth Law.  

Experts from health plans, which have incentives to ensure patients receive efficient care, have advocated for Medicare and other programs to expand telehealth coverage. Notably, at the February 2016 meeting of the Medicare Payment Advisory Commission (MedPAC), both commissioners representing health plans encouraged MedPAC to recommend that Medicare embrace telehealth in coverage guidelines. The commissioners noted the benefits of telehealth for patients, including less time lost due to travel and greater convenience, and expressed concern that Medicare may be proceeding too cautiously on coverage of telehealth services.

“I think the technology and our patient expectations are moving far faster than our payment policy is right now .. our experience has been [that telehealth] improves access, improves quality and lowers cost at the same time. In fee-for-service, bundled payment models and Medicare Advantage, we should be looking for ways of encouraging and accelerating the application of this set of tools.”

— Scott Armstrong, MedPAC commissioner and president and CEO, Group Health Cooperative, Seattle.

Telehealth program yields significant savings for Veterans Health Administration

The Veterans Health Administration (VHA) began introducing telehealth programs in the 1990s and has pioneered the use of telehealth in the United States. The VHA uses multiple types of telehealth interventions that provide routine care and targeted care management services to veterans with diabetes, congestive heart failure (CHF), hypertension, chronic obstructive pulmonary disease (COPD), post-traumatic stress disease (PTSD) and depression. The VHA served over 150,000 beneficiaries with telehealth services in 2012.

As the VHA’s program matured, it created substantial efficiencies. The annual cost to deploy the telehealth program in 2012 was $1,600 per patient per year, compared to over $13,000 for traditional home-based care and over $77,000 for nursing home care. Telehealth also was associated with a 25 percent reduction in number of bed days of care and a 19 percent reduction in hospital admissions across all VHA patients utilizing telehealth.

For example, the VHA achieved significant reductions in hospitalizations: over 40 percent for mental health patients; 25 to 30 percent for patients with heart failure and hypertension; and around 20 percent for patients with diabetes and COPD. Overall, the VHA estimates average annual savings of $6,500 for each patient that participated in the telehealth program in 2012. This equates to nearly $1 billion in savings for the VHA in 2012 enabled by the use of telehealth.
Growing evidence suggests others are beginning to see savings

The VHA’s successful national deployment of telehealth supports additional investment in telehealth. Unfortunately, it is one of only a few organizations that have utilized telehealth for an extended period of time and for which data about costs and benefits of the telehealth program is publicly available. However, there is a growing body of evidence that reinforces the VHA’s experience of savings attributable to telehealth. For example, the Agency for Healthcare Research and Quality (AHRQ) has noted studies that have reinforced the value of telehealth interventions for treatment of stroke, management of chronic conditions and behavioral health, and for counseling and monitoring.  

Initial telehealth consultations lead to decreased utilization

A primary concern of policymakers is whether enhanced access to care from telehealth expansion will lead to increased utilization, thus creating additional expense for the Medicare and Medicaid programs. While improved access to care generally is viewed as positive, concerns about the long-term financing of public payer programs has led to increased scrutiny of coverage decisions that could lead to increased costs. However, research suggests these concerns may be unfounded.

Fewer follow-up visits are required after telehealth visits, in comparison to physician offices and EDs.

Chart 1: Percentage of telehealth, physician office and emergency department visits where follow-up is required for similar condition, April 2012 – February 2013

Chart 2: Timing of telehealth, physician office and emergency department visits, April 2012 – February 2013

A recent study of enrollees in the California Public Employees Retirement System (CalPERS) evaluated the impact on utilization of providing physician consultations via telehealth through Teledoc, a telehealth provider. The study found that, after a telehealth visit, the patient was less likely to require a follow-up visit in comparison to individuals who received their initial consult for a similar condition in the emergency department (ED) or a physician’s office. Six percent of telehealth visits resulted in a follow-up visit, in contrast to 13 percent of office visits and 20 percent of ED visits. Additionally, telehealth utilization increased during weekends and holidays, times when ED utilization typically increases due to limited access to physician offices. The timing of these visits suggests that less expensive telehealth visits are potentially promising substitutes for visits to the ED.
Telehealth can allow patients to receive hospital services at home

Hospitals are exploring how to utilize telehealth for patients who are sick enough to be hospitalized but stable enough to be treated at home. Conditions with defined treatment protocols such as CHF and COPD are well-suited to these “hospital at home” models. When a patient is treated at home, clinical staff travel to the home as needed to provide treatment, while telehealth is used to monitor the patient’s condition and enable daily meetings with the physician.¹¹ Hospital at Home programs have been tested under partnerships with Medicare Advantage plans, private payers and the Veterans Health Administration.¹²

The Hospital at Home program, pioneered by Johns Hopkins Medicine in Baltimore, focuses on elderly patients who refuse to go to the hospital or have compromised immune systems that would make them susceptible to healthcare-acquired infections. Results from Johns Hopkins’ application of the model showed the total cost of at-home care was 32 percent less than traditional hospital care ($5,081 vs. $7,480), the mean length of stay for patients was shorter by one-third (3.2 days vs. 4.9 days), and the incidence of delirium (among other complications) was dramatically lower (9% vs. 24%).¹³ A study of the program also found no difference in rates of subsequent use of medical services or readmissions, and patients and family members’ satisfaction was higher in the home setting than among those offered inpatient hospital care.¹⁴

The Hospital at Home program at Presbyterian Healthcare Services in Albuquerque, N. M., focuses on patients with pneumonia, COPD and CHF, among other conditions. The health system found that patients utilizing the program were more likely to receive care aligning with clinical best practices, such as fewer readmissions and falls, as well as report higher patient satisfaction. Spending on the Hospital at Home population was 19 percent lower than that for a similar patient population. The difference was attributable to shorter length of stay and lower utilization of clinical testing.¹⁵

Telepsychiatry services allow EDs to serve behavioral health patients effectively

Hospitals have grappled in recent years with how best to provide services to patients with behavioral health needs, particularly as state financial support for psychiatric services has declined. States cut $5 billion in mental health services from 2000 to 2012, and nearly 10 percent of the total supply of public psychiatric hospital beds was eliminated.¹⁶ As a result, many patients turn to the ED when they have behavioral health needs. However, the ED is not typically well-equipped to meet these patients’ needs. In practice, an attending physician will evaluate and treat any physical issues that may be contributing to the patient’s condition, and then the patient may be forced to wait an extended time before a psychiatrist is able to see him/her.¹⁷

Telehealth can help EDs effectively assist this patient population. Telepsychiatry services have allowed Dignity Health, a health system based in San Francisco, to provide appropriate care quickly and cost effectively. For patients who do not pose an immediate threat to themselves or to others and who may not be candidates for discharge, the hospital typically connects the patient to a psychiatrist through telehealth within 90 minutes from arrival at the ED. This reduction in elapsed time between arrival at the ED and interaction with a specialist is essential, as behavioral conditions can deteriorate during the time that a patient waits to see a psychiatrist. The psychiatrist is then able to recommend whether the patient should be discharged, transferred, or further observed, and any needed follow-up care. This process has helped Dignity reduce the number of behavioral health patient admissions and, more importantly, provide care to patients quickly.¹⁸
Tele-emergency specialty consults improve outcomes and reduce need for transfers

In many community hospitals, there is not sufficient patient volume to support physician specialists on an around-the-clock basis in the ED. For some conditions, timely assessment of a patient is essential to ensuring the patient is able to recover from their ailment and prevent disability. For example, for some stroke patients, administration of tissue plasminogen activator (tPA) can help dissolve a blood clot and prevent further brain damage. However, a neurologist is best positioned to know which patients would benefit from tPA and many hospitals are unable to offer a 24/7 on-site specialist. In stroke specialty facilities, tPA is administered to over 20 percent of stroke patients, while the standard rate for many hospitals is 2-5 percent. Telehealth extends the reach of experts by allowing access to an on-call neurologist for an immediate consult, enabling improved outcomes and minimizing potential future disability due to stroke.¹⁹

In other situations, a patient’s condition may normally require a transfer to another hospital in order to see a specialist. In these cases, telehealth services can provide a live audio and visual consultation from the needed specialist to the ED or hospital where the patient is physically receiving care. The virtual consultation can provide the expertise of a specialist in situations where a physician might otherwise transfer a patient to another hospital to obtain a consultation. In addition to reducing patient burden, avoiding transfers creates savings by alleviating the need for a hospitalization at a second facility. At Avera Health, a health system based in Sioux Falls, S. D., deployment of tele-emergency resulted in reduced total emergency care costs by keeping patients in their original hospitals.²⁰

Telehealth physician visits reduce admissions from nursing homes

A similar concept can be found in nursing homes, where 24/7 on-site physician coverage is not required. Nursing homes may be able to substitute a telehealth physician for on-call physicians in some instances, which allows patients to receive a consult quickly and potentially avoid a hospital admission. A recent study indicated that hospitalizations among nursing home patients decreased by 4.4 percentage points when telehealth was utilized. Applying this savings rate to an average size nursing home (106 beds in 2013)²¹ indicates that regular use of telehealth in nursing homes could save the Medicare program about $151,000 in annual savings per nursing home due to reduced inpatient admissions. However, a barrier to increased adoption is that the nursing home must invest in the technology required to offer telehealth services – estimated at $30,000 per facility – while almost all savings would accrue to Medicare.²²

Mercy Virtual Care programs improve outcomes, reduce spending

Mercy Health, based in St. Louis, has prioritized investment in telehealth over the last decade. In 2015, Mercy opened their Virtual Care Center, a “hospital without beds” that has over 300 physicians and staff members entirely dedicated to the delivery of telehealth services. The Virtual Care Center and Mercy’s preceding telehealth and telemonitoring programs have created notable results: expected inpatient length of stay and mortality rates have declined by 40 percent, while the average cost of care has significantly declined as fewer patients require a hospital stay.

The ability of expert care providers to offer consultations is essential to minimizing variation in care across settings, which improves quality and creates savings. Further, the centralization of data and the ability to analyze patient potential risk indicators is valuable, as each local hospital does not have the capacity to capture information to the same extent as the Virtual Care Center.

Another important source of reduced costs, according to Thomas Hale, M.D., executive medical director of the Virtual Care Center, is the enhanced access to data concerning patient health status. Dr. Hale said, “Today, the patient is the decision support tool. However, telehealth and telemonitoring can allow providers to be proactive so they know the patient needs to see a doctor or a specialist.” Enhanced access to the patient helps to promote medication adherence and helps the patient avoid high-cost care settings, such as the ED.
Private plans and retail clinics making investments in telehealth

Policymakers and regulators also can look to the private sector for evidence that at-risk plans and publicly traded companies see the value of telehealth through their coverage and deployment strategies. Private insurers, like Aetna, Anthem and United Healthcare, are rapidly incorporating telehealth into their Medicare Advantage, commercial and individual benefit packages, including physician telehealth visits in both urban and rural areas. Most other major commercial insurers and self-insured employers are incorporating some type of telehealth benefit into their coverage.29

In 2015, CVS Health engaged three telehealth companies to expand patient access to doctors for online or over the phone consultations in six states. Prior to this official rollout, CVS conducted an 18-month pilot program in California and Texas. Of 1,700 patients who were surveyed in the pilot program, 95 percent were highly satisfied with the quality of care they received, the ease of using the technology and the timeliness and convenience of the care. In addition, one-third of patients indicated they preferred a telehealth visit to a visit with a clinician in the same room.24 Telehealth visits provided in this manner alleviate the need for patients to wait in-person at an urgent care clinic, an important differentiator as consumers increasingly cite convenience as a key driver in their health care treatment decisions.25

Conclusion and Recommendations

A growing body of evidence shows that telehealth can not only expand access to services but also create cost savings. For many patients, telehealth increases the ability to access timely care while reducing the potential inconvenience of travelling long distances or being transferred to another health care facility.

However, additional research into telehealth, using larger samples sizes, diverse geographies and a broader range of conditions and services, can help policymakers better understand the full range of benefits that telehealth can yield in providing care in more efficient and cost-effective ways. The AHRQ Telehealth Evidence Map states that “future research should help providers and health systems differentiate the value of telehealth services as an addition to traditional in-person care, and the value of telehealth as a replacement for in-person care.”26 Additionally, the inclusion of telehealth in value-based payment models can help assess the value of telehealth in situations where financial incentives promote quality improvement and cost savings. Finally, geographic limitations on telehealth use should be lifted, as patients regardless of care setting or physical location can benefit from increased access to expert physicians that can promote adherence to treatment plans that reflect the latest clinical best practices.

Research and experience under the Medicare program suggest that policymakers’ concerns about increased access to telehealth leading to increased spending may be overstated, particularly when weighed against the potential benefits in quality, patient experience and efficiency. In fact, when the right types of services are utilized at higher levels – such as in the case of tPA administration for stroke patients or the Hospital at Home program – cost is significantly reduced. By modernizing Medicare coverage of telehealth, including telehealth services in innovative payment models and committing additional resources to understanding the patient and cost benefits of telehealth, policymakers can advance the delivery of care and benefit patients.

For more information on telehealth, visit www.aha.org/telehealth.
Endnotes

1 Medicare provides coverage for telehealth services only in regions designated as a Health Professional Shortage Area (HPSA) and in a county that is outside of any Metropolitan Statistical Area (MSA), defined by the Health Resources and Services Administration (HRSA) and the Census Bureau, respectively.


17 Interview with Dignity Health, March 21, 2016.

18 Dignity Health Telemetry Network. Telemental Health: Emergency Department Program Overview.

19 Interview with Dignity Health, March 21, 2016.


4/22/2016
One of the big money makers in the startup scene today is telemedicine - the practice of offering remote medical services with the help of technology. Companies like the U.S. based Teladoc have even reached valuations of one billion dollars and 11.5 million members.

Many of these companies are doing great in Europe and the U.S. but they’re missing the massive potential telemedicine has to help people in developing countries. According to the World Health Organization the African continent, for example, suffers from 24% of the global health risk burden but only has access to approximately 3% of the health workers. Telemedicine could fix that. Unfortunately, pretty much every company that has tried to do so has failed. Now, a few techies from Berlin think they can change that.

Janko Brand, Tom Bley, and Alexander Baltz are forming a startup called One World Doctors, which aims to provide a way for experts from the around the world to advise doctors in remote locations. They hope that their ability to create a pleasant, intuitive user experience will give them an edge over the competition. According to Tom Bley:

"We are coming more from the tech start-up background and we hope that we can utilize our knowledge advantage in this area to build something that is more easy to use and more attractive to the users."

The problem is that technology is not what ultimately gives ventures like this longevity. Pennsylvania State University recently released a study in which they investigated the failure of 35 such projects. They found that the leading causes of failure were not technological, but rather “social and economic in nature.” On the economic side, One World Doctors is still working out their business model.

Bley says that for now they are planning to, "Cross finance diagnoses by charging patients for second opinions in countries which can afford such a service and also by partnering with medical device manufacturers that we integrate into our platform."

Getting that right is key. Most companies that try this end up not being able to cover their operation costs and peter out within a few years. On the social side, if One World Doctors is to survive the Penn State study suggests getting community engagement will be crucial. One company that is experiencing success in this regard is the Mobile Alliance for Maternal Action (MAMA). MAMA has thrived in part because it doesn’t just give out helpful parenting advice, but also connects pregnant mothers with each other, giving it credibility as a health resource and community service. Berlin’s One World Doctors will have to do something similar to achieve their goals, which right now are pretty ambitious:
"In 5 years we will have more than 1,000 doctors on the platform and we’ll solve 100 cases a day," says Janko Brand.

That kind of confidence is great - even necessary - in the startup world. But in addition to that confidence you also need to learn from those who have gone before you. If One World Doctors can do that, they may just save a lot of lives.
Reconsidering the Consumer Hassle Map

October 27, 2016

Terry Stone Global Managing Partner, Health & Life Sciences, Oliver Wyman

Actionable Insight

We know consumers have been frustrated with healthcare for a long time. For proof, you need look no further than the Net Promoter Scores (a measure of customer loyalty) of healthcare companies. Scores are in the cellar – just above cable companies, with only a handful of healthcare companies garnering scores in the 70s and 80s.

At a macro level, leaders grasp that healthcare falls short in consumer experience, and there is a need to make things more affordable and better. The more progressive leaders understand that if they do not proactively shape and craft better solutions for consumers, others will.

And so there is abundant effort to address the industry’s shortcomings. Organizations have studied what they believe to be are the most pressing consumer hassles and are working earnestly to address those hassles. But we haven’t yet broken through the chaos of the consumer hassle map.

What we tend to do: Fix broken bits

Why is this? Too often, we view hassles as activities, and we focus on functional capabilities. As a result, we end up spending most of our time fixing broken bits and not enough time fundamentally rethinking the root-cause issues.

To be clear, this is not about investing in some new element or technology; it is about consumer-centric design and curation.

Consider the call center. Many healthcare companies have worked to improve their customer call centers, and they have successfully reduced wait times. But this solution does not eliminate the consumer’s original frustration; it just made the process move along slightly faster.

What the consumer actually wanted was not to have to call in the first place. She didn’t want to deal with the hassle that her doctor – credentialed in your network – recommended a mammogram; but after she had the test, she received a “denied” claim because her benefits policy doesn’t provide coverage for someone her age. She’s stuck trying to reconcile how her doctor and your company can be partners, and yet disagree on what’s in her best interest. She is dumbfounded by how it’s now become her problem, and so she’s on the phone. And though she’s waiting less time than in the past, she’s still on the phone, troubleshooting the disconnect between your expectations.

Or take virtual healthcare. There is clear, pent-up demand for telemedicine. It is estimated that 40 to 60 percent of all healthcare encounters could be managed virtually. Millennials, in particular, are primed for a virtual healthcare experience. Many have no personal relationship with their physician, and therefore no desire to interact in person. In fact, a recent Salesforce survey found that 40 percent of
Millennials believe that their doctor would not recognize them if they crossed paths while walking down the street.

And yet, telemedicine is slow to gain traction. The reason for the slow uptake? Few virtual medicine offerings are designed from the consumer’s perspective. Most health insurers provide some level of coverage for virtual care and many providers are offering virtual visits. But even when we make convenient care available, it is rarely ready or easy.

When we survey consumers, they tell us that telemedicine is a hassle to use. The trigger point to use it is when they are under pressure or don’t have a lot of time and convenience is critical. It’s 10 o’clock at night and the baby is screaming or there is a meeting in the morning. No one wants to go searching for information about virtual care. And no one wants to spend 20 minutes registering, creating a user ID, or trying to remember my password. This should be automatic and easy and accomplished in one click.

Think also about how we tend to promote telemedicine. The information is usually on a website and a flyer may go out around open-enrollment, or randomly during the year. From the consumer’s vantage point, it is rarely contextually relevant, and it’s never at the right place at the right time. If I don’t have an immediate need to use it, why would it cut through the clutter and gain my awareness and attention?

But what if the efforts were focused around when it is the right time for the healthcare company to explain it to the consumer? As the healthcare company, I don’t always know what you’re about to do, but I do know what you just did. If I receive a claim that says you just went to urgent care for something that didn’t seem crisis-like, now might seem a good time to provide you with information that could have made the experience easier for you to navigate. From the consumer’s vantage point: I had this experience and it was a hassle, and I know it’s going to cost me out of my own pocket. If you send me something about telehealth 24 hours later, I’m going to pay attention.

What we need to do better: Demonstrate an innate understanding of consumer’s needs

The primary obstacle preventing companies from breaking through the hassle map is most are focused on solutions that solve their own problems (eg, controlling costs) versus solutions that solve the consumer’s problems (getting to the doctor is hard and I don’t understand my coverage).

In contrast, when everything you do is considered from the consumer’s vantage point and you design from the consumer in, you demonstrate an innate understanding of the consumer’s needs. That allows you to build trust; and when you have trust, you earn the right to the consumer’s business.

That is the magic of what we call a magnetic offering. Category killers like Facebook, Starbucks, Uber, and Amazon all have a magnetic offering. A magnetic offering means focusing on the moment when the consumer has a need, and then redesigning every aspect of the experience from the consumer perspective so the company meets the need with the right solution at the right time.

To be clear, this is not about investing in some new element or technology; it is about consumer-centric design and curation. It is about doing it better by understanding the consumer better – and then doing it faster and smarter than competitors.

Get over it: Healthcare is not different
When we speak about consumer-focused innovation in healthcare, we often hear that the industry is too complex, too regulated, and too complicated to be reconstructed from the consumer’s perspective. The truth is, financial services has many of the same characteristics, and over the last 30 years, financial services has found a way to meet consumers where they are and create offerings that are tailored to the young, tech-savvy, cashless customer.

What financial services did – despite having the simultaneously cumbersome regulations and obstacles and hurdles – was find a way to eliminate their complex backend from your every day. They don’t make their complexity the consumer’s problem.

When it comes to healthcare, consumers get it; they know healthcare is not cheap or free. They also know that it won’t be perfect; but they expect us to be able to at least connect the dots that matter and stop making our complexity their problem.
Hello,

I am the Medical Director at Devereux- Florida and the former Chair of the Child and Adolescent Psychiatry Committee of the Florida Psychiatric Society. I have participated in 2 workgroups over the past 2 years with several child and adolescent psychiatrists and other mental health providers in Florida that reviewed best practices for child and adolescent telepsychiatry by consulting with national experts in the training and practice of Child and adolescent Telepsychiatry. The colleagues in Florida with whom I have worked include Mariam Rahmani MD- Training Director for the Child and Adolescent Psychiatry Fellowship at the University of Florida and Sushil Puskur MD Child and Adolescent psychiatrist in Ocala and Ali Canton, Child and Adolescent Psychiatrist in Ocala. The national experts whom we consulted include Kathleen Myers MD, professor at the University of Washington and member of the American Telemedicine Association who wrote the American Academy of Child and Adolescent Psychiatry's Practice Parameters for Telepsychiatry and Roger Burkitt MD, the training Director for Child and Adolescent Psychiatry at University of Virginia as well as Shabana Khan, Assistant Professor of Psychiatry at University of Pittsburgh School of Medicine and Director of the Telepsychiatry at Western Psychiatric Institute. There are many training and legal aspects as well as technical and practical aspects to consider regarding child and adolescent telepsychiatry. I believe that telepsychiatry for children and adolescents may help provide consultation to primary care physicians as well as help serve a select population of children in underserved areas who may not have access to child and adolescent psychiatrists. There are children, however, who are not appropriate for telepsychiatry eval and treatment. I am available to share contacts or information from our workgroups with the advisory committee on TeleHealth with regards to Child and Adolescent Telepsychiatry.

Thankyou,
Manal Durgin MD

Manal Durgin MD, DFAPA
Medical Director, Devereux-Florida

Devereux Advanced Behavioral Health – Unlocking Human Potential.
Please consider the environment before printing this e-mail.

This email (including any attached files) may contain confidential information and/or protected health information (PHI) intended solely for the use of Devereux Advanced Behavioral Health and the recipients named above. If you are not the intended recipient or the employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any review, transmission, distribution, printing
The southeast has the highest rate of chronic renal failure in the nation. In 2002, I published how to reverse diabetic and hypertensive CKD. In theory, then, it should be possible to prevent 90% of end-stage renal disease. I've been using telemedicine to delay progression of CKD for a number of years now, and have the process down pat. Would the Council like me to prevent dialysis in the southeastern US via telemedicine?
Proposed
Telehealth Advisory Council
2017 Meeting Dates

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