

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

ED Warm Handoff Pilot	EMS NYC/Support Pilot	RCDA Pre-Arraignment Diversion Program (PDP)			
Reduce avoidable SUD-related ED visits by connecting ED patients with substance use disorder needs to timely and appropriate treatment and services	Reduce inappropriate ED and EMS utilization by engaging Staten Islanders in longitudinal relationships with multi- disciplinary care teams that address their comprehensive healthcare needs	Reduce overdose deaths, non-fatal ODs, and improve health outcomes by diverting individuals to treatment/service providers post-arrest and pre- arraignment			
BH Specialists in ED BH Counselors in ED	Mobile crisis / EMS Outreach Team NYC Support	RCDA Coordinator			
24/7 call Provider Directory	24/7 call center Provider Directory	24/7 call Provider Directory			
SUD Treatment Providers 24/7 Crisis Stabilization Centers	SUD & MH Treatment Providers Providers 24/7 Crisis Stabilization Centers	Treatment / Service Providers 24/7 Resource / Stabilization Centers			



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 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

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

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



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 <u>3 or more 911</u> 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



Click on the Start Button to see two use cases

8

Start

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911 Calls by Day and by Shift (of a total 6,615 calls)





Call

Patterns

By

Location

FERRY TERMINAL



Family Support Staten Island-262 BRYANT AVE



NYCHA - SOUTH BEACH



NYCHA - RICHMOND TERRACE



10



Top 20 Chief Complaints

	RUMC		SIUH		Grand Total	
	% Total	Counts	% Total	Counts	% Total	Counts
Alcohol Intox / ETOH	13.57%	469.0	8.05%	278.0	21.62%	747.0
Abdominal Pain	8.68%	300.0	3.68%	127.0	12.36%	427.0
Psychiatric / Behavior	7.26%	251.0	3.79%	131.0	11.06%	382.0
Dyspnea-SOB	7.38%	255.0	2.63%	91.0	10.01%	346.0
Chest Pain	6.34%	219.0	2.11%	73.0	8.45%	292.0
Weakness	3.33%	115.0	2.05%	71.0	5.38%	186.0
Seizure	3.10%	107.0	1.13%	39.0	4.23%	146.0
Fall	2.72%	94.0	0.84%	29.0	3.56%	123.0
Asthma Symptoms	2.84%	98.0	0.72%	25.0	3.56%	123.0
Vomiting	2.20%	76.0	0.46%	16.0	2.66%	92.0
Back Pain (No Trauma)	1.74%	60.0	0.69%	24.0	2.43%	84.0
Dizziness	1.97%	68.0	0.38%	13.0	2.34%	81.0
Trauma Injury	1.71%	59.0	0.61%	21.0	2.32%	80.0
Alt. Level Conscious	1.56%	54.0	0.61%	21.0	2.17%	75.0
Headache (no trauma)	1.62%	56.0	0.32%	11.0	1.94%	67.0
Drug Related	1.24%	43.0	0.67%	23.0	1.91%	66.0
Diabetic Symptoms	1.45%	50.0	0.06%	2.0	1.51%	52.0
Sob	1.19%	41.0	0.06%	2.0	1.24%	43.0
OB/Gyn	1.16%	40.0	0.09%	3.0	1.24%	43.0



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



- 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



REFUAH COMMUNITY HEALTH COLLABORATIVE

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



REFUAH COMMUNITY HEALTH COLLABORATIVE

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"



REFUAH COMMUNITY HEALTH COLLABORATIVE

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





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



REFUAH COMMUNITY HEALTH COLLABORATIVE

Billboard Spring Valley Route 59



FREE, CONFIDENTIAL, CRISIS CARE

GIN ESPWA JEST NADZIEJA ט׳וועט זיין גוט THERE'S HOPE 有希望 ЕСТЬ НАДЕЖДА НАУ ESPERANZA

DON'T WAIT, GET HELP!

ROCKLANDHELP.ORG • 845.517.0400

REFUAH COMMUNITY HEALTH COLLABORATIVE

25

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



REFUAH COMMUNITY HEALTH COLLABORATIVE

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



REFUAH COMMUNITY HEALTH COLLABORATIVE

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 followup 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

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&

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Background

Vision



"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



Care in the Community





"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 core team involves physicians, nurse practitioners, registered nurses, social workers, community problems with medication management and provide paramedics, care coaches, physical therapists, continuing support after discharge. occupational therapists, speech therapists, and home health aides.

Meanwhile, Mount Sinai's Preventable Admissions Care Team provides transitional care services to patients at high risk for readmission. After a comprehensive bedside assessment, social workers partner with patients, family caregivers and I - 800 - MD - SINAI healthcare providers to identify known risks such as mountsinaihealth.org

It's a sweeping change in the way that health care is delivered. And with the new system 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 patientcentered, mobile resources in the out-of-hospital environment."

Make Your Patients Healthy and Your ED Happy with Community Paramedicine

For organizations assuming population health risk, reducing the rates of avoidable ED visits, avoidable admissions, and readmissions are top priorities. However, few organizations have all the staff they need to engage patients and support robust care management. Community paramedics can help extend the care team to achieve these system goals.



Results

\$2.1M

Advisory Board Company

One health system's estimated

avoided admissions, ED visits, and

Population Health Advisor

cost savings in one year in

ambulance transports

\$4.2K Direct cost savings per patient in one program's first year 72%

One health system's reduction in readmissions of high-risk CHF patients after enrollment in program

Ask us about our community paramedicine research.

advisory.com/pha



Increasing

recognition

nationally

The New Acute Complaint





Choices?



Clinical & Technological Integration of EMS

Telemedicine-Enhanced EMS



Pilot Program Experience

Hospital At Home (MACT)



The MACT Model



Source: Cryer L, et al. "Costs for "hospital at home" patients were 19 percent lower, with equal or better outcomes compared to similar inpatients." Health Aff (Millwood). 2012;31(6):1237–1243.

- 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



47

Patient Characteristics (n=36)

Patient Demographics

Age Range	67-102
AVG Age	85.6
% Female	78%
White	56%
Hispanic	31%
Black or African American	14%

Patient Comorbidities

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

Epidemiology

Chief Complaint

Shortness of Breath	27.70%
Fall	16.60%
Weakness/Dehydra tion	16.60%
Hypertension	5.50%
Back Pain	5.50%
Chest Pain	5.50%
Altered Mental Status / Delirium	5.50%
Fever	5.50%
Hypotension	2.77%
Nausea/sweating	2.77%
Allergic Reaction	2.77%
Abdominal distention	2.77%

Common Interventions

Medications Used	Total #	%	Diagnostics	Total #	%
Intravenous	7	10 40/	EKG	13	36.1%
Fluids	/	19.4%	Rhythm Strip	8	22.2%
Albuterol	5	13.8%	Fingerstick	8	22.2%
Atrovent	4	11.1%	Thermometer	7	19.4%
Solumedrol	1	2.7%			
Oral Glucose	1	2.7%			
Dextrose	0	0			
Glucagon	0	0			
Lasix	0	0			
Magnesium	0	0			
Midazolam/ Diazepam	0	0			
Morphine	0	0			
Zofran	0	0			

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.

Service Utilization	Usual Care	Tele-CP Program	Utilization Averted
	Care	Tiogram	Aventeu
EMS Transport	36	5	31
CP Visit	0	31	-31
MD Telemedicine Visit	0	36	-36
ED Visit	23	5	18
Hospitalization	14	4	10
30-day Physician/NP Visits	62	80	-17
30-day ED Visits	7	12	-5
30-day Hospitalizations	6	10	-4
Other (EMS, SW, RN, Rad)	222	402	-180



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



Results

			Utilization	Cost per	Total Cost
Service Utilization	Usual Care	Tele-CP	Averted	Unit	Difference
CP Visit	0	36	-36	\$420	-\$15,120
MD performs telemedicine	0	36	-36	\$178	-\$6,405
EMS Transport	23	0	23	\$420	\$9,660
ED Visit	23	5	18	\$969	\$17,442
Hospitalization	14	4	10	\$10,500	\$109,179
EMS Transport	6	13	-7	\$420	-\$2,925
ED Visit	7	12	-5	\$969	-\$4,810
Hospitalization	6	10	-4	\$10,500	-\$44,520
Physician Visits	38	57	-19	\$178	-\$3,359
NP Visits	24	23	1	\$100	\$84
Outpt Radiology	4	7	-3	\$500	-\$1,500
MD Phone Calls	145	275	-130	\$50	-\$6,489
NP Phone Calls	41	62	-21	\$30	-\$634
RN Phone Calls	15	19	-4	\$20	-\$78
SW Home Visits	5	9	-4	\$80	-\$320
SW Phone Calls	18	27	-9	\$20	-\$188
		Total Savir	ngs		\$50,017
		Savings Pe	r Patient		\$1,389
		Sensitivity .	\$49,074		
		Sensitivity	\$3,067		



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"
 - o Oversee Quality Assurance of program
 - Liaise with all participating practices to ensure mutually agreed upon care
- On-Line Medical Control Training and Support
 - o 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.





