EXPLORING THE FRONTIERS OF TELEHEALTH

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Alaska Native Tribal Health Consortium
17 of the 20 highest mountain peaks in the United States are in Alaska, including the highest (Denali) at 20,320 feet above sea level.

Alaska has more coastline than the rest of the United States combined, roughly 34,000 miles.

Juneau has no road access to the rest of the state. It is the only capital city in the United States accessible only by boat or plane. It is also the largest, covering 3,108 square miles.

Anchorage’s Lake Hood is the world’s largest and busiest seaplane base. Over 800 take offs and landings happen on a busy summer day.

It is illegal to whisper in someone’s ear while they are moose hunting in Alaska.

TO: GEETING AVIATION, Box 42 TALKEETNA, AL 99676
Gosh, that was hard
Wow, that took a long time

Telehealth Realities

I’m surprised more people don’t do it
• Interactive Video Conferencing
• Store & Forward
• Remote Patient Monitoring
• Provider Mentoring (ECHO)
• Provider to Provider
• Patient to Provider

Telehealth INSTEAD of in-person
• mHealth
• Direct to Consumer / eVisits
• Supervision
• Transfer of Care
• EHR functionality
• Patient Navigation / Texting
• Wayfinding
• Alternative care sites
• DIGITAL HEALTH

Telehealth ENHANCES experience and efficiencies
Digital health is the convergence of digital technologies with health, healthcare, living, and society to enhance the efficiency of healthcare delivery and make medicines more personalized and precise.
"Telehealth" is 1 Component of "Digital Health"

Telehealth Serves as a Communication Tool Within the Broader IT Space

Technology Functions in Health Care

- Documentation, Data Storage
- Predictive Analytics
- Communication, Remote Consultation
- Robotics, Surgical Support
- Virtual, Augmented Reality

**Telehealth** represents the interactive, electronic exchange of information for the purpose of diagnosis, intervention, or ongoing care management between a patient and/or health care providers situated remotely.

**Patient-to-Provider**
- E-visits
- Wearables
- Secure messaging

**Telehealth Modalities**
- Real-time virtual visits
- Remote patient monitoring
- Asynchronous store-and-forward

**Provider-to-Provider**
- E-consults
- Implantables
- Second opinion consults
Digital Health can Empower or Engulf Telehealth

Interoperability Capability

- Print a visit summary and give to patient
- Secure messaging communication. Once with a patient.
- Send education to patient portal for patient. Patients did not have to look at it.
- Must “own” SMART on FHIR
- Focus on quality and improvement activities
- Telehealth counts as a clinical improvement activity
- CMS focusing on “the patient’s data”. Medicare app. Patients get to control their data.
- Can’t be a data blocker. Support for Patient apps.
- Future: Open portals with all notes

SMART = Substitutable Medical Applications, Reusable Technologies  
FHIR = Fast Healthcare Interoperability Resources
“Certified EHR” Adoption

Percent of U.S. Hospitals that Adopted Certified EHRs: 2017

All Hospitals
96%

Percent of U.S. Physicians that Adopted Any and Certified EHRs: 2017

Any
86%

Certified
80%

Application Programming Interface (API)

Source: Cerner Corporation
Smartphone Ownership Now Comparable to Laptops

Tablet and Smartphones Outpace Other Technologies

Trends in Consumer Ownership of Digital Technologies Among U.S. Adults

<table>
<thead>
<tr>
<th>Year</th>
<th>Cellphone</th>
<th>Smartphone</th>
<th>Tablet</th>
<th>Desktop/Laptop</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
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<tr>
<td>2013</td>
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<td></td>
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<td>2014</td>
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<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Smartphone Ownership of U.S. Adults, by Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>92%</td>
</tr>
<tr>
<td>30-49</td>
<td>88%</td>
</tr>
<tr>
<td>50-64</td>
<td>74%</td>
</tr>
<tr>
<td>65+</td>
<td>42%</td>
</tr>
<tr>
<td>Total</td>
<td>77%</td>
</tr>
</tbody>
</table>

Smartphone adoption among adults aged 65+ in the U.S. has quadrupled in the last 5 years.


Telehealth Costs Are Not Just About the Hardware

Don’t Fail to Factor in the Human Side of Technology

**Equipment**
- Storage
- Maintenance
- Installation
- Replacement
- Broadband connectivity
- Facility space
- EMR integration

**Personnel**
- Care team training
- Patient training
- Tech support
- Data analytics
- Planning and operations
- Marketing
- Contracting and finance
- Government affairs

Cost Considerations for Telehealth Platforms

Don’t forget to factor these expenses into your platform selection process
The component segment in the US telehealth market is classified into services, hardware, and software. The services segment dominated the largest market share in 2017, growing at a CAGR of over 31% during the forecast period.

The recent shift towards patient-centric value-based care systems is one of the major factors attributing to the adoption of telehealth services in the US market.

- Flattens the technology adoption curve
- Removes the staffing challenge at startup
- Commoditizes the care model
- Creates a provider marketplace
- Bridges the unscheduled patient to the scheduled Healthcare system.

- Have Lab (e.g. Quest) and Pharmacy available (e.g. Walmart)

Eighty percent of mid-size and large U.S. companies offered telemedicine services to their workers last year [2018]...

Patients have been slow to embrace virtual care. Only 8 percent of eligible employees used telemedicine at least once in 2017 ...

https://www.apnews.com/7baf70c5ce2c4f0eb928596aa1ac5e6b
Why is the adoption for Direct-To-Consumer Telehealth so slow?
### Consumer’s Top 10 Virtual Visit Use Cases

*Advisory Board Company’s “Virtual Visits Consumer Choice Survey,” n=4,879*

<table>
<thead>
<tr>
<th>Use Case</th>
<th>Respondents who definitely or probably would consider a virtual visit</th>
<th>Respondents who might consider a virtual visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A prescription question/refill</td>
<td>39%</td>
<td>33%</td>
</tr>
<tr>
<td>Receiving results from my oncologist</td>
<td>44%</td>
<td>28%</td>
</tr>
<tr>
<td>A pre-surgery appointment</td>
<td>40%</td>
<td>29%</td>
</tr>
<tr>
<td>Ongoing care for a chronic condition</td>
<td>37%</td>
<td>29%</td>
</tr>
<tr>
<td>Select post-op appointments</td>
<td>37%</td>
<td>28%</td>
</tr>
<tr>
<td>A consult with my regular dermatologist</td>
<td>37%</td>
<td>27%</td>
</tr>
<tr>
<td>Weight loss or smoking cessation classes</td>
<td>32%</td>
<td>31%</td>
</tr>
<tr>
<td>A consult with my regular psychologist</td>
<td>34%</td>
<td>28%</td>
</tr>
<tr>
<td>Select pregnancy check-ups</td>
<td>36%</td>
<td>24%</td>
</tr>
<tr>
<td>Psychologist consult from my PCP’s office</td>
<td>29%</td>
<td>26%</td>
</tr>
</tbody>
</table>

**Sources:** Market Innovation Center 2016 Virtual Visits Consumer Choice Survey, Service Line Strategy Advisor research and analysis.

### Patient Barriers to Access and Treatment

- Long wait times to next appointment
- Transportation or mobility constraints
- Privacy concerns
- Multiple follow-up visits
App touchpoints on the patient’s journey: Receiving care at ANMC

- Getting here
- Staying here
- Receiving care
- Returning home
App touchpoints on the patient’s journey: Receiving care at ANMC

Getting here
- Referral status tracking
- Flights
- Airport transportation
- Travel packet

Staying here
- Housing
- Campus navigation
- Transportation
- Meals
- Campus events

Receiving care
- Appointment itinerary
- Check-in
- Labs, imaging
- Pharmacy
- Provider visit

Returning home
- Discharge documents
- Patient education materials
- Post-discharge follow-up

Throughout
- Patient feedback
- Reminders, live updates
- Travel escort mode
- Satisfaction survey
- Contact info for services & clinics
Patient’s journey: 1st wave

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- Airport transportation
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* 5, 6

Secure login

1. Campus navigation
2. Transportation
3. Appointment itinerary
4. Travel escort mode
5. Housing
6. Flights
7. Campus events

1st wave releases

1. Patient feedback
2. Meal cards
3. Reminders, live updates
4. Referral status tracking
5. Support groups
Enhanced Patient Experience Means ...

REFERRAL TRACKING
- Track where your referrals are at, like tracking packages
- Progress bar that’s complete once appointment, travel, and housing are arranged
- Who to call based on the current status
- This should reduce logistics calls from patients to Case Managers

FLIGHT INFO
- Show flight info as part of trip timeline
- "I missed my flight" button
- Flight cancellation/delay tracking
  - Inform them about what to expect with rescheduling
  - Auto-initiate the rescheduling process on our end
  - Notify clinics that patients won’t make it

YET MORE
- Chat – for coordinating travel, housing, and many other uses
- Meal cards
- Travel packets
- Discharge summaries
- Patient education materials
- Post-discharge follow-up
- Finding community resources and recommended apps
Oran’s Starting Point:
Opioid Epidemic
The Golden Rule of Telehealth Investments

The Best Investment Opportunities Benefit Both Patients and Providers

The sweet spot for telehealth sits at the intersection of patients and providers.

Improving Efficiency
• Streamline documentation
• Reduce patient no-shows
• Improve care plan adherence
• Promote top-of-license care

Enhancing Experience
• Increase convenience
• Improve communication with care team members
• Reduce care costs
• Reduce unnecessary travel
The Golden Rule of Telehealth Investments

The Best Investment Opportunities Benefit Both Patients and Providers

The sweet spot for telehealth sits at the intersection of patients and providers.

Traditionally we didn’t ask what the patient wanted. We did satisfaction surveys to ask the patient what they thought after the fact.

The questions we should be asking are “Where are the pain points? What can we do to make your health care experience great?”
QUESTIONS?
Putting the Patient in the Center

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http://www.charleswbaileyjr.name/digital-oil-painting-of-an-alaskan-river/
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