An Enterprise Wide Approach to Telemedicine

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Concerns I Hear Most

• My patients don’t want it
• It is not as good as an in-person visit
• You can’t examine the patient
• It is not reimbursed
• It is too hard

You Already Do Telemedicine

• Phone advice to friends & family
• Skype or Facetime with friends & family
• Text messages and review of pictures
Healthcare in 2018: What We Know

• Patients want care when and where they want it
• Health care is changing
  • Less fee for service
  • More “shared savings” or “risk”
• Choice
  • Try to time the change and hope you can make the right turn on a dime
  • OR prepare for the change

Who Knows Patients The Best?

<table>
<thead>
<tr>
<th>What Health Care Providers Know About Me . . .</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals &amp; Health Systems</td>
</tr>
<tr>
<td>Labs values</td>
</tr>
<tr>
<td>My Doctor</td>
</tr>
<tr>
<td>Level of Interaction:</td>
</tr>
<tr>
<td>Lower</td>
</tr>
<tr>
<td>15 minutes/year</td>
</tr>
</tbody>
</table>

Walgreens
I’m compliant with my statin therapy.
I got a flu shot in October.
I had bronchitis in January.
I use reading glasses.
I have a cat.
I don’t use coupons.
Where I live and my likely commuting pattern

Do You Know What Your Patients Want?

• Top primary care attributes (n=3873)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>See me now</td>
<td>4.38</td>
</tr>
<tr>
<td>Price</td>
<td>3.78</td>
</tr>
<tr>
<td>“My” doctor</td>
<td>3.69</td>
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</table>

Advisory Board, 2014 survey
**Evidence Base (Gap)**

<table>
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<th>Evidence Base</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Improves Patient Access</td>
<td>Hypothetical but promising</td>
</tr>
<tr>
<td>Improves Quality and Outcomes</td>
<td>Handicapped evidence</td>
</tr>
<tr>
<td>Generates Cost Savings</td>
<td>Quantitative evidence needed</td>
</tr>
<tr>
<td>Drives Patient Satisfaction</td>
<td>Limited evidence</td>
</tr>
</tbody>
</table>

**Examples**

- RAND Study Teladoc (2014)
- Remote monitoring in Heart Failure (2012)
- Use telemedicine to improve outcomes (2012)
- Handful of specific use case examples exist with compelling evidence (2012)
- Remote monitoring in Heart Failure (2012)
- Live teledermatology improves outcomes (2012)
- Handful of specific use case examples exist with compelling evidence (2012)
- Remote monitoring in Heart Failure (2012)
- Live teledermatology improves outcomes (2012)
- Integrated telehealth for Medicare Patients (2007)
- Economic Impact of eICU Implementation (2007)
- Patient Satisfaction with Telemedicine (2006)

**Best Practices and Evidence Based Guidelines**

- ATA Guidelines

**Metrics Now Aligned with NQF Measure Framework**

**Overarching Goal of JeffConnect**

- Deliver comprehensive high quality coordinated care to patients when and where they need or want it
- Research quality & outcomes
- Education & training
Framework

Lowest risk early opportunities

- Patient satisfiers
  - Virtual rounds to include family
- Conditions with bundled payments
  - Covered employees
  - Post surgical care
  - Decreasing readmissions

Most transformative opportunities

- Leveraging neuro-critical care network
- Expansion of critical care to other specialties
- Redefining the acute care delivery model
- Virtual ED
- Leading with research & education/training
Challenges Assessing Programs

- Most programs are just beginning
  - Focus on adoption (and proxies for future adoption)
    - Downloads
    - Registrations
    - Visit volume
  - Patient satisfaction
- Few programs have reached the next level
  - Outcomes
  - Quality
  - Methods to improve care

Metrics Now Aligned with NQF Measure Framework
Why is the Framework Important?

- What are the two most important things to all of you personally?
- Which of you will be successful lobbying the state to get payment parity and fair reimbursement?
- What is right comparator for success of telemedicine?
- Actionable information highlighted over diagnostic accuracy

On-Demand (Direct to Consumer) Care

- Access To Care (24/7/365 Jefferson providers)
  - 40% of visits new patients
  - 83% would have sought care elsewhere
- Financial Impact/Cost
  - Savings of approx $100 per encounter
- Experience
  - Net Promoter Score > 70
  - Time saved over one hour = 87%
  - Already recommended JeffConnect = 81%
- Effectiveness
  - Antibiotic stewardship for sinusitis equal or better than ED/UC
  - Health complaint addressed as hoped > 90%
  - 74% received no further care (2/3rd sent to ED admit or procedure)

Tele-triage (ED Intake)

- Access To Care
  - Immediately after triage, note and orders written by physician
- Financial Impact/Cost
  - Reduced LWBS generates increased revenue
  - Providers can cover more than one hospital
- Experience
  - Patients
  - Providers
  - Executive leadership
- Effectiveness
  - Reduced LWBS
  - Improved door to provider times
  - Improved door to discharge
  - Improved door to admit times
Access To Care

- Over 1000 providers trained
- >400 providers regularly engaged

Experience
- Net promoter score = 59
- 85% reported time savings > 1 hour
- 86% said they were better able to receive care when/where needed
- Already recommended JeffConnect = 43%

Effectiveness
- Same level of care as in-person visit = 83%

Scheduled Appointments (including Post Discharge)

Patient Perceptions of Telehealth Primary Care Video Visits

Glassman et al. Urology Pract 2017
Virtual Rounds - Integrating Families into Care Plan

- Enable family members & physicians to participate in discharge planning
- Inpatients
- PACU
- Outpatient offices

Virtual Rounds

- Access To Care
  - Improves access to families at a distance
- Financial Impact/Cost
  - No direct financial benefit
  - Downstream benefits
- Experience
  - Patient experience outstanding
  - Provider experience variable
- Effectiveness
  - No outcomes data available

Virtual Rounds: Observational study of a new service connecting family members remotely to inpatient rounds

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<th>Table 1: Comparing patient &amp; family satisfaction with virtual rounds*</th>
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<tr>
<td><strong>Virtual Rounds</strong></td>
<td><strong>P</strong></td>
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<tr>
<td><strong>Satisfaction</strong></td>
<td><strong>P</strong></td>
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<tr>
<td>Patient experience</td>
<td>0.054</td>
</tr>
<tr>
<td>Provider experience</td>
<td>0.032</td>
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<tr>
<td><strong>Comparison</strong></td>
<td><strong>P</strong></td>
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<tr>
<td>Virtual rounds vs. in-person</td>
<td>0.054</td>
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<tr>
<td>Virtual rounds vs. phone</td>
<td>0.032</td>
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<tr>
<td>Virtual rounds vs. e-mail</td>
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*Note: Significance levels denote statistical significance at the 0.05 level.
Neurosurgery Network

• Access To Care
  • > 30 hospitals w/ 12 minute response time
  • Financial Impact/Cost
  • Varied based upon what being measured
• Experience
  • > 80% left in community (was only 56%)
  • Provider education experience
• Effectiveness
  • Increased rate of expert consultation
  • Increased rate of tPA administration (55% increased)
  • Better functional outcomes at 3 and 6 months

Telemedicine Training & Level Setting

• Telehealth is not about the technology, but rather about the work flows and operations
• Telemedicine is a care delivery model
• The medicine is the same
• The appropriate comparator is the alternative
  • Not an in-person visit
  • You are doing a physical exam
  • You might actually get more information than in an office visit
  • It is about actionable information (not diagnostic accuracy)

Going to the Patient
Avatar Provider

During the Visit

- Webside manner
  - Eye contact
    - Webcam positioning
    - EHR positioning
  - Your line of site
- Lighting
  - Illuminate your face
- Background
- Overall environment

The Physical Examination

- 95% is in the history (which you get over phone alone)
- Families & caregivers can help
- Patients can do a lot on their own
- You can enough most of the time
  - Asthma
  - Heart disease
    - CHF
    - AFib
  - Abdominal pain
  - Back pain
  - Sprain/strains
- Inter-rater reliability of the physical exam is how good?
During the Visit

• Physical examination

The Physical Exam

Recommendations from the First National Academic Consortium of Telehealth

Justi E. Hebbeler, MD, Theresa E. Davis, PhD, RN, NCS, CHFN; Charles Doan, MBA; Jon C. Goldberg, RN, MPH; Stephen Warden, MD, MBA; Curtis L. Lowery, MD; Dimitra Papasoglu, MD, MPH, ECDS; Peter Robinson, MD; Frank D. Splitt, MPH, RN, RM; Daniel Stone, BSc, and Brendan S. Cohn, MD, M
d

Creation of an Educational Curriculum

• Build scholarship around telemedicine.
• Integrate into the preexisting educational curricula.
• Leverage telemedicine technology to enhance third-party participation from remote locations.
• Expand the supervision and education of students in undergraduate and graduate medical programs through use of telemedicine.
JeffConnect Programs

- Telehealth facilitator program
  - Nonprovider support staff
- Pre-health professionals
  - PACU Ambassador & Virtual Rounds
  - Fellowship program
- Undergraduate (medical student) elective
  - Graduate medical education (resident) elective
  - Fellowship program
- Institute for Digital Health
- Continuous Medical Education
  - Physical examination skills, simulation

The Business Model

- The direction seems clear
  - If you want first mover advantage
    - Build it and they will come
  - Don’t get handicapped by dotting (too many) i’s and crossing t’s
  - Don’t wait for payment reform
    - Or you will grow at same rate as everyone else (or worse)
  - This is major growth strategy
    - Bring care to patient not patient to care
    - Telehealth is not only strategy doing this at Jefferson

How To Move Forward - Focus On...

- Building it right
  - Data structure
  - Integration into EHR
- Access rather than geography
  - Rural areas have provider shortage
  - Urban/suburban areas have appointment shortage
- Alternative to video visit is not in person visit - it may be no visit
- Care coordination more critical than established relationship
- Develop the evidence base and quality metrics
  - Equal pay for equal outcomes
- You can’t be prepared for emergencies & disasters if you arent prepared for every day
Don’t Be Afraid

- Telehealth is not about the technology, but rather about the work flows and operations
- Engagement is of paramount importance
- It is an evolving field so you need to evolve with it

The Hard Truth for Providers

- My patients don’t want it
- Many do & many like it better than in-person visits
- It is not as good as an in-person visit
  - Data argues otherwise
  - Sure beats no visit or a phone call
- You can’t examine the patient
  - Does much better than no visit or a phone call
  - You can do a level 5 physical exam
- It is not reimbursed YET
  - Neither is no visit or a phone call
  - > Half the states have parity laws
- It is too hard
  - You do it with your family all the time

The Hard Tasks Ahead

- Regulatory concerns
  - State licensing
  - Prescriptions
  - Established relationships
- Reimbursement
  - First mover advantage
  - Parity laws
- Choice of technology
  - Does the technology do what you want or what it wants?
- Comfort
- Engaging the customer
Getting Across The Finish Line

The Most Important Innovation is Cooperation