# 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
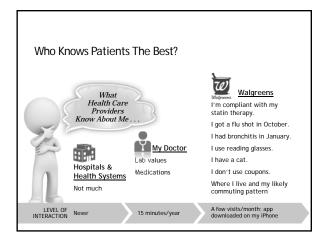- It is not reimbursed
- It is too hard

## You Already Do Telemedicine

- Phone advice to friends & family
- Skype or Facetime with friends & family
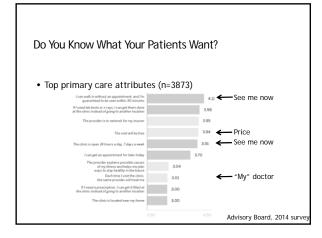- Text messages and review of pictures

## 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
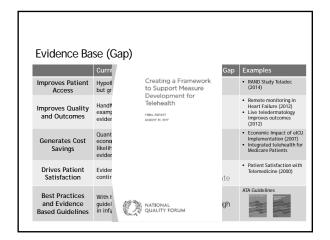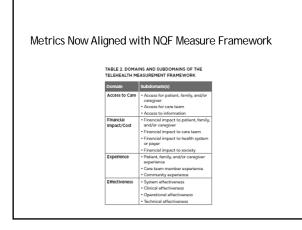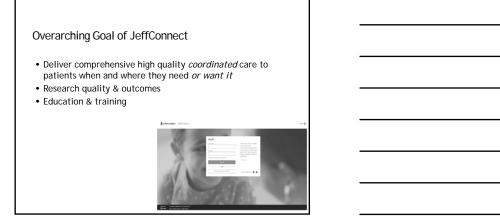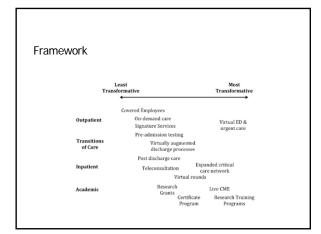  - OR prepare for the change

NEW YORK TIMES BESTSELLER
When You Come to a Fork in the Road,
**TAKE IT!**

**YOGI BERRA**
with DAVE KAPLAN

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## Who Knows Patients The Best?

*What Health Care Providers Know About Me . . .*

**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

**My Doctor**
Lab values
Medications

**Hospitals & Health Systems**
Not much

| LEVEL OF INTERACTION | Never | 15 minutes/year | A few visits/month; app downloaded on my iPhone |

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## Do You Know What Your Patients Want?

- Top primary care attributes (n=3873)

| | |
|---|---|
| I can walk in without an appointment, and I'm guaranteed to be seen within 30 minutes | 4.11 ← See me now |
| If I need lab tests or x-rays, I can get them done at the clinic instead of going to another location | 3.98 |
| The provider is in-network for my insurer | 3.95 |
| The visit will be free | 3.94 ← Price |
| The clinic is open 24 hours a day, 7 days a week | 3.91 ← See me now |
| I can get an appointment for later today | 3.70 |
| The provider explains possible causes of my illness and helps me plan ways to stay healthy in the future | 3.04 |
| Each time I visit the clinic, the same provider will treat me | 3.01 ← "My" doctor |
| If I need a prescription, I can get it filled at the clinic instead of going to another location | 3.00 |
| The clinic is located near my home | 3.00 |

Advisory Board, 2014 survey

## Evidence Base (Gap)

| | Curre... | | Gap | Examples |
|---|---|---|---|---|
| Improves Patient Access | Hypoth... but gr... | Creating a Framework to Support Measure Development for Telehealth | | • RAND Study Teladoc (2014) |
| Improves Quality and Outcomes | Handf... exampl... evider... | FINAL REPORT AUGUST 31, 2017 | | • Remote monitoring in Heart Failure (2012) • Live teledermatology improves outcomes (2012) |
| Generates Cost Savings | Quant... econo... likelih... evider... | | | • Economic Impact of eICU Implementation (2007) • Integrated telehealth for Medicare Patients |
| Drives Patient Satisfaction | Evider... contin... | | ...te | • Patient Satisfaction with Telemedicine (2000) |
| Best Practices and Evidence Based Guidelines | With h... guidel... in inf... | NATIONAL QUALITY FORUM | ...gh | ATA Guidelines |

## Metrics Now Aligned with NQF Measure Framework

TABLE 2. DOMAINS AND SUBDOMAINS OF THE TELEHEALTH MEASUREMENT FRAMEWORK

| Domain | Subdomain(s) |
|---|---|
| Access to Care | • Access for patient, family, and/or caregiver • Access for care team • Access to information |
| Financial Impact/Cost | • Financial impact to patient, family, and/or caregiver • Financial impact to care team • Financial impact to health system or payer • Financial impact to society |
| Experience | • Patient, family, and/or caregiver experience • Care team member experience • Community experience |
| Effectiveness | • System effectiveness • Clinical effectiveness • Operational effectiveness • Technical effectiveness |

## 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

Least
Transformative

Most
Transformative

|  | | |
|---|---|---|
| | Covered Employees | |
| Outpatient | On-demand care | Virtual ED & |
| | Signature Services | urgent care |
| | Pre-admission testing | |
| Transitions of Care | Virtually augmented discharge processes | |
| | Post discharge care | |
| Inpatient | Teleconsultation | Expanded critical care network |
| | Virtual rounds | |
| Academic | Research Grants | Live CME |
| | Certificate Program | Research Training Programs |

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Lowest risk early opportunities

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

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Most transformative opportunities

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

## JeffConnect Enhancement of the Medical Home



© 2015 Jefferson

## 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

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## 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

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## 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)

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## 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

## Scheduled Appointments (including Post Discharge)



## Scheduled Appointments (Qualitative Study)

### Patient Perceptions of Telehealth Primary Care Video Visits

Rhea E. Powell, MD MPH[1,3]
Jeffrey M. Henstenburg, BS[2]
Grace Cooper, BA[1]
Judd E. Hollander, MD[2,3]
Kristin L. Rising, MD, MSHP[2,3]

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[2]Department of Emergency Medicine, Thomas Jefferson University, Philadelphia, Pennsylvania

[3]National Academic Center for Telehealth, Thomas Jefferson University, Philadelphia, Pennsylvania

**ABSTRACT**

**PURPOSE** Telehealth is a care delivery model that promises to increase the flexibility and reach of health services. Our objective is to describe patient experiences with video visits performed with their established primary care clinicians.

**METHODS** We constructed semistructured, in-depth qualitative interviews with adult patients following video visits with their primary care clinicians at a single academic medical center. Data were analyzed with a content analysis approach.

**RESULTS:** Of 32 eligible patients, 19 were successfully interviewed. All patients reported overall satisfaction with video visits, with the majority interested in continuing to use video visits as an alternative to in-person visits. The primary benefits cited were convenience and decreased costs. Some patients felt more comfortable with video visits than office visits and expressed a preference for receiving future serious news via video visit, because they could be in their own supportive environment. Primary concerns with video visits were privacy, including the potential for work colleagues to overhear conversations, and questions about the ability of the clinician to perform an adequate physical examination.

**CONCLUSIONS** Primary care video visits are acceptable in a variety of situations. Patients identified convenience, efficiency, communication, privacy, and comfort as domains that are potentially important to consider when assessing video visits vs in-person encounters. Future studies should explore which patients and conditions are best suited for video visits.

*Ann Fam Med 2017;15:225-229. https://doi.org/10.1370/afm.2095.*

## Scheduled Appointments (Urology)

- 611 consecutive encounters
  - Prostate cancer, stone disease, *post vasectomy*
  - Access To Care
    - Travel distance saved 44 miles
  - Experience
    - High satisfaction rating with both providers (4.9) and system (4.6)
    - No relation between distance and satisfaction

Glassman et al. Urology Pract 2017

## Virtual Rounds – Integrating Families into Care Plan

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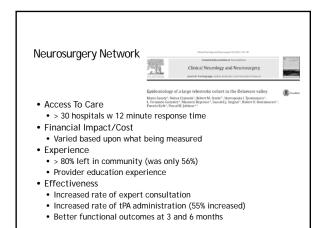- Inpatients
- PACU
- Outpatient offices



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## 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

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## Virtual Rounds

**General Internal Medicine and Clinical Innovations**                                        oat

**Research Article**

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

Kristin L. Rising[1,2*], Julianna C. Ricco[1], Alexandra D. Printz[2], Sang Hoon Woo[3] and Judd E. Hollander[1,2]

Table 2. Reasons provided by patients for declining use of virtual rounds (n=107)

| Reasons Provided | n (%) |
|---|---|
| No Perceived Need | |
| - Family / caregivers already adequately engaged in healthcare | 39 (36%) |
| - Already using video calls with family | 1 (1%) |
| - Pending discharge | 16 (15%) |
| No Available Equipment | |
| - No family access to device, general discomfort with tech | 10 (9%) |
| No Interest | |
| - General disinterest | 18 (17%) |
| - Didn't want family involved / no family members to contact | 8 (7%) |
| - Discomfort with video due to symptoms of illness (i.e. vomiting) | 4 (4%) |
| No Reason Provided | 9 (8%) |

## 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
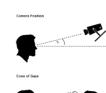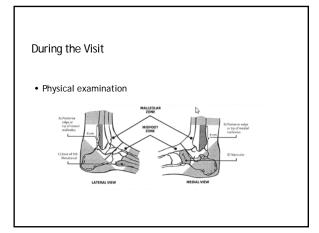  - It is about actionable information (not diagnostic accuracy)

## 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

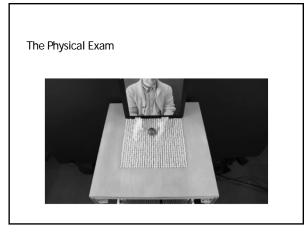Camera Position

Cone of Gaze

## 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



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The Physical Exam



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Recommendations from the First National
Academic Consortium of Telehealth

Judd E. Hollander, MD,[1] Theresa M. Davis, PhD, RN, NE-BC, CHTP,[2] Charles Doarn, MBA,[3]
Jason C. Goldwater, MA, MPA,[4] Stephen Klasko, MD, MBA,[5] Curtis Lowery, MD,[6]
Dimitrios Papanagnou, MD, MPH, EdD(c),[1] Peter Rasmussen, MD,[7]
Frank D. Sites, MHA, BSN, RN,[8] Danica Stone, BA,[8] and Brendan G. Carr, MD, MS[1]

**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