Challenging Tradition: A Hospital Without Walls

Newton Medical Center

Collaborative work toward improving clinical outcomes for super users

Objectives

• Identify a potential community partner
• Describe shared population problems
• Explain which baseline metrics and/or measurable outcomes would best depict collaborative success
• Describe methods to carry out delivery goals through utilization of existing resources
SUPER USERS

Not so super

“Problem children”

Super users: 3 visits in 90 days
1. ED: Young adults with psychosomatic issues
2. EMS and ED super users who need social work assistance
3. Chronically ill older adults who rely on EMS and hospital frequently

Locations
- Community
- Long term care facilities (50% of readmissions from LTCF)
2015 Initiatives

• Transitional Care Task Force
  – CHF Readmission Reduction Program
  – Right On Track Program
• ED Community Case Management
• Community Paramedicine
  – Fall prevention

Timeline

2014-2015
Recognized and researched the multiorganizational Super User problem

2015-2016
Prepared targeted interventions for specific populations and settings

2016-2017
Implemented interventions, measured responses
Collective Impact

Newton Medical Center

103-bed, not-for-profit facility dedicated to providing health care services to residents of Harvey County and surrounding counties
Newton Medical Center

Mission:
To excel in providing healthcare by understanding and responding to the individual needs of those we serve

Vision:
To be the community’s choice for healthcare

Values
Respect
Excellence
Service
Trust

Clinics, Outpatient Therapy, Home Health, Cardiac Rehab, Pulmonary Rehab, Wound Care, Outpatient Diabetic Education, Inpatient Rehabilitation Unit, Geriatric-Psych Unit, Women’s Care, Transitional Care

Super User Goals

Apply IHI Triple Aim

Navigate super users to resources in the right settings, at the right cost, for the right outcomes

Reduce ED super users

• Note NMC evaluation of super utilizers and NFEMS did not always intersect

Afternoon Breakout Session #2

May 4, 2018
Problem Child #1

“CAROLINE”

• 5 admissions and 1 ED visit
• PMH: A-fib and CHF
  – 9 days on inpatient rehab unit in addition to stays on acute
  – Dc’d home with HHS
  – Readmitted for CHF 16 days later
  – DC’d to area nursing facility
  – CHF zone education done with facility
  – CHF follow up calls done with facility
  – ROTP initiated- weekly phone calls/ APRN home visit
  – Patient did not readmit
Goals:

Decrease readmissions from transitional care facilities

Improve transitional from ED to nursing homes and vice versa

Improve transitions between NMC and facilities
Problem Child #2

“ELIZABETH”
Elizabeth’s Emergencies

**Problem**
4 ED visits in 1 month for falls and inability to care for self

**Solution**
3 CCM interventions
Placed in LTCF
No ED visits since then

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Community Case Manager

- Patients with ≥3 ED visits in 90 days
- SW referral from Physician
- Referrals from Paramedicine
  - Lack of primary care provider
  - Lack of insurance
  - Psycho-social concern
Referrals CY 2016

- Total Patient Referrals: n=189
- Falls
- Mental Health
- No ADL support

Bar chart showing referrals by category for CY 2016.
REFERRALS Q42017

REFERRALS Q42017

TOTAL FALL RISK MENTAL HEALTH ADL SUBSTANCE ABUSE

21 20 5 6 3

Intervention by Community Case Manager

Number of patients

Total Patient Referrals CM Interventions PAC Referral PAC Admission Other Intervention

n=189 n=99
Newton Fire/EMS

- The Newton Fire/EMS Department is dedicated to a constant pursuit of excellence in the provision of quality fire, rescue, medical, and other individualized services to those in need.
- Service area: 275 miles, 28,000 people
- 3,600 calls per year
- Medical calls 80% of call volume

Community Paramedicine

What should the future of emergency service delivery look like in our community?

What do we already know?

How can we do better?
Community Paramedicine: History

- Increasing 911 call volume
  - Very sick
  - Kind of sick
  - Not sick
- Resource imbalance
  - Non-emergent
  - Non-medical
  - EMS / ED inappropriate
- System Super-user (2014)
  - 189 patients: 41% call load
- Fire/EMS: Agency of last resort
  - Citizens doing what they’re trained to do

Community Paramedicine: Goals

- Stabilize or contain call volume
- Deliver better service to at-risk & underserved
- Decrease superuser 911 use
- Prevent new superusers
- Decrease falls
- Improve quality of life
- Manage resources appropriately
Community Paramedicine: Planning

- Strategic Partnership: Newton Medical Center

- 2014 Discussion
  - Predictive Approach
  - Case Management

- 2015 Planning

- 2016 Implementation
  - SU Referral / Fall Prevention

- 2017 Evaluation and calibration

- 2018 Marketing and expansion

Community Paramedicine: Phase I

Predictive Super-user Screening Tool

**13 Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Transportation</th>
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<tbody>
<tr>
<td>No PCP</td>
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<tr>
<td>Medicare/Medicaid</td>
<td>Home O2</td>
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<tr>
<td>Social Support</td>
<td>Needs of Daily Living</td>
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<tr>
<td>Female</td>
<td>Age 65+</td>
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<td>Psych problems</td>
<td>Comorbidities</td>
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<td>Fall Risk</td>
<td>Smoker</td>
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<td>ETOH / Drugs</td>
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</table>

- Hub & Spoke Concept: NMC Case Management
Community Paramedicine: Phase II

- In-Home Fall Prevention Program
- Summer 2016
- Risk assessment & follow-up
- Engaged Community Stakeholders
  - Follow-up
  - Home repairs & modifications
  - Equipment & supplies

Community Paramedicine: Results

**Objectives**
- Stabilize / Contain Call Volume
- Decrease superuser 911 use

**Results**
- Fire/EMS Call Volume
  - 2015: +4%
  - 2016: +3%
  - 2017: Flat!
- Super-user Call Volume
  - 2015: 41%
  - 2016: 30%
  - 2017: 23% (-500)
### Community Paramedicine: Results

**Objectives**
- Deliver better service to at-risk & underserved
- Prevent new superusers
- Decrease falls
- Manage resources appropriately

**Results**
- Navigation
  - Managed care
  - Staying home
- Slight SU increase
- Falls trending down (-84)
- Right crew / right patient
- No additional cost to citizens

### Community Paramedicine: Results

**Objectives**
- Improve quality of life

**Results**
- Heightened feelings of health & satisfaction
- Increased social engagement
- Freedom from fatigue & pain
- Reduced emotional distress
  - “Being a burden”
  - Fear of the future
  - Someone is paying attention
- Other benefits
  - Fire safety education
  - Smoke detectors
Problem Child #3

“FRANK”

Fall is Frank’s favorite season

Problem
- 7 falls in last 3 months
- 911 x 3 times in 1 month
- Unable to finish TUG test

Solution
- Recommended Home Health
- Stopped insomnia medications
- Improved lighting in home
- No falls!
- Able to complete TUG test!
Background

- #1 cause for injuries
- 33% of older adults fall per year
- $31 billion/year
- Numerous negative sequelae

Falls in Harvey County

- 65+ years old = 19% of population
- 5% presented to ED/NMC for falls (‘14-’15)
- 10% of all NMC acute ED/hospitalizations
- Top reason for EMS calls (‘14-’15)
Clinical Practice Guidelines

Reduce falls by 25%:
• Screening tool
• High-risk meds
• Physical exam
• Rx Ex/PT
• Vitamin D
• Home safety

The Problem
• Healthcare providers don’t have time to complete all of the guidelines
• About half of all older adults admit to falling
Clinical Questions

Could a multidisciplinary fall-prevention program reduce the rate of falls for older adults?
- APN trained in TCM
- Community Paramedicine home safety inspection

Do patients follow our advice?
- Home safety recommendations
- Exercise/balance

Outcomes

- Fall rates
- Healthcare use
- Home safety recommendations completed
- TUG times
- QOL
- Fear of falling
- Readiness for Stepping On
### Participant characteristics

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<th>Measure</th>
<th>Fallers (n = 11)</th>
<th>Nonfallers (n = 9)</th>
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<td>Morse score (high)*</td>
<td>8</td>
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<td>Gender</td>
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<td>Fall history</td>
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<td>Emergency/hospital use*</td>
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<td>Meds*/BEERS*</td>
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<td>QOL change</td>
<td>2.64/2.36</td>
<td>2.33/2.44</td>
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<td>Home safety</td>
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<td>2.67/1.56</td>
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<td>Stepping On</td>
<td>3.09</td>
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<tr>
<td>Days exercised</td>
<td>3.94</td>
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* * p < .05
Pre-test Post-test

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<tr>
<td>TUG</td>
<td>1.98</td>
<td>18</td>
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<td>.002*</td>
<td>1.25</td>
<td>1.55</td>
<td>.35</td>
<td>.80</td>
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Multidisciplinary collaboration

- Improves value, quality, continuity of care, patient engagement (Avin et al., 2014, Burns et al., 2016, Cohen et al., 2015; Gillispeie et al., 2012; Goodwin et al., 2014; Hoffman et al., 2016; Ory et al., 2017; Rice et al, 2016; Weiss, 2017)
- Repeat involvement: encourage compliance?
  - Influenced lifestyle changes (Bardach & Schoenberg, 2017; Lianov & Johnson, 2010; Keyserling et al., 2016)
  - Regular exercise
  - Safer homes
  - Logan et al. (2010): 55% fall reduction with similar program
- Increased inspections from 2 to 10/month
Community Fall Prevention Pilot Study

- Proactive approach: counsel participants in making informed decisions (AANP, 2017)
- Promote multidisciplinary collaboration, system transformation, integration of evidence across the healthcare continuum
- Target specific population:
  - High Morse score, recent fall, multiple chronic illness, and history of rescue healthcare utilization
  - More likely to experience barriers in adequate healthcare (Altfeld et al., 2013)
- Prepare for future collaborative health promotion interventions

Not falling down on the job: Hospital, EMS join forces to help older patients

By Wendy Nugent
During August and September one year, Newton Fire/EMS responded five times to a 911 call from a man who fell. He was just one of a number of what the department calls "super users," who are people, as the name suggests, who call 911 more than most.
Participant comments

“Great information and explanations...”

“I welcomed the visits...I have followed their recommendations. Thank you.”

“Very helpful...information on balance issues were helpful...Fireman installed 2 smoke alarms.”

“The paramedic team were a couple of special gentlemen. Thank you all for helping me!”

The End