Breakout B: Innovative Pilots with Emergency Medical Services
Changing the Care Paradigm - Reversing Excessive Demand for EMS Response
The Problem

- Nationally: 4.5% - 8% of patients account for 28% of ER visits (Annals Internal Medicine, 2010)
- Nationally: 14-27% ED visits are for non-urgent care (Rand, 2010)
- NYC EMS calls rose 17% from 2014 to 2015
- SI call response analysis reveals over 12,500 EMS runs annually
- Over 25% of the calls are driven by 1,400 unique patients
  - Top caller had 197 responses
- On average, SUs made 11 or more calls and drove nearly 40% call volume
# Staten Island Behavioral Health Pilots

<table>
<thead>
<tr>
<th>ED Warm Handoff Pilot</th>
<th>EMS NYC/Support Pilot</th>
<th>RCDA Pre-Arraignment Diversion Program (PDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce avoidable SUD-related ED visits by connecting ED patients with substance use disorder needs to timely and appropriate treatment and services</td>
<td>Reduce inappropriate ED and EMS utilization by engaging Staten Islanders in longitudinal relationships with multi-disciplinary care teams that address their comprehensive healthcare needs</td>
<td>Reduce overdose deaths, non-fatal ODs, and improve health outcomes by diverting individuals to treatment/service providers post-arrest and pre-arraignment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BH Specialists in ED</th>
<th>Peer Counselors in ED</th>
<th>Provider Directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/7 call center</td>
<td>24/7 Crisis Stabilization Centers</td>
<td>SUD Treatment Providers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mobile crisis / Outreach Team</th>
<th>24/7 call center</th>
<th>Provider Directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS NYC Support</td>
<td>SUD &amp; MH Treatment Providers</td>
<td>24/7 Crisis Stabilization Centers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RCDA Coordinator</th>
<th>Peer Counselor</th>
<th>Provider Directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>24/7 call center</td>
<td>24/7 Resource / Stabilization Centers</td>
<td>Treatment / Service Providers</td>
</tr>
</tbody>
</table>
The Solution - Partner Power Driven by Data

- SI has a tightly coordinated PPS Partner team with all major medical, behavioral, and substance abuse providers fully engaged.
- The most sophisticated data platform and real time analytic capabilities in DSRIP.
- Data exchange between partners facilitates integrated patient information to understand needs and care relationships to avoid redundancy and wasted resources.
- Capability to longitudinally track utilization of services.
- Health Home partner is embedded in clinical sites to support continuity of care.
- Connecting with partners via real-time searchable directory using data driven Call Center.
- Leveraging capabilities using a predictive outreach approach to change care paradigm.
## PPS Membership

### Substance Abuse/Behavioral Health Services
- Bridge Back to Life Center
- Camelot of Staten Island
- CHASI
- Jewish Board of Family Services
- Project Hospitality
- Saint Joseph’s Medical Center
- Sky Light Center
- Staten Island Behavioral Network
- Staten Island Mental Health Society
- CBC
- YMCA Counseling Services
- Silver Lake Support Services
- South Beach Addiction Treatment Center
- South Beach Psychiatric Center
- NAMI Staten Island

### Nursing Homes
- Carmel Richmond Healthcare and Rehab Center
- Clove Lakes Health Care
- Eger Lutheran Homes and Services
- Golden Gate Rehab and Health Center
- New Vanderbilt Rehab and Care Center
- Richmond Center for Rehab and Healthcare
- Seaview Hospital Rehab Center and Home
- Verrazano Nursing Home
- Silver Lake Specialized Care Center
- Staten Island Care Center

### FQHCs
- Beacon Christian Community Center
- Community Health Center of Richmond
- Metro Health Clinic
- Brightpoint Health

### Home Care Agencies
- ArchCare Home Care
- Visiting Nurse Association of Staten Island
- Visiting Nurse Services of New York
- Northwell Home Care

### Hospitals
- Richmond University Medical Center
- Staten Island University Hospital

### Physician Groups
- University Physicians Group
- Victory Internal Medicine

### Community Alliances
- A Very Special Place, Inc.
- AABR, Inc.
- Catholic Guardian Services
- Eden II School for Autistic Children
- Independent Living Association
- Lifestyles for the Disabled, Inc.
- Modest Community Services Association
- Staten Island Aid for Retarded Children
- GRACE Foundation of NY
- United Cerebral Palsy of NY
- HeartShare Human Services
- Lifespire, Inc.

### Collaborative Partner Alliances
- Person Centered Care Services
- LGBT Pride Center of Staten Island
- El Centro del Inmigrante
- YMCA New American Welcome Center
- Island Voice
- JCC
- Make the Road
- Staten Island Partnership Community Wellness

### Faith-based, CBOs, LGUs, Other
- NYC DOHMH
- Healthfirst PHSP, Inc.
- Empire Amerigroup
- New York State Nurses Association
- 1199 SEIU
- UFT
- Ocean Breeze Pharmacy
- Nate’s Pharmacy
- Stapleton UAME Church
- Borough Hall
- FDNY/EMS
Staten Island PPS Super Utilizer EMS Call Analysis

Privileged and Confidential
Prepared in accordance with the Public Health Law
Section 2805 j through m and Education Law Section 6527

EMS Super Utilizers (SU) Description

SU Definition
Patients made 3 or more 911 calls to RUMC or SIUH EMS in 24 months

Data Period
1/1/2014 – 12/31/2015

Data Source
RUMC and SIUH EMS tracking systems

Results Set
1441 unique patients; 6605 calls identified

Descriptive Statistics
-- Average 911 calls per patient: 4.6
-- Max Calls per Patient: 197

- 82% SUs made 3 to 5 calls
- 13% SUs made 6 to 10 calls
- 5% SUs made 11 or more calls, and contribute 40% of the total call volume

# of Super Utilizers (SU) vs. Total # 911 Calls

<table>
<thead>
<tr>
<th>EMS Super Utilizers (SU)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU Definition</td>
<td>Patients made 3 or more 911 calls to RUMC or SIUH EMS in 24 months</td>
</tr>
<tr>
<td>Data Period</td>
<td>1/1/2014 – 12/31/2015</td>
</tr>
<tr>
<td>Data Source</td>
<td>RUMC and SIUH EMS tracking systems</td>
</tr>
<tr>
<td>Results Set</td>
<td>1441 unique patients; 6605 calls identified</td>
</tr>
<tr>
<td>Descriptive Statistics</td>
<td>-- Average 911 calls per patient: 4.6 -- Max Calls per Patient: 197</td>
</tr>
</tbody>
</table>

- 82% SUs made 3 to 5 calls
- 13% SUs made 6 to 10 calls
- 5% SUs made 11 or more calls, and contribute 40% of the total call volume
SI PPS EMS Super Utilizer (SU) Dashboard: FY2014-15

Where are the calls originated?

What are the 911 Calls about?

Click on the Start Button to see two use cases
911 Calls by Day and by Shift (of a total 6,615 calls)
Call Patterns By Location

Day of Week?

Time of Day?

FERRY TERMINAL

Family Support Staten Island-262 BRYANT AVE

NYCHA - SOUTH BEACH

NYCHA - RICHMOND TERRACE
## Top 20 Chief Complaints

<table>
<thead>
<tr>
<th>Complaint</th>
<th>RUMC</th>
<th>SIUH</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Total</td>
<td>Counts</td>
<td>% Total</td>
</tr>
<tr>
<td>Alcohol Intox / ETOH</td>
<td>13.57%</td>
<td>468.0</td>
<td>8.05%</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>8.68%</td>
<td>300.0</td>
<td>3.68%</td>
</tr>
<tr>
<td>Psychiatric / Behavior</td>
<td>7.26%</td>
<td>251.0</td>
<td>3.79%</td>
</tr>
<tr>
<td>Dyspnea-SOB</td>
<td>7.38%</td>
<td>255.0</td>
<td>2.63%</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>6.34%</td>
<td>219.0</td>
<td>2.11%</td>
</tr>
<tr>
<td>Weakness</td>
<td>3.33%</td>
<td>115.0</td>
<td>2.05%</td>
</tr>
<tr>
<td>Seizure</td>
<td>3.10%</td>
<td>107.0</td>
<td>1.13%</td>
</tr>
<tr>
<td>Fall</td>
<td>2.72%</td>
<td>94.0</td>
<td>0.84%</td>
</tr>
<tr>
<td>Asthma Symptoms</td>
<td>2.84%</td>
<td>98.0</td>
<td>0.72%</td>
</tr>
<tr>
<td>Vomiting</td>
<td>2.20%</td>
<td>76.0</td>
<td>0.46%</td>
</tr>
<tr>
<td>Back Pain (No Trauma)</td>
<td>1.74%</td>
<td>60.0</td>
<td>0.69%</td>
</tr>
<tr>
<td>Dizziness</td>
<td>1.97%</td>
<td>68.0</td>
<td>0.38%</td>
</tr>
<tr>
<td>Trauma Injury</td>
<td>1.71%</td>
<td>59.0</td>
<td>0.61%</td>
</tr>
<tr>
<td>Alt. Level Conscious</td>
<td>1.56%</td>
<td>54.0</td>
<td>0.61%</td>
</tr>
<tr>
<td>Headache (no trauma)</td>
<td>1.62%</td>
<td>56.0</td>
<td>0.32%</td>
</tr>
<tr>
<td>Drug Related</td>
<td>1.24%</td>
<td>43.0</td>
<td>0.67%</td>
</tr>
<tr>
<td>Diabetic Symptoms</td>
<td>1.45%</td>
<td>50.0</td>
<td>0.06%</td>
</tr>
<tr>
<td>Sob</td>
<td>1.19%</td>
<td>41.0</td>
<td>0.06%</td>
</tr>
<tr>
<td>OB/Gyn</td>
<td>1.16%</td>
<td>40.0</td>
<td>0.09%</td>
</tr>
</tbody>
</table>
Highlights of the Proposed Call Algorithm

- EMS and NYC Support (NYCS) process initial phases of patient contact, per protocol
- Caller agrees to non-EMS service, NYCS reaches SI PPS Call Center with referral data
- Call Center uses data to match patient needs with partner capacity for services (e.g., crisis beds, medical monitored alcohol/opioid detoxing, behavioral health management, and ambulatory medical services)
- Service availability is confirmed with appropriate partner and dispatched to patient
- Loop is closed with NYCS and patient
- Continuous PI monitoring is implemented weekly; monthly program modifications adopted as agreed to by participants
Responding to Care – Predictive Approach

- Identify locations with high volume of calls: integrate outreach teams to actively engage persons with unmet, emerging needs
- Identify individuals with high utilization: engage them proactively for care management & outreach engagement via Health Home Teams
- Promote alternate call model with law enforcement and other public agencies
- Utilize the SUD warm hand-off and DA pre-arraignment programs for at-risk population engagement
- Dispatch mobile outreach units to high demand locations at key times
Next Steps

- SI PPS Call Center goes live on October 1, 2016
- Pilot with NYC Support to follow, beginning November 1, 2016
- Link the 3 behavioral pilots to maximize patient access and cut ED use
- In process of developing a seamless care plan flow between partners
- Seeking to maximize data in PSYCKES to provide most effective care
- Proactive targeting of high volume call locations is being developed with partners
- Work with LGUs and Law Enforcement to redirect non-emergent calls to SI Connect
- Public education campaign to be developed to orient patients away from ED when appropriate
Rockland County Behavioral Health Response Team

Michael Kaplan, FNP
Director of Data and Population Health
Refuah Community Health Collaborative
Rockland Paramedics Services (RPS)

- Non-profit agency established in 1985

- Provides Advanced Life Support (ALS) services throughout Rockland County

- Paramedics have dual response with volunteer Basic Life Support (BLS) Ambulances
  - Paramedic units are dispatched directly by 911 dispatchers
  - BLS and Behavioral Health Response Team (BHRT) dispatched via RPS dispatch center
Behavioral Health Response Team (BHRT)

• Began operations on April 1, 2015

• Funding for the program was provided by the New York State Office of Mental Health

• Services provided at no charge to patients

• Robust data collection on all patient contacts
Mobile Crisis Team

• Each team consists of two responders
  • A licensed professional (Social Worker, Psychologist, or Psych RN)
  • A mental health assistant, usually an EMT

• Will respond with police and/or EMS as situation requires

• Has authority for involuntary transport under section 9.45 of Mental Hygiene Law
  • Less than 5% of responses result in involuntary transport
Mobile Crisis Dispatch

• Requested by EMS, Police, a medical provider, or directly by a caller to the Crisis Hotline

• Dispatch determines nature of call and transfers call to an available licensed professional for triage

• If the triage determination is that a mobile response is required, the BHRT responds:
  • With no lights or sirens
  • In 36 minutes, on average
BHRT Interaction with EMS

• If EMS determines that there is a crisis situation and no medical emergency, the EMS crew can request a response by the BHRT

• Once the BHRT agrees that there is no medical component to the call, they can release the EMS crew from the scene
  • EMS disposition is “Transfer of Care to Higher Medical/Clinical Authority”
BHRT Interaction with Medicine

• BHRT is also utilized by medical providers throughout Rockland County
  • Primary Care
  • Mental Health
  • OASAS
  • OPWDD

• BHRT can perform “Well Checks” for patients with a Mental Health Diagnosis at the request of a medical provider or family member
Behavioral Health Response Team
Quarterly Data: Apr-2015 to Jun-2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Contacts</td>
<td>520</td>
<td>526</td>
<td>624</td>
<td>724</td>
<td>720</td>
</tr>
<tr>
<td>Outreaches</td>
<td>237</td>
<td>213</td>
<td>225</td>
<td>294</td>
<td>260</td>
</tr>
<tr>
<td>Outreaches Resulting in ED Visit</td>
<td>69</td>
<td>63</td>
<td>92</td>
<td>81</td>
<td>89</td>
</tr>
</tbody>
</table>

Total Contacts 3114
Total Outreaches 1229
Total Resulting in ED Visit 394
PPS Activities

• Crisis training provided to Hatzolah Volunteer EMS to integrate services for a traditionally siloed population
  • Translation services provided by Hatzolah supervisors for telephone triage
  • Cultural Competency Training provided to BHRT by Hatzolah

• Regional meeting with BHRT, OPWDD agencies, and NY START team to discuss coordination of responses for patients with Developmental Disabilities
PPS Activities (continued)

• Due to rapid growth of call volume, PPS supporting a second mobile crisis team during peak hours

• PPS sponsoring a billboard in high-traffic area that promotes the crisis hotline
Billboard
Spring Valley
Route 59

FREE, CONFIDENTIAL, CRISIS CARE

DON’T WAIT, GET HELP!

ROCKLANDHELP.ORG • 845.517.0400
Culturally Competent Outreach

• BHRT determined that the Orthodox and Hasidic communities in Rockland county had very low utilization of the BHRT

• Distributed flyer in Yiddish using a “mailbag” service that is popular in the target communities
Challenges

• Awareness of the BHRT program has been slow to spread, particularly among front-line primary care and behavioral health providers

• Communication of outcomes back to initiating provider to “close the loop” has been inconsistent

• Questions about sustainability still exist in post-grant VBP era
Lessons Learned

• BHRT being a function of EMS instead of the hospital provides several advantages, such as:
  • Rapid dispatch and coordination with first responders
  • Ability to relieve on-site EMS and put them back into service within the existing EMS triage/transfer structure
  • Teams are always mobile, allowing for non-emergent activities such as follow-up or well checks
  • Provides centralized triage from many different entry points, including 911, Emergency Medical Dispatch, direct dial number, and on-site first responders
Community Paramedicine
Pilot at the Mount Sinai PPS

By: Kevin G. Munjal, MD, MPH
Assistant Professor, Emergency Medicine
Assistant Professor, Health Evidence & Policy
Associate Medical Director of Prehospital Care
Mount Sinai Health System
&
MD Champion, 2.b.iv.
Mount Sinai PPS
Background
“EMS of the future will be community-based health management that is fully integrated with the overall health care system.”
What’s Valuable About EMS?

Mobile

24/7

Located in Nearly Every Community

“Heroes”

Resourceful
What’s wrong with 911?

One Size Fits All

“You call 911, you get an ambulance.”
“Ambulances take patients to the ER.”
Healthcare is Changing
“Instead of measuring hospitals by the number of beds filled .... A key objective of the hospital of the future will be to keep more patients out of the hospital”

-- Kenneth Davis, MD,
CEO, Mount Sinai Health System
The Future.....

Can Mount Sinai be serious? The answer is a resounding yes. In fact, we couldn’t be more serious.

Mount Sinai’s number one mission is to keep people out of the hospital. We’re focused on population health management, as opposed to the traditional fee-for-service medicine. So instead of receiving care that’s isolated and intermittent, patients receive care that’s continuous and coordinated, much of it outside of the traditional hospital setting.

Thus the tremendous emphasis on wellness programs designed to help people stop smoking, lose weight and battle obesity, lower their blood pressure and reduce the risk of a heart attack. By being as proactive as possible, patients can better maintain their health and avoid disease.

Our Mobile Acute Care Team will treat patients at home who would otherwise require a hospital admission for certain conditions. The care team involves physicians, nurse practitioners, registered nurses, social workers, community paramedics, care coaches, physical therapists, occupational therapists, speech therapists and home health aides.

Meanwhile, Mount Sinai’s Preventable Readmission Care Team provides transitional care services to patients at high risk for rehospitalization. After a comprehensive bedside assessment, social workers, nurses, family caregivers and healthcare providers collaborate to identify known risk factors with patients and family caregivers to improve the quality of care and avoid rehospitalization.

It’s a sweeping change in the way that health care is delivered. And with the new teams comes a new way to measure success. The number of empty beds.

IF OUR BEDS ARE FILLED, IT MEANS WE’VE FAILED.
EMS uniquely positioned to help with care in the community
What is Community Paramedicine?

“The provision of healthcare using patient-centered, mobile resources in the out-of-hospital environment.”
Increasing recognition nationally
The New Acute Complaint
Choices?
Clinical & Technological Integration of EMS

Telemedicine-Enhanced EMS

Primary Care Physician

EMS Evaluation At Home
Pilot Program Experience
Hospital At Home (MACT)

Homeward bound
Snapshot of the Hospital at Home process

Assessment
Patient presents to ED. Clinicians determine patient has acute illness that could be treated at home. Patient chooses home-care option.

Transport
Patient transported home accompanied by nurse or physician with appropriate medications and equipment, including oxygen, if necessary.

Home care
Nurse remains with patient.

Discharge
Nurse provides instruction about medications, follow-up care, sends letter to primary care physician.

The MACT Model

- Decision to admit to the hospital is made
- Appropriate patients are assessed by the MACT team
- Once enrolled, patient is transported from hospital to home
Mount Sinai Visiting Doctors (MSVD)

• Serves 1,300 homebound adults in Manhattan
• 20% mortality yearly
• Program has 24/7 Attending MD on call
• Five days a week urgent visit capabilities
• Patients are seen every two months on average
Pilot Experience

- Mean response time = 38 minutes
- Mean time spent by physician on telemedicine = 20 minutes
- Mean time spent by physician on total encounter = 41 minutes
- Average encounters per week = 1.45
### Patient Characteristics (n=36)

#### Patient Demographics

<table>
<thead>
<tr>
<th>Age Range</th>
<th>67-102</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVG Age</td>
<td>85.6</td>
</tr>
<tr>
<td>% Female</td>
<td>78%</td>
</tr>
<tr>
<td>White</td>
<td>56%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>31%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>14%</td>
</tr>
</tbody>
</table>

#### Patient Comorbidities

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dementia</td>
<td>47%</td>
</tr>
<tr>
<td>Psych Disorders</td>
<td>42%</td>
</tr>
<tr>
<td>Diabetes (DM)</td>
<td>33%</td>
</tr>
<tr>
<td>Coronary / Peripheral Artery Disease</td>
<td>33%</td>
</tr>
<tr>
<td>Chronic Kidney Disease / Dialysis</td>
<td>31%</td>
</tr>
<tr>
<td>Rheumatic Diseases (e.g. Lupus)</td>
<td>25%</td>
</tr>
<tr>
<td>Congestive Heart Failure</td>
<td>22%</td>
</tr>
<tr>
<td>Chronic Obstructive Pulmonary Disorder (COPD)</td>
<td>22%</td>
</tr>
<tr>
<td>Diabetes w/ chronic complications</td>
<td>19%</td>
</tr>
<tr>
<td>Cancer / Malignancy</td>
<td>17%</td>
</tr>
<tr>
<td>Cerebrovascular Accident / Stroke</td>
<td>14%</td>
</tr>
<tr>
<td>Pressure (Decubitus) Ulcers</td>
<td>14%</td>
</tr>
<tr>
<td>Liver Disease</td>
<td>3%</td>
</tr>
<tr>
<td>Hemiplegia/ Paraplegia</td>
<td>3%</td>
</tr>
</tbody>
</table>
### Epidemiology

- **Chief Complaint**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shortness of Breath</td>
<td>27.70%</td>
</tr>
<tr>
<td>Fall</td>
<td>16.60%</td>
</tr>
<tr>
<td>Weakness/Dehydration</td>
<td>16.60%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>5.50%</td>
</tr>
<tr>
<td>Back Pain</td>
<td>5.50%</td>
</tr>
<tr>
<td>Chest Pain</td>
<td>5.50%</td>
</tr>
<tr>
<td>Altered Mental Status / Delirium</td>
<td>5.50%</td>
</tr>
<tr>
<td>Fever</td>
<td>5.50%</td>
</tr>
<tr>
<td>Hypotension</td>
<td>2.77%</td>
</tr>
<tr>
<td>Nausea/sweating</td>
<td>2.77%</td>
</tr>
<tr>
<td>Allergic Reaction</td>
<td>2.77%</td>
</tr>
<tr>
<td>Abdominal distention</td>
<td>2.77%</td>
</tr>
</tbody>
</table>

- **Common Interventions**

<table>
<thead>
<tr>
<th>Medications Used</th>
<th>Total #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intravenous Fluids</td>
<td>7</td>
<td>19.4%</td>
</tr>
<tr>
<td>Albuterol</td>
<td>5</td>
<td>13.8%</td>
</tr>
<tr>
<td>Atrovent</td>
<td>4</td>
<td>11.1%</td>
</tr>
<tr>
<td>Solumedrol</td>
<td>1</td>
<td>2.7%</td>
</tr>
<tr>
<td>Oral Glucose</td>
<td>1</td>
<td>2.7%</td>
</tr>
<tr>
<td>Dextrose</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Glucagon</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lasix</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Magnesium</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Midazolam/Diazepam</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Morphine</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Zofran</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnostics</th>
<th>Total #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>EKG</td>
<td>13</td>
<td>36.1%</td>
</tr>
<tr>
<td>Rhythm Strip</td>
<td>8</td>
<td>22.2%</td>
</tr>
<tr>
<td>Fingerstick</td>
<td>8</td>
<td>22.2%</td>
</tr>
<tr>
<td>Thermometer</td>
<td>7</td>
<td>19.4%</td>
</tr>
</tbody>
</table>
Preliminary Results

Only 5 of 36 patients transported (22%)

Avoided 13 ED visits

Avoided 7 Admissions

*Physicians*: 64% - without program, would have referred to the ED.

100% - helpful to their practice

*Paramedics*: 88% - comfortable taking order from telemedicine physician

77% - comfortable with leaving the patient at home.

77% - would have transported to the ED w/o program

*Patients*: 100% were satisfied or very satisfied with paramedic interaction.

100% were satisfied or very satisfied with the overall CP program.
## Results

<table>
<thead>
<tr>
<th>Service Utilization</th>
<th>Usual Care</th>
<th>Tele-CP Program</th>
<th>Utilization Averted</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMS Transport</td>
<td>36</td>
<td>5</td>
<td>31</td>
</tr>
<tr>
<td>CP Visit</td>
<td>0</td>
<td>31</td>
<td>-31</td>
</tr>
<tr>
<td>MD Telemedicine Visit</td>
<td>0</td>
<td>36</td>
<td>-36</td>
</tr>
<tr>
<td>ED Visit</td>
<td>23</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>14</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>30-day Physician/NP Visits</td>
<td>62</td>
<td>80</td>
<td>-17</td>
</tr>
<tr>
<td>30-day ED Visits</td>
<td>7</td>
<td>12</td>
<td>-5</td>
</tr>
<tr>
<td>30-day Hospitalizations</td>
<td>6</td>
<td>10</td>
<td>-4</td>
</tr>
<tr>
<td>Other (EMS, SW, RN, Rad)</td>
<td>222</td>
<td>402</td>
<td>-180</td>
</tr>
</tbody>
</table>
Total 30-Day Costs:
Community Paramedicine vs. Usual Care

Patient calls physician

Physician requests CP

Physician refers patient to ED

Patient care at home

Post-encounter outpatient utilization

$6763

Patient care in ER

Post-encounter outpatient utilization

$8152

$1,389

Total 30-Day Costs:
Community Paramedicine vs. Usual Care
## Results

<table>
<thead>
<tr>
<th>Service Utilization</th>
<th>Usual Care</th>
<th>Tele-CP</th>
<th>Utilization Averted</th>
<th>Cost per Unit</th>
<th>Total Cost Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP Visit</td>
<td>0</td>
<td>36</td>
<td>-36</td>
<td>$420</td>
<td>-$15,120</td>
</tr>
<tr>
<td>MD performs telemedicine</td>
<td>0</td>
<td>36</td>
<td>-36</td>
<td>$178</td>
<td>-$6,405</td>
</tr>
<tr>
<td>EMS Transport</td>
<td>23</td>
<td>0</td>
<td>23</td>
<td>$420</td>
<td>$9,660</td>
</tr>
<tr>
<td>ED Visit</td>
<td>23</td>
<td>5</td>
<td>18</td>
<td>$969</td>
<td>$17,442</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>14</td>
<td>4</td>
<td>10</td>
<td>$10,500</td>
<td>$109,179</td>
</tr>
<tr>
<td>EMS Transport</td>
<td>6</td>
<td>13</td>
<td>-7</td>
<td>$420</td>
<td>-$2,925</td>
</tr>
<tr>
<td>ED Visit</td>
<td>7</td>
<td>12</td>
<td>-5</td>
<td>$969</td>
<td>-$4,810</td>
</tr>
<tr>
<td>Hospitalization</td>
<td>6</td>
<td>10</td>
<td>-4</td>
<td>$10,500</td>
<td>-$44,520</td>
</tr>
<tr>
<td>Physician Visits</td>
<td>38</td>
<td>57</td>
<td>-19</td>
<td>$178</td>
<td>-$3,359</td>
</tr>
<tr>
<td>NP Visits</td>
<td>24</td>
<td>23</td>
<td>1</td>
<td>$100</td>
<td>$84</td>
</tr>
<tr>
<td>Outpt Radiology</td>
<td>4</td>
<td>7</td>
<td>-3</td>
<td>$500</td>
<td>-$1,500</td>
</tr>
<tr>
<td>MD Phone Calls</td>
<td>145</td>
<td>275</td>
<td>-130</td>
<td>$50</td>
<td>-$6,489</td>
</tr>
<tr>
<td>NP Phone Calls</td>
<td>41</td>
<td>62</td>
<td>-21</td>
<td>$30</td>
<td>-$634</td>
</tr>
<tr>
<td>RN Phone Calls</td>
<td>15</td>
<td>19</td>
<td>-4</td>
<td>$20</td>
<td>-$78</td>
</tr>
<tr>
<td>SW Home Visits</td>
<td>5</td>
<td>9</td>
<td>-4</td>
<td>$80</td>
<td>-$320</td>
</tr>
<tr>
<td>SW Phone Calls</td>
<td>18</td>
<td>27</td>
<td>-9</td>
<td>$20</td>
<td>-$188</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Total Savings</th>
<th>Savings Per Patient</th>
<th>Sensitivity Analysis Savings</th>
<th>Sensitivity Analysis Savings PP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$50,017</td>
<td>$1,389</td>
<td>$49,074</td>
<td>$3,067</td>
</tr>
</tbody>
</table>
Savings per Patient

• Usual Cost of Care = $8,152
• Savings per CP encounter = $1,389
• Percentage savings = 17%
• Sensitivity analysis eliminating “refusal of ED”
• Savings per patient = $3,067
Community Paramedicine For DSRIP

- 2.a.i. – Create Integrated Delivery Systems that are focused on Evidence-Based Medicine / Population Health Management
- 2.b.iv - Care Transitions intervention model to reduce 30-day readmissions for chronic health conditions
- 2.b.viii – Hospital – Home Care Collaboration Solutions
- 2.c.i – Development of Community Health Navigation Services
- 3.a.i – Integration of Primary Care and Behavioral Health Services
- 3.a.ii – Behavioral Health Community Crisis Stabilization Services
- 3.a.iii. – Implementation of Evidence-Based Medication Adherence Program in Community Based Sites for Behavioral Health Medication Adherence
- 3.b.i. – Evidence-Based Strategies for Disease Management in High Risk/Affected Populations: Cardiovascular Health
Operations & Logistics

Roles and Responsibilities

- **Paramedic Supervisor (1.25 FTE per year)**
  - 24/7 a paramedic supervisor would be available to answer the CP hotline, perform the CP response if geographically appropriate, coordinate care with the OLMC physician via telemedicine.

- **Program Manager (0.5 FTE)**
  - Manage schedule of both paramedic and On-line Medical Control / Telemedicine Physicians
  - Perform quality assurance and oversight
  - Support billing and administrative management.

- **Medical Director (0.1 FTE per year)**
  - Train and certify all paramedics participating in a community paramedicine response
  - Train and certify all physicians providing online medical control or “telemedicine”
  - Oversee Quality Assurance of program
  - Liaise with all participating practices to ensure mutually agreed upon care

- **On-Line Medical Control Training and Support**
  - Mount Sinai ED physicians will obtain REMAC OLMC certification
  - Select non-ED physicians will obtain REMAC Telemedicine Certification
  - Mount Sinai will provide OLMC for both traditional EMS OLMC needs and those for the Community Paramedicine Program.
Training

Paramedics:

- 8 hour didactics including:
  - Orientation to Community Paramedicine
  - Facilitating Telehealth / Operations and Logistics
  - Awareness of Population Health and Chronic Care Management
  - Hospice and Palliative Care
  - Scenario Based Training on Acute Exacerbations of Chronic Diseases
  - Special Considerations for our Populations of Interest
  - Legal and Regulatory Considerations / Documentation

- 6 hour Primary Care / Chronic Care Observation Experience
  - Structured Checklist / Debriefing

Physicians:

- ACLS/BLS/ATLS/PALS recertification if needed
- 4 hour course & Written Exam
- OLMC Observation and Practical Experience
- Population Health / Navigation / Care Pathways
Documentation

- The Paramedic performs documentation in ePCR
  - They include the name of the physician, their license and telemedicine or OLMC #, and list any orders or deviations from protocols authorized by physician.
  - This record is sent electronically directly into EPIC.

- The Physician documents the encounter in EPIC
  - They use a smart phrase “.communityparamedicine”
Legal Considerations

- Program is designed in accordance with all NYS and NYC EMS regulations.

- Confusion around the word “Community Paramedicine”
  - Legislation that was floated last year entitled “community paramedicine” sought authorization for non-emergency or “scheduled” care.

- Our Program is unscheduled emergency care.
  - Compliant with Article 30
  - The only difference from traditional EMS is that it is coordinated with the primary care team or other chronic care manager.
Q&A