How to Expand Your Telehealth Footprint
Our Telehealth Journey

Rahul Sharma, MD, MBA, FACEP
Chairman and Emergency Physician-in-Chief
Department of Emergency Medicine

NYP Telehealth Strategy

1. **Increase access**
2. **Improve outcomes**
3. **Reduce cost**

Second Opinion | **Express Care** | **Urgent Care** | **Specialty Consult** | **Mobile Stroke** | **Remote Patient Monitoring**

Emergency Medicine Telehealth Accomplishments

- Recipient of several national awards
- Numerous peer reviewed publications, abstracts and invitations for national presentations
- Consulted by over 50 healthcare systems nationally and globally
- Implemented new innovative care models

Opinion

VIEWPOINT

Is It Time for a New Medical Specialty?
The Medical Virtualist

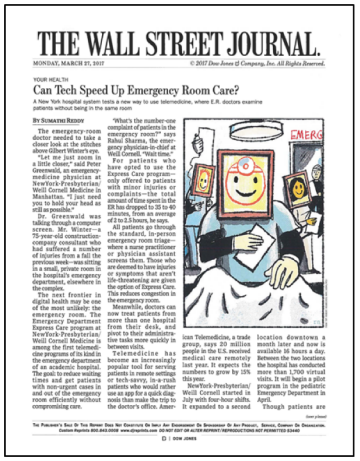
Michael Nochomovitz, MD
New York Presbyterian, New York, New York.

Rahul Sharma, MD, MBA
New York Presbyterian, Weill Cornell Medicine, New York, New York.

Medicine has seen a proliferation of specialties over the last 50 years, as scientific discovery and care delivery advanced. Diagnoses and treatments have become more complex, so the need for formal training for specialty competence in cognitive and surgical disciplines has become clear. There are currently 860 000 physicians with active certifications through the American Board of Medical Specialties and 34 000 through the American Osteopathic Association.[1]

Drivers of Specialty Expansion

Specialty development has been driven by advances in ing an estimated value of $12.1 billiion.[2] Some recent market surveys show that more than 70% of consumers would consider a virtual health care service.[3] A preponderance of higher income and privately insured consumers indicate a preference for telehealth, particularly when reassured of the quality of the care and the appropriate scope of the virtual visit.[3] Telemedicine is being used to provide health care to some traditionally underserved and rural areas across the United States and increased shortages of primary care and specialty physicians are anticipated in those areas.[4]



THE WALL STREET JOURNAL.

MONDAY, MARCH 27, 2017

YOUR HEALTH

Can Tech Speed Up Emergency Room Care?

A New York hospital system tests a new way to use telemedicine, where E.R. doctors examine patients without being in the same room

BY SUMATHI REDDY

"What's the number-one complaint of patients in the emergency room?" says Rahul Sharma, the emergency physician-in-chief at Weill Cornell. "Wait time."

For patients who have opted to use the Express Care program—only offered to patients with minor injuries or complaints—the total amount of time spent in the ER has dropped to 35 to 40 minutes, from an average of two to 2.5 hours, he says.

All patients go through the standard, in-person emergency room triage—where a nurse practitioner or physician assistant screens them. Those who are deemed to have injuries or symptoms that aren't life-threatening are given the option of Express Care. This reduces congestion in the emergency room.

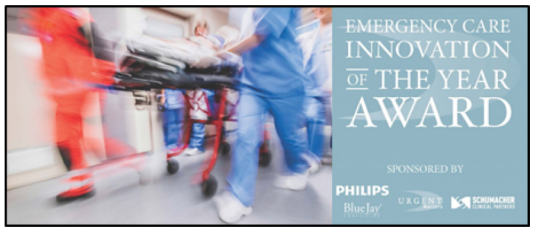
Meanwhile, doctors can now treat patients from more than one hospital from their desk, and pivot to their administrative tasks more quickly in between visits.

Telemedicine has become an increasingly popular tool for serving patients in remote settings or tech-savvy, in-a-rush patients who would rather use an app for a quick diagnosis than make the trip to the doctor's office. American Telemedicine, a trade group, says 20 million people in the U.S. received medical care remotely last year. It expects the numbers to grow by 15% this year.

NewYork-Presbyterian/Weill Cornell started in July with four-hour shifts. It expanded to a second location downtown a month later and now is available 16 hours a day. Between the two locations the hospital has conducted more than 1,700 virtual visits. It will begin a pilot program in the pediatric Emergency Department in April.

Though patients are

Modern Healthcare



EMERGENCY CARE INNOVATION OF THE YEAR AWARD

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PHILIPS BlueJay

Key Stakeholders

Main ED Service Lines

ED Express Care	Direct-to-Consumer	Tele-Provider in triage (MSE)
Tele-Pharmacy	Remote patient monitoring	■ NP Follow UP ■ Tele-Sitter ■ Disaster telemedicine

Innovation Milestones - 2018

New York Presbyterian Telehealth Visits: **>120,000**

MSE:
16,712

Pharmacy
Med Rec:
6,153

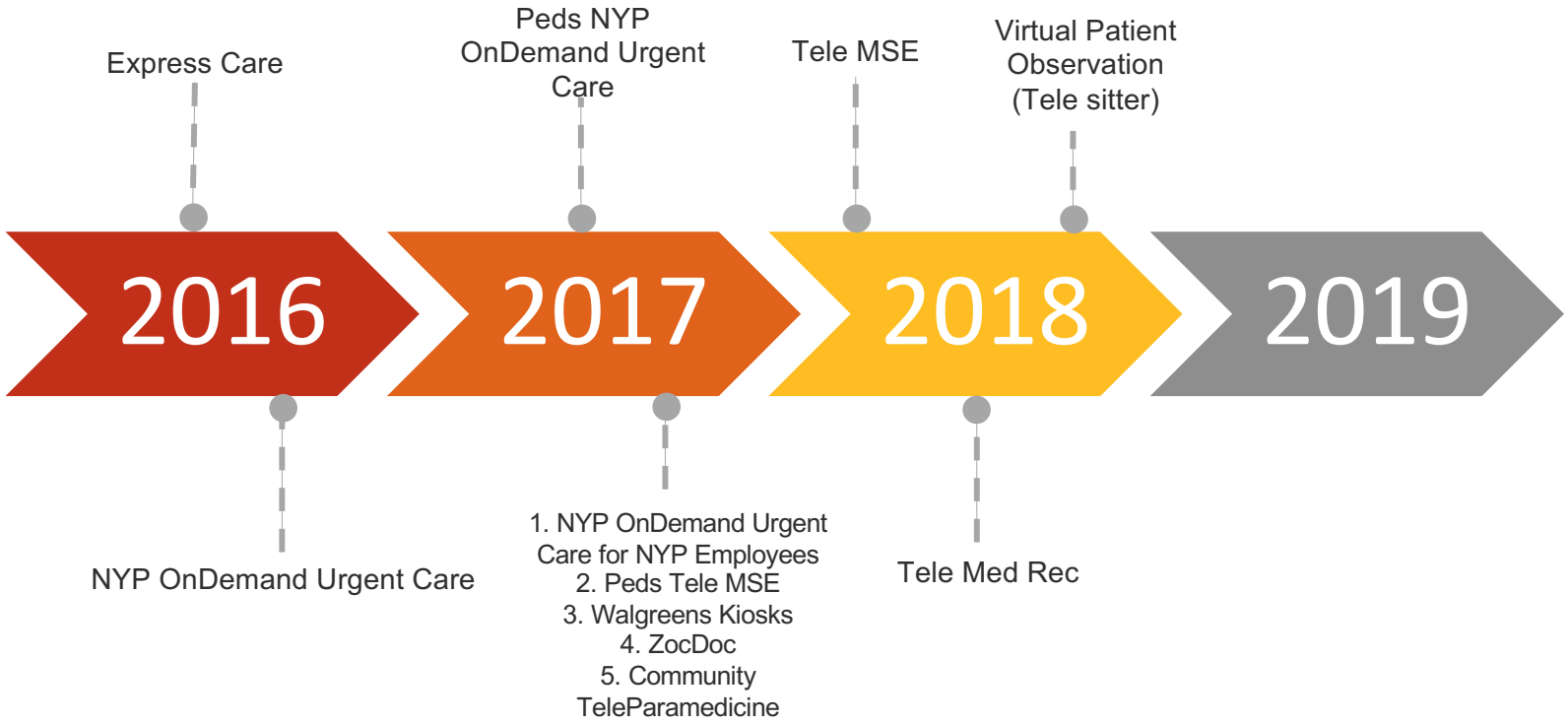
Express
Care:
7,667

Direct to
Consumer:
2,483

Tele-Sitter:
7,230

New York Presbyterian- Weill Cornell Emergency Department Telehealth Visits:
>40,000

Emergency Medicine Telehealth Milestones



Quality Assurance Example: Express Care Service Line

- Low unplanned repeat ED visits within 72 hours
  - Telemedicine via the ED Express Care: 1%
  - Traditional ED Fast Track Visit: 3%
  - Very low 72 hour return visit has required inpatient admission
  - Left after being seen: 0.1%
- All patients receive follow up RN call
- Patient Navigator follow up care (in primary care/specialty):
  - WCMC – 18%
  - LMH – 22%

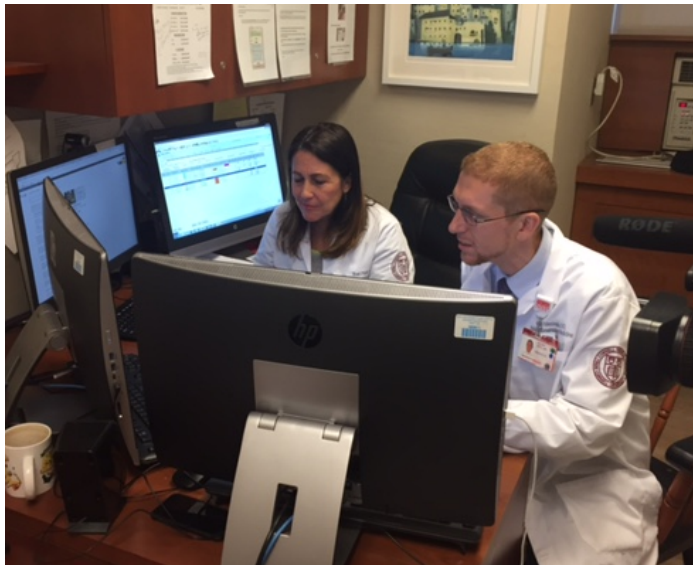
New Telemedicine Emergency Medicine Care Models

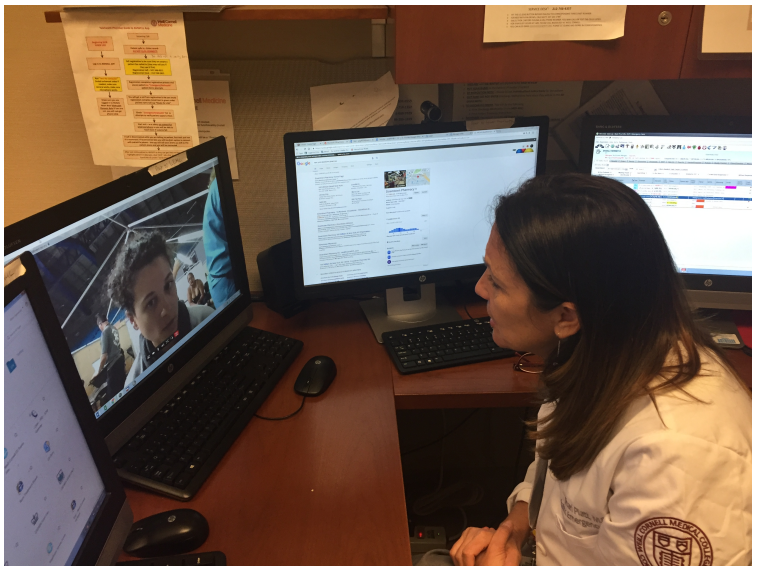
Telemedicine Kiosks across NYC

- NYP OnDemand Kiosks at Duane Reade enable on the go patients to check in with one of our physicians.
- We currently have 8 kiosks located in pharmacies in Manhattan, Queens and Brooklyn.

Disaster Telemedicine Programs

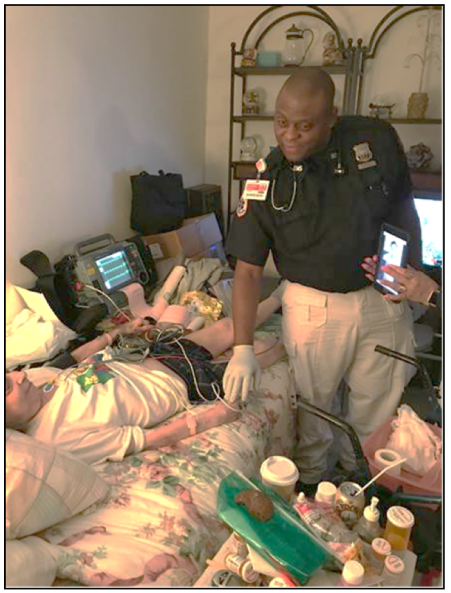
- One of the first uses of telemedicine in disaster response
- Peer-to-peer consults were provided to our NYP disaster response team in Puerto Rico
  - Those consulted included pediatric and adult endocrinology, infectious disease, pulmonology, ENT and psychiatry





Community Tele-Paramedicine

- An innovative model of population health delivery for high-risk patients combining home visits by specially-trained community paramedics supervised in real-time by emergency physicians via telemedicine.



Successful Pilot Study:
40 CTP home visits conducted among 15 heart failure patients at high risk for readmission over 6 months

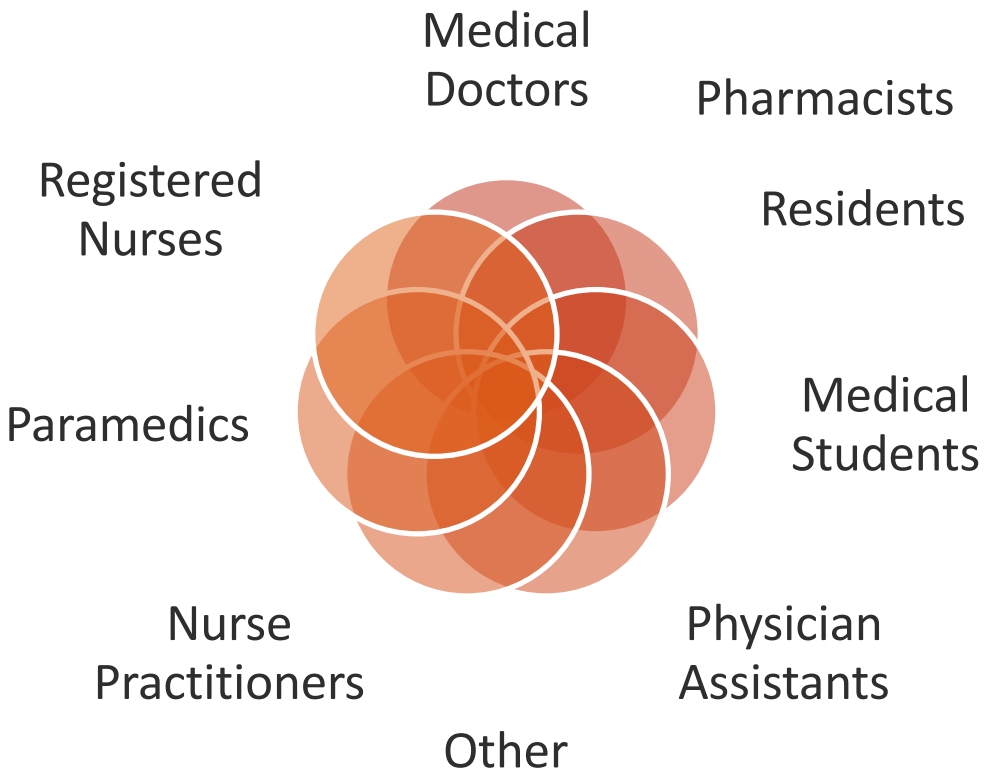
49%
Intervention or Testing

47%
1+ Medication Discrepancies

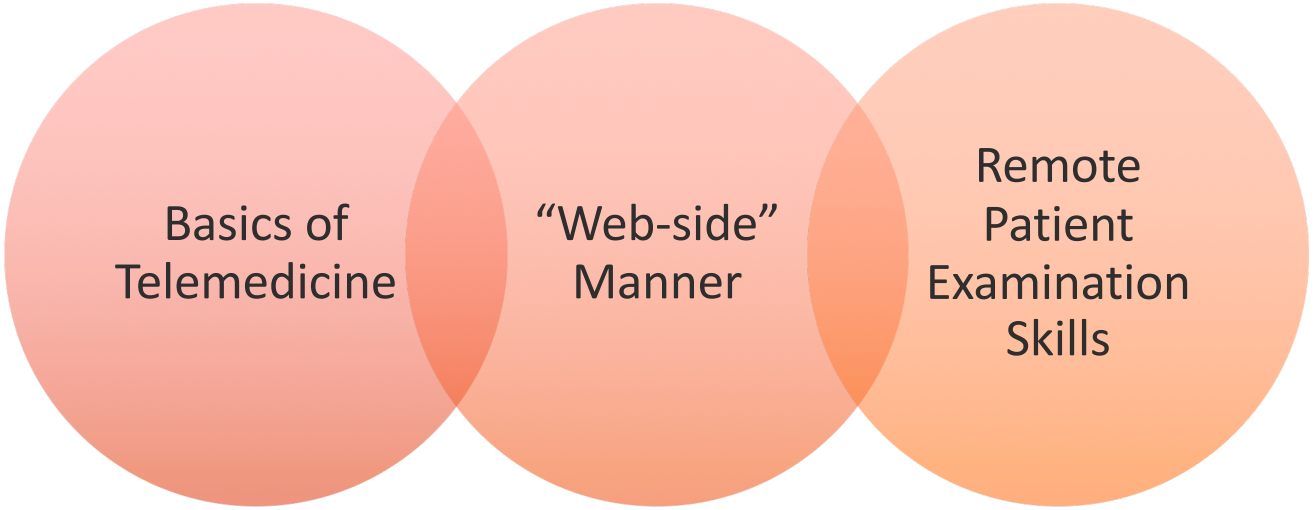
34%
Required Medication Adjustment

1
Readmission
(9/15 predicted to return)

Telehealth Learners



Training and Education Curriculum



NYP-WCM Telemedicine Training Programs Offered:

- Resident Telemedicine Elective
- Medical Student Elective
- NewYork Presbyterian new telemedicine provider training
- National conference on virtual healthcare training
- Component of Medical Student Primary Care Clerkship

Thank you!

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Telemedicine:
An Administrator's Virtual Viewpoint

Tim Sullivan, MHA, FACHE
Administrator, Department of Emergency Medicine
Thomas Jefferson University & Hospitals

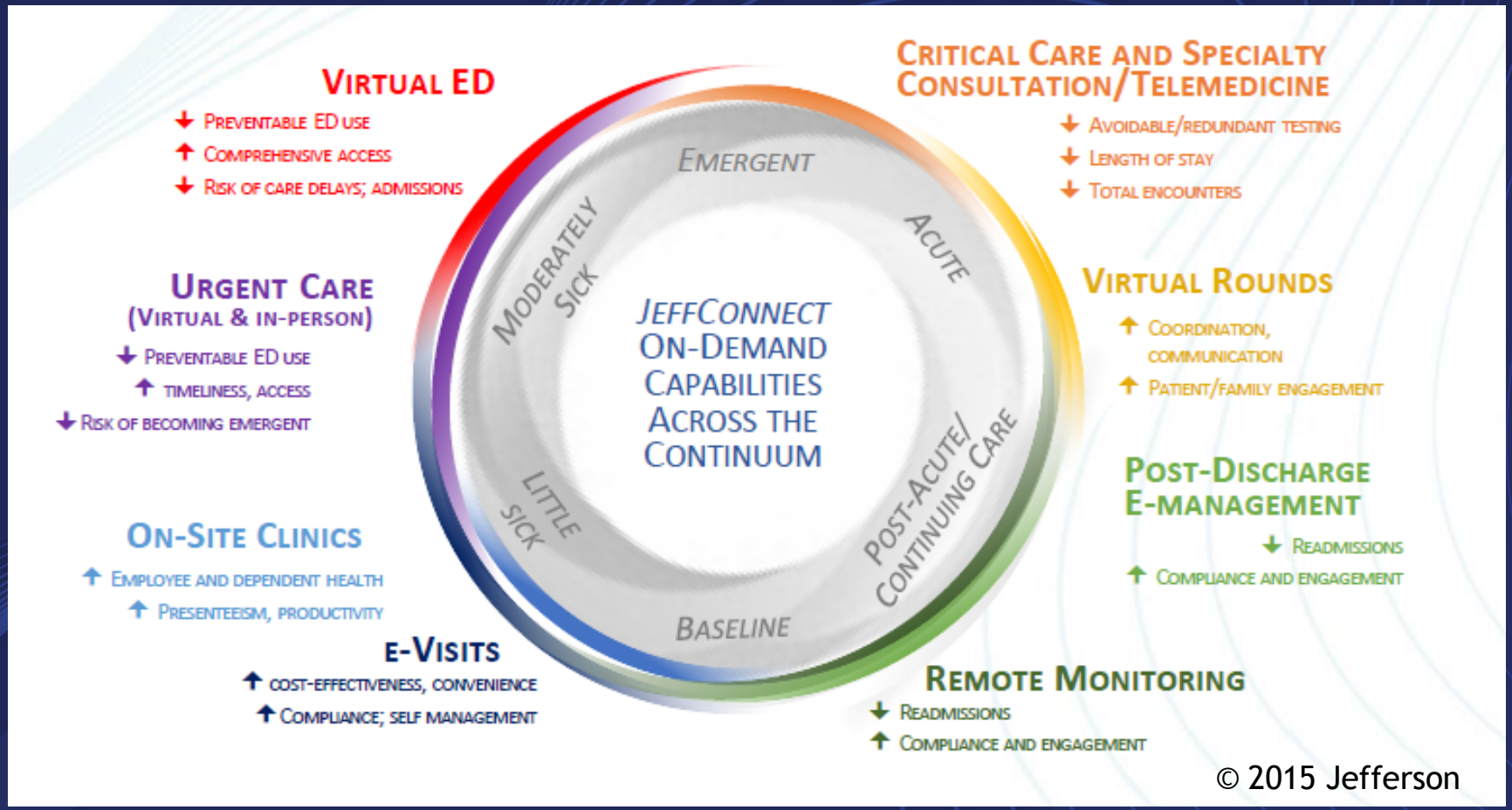
Jefferson
HEALTH IS ALL WE DO

Moving from Blockbuster to Netflix

Jefferson Telemedicine Programs

- Clinical
  - Direct to Consumer
    - On-Demand
    - Tele-Intake
    - Scheduled Care (including ED visit follow-up)
    - Virtual Rounds
    - Remote Second Opinion
  - Providers
    - Jefferson Neuroscience Network
    - Remote Consult
- Academic
  - Telehealth facilitator certificate program
  - Pipeline programs for pre-health undergrads (e.g. ICU Ambassadors)
  - Undergraduate (medical student) elective
  - Graduate medical education (resident) elective
  - Fellowship program
  - Institute for Digital Health
  - Continuing Medical Education
- Research
  - Significant opportunity for health services research
    - Outcomes, comparative effectiveness and cost
    - Patient and provider experience

JeffConnect

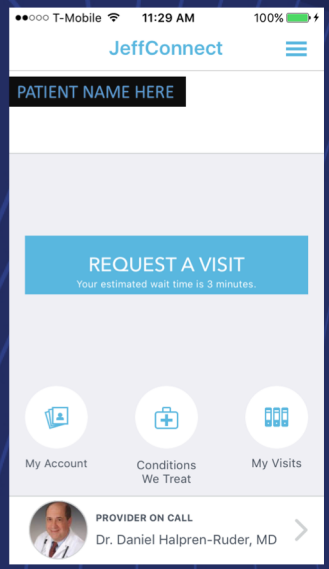


On-Demand (Direct to Consumer) Care

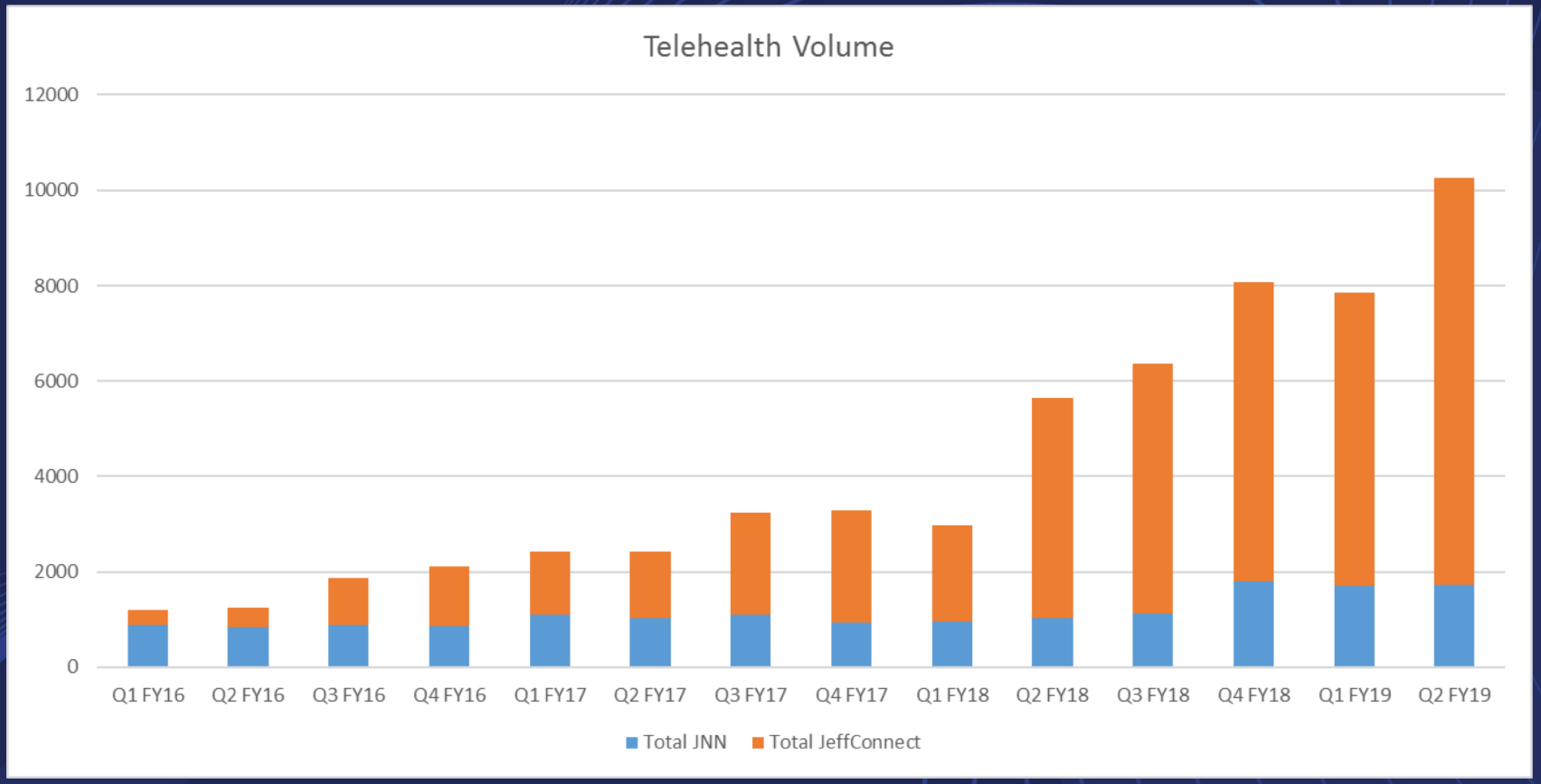
https://hospitals.jefferson.edu/jeffconnect/jeffconnect-in-the-news/2017-award.html

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

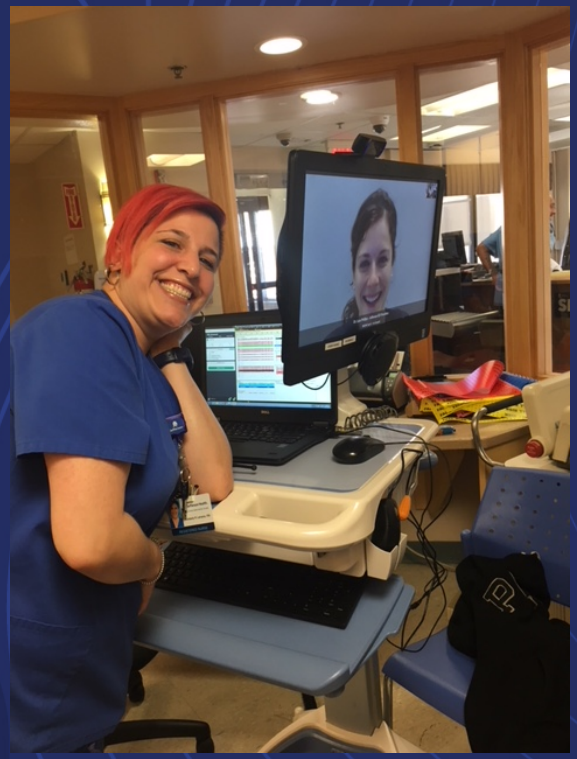


Telehealth Growth



Tele-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



Finances

- Purchased service model for EM provider time
  - Parity with EM clinical reimbursement rate, with exception of overnights
  - Reimbursement includes some but not all non-salary expenses
  - Medical Director stipend
- Revenue = $49/visit, paid by CC at time of service
- Requires entrepreneurial spirit: maximize other non-traditional revenue streams
- As of 1 Jan. 2019, Jefferson's community of 35k+ employees have significant incentive to utilize TH before UC or ED
- Bottom line: ROI = extremely difficult to calculate. Organizational support is critical

Challenges & Lessons Learned

- Legal, regulatory and compliance issues
- Anticipate unanticipated expenses
  - State licenses
  - Administrative costs
- Have a ramp-up plan
  - Cross-coverage with Urgent Care, OBS, etc.
- Engage and leverage APPs
- Consider growth strategies
  - Marketing
  - Sales
- Provider adoption and engagement
  - Impact on burnout, wellness and longevity
- Alignment with and impact on provider performance metrics and incentives

MASSACHUSETTS GENERAL HOSPITAL

Tele-EM as a Population Health Management Strategy:
The Mass General Experience

David F. M. Brown, MD
Trustees Professor and Chair
Department of Emergency Medicine
Massachusetts General Hospital
Harvard Medical School

March 2019

Tele-EM as a PHM Strategy

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

- **Virtual Urgent Care**
  - Offered to patients with commercial coverage from our system's health insurance company (All Ways Health Care) and to our system's 75,000 employees (self-insured population as an insurance benefit
- **Tele-EM to reduce in-network unnecessary transfers**
  - Mass General owns two rural island hospitals on Martha's Vineyard and Nantucket with limited resources and high transfer rates of low acuity patients.
  - Value question: can Tele-EM huddles reduce the rate of unnecessary transfers?

Scope of Virtual Urgent Care Offerings and Goals

Low Acuity Conditions Treated

24/7/365 Access

Mix of Providers (MGH ED covers 7p-7a)

Offered to Patients in Some of Our Risk Contracts

Goals

1. Improve Primary Care Capacity

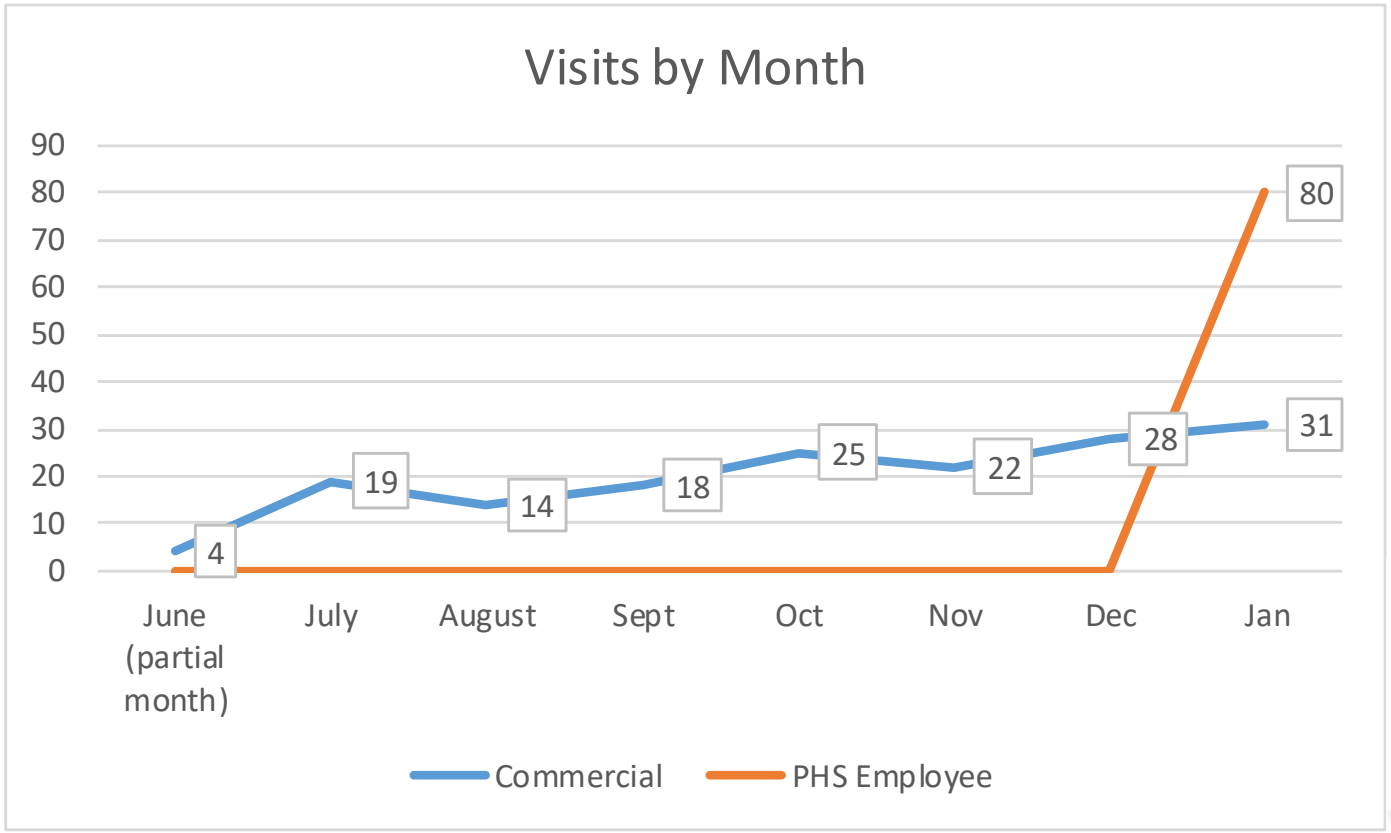
2. Provide Low Cost ($40) alternative to in person UC (~$150) or ED care

3. Future goals – expand outside our patient population to attract new patients

Utilization/Activity to Date

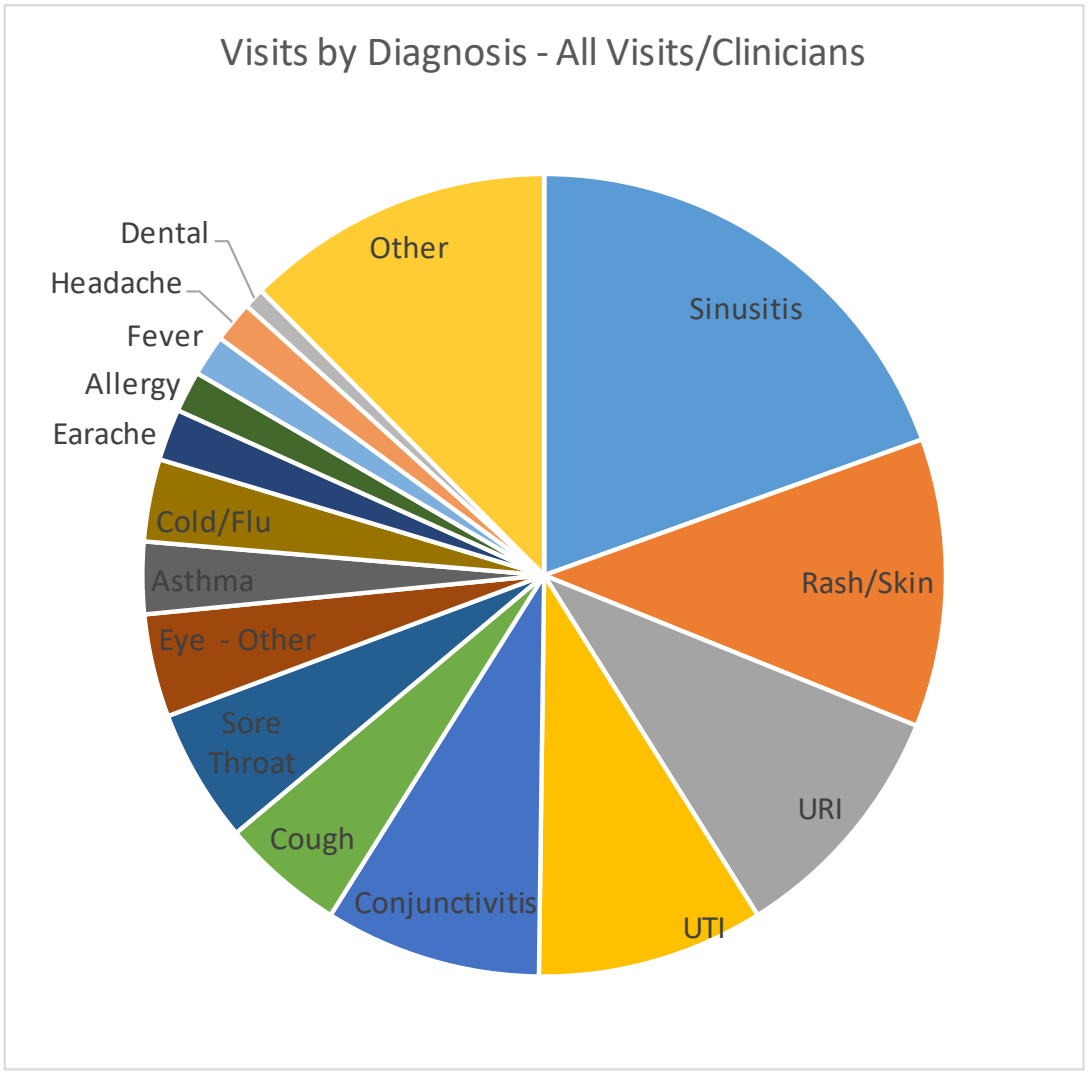
MASSACHUSETTS GENERAL HOSPITAL

- **241 visits over first 7.5 months of the program**
- **Volumes had been very gradually increasing for the AllWays Health Partners commercial accounts for the first 6.5 months.**
- **Volumes have increased <u>dramatically</u> since 1/1/19 with the addition of the Allways Health Partners Partners employee account going live.**



Diagnoses and Alternate Care Referrals

MASSACHUSETTS GENERAL HOSPITAL



- **86% of patients managed virtually**
- **9% of visits/patients were referred to an alternate care site to be seen <u>immediately</u>**
- **5% were treated and referred to an alternate care site to be seen within a specified period of time**

Tele-EM to Reduce In-Network Transfers

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

- **MGH owns a community hospital on Martha's Vineyard (MVH) with limited resources.**
- **Prior state: high seasonal volume of transfers from MVH to MGH**
  - 20% discharged from MGH ED
  - 20% placed in MGH ED Observation
  - 60% admitted to MGH
- **Some transfers may be avoidable**
  - Concern for subsequent deterioration
  - Concern for need for specialty consult
- **MVH would like to retain these patients and MGH would like to facilitate**
  - Good for patients and families
  - Good for MVH bottom line
  - Reduces pressure on MGH ED capacity
  - Reduces pressure on MGH inpatient capacity

MVH-MGH Tele-EM Pilot

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

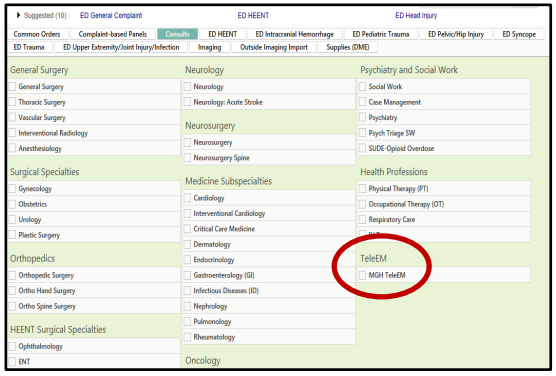
- **Guidance and collaboration regarding transfers via virtual consults between MGH EM and MVH clinicians**
  - Scope and nature of the consult may serve different functions depending on the patient's clinical condition and medical severity
- **Goals**
  - Facilitate transfers when clinically necessary
  - Keep appropriate patients at MVH
  - Guarantee acceptance in transfer of TeleEM patients who subsequently deteriorate
- **Timeline: 12-month pilot Sept 2017 - Sept 2018**
  - Extended through FY19

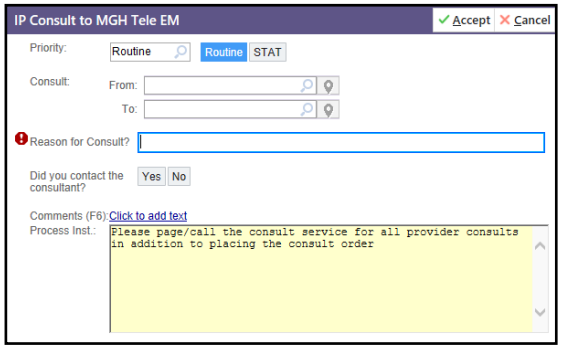
Tele-EM Technologies Utilized

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

Clinical Data Review

- **EPIC for order entry**
- **EPIC for access to documentation**



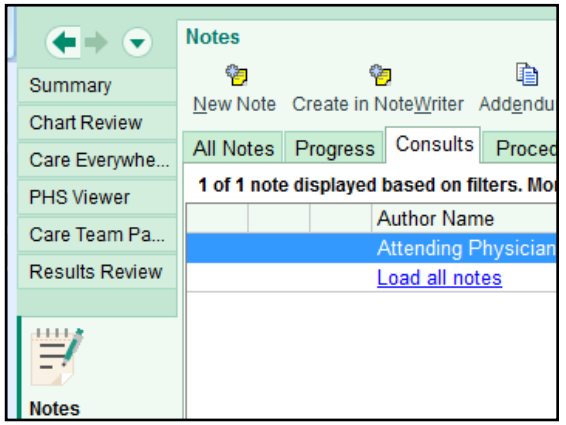


Communications

- Telephone to initiate consult and for basic consultations
- Videoconference (leveraging Tele-Neurology cart and workflow) for advanced consults

Clinical Documentation

- EPIC for consult documentation under the existing encounter



MVH-MGH Tele-Emergency Medicine

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

Results of First Year (FY18)

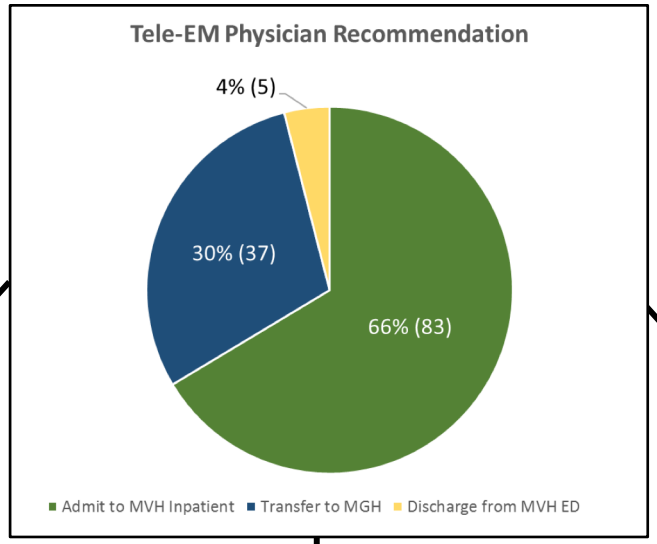
- **Tele-EM patients: 125**
  - Average age: 59 years
  - Age range: 1 to 103 years
  - 50% female
- **MVH EM providers who requested consults: 21**
- **MGH Tele-EM Physicians who provided consults: 28**
- **Adverse events due to Tele-EM: 0**
- **Average time from consult initiation to recommendation provided: 14′**
- **Rare specialty consult involvement**

Working Diagnosis Category	# Patients
GI	29
General Medicine	14
Neurosurgery	13
Neurology	11
Cardiology	10
Spine	9
Urology	9
Medicine	5
Trauma	4
Dermatology	3
Hand	3
Vascular	3
Oncology	2
Ophthomology	2
ENT	1
General Pediatric	1
Hematology	1
Nephrology	1
Orthopedics	1
Renal	1
Sepsis	1
Surgery	1

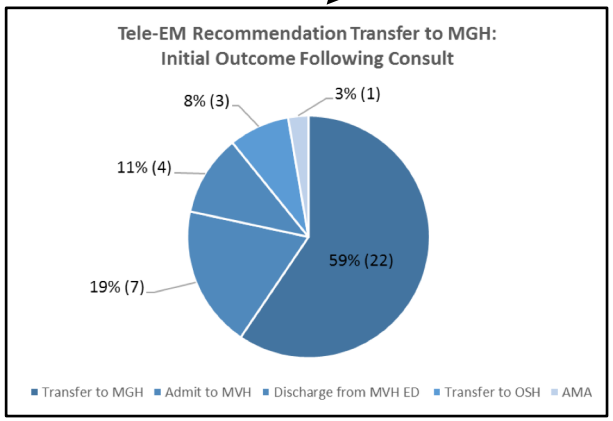
Tele-EM Consult & Initial Outcome

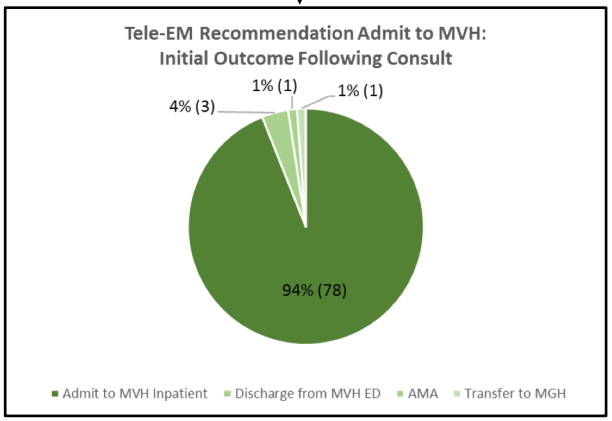
MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

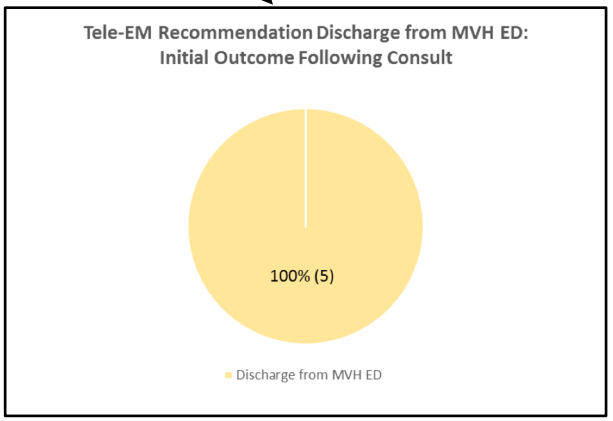
125 Tele-EM patients



Green: admit to MVH
Blue: transfer to Mass Genera
Yellow: discharge from MVH







37 Tele-EM patients

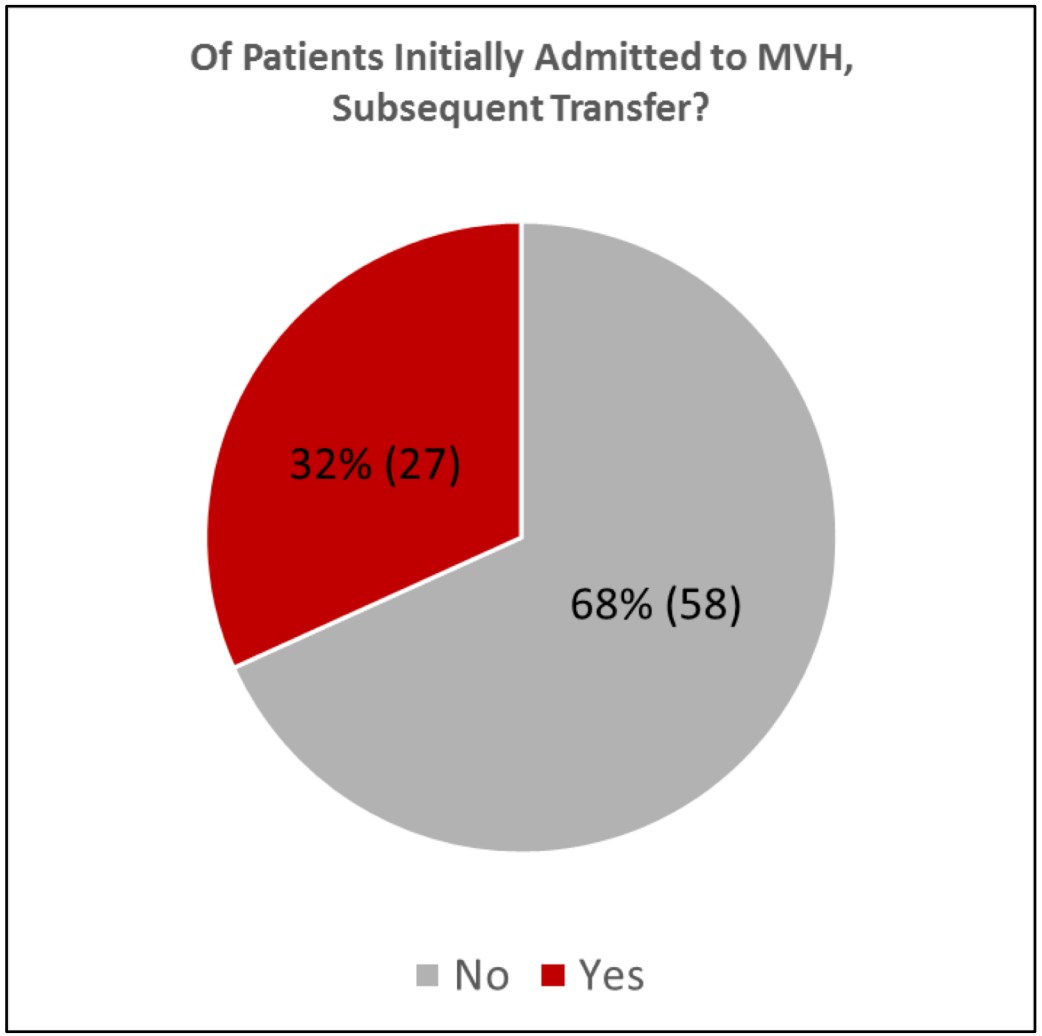
83 Tele-EM patients

5 Tele-EM patients

Subsequent Transfers

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

of patients initially admitted to MVH Inpatient



MASSACHUSETTS GENERAL HOSPITAL
EMERGENCY MEDICINE
Telemedicine

Tele-EM Consultation Impact

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

- MVH Impact
  - 68% of all Tele-EM patients remained at MVH for at least some of their inpatient care
  - 56% of all Tele-EM patients avoided transfer altogether
  - Total transfers dropped by ~33%
    - from 936 (FY17) to 617 (FY18)
- Mass General Impact
  - Capture rate of transfers increased from 21% (FY17) to 36% (FY18)
  - Case mix and acuity of transfers markedly increased
- MGH Tele-EM 2.0
  - 2019: launch same program at Nantucket Cottage Hospital
  - 2020: direct secondary care transfers from Island hospitals to a network community hospital with more resources

Tele-EM reflections

MASSACHUSETTS GENERAL PHYSICIANS ORGANIZATION

- Overall Tele-EM Value Proposition
  - Access to a physician with a broad skill set and an understanding of the healthcare system is valuable
  - Can be used as a PHM strategy within an integrated health care system

- Tele-EM challenges (some of them)
  - Faculty resistance
  - Funding
  - Technology
  - Scope creep