

ARIZONA
TELEMEDICINE
PROGRAM



Operational Challenges, Successes & Barriers

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Challenges & Barriers (at least some of them)

- **Interoperability, Security & Data Integration – EMR, devices (internal & external), platforms**
- **Technology & telecomm expenses**
- **Technical skills, training & competencies (providers & patients)**
- **Provider & patient preferences**
- **Competition with retail health, DTC, urgent care clinics**
- **Reimbursement – getting it & with parity**
- **Regulations & legal**



Interoperability, Security & Data Integration

- Organizations are addressing & increasingly collaborative
 - HIMSS (Health Information & Management Systems Society)
 - PCHA (formerly Continua Alliance now Personal Connected Health Alliance)
 - IHE International (Integrating the Healthcare Enterprise)
- Companies (some) starting to collaborate & adopt data standards
- Increasingly need to consider data from apps & other non-standard sources
- Vanilla, chocolate & strawberry

Health IT Standards to Watch

- **Consolidated-Clinical Document Architecture**^{cf} (C-CDA) — C-CDA is a framework for creating clinical documents that contain both human-readable text and machine-readable XML
- **Direct**^{cf} — is a standard for sending health information securely over the internet.
- **Fast Healthcare Interoperability Resource**^{cf} (FHIR) — FHIR is a specification for exchanging clinical and administrative health care data. The standard is based on REST and OAuth.
- **Validated Healthcare Directory Implementation Guide**^{cf} — an HL7 FHIR based implementation guide and architectural considerations for attesting to, validating, and exchanging validated data as well as a RESTful FHIR API for accessing data from that directory.
- **Integrating the Healthcare Enterprise**^{cf} (IHE) — IHE's work is organized into **profiles**^{cf} that define how systems should cooperate. Commonly-implemented profiles include:
 - ATNA — audit trail and node authentication: basic security and audit logging
 - XCA — cross-community access: query and retrieve patient records held by other communities
 - XCPD — cross-community patient discovery: locates patient records in other communities and resolves different patient identifiers
 - XDR — cross-community interchange: point-to-point sharing of electronic documents
 - XDS — cross community document sharing: discovery and sharing of electronic documents
 - PDQ — patient demographics query: consult a central patient information server to look up patient identity based on demographics
 - PIX — queries for patient identity cross references among different sites
- **Health Level 7 (HL7) v2 messaging**^{cf} — a commonly used data interchange standard. This standard includes messaging specifications for patient administration, orders, results, scheduling, claims management, document management, and many others.
- **Quality Reporting Document Architecture**^{cf} (QRDA) — a standard for communicating health care quality measures
- **Health Quality Measure Format** (HQMF) — a standards-based representation of quality measures as electronic documents
- **OAuth 2.0**^{cf} — a simple authorization framework that enables a third-party application to obtain access to an HTTP service.
- **HEART**^{cf} (Health Relationship Trust) — a set of profiles that enables patients to control how, when, and with whom their clinical data is shared.
 - [HEART Profiles Webinar and Workshop Recording](#)^{cf}
 - [HEART Webinar Slides \[PDF - 7.8 MB\]](#)
- **OpenID Connect**^{cf} — a simple identity layer designed to work with OAuth 2.0.
- **Prescription Drug Monitoring Program** (PDMP)

<https://www.healthit.gov/topic/standards-technology/health-it-standards>

What About Integration?

- **Technology & interoperability only half equation**
- **Integration into daily routine may require more effort**
- **Plot out current vs TM workflow reveals required changes, needed personnel, time requirements etc.**
- **More about human factors than technology for efficacious, efficient & safe use TM**
 - **Need to think about provider safety as well – increased potential fatigue & related issues injury etc. from shift to digital**

Technology & Telecomm Expenses

- Prices, options etc. vary so decide in advance what needs are then assess technologies available & what aspects important (not all bells & whistles)
- Negotiate, lease & other options
- National Telehealth technology Assessment Resource Center & Toolkits page <https://telehealthtechnology.org/>
- Grants: USDA, FCC, PCORI, NIH etc.
<https://www.ruralhealthinfo.org/funding/topics/telehealth>
- Companies often willing to help with grants (as long as use their products)

Telehealth competencies

- Growing literature recommendations & possible frameworks
 - Mostly MD some Allied Health
- Some reports on implementation, usually elective &/or short-term (1 semester or less)
 - Mostly report class evaluation, some test performance
 - Little “real-life” or longer term assessment
- More common
 - Online courses/training for practitioners
 - CE/CME/CPD
 - Certificates
 - Some claim certification
 - Most best practices, how to etc.
 - Some charge, some free



What Are Competencies?

- **AAMC:** Observable ability of a health professional related to a specific activity that integrates knowledge, skills, values and attitudes.
- What does a physician, progressing towards attainment of expertise do, know, and value in relation to telehealth?



Domain 1: PATIENT SAFETY AND APPROPRIATE USE OF TELEHEALTH

Clinicians will understand when and why to use telehealth, as well as assess patient readiness, patient safety, practice readiness, and end user readiness.

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Explains to patients and caregivers the uses, limitations and benefits of telehealth - the use of electronic communications technology to provide care at a distance	1b. Explains and adapts practice in the context of the limitations and benefits of telehealth	1c. Role models and teaches how to practice telehealth, mitigate risks of providing care at a distance, and assess methods for improvement
2a. Works with diverse patients and caregivers to determine patient/caregiver access to technology to incorporate telehealth into their care during (real or simulated) encounters	2b. Works with diverse patients and caregivers to evaluate and remedy patient and practice barriers to incorporating telehealth into their care (e.g. access to and comfort with technology)	2c. Role models and teaches how to partner with diverse patients and caregivers in the use of telehealth
3a. Explains to patients and caregivers the roles and responsibilities of team members in telehealth encounters, regardless of modality	3b. Demonstrates understanding of all roles and works as a team member when practicing telehealth regardless of modality	3c. Coordinates, implements, and evaluates the effectiveness of the telehealth team, regardless of modality
4a. Describes when patient safety is at risk, including when and how to escalate care (e.g. converts to in-person visit or emergency response) during a telehealth encounter	4b. Prepares for and escalates care when patient safety is at risk (e.g. converts to in-person visit or emergency response) during a telehealth encounter	4c. Role models and teaches how to assess patient safety during a telehealth encounter, including preparing for and escalating care when patient safety is at risk

Domain 2: DATA COLLECTION AND ASSESSMENT VIA TELEHEALTH

Clinicians will obtain and manage clinical information via telehealth to ensure appropriate high-quality care.

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Obtains history (from patient, family, and, or caregiver) during a (real or simulated) telehealth encounter	1b. Obtains history (from patient, family, and, or caregiver) during a telehealth encounter and incorporates the information into differential diagnosis and the management plan	1c. Role models and teaches the skills required to obtain a history (from patient, family, and/or caregiver) during a telehealth encounter and incorporates the information into the management plan
2a. Conducts appropriate physical examination or collects relevant data on clinical status during a (real or simulated) telehealth encounter including guiding the patient or telepresenter	2b. Conducts appropriate physical examination and collects relevant data on clinical status during a telehealth encounter including guiding the patient and/or telepresenter	2c. Role models and teaches the skills required to perform a physical examination during a telehealth encounter, including guiding the patient and/or telepresenter
3a. Explains the importance of patient-generated data in the clinical assessment and treatment plan during a telehealth encounter	3b. Incorporates patient-generated data into clinical assessment and treatment plan, while understanding data limitations and adapting accordingly	3c. Role Models and teaches how to incorporate patient-generated data into clinical assessment and treatment plan, while understanding data limitations and adapting accordingly

Domain 3: COMMUNICATION VIA TELEHEALTH

Specific to telehealth, clinicians will effectively communicate with patients, families, caregivers, and health care team members using telehealth modalities. They will also integrate both the transmission and receipt of information with the goal of effective knowledge transfer, professionalism, and understanding within a therapeutic relationship.

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Develops an effective rapport with patients via (real or simulated) video visits attending to eye contact, tone, body language and non-verbal cues	1b. Develops an effective rapport with patients via video visits attending to eye contact, tone, body language and non-verbal cues	1c. Role models and teaches effective rapport building with patients via video visits attending to eye contact, tone, body language and non-verbal cues
2a. Assesses the environment during (actual or simulated) video visits attending to attire, disruptions, privacy, lighting, sound, etc.	2b. Establishes therapeutic relationships and environments during video visits attending to attire, disruptions, privacy, lighting, sound, etc.	2c. Role models effective therapeutic relationships and environments during telehealth encounters
3a. Explains how remote patients' social supports and health care providers can be incorporated into telehealth interactions and care plan (e.g. asynchronous communication, store and forward)	3b. Determines situations in which patients' social supports and health care providers should be incorporated into telehealth interactions with the patients' consent to provide optimal care	3c. Role models and teaches how to incorporate patients' social supports into telehealth interactions with the patients' consent to enhance patient care

Domain 4: ETHICAL PRACTICES AND LEGAL REQUIREMENTS FOR TELEHEALTH

Clinicians will understand the federal, state, and local facility practice requirements to meet the minimal standards to deliver healthcare via telehealth. Clinicians will maintain patient privacy while minimizing risk to the clinician and patient during telehealth encounters, while putting the patient interest first and preserving or enhancing the doctor-patient relationship.

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Describes locally relevant legal and privacy regulations for telehealth	1b. Complies with legal and privacy regulations for telehealth at the local, state and federal levels	1c. Role models and complies with legal and privacy regulations for telehealth at the local, state and federal levels
2a. Defines components of informed consent for the telehealth encounter	2b. Obtains informed consent for the telehealth encounter, including defining how privacy will be maintained	2c. Role models and teaches how to obtain informed consent for the telehealth encounter, which includes defining how privacy will be maintained
3a. Demonstrates knowledge of ethical challenges and professional requirements in telehealth	3b. Identifies and supports solutions that mitigate ethical problems and adhere to professional requirements in telehealth	3c. Identifies and seeks to address system-level solutions to ethical challenges and adhere to professional requirements in telehealth
4a. Describes potential conflicts of interests that may arise in the use of telehealth such as interest in commercial products or services	4b. Explains and discloses potential conflicts of interest to patients in the use of telehealth	4c. Explains and ensures all members of the care team disclose possible conflicts of interests in the use of telehealth

Domain 5: TECHNOLOGY FOR TELEHEALTH

Clinicians will have basic knowledge of technology needed for the delivery of high-quality telehealth services.

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Explains equipment required for conducting care via telehealth, including those at originating and distant sites	1b. Identifies and is able to use the equipment needed for the intended service, including originating and distant sites	1c. Able to use, and teach others while using, equipment for the intended service, including originating and distant sites
2a. Explains limitations of and minimum requirements for local equipment, including common patient-owned devices	2b. Practices with a wide range of evidence-based technologies including patient-owned devices, and understands limitations	2c. Role models and teaches how to incorporate emerging evidence-based technology into practice, remaining responsive to the strengths and limitations of evolving applications of technology
3a. Explains the risk of technology failures, and the need to respond to them	3b. Demonstrates how to troubleshoot basic technology failures and optimize settings with the technology being employed	3c. Teaches others how to troubleshoot basic technology failures and optimize settings with the technology being employed

Domain 6: ACCESS AND EQUITY IN TELEHEALTH

Clinicians will have an understanding of telehealth delivery that addresses and mitigates cultural biases as well as physician bias for or against telehealth, accounts for physical and mental disabilities, and non-health related individual and community needs and limitations to promote equitable access to care

Entering Residency (Recent Medical School Graduate)	Entering Practice (Recent Residency Graduate) <i>All prior competencies +</i>	Experienced Faculty Physician (3-5 Years Post-Residency) <i>All prior competencies +</i>
1a. Describes one's own implicit and explicit biases and their implications when considering telehealth	1b. Describes and mitigates own implicit and explicit biases during telehealth encounters	1c. Role models and teaches how to recognize and mitigate biases during telehealth encounters
2a. Defines how telehealth can affect health equity and mitigate or amplify gaps in access to care	2b. Leverages technology to promote health equity and mitigate gaps in access to care	2c. Promotes and advocates the use of telehealth to promote health equity and access to care as well as to advocate for policy change in telehealth to reduce inequities
3a. Assesses the patient's needs, preferences, access to, and potential cultural, social, physical, cognitive, and linguistic/communication barriers to technology use when considering telehealth	3b. Accommodates the patient's needs, preferences, and potential cultural, social, physical, cognitive and linguistic/communication barriers to technology use when considering telehealth	3c. Accommodates and role models how to advocate for improved access to accommodate the patient's needs, preferences, and potential cultural, social, physical, cognitive and linguistic/communication barriers to technology use when considering telehealth

What Do Providers Think?

- **Varies considerably, by specialty, setting, patient base etc.**
- **25+ years of data on feasibility, perceptions, outcomes, costs etc. – typically with same strengths & weaknesses/limitations as any other healthcare study**
- **COVID generated huge increase in use & thus recognition TM benefits but also highlighted practical challenges & where IP really is likely more appropriate**



What Do Patients Think?

- Doctor.com survey
- 50% have used TM past 3 months
- Why not: 58% had no reason, 32% financial concerns, 18% tech
- 83% likely to use TM after COVID
- Terms preferred: 24% TM, 21% virtual visit, 18% TH, 16% virtual care, 12% remote visit, 10% telecare
- Preferred device: 68% mobile phone, 48% laptop, 28% tablet, 17% desktop

https://www.doctor.com/resources/telemedicine?utm_source=medical_economics&utm_medium=PR&utm_campaign=telemedicine_awareness&utm_content=telemedicine_resources

- **74% would use TM to see doctor already have relationship with**
- **55% would use TM to see new doctor**
- **40% would use TM to see new doctor only if have referral or doctor has great online reviews & star ratings**
- **If had to cancel appt due to COVID how resume care: 57% in-person after COVID, 35% want treatment via TM, 6% can't resume/reschedule financial reasons, 2% other**
- **93% likely use TM prescription management**
- **91% agree TM would help with appt & prescription adherence**

Q: What types of conditions would you seek telemedicine treatment for?



48%

ALLERGY, EAR
NOSE THROAT



45%

ROUTINE
PREVENTIVE VISIT



45%

MENTAL / BEHAVIORAL HEALTH /
COUNSELING / THERAPY

34%

COVID-19
screening

30%

GI / stomach-related
issue

29%

Pain management /
regenerative
medicine

25%

Arthritis
(rheumatology)

24%

Dermatologic or
cosmetic surgery
consultation

22%

Eye-related
issue

19%

Physical /
occupational therapy

19%

Respiratory
issue

19%

Urgent care

15%

Pediatric
care

13%

Heart-related
(cardiology) issue

12%

Oral / dental
care

Q: Which factors would help you decide to make a telemedicine appointment?



69%

**EASY-TO-USE
TECHNOLOGY**



57%

**COMMUNICATION THAT
TELEMEDICINE SERVICES
ARE AVAILABLE**



47%

**ONLINE
SCHEDULING
OPTIONS**



47%

**IMMEDIATE
AVAILABILITY**

42%

Understanding
how my insurance
covers
telemedicine

42%

A secure
communication
platform that
protects my privacy

42%

Reading reviews from
other patients about
their telemedicine
experience

39%

The ability to see
the same
provider in a
practice

33%

Information on what
types of services
can be provided via
telemedicine

30%

Credentials and
expertise of the
physician /
healthcare provider

Summary

- Challenges have, do & will exist
- TM champion can jump start but team with varied expertise & experience required to fully address & overcome barriers
- Key is keep current, try to anticipate, start with solid foundation & build
- There are resources (e.g., TRCs) to help – reach out!!



Thank you!

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