Telehealth Best Practices
The Mass General Experience

Thursday, December 3rd, 2015

Connecting patients and providers, virtually anywhere

Innovative technology that fosters communication, builds relationships, improves access and convenience, and enhances patient care
INTRODUCTION

MASSACHUSETTS GENERAL HOSPITAL

3rd Oldest General Hospital in the US • Founded in 1811 • Flagship teaching hospital for Harvard Medical School
1.9 million outpatient/ED visits
999 beds • 48k inpatient admissions
INTRODUCTION

FOUNDATIONS OF TELEHEALTH AT MASS GENERAL
INTRODUCTION

HEALTHCARE – AN UNCERTAIN LANDSCAPE
INTRODUCTION
MGH & TELEHEALTH – ONE FOOT IN TWO CANOES

Population Health

Episodic Care
INTRODUCTION

TELEHEALTH DEFINITIONS

*Telehealth provides multiple methods for patients and providers to interact*

**Real-Time**
Provider and patient communicate via live video-conferencing. Used often in telepsychiatry, telehomecare, telecardiology and remote consultations (teleconsults) with specialists, primary care physicians, counselors, social workers and other health care professionals.

**Store & Forward**
Digital images, video, audio, clinical data are captured and stored on a patient’s computer or mobile device and then transmitted securely to a provider for later study or analysis. Used often in teledermatology and telepathology.

**Remote Monitoring**
Patient uses a system that feeds data from sensors and monitoring equipment to an external monitoring center so that health care professionals can monitor a patient remotely. Used to monitor chronic conditions such as heart disease, diabetes and asthma.

*Source:* American Hospital Association, January 2015 *Trend Watch*, The Promise of Telehealth For Hospitals, Health Systems, and Their Communities
THE MASS GENERAL EXPERIENCE

THE MASS GENERAL TELEMEDICINE MODEL

Real Time “Synchronous”

Virtual Visits
Video visit between MD and patient

Virtual Consults
Video consult from MD to referring MD (with or without patient)

Store and Forward “Asynchronous”

eVisits
Formalized online exchange of medical info between MD & patient (e.g., structured questions, interactive forms)

eConsults
2nd Opinions
Complex 2nd opinions requested by outside providers

eConsults
Less complex consults requested by outside providers
THE MASS GENERAL TELEHEALTH EXPERIENCE

FOCUS AREAS

Population Health

Episodic Care

Virtual Visits

eVisits

Virtual Consults

2nd Opinions
eConsults
**THE MASS GENERAL TELEHEALTH EXPERIENCE**

**FOCUS AREAS – IMPROVING VALUE IN 5 AREAS**

1. Urgent Access
2. New Specialty Referrals
3. Chronic Disease Follow-Up
4. Transitions in Care
5. Patient Engagement

<table>
<thead>
<tr>
<th>Virtual Visits</th>
<th>eVisits</th>
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<tr>
<td><img src="image1" alt="Virtual Visits" /></td>
<td><img src="image2" alt="eVisits" /></td>
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THE MASS GENERAL TELEHEALTH EXPERIENCE

IMPROVING VALUE IN 5 AREAS

1. Urgent Access
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IMPROVING VALUE – NEW SPECIALTY REFERRALS

REAL TIME – VIRTUAL CONSULTS VIA TELESTROKE
IMPROVING VALUE – NEW SPECIALTY REFERRALS

TELESTROKE IMPACT

6.5 MILLION NEW ENGLAND RESIDENTS now with immediate access to our team of neurologists.

A TOTAL OF 1,202 CASES

- 542 Video consults
- 660 Telephone consults
- 107 CASES identified as candidates for Intra Arterial Therapy (IAT)
- 14 PERCENT OF IV-tPA CASES remained in community hospitals.

207 OUT OF 532 STROKE CONSULTS over video received IV-tPA compared to four percent national rate, allowing more patients a chance to avoid stroke permanent disability, assisted living, or death.

39% MGH/Video TeleStroke tPA rate

4% National tPA rate

785 patients out of the 1,202 total cases

OUT OF THE 1,202 TOTAL CASES 65% REMAINED AT THEIR COMMUNITY HOSPITAL!

748 STROKE CASES remained in the community hospital, representing $6,000,000+ of potential reimbursement for community hospitals DRGs reimbursement.

$6,000,000+ of potential reimbursement
IMPROVING VALUE – NEW SPECIALTY REFERRALS

VIRTUAL CONSULT CLINICAL AREAS

Departments
- Brain Tumor
- Critical Care
- Dermatology
- Emergency Department*
- Neurology
- Pain Management
- Pediatrics
- Pulmonology
- Surgery
- Urology

* Exploratory
THE MASS GENERAL TELEHEALTH EXPERIENCE

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Virtual Visits

eVisits

Virtual Consults

eConsults

2nd Opinions
eConsults
IMPROVING VALUE – NEW SPECIALTY REFERRALS

CONTEXT

Specialist visits and referrals to specialists are increasing
IMPROVING VALUE – NEW SPECIALTY REFERRALS
STORE & FORWARD - eCONSULTS

- Less Complex Consults Requested By Outside Providers

Question from Local MD
- From PCP or Specialist

eConsult Referral
- Discrete questions about treatment or referral

MGH Specialist Advice to Local MD
- Sent to patient’s MD
- Local MD treats or refers patient to specialist
### IMPROVING VALUE – NEW SPECIALTY REFERRALS

### STORE & FORWARD – eCONSULT IMPACT

<table>
<thead>
<tr>
<th>100 eConsults requested Jan-July 2014</th>
<th>Case Outcome (n=100)</th>
</tr>
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<tbody>
<tr>
<td>eConsult refused(^1) and converted to a traditional visit</td>
<td>14/100 (14%)</td>
</tr>
<tr>
<td>In-person cardiology visit recommended</td>
<td>11/100 (11%)</td>
</tr>
<tr>
<td>Patient eventually had a traditional cardiology visit without a visit recommended</td>
<td>10/100 (10%)</td>
</tr>
<tr>
<td>Patient did not have any type of traditional cardiology visit within at least 6 months of follow up</td>
<td>65/100 (65%)</td>
</tr>
</tbody>
</table>

\(^1\) Patient or referring provider requested in person visit after eConsult recommendations received.

CREDIT: WASFY ET AL. AHA QUALITY AND OUTCOMES 2015
IMPROVING VALUE – NEW SPECIALTY REFERRALS

STORE & FORWARD – eCONSULT CLINICAL AREAS

2,000+ eCONSULTS

Departments
• Cardiology
• Dermatology
• Diabetes
• Endocrine
• Hem/Onc
• Nephrology
• Neurology
• OB/GYN
• Orthopedics
• Pain Medicine
• Pedi-GI
• Psych-Depression
• Rheum
• UroGyn
• Urology
• Vascular

Launched in 1/2014
THE MASS GENERAL TELEHEALTH EXPERIENCE

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Improving Value – Chronic Disease Follow-up

Context

JAMA April 16, 2015
“What Is the Right Number of Clinic Appointments? Visit Frequency and the Accountable Care Organization”
Ganguli I, Wasify J and Ferris T

Significant savings opportunity in ambulatory follow-up care

- Patients making 3 or more visits per year
- Reduce visits by 1 visit per year
- Saving of $7.6M in Partners Medicare ACO patients*
- $1.9 billion nationally

*Assumes a median per visit cost of $286
IMPROVING VALUE – CHRONIC DISEASE FOLLOW-UP
STORE & FORWARD - eVISITS

• Patient answers a set of condition-specific questions via secure website
• Clinician reviews and replies to patient with care plan/next steps
IMPROVING VALUE – CHRONIC DISEASE FOLLOW-UP
STORE & FORWARD – eVISIT IMPACT

**PATIENT**
- Average time to complete: 8.3 min
- More convenient
- More likely to check in for evaluation and management
- Reduced time and expense

**PAYER**
- Improves health and chronic disease management for members
- Reduces non-medically necessary ER visits and readmissions

**HEALTH SYSTEM**
- Prevents lower acuity visits
- Opens up physical space and access for more complex patients
- Decreases no-show rate and late appointments
- Direct savings in ACO model

**PROVIDER**
- Average time to complete: 3.6 min
- 5 times efficiency gains
- Enables increase in panel size
- Flexibility

CREDIT: JOHN SCHMUCKER, RON DIXON, MGH HEALTHCARE 360
IMPROVING VALUE – CHRONIC DISEASE FOLLOW-UP

STORE & FORWARD – eVISIT CLINICAL AREAS

Launched in 1/2012

Departments
- Primary Care
- Psychiatry
- Pediatrics
- Gastroenterology

7,000+ eVISITS

MGH eVisit Volume

Web Visits  Phone Visits
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IMPROVING VALUE – PATIENT ENGAGEMENT AND TRANSITIONS IN CARE

REAL TIME – VIRTUAL VISITS
IMPROVING VALUE – PATIENT ENGAGEMENT AND TRANSITIONS IN CARE

REAL TIME – VIRTUAL VISITS

In the **home**, post-acute, inpatient, outpatient clinic, & beyond...
IMPROVING VALUE – PATIENT ENGAGEMENT AND TRANSITIONS IN CARE

REAL TIME – VIRTUAL VISITS

In the home, post-acute, inpatient, outpatient clinic, & beyond...
IMPROVING VALUE – PATIENT ENGAGEMENT AND TRANSITIONS IN CARE

REAL TIME – VIRTUAL VISITS

In the home, post-acute, *inpatient*, outpatient clinic, & beyond...
IMPROVING VALUE – PATIENT ENGAGEMENT AND TRANSITIONS IN CARE

VIRTUAL VISIT CLINICAL AREAS

Cumulative Program Volume (2013-2015): 5,000 Visits

Departments
- Cancer Center
- Cardiology
- Dermatology
- Neurology
- Pain Management
- Pediatrics
- PM&R
- Primary Care
- Psychiatry
- Pediatrics
- Surgery

Launched in 4/2012
VIRTUAL VISIT CLINICAL AREAS

- Psychiatry: 3,014
- Surgery: 141
- Anesthesia: 315
- Dermatology: 325
- Cardiology: 204
- Primary Care: 75
- Cancer Center
- Neurology: 485
- Pediatrics: 6
- PM&R: 2
VIRTUAL VISIT IMPACT

**PATIENT**
- Greater flexibility and convenience
- Saves on the cost of commuting, parking, taking time off of work
- Offers more touch points with provider outside of in-person visits
- Allows caretakers and other family members to be present for visits

**PAYER**
- Improves health and chronic disease management for members
- Reduces non-medically necessary ER visits and readmissions

**HEALTH SYSTEM**
- Opens up physical space and for more complex patients
- Decreases no-show rate and late appointments

**MEDICAL**
- Complex issues requiring recurring follow-up
- Therapy or counseling for mental health conditions
- Managing anxiety or concerns associated with conditions
- Sensitive discussions
WHAT’S NEXT

FACTORS LIMITING WIDESPREAD ADOPTION

Financial

Legal and Regulatory

Patient & Provider Adoption

Technology
WHAT’S NEXT

MGH TELEHEALTH FINANCIAL MODEL

- Business Case
- Reimbursement
- Compensation
# MGH TELEHEALTH FINANCIAL MODEL

## REIMBURSEMENT

15+ Clinical Specialties • 6,000+ Annual Encounters

<table>
<thead>
<tr>
<th>Service Location</th>
<th>Clinical “Tele” Specialty</th>
<th>Funding Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Contracts</td>
</tr>
<tr>
<td>Acute-ED</td>
<td>Neurology/Stroke ● Neurosurgery (Brain Tumor) ● Pediatrics ● Surgery (Burns, Trauma)</td>
<td>X</td>
</tr>
<tr>
<td>Outpatient Clinic</td>
<td>Dermatology ● Pain Mgmt ● Neurology ● Oncology ● Pediatrics ● Psychiatry</td>
<td>X</td>
</tr>
<tr>
<td>In-Patient</td>
<td>Critical Care ● Neurology ● Pediatrics (PICU/NICU) ● Surgery (Burns, Plastics, Ortho) ● Urology</td>
<td>X</td>
</tr>
<tr>
<td>Patient Home</td>
<td>Cancer ● Cardiology ● GI ● Neurology ● Pediatrics ● Primary Care ● Psych ● Surgery</td>
<td>X</td>
</tr>
<tr>
<td>Second Opinions</td>
<td>Multiple Specialties</td>
<td>X</td>
</tr>
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</table>
MGH TELENHEALTH FINANCIAL MODEL

COMPENSATION METHODOLOGIES

MDs ▪ Departments ▪ Institution ▪ MGH TeleHealth

- Bonus
- Paid Shifts

- Salaried
- RVU Expectations
#1 Departmental Overhead and Support

#2 Reimbursement Level and Approach
Determine **Strategic** Priorities

Identify “ready” and “relevant” **Clinical** Areas

Select appropriate **Telehealth Tools**, i.e., Virtual Visits/Consults, eVisits, eConsults

Implement in coordination with your Quality Improvement Toolkit & Colleagues