

Identifying Gaps in Care in the Geriatric Trauma Patient with Rib Fractures

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DNP Project Defense

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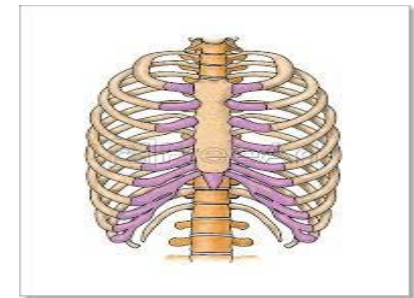
Objectives for Final Defense

1. Review the clinical problem
2. Review the Organizational Assessment
3. Review the Evidence-Based Solutions
4. Propose Evidence-Based Change



Background: The Problem

- Increasing volume of geriatric trauma patients (GTPs)¹
- Thoracic injury has the second highest mortality rate for the trauma patient in the U.S.²
- Rib fracture mortality rate of 20% or higher in GTPs³
 - 2 - 5 times higher rate of mortality than do younger trauma patients⁴
- GTPs with rib fractures have had worse outcomes than the younger trauma population⁵
 - Longer hospital lengths of stays
 - Increased ventilator days
 - More frequency respiratory failure
 - Increased pneumonia diagnoses



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Organizational Assessment

Project Setting and Resources

– Setting:

- Large inner-city Trauma Center and Small Urban Clinic

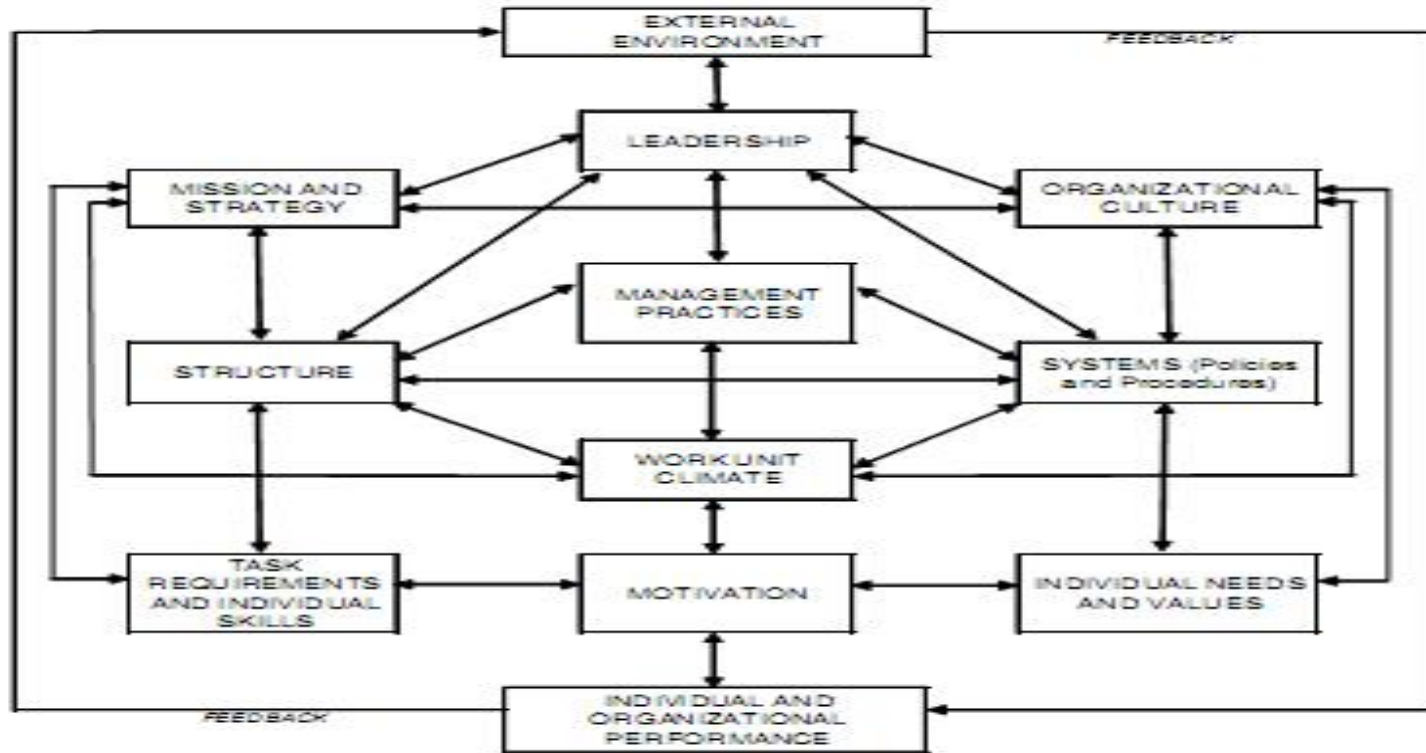
– Resources:

- Technology involving Electronic Health Record
- Key stakeholders
 - ED, inpatient and outpatient staff
- Materials
 - Program to develop dashboard



Burke-Litwin Model

Figure 1: The Burke-Litwin Model of Organizational Performance and Change



From: Burke and Litwin (1992: 528).

Literature Review

Literature Geriatric Trauma Protocol

- Five Articles from CINAHL Review
 - FRAIL questionnaire⁸
 - Geriatric specific protocols ^{9,10,11}
 - Improving nurses' knowledge through NICHE¹²
(Nurses Improving Care for Healthsystem Elders)



Literature Rib Fracture Protocol

- Eight Articles from CINAHL Review
 - Monitor Pulmonary Status¹³
 - Prompt Initiation of Analgesia for Pain (multimodal)⁵
 - Early Identification of Respiratory Decline
 - Surgical Intervention when indicated
 - Documentation Reminders¹⁴
 - Patient Education¹²



Literature: Trauma Clinic Follow-up

- Six Articles from CINAHL Review
 - Demographics affect follow up^{15,16}
 - Aged 35 years and older
 - Caucasian race
 - Insured by Medicare/Medicaid
 - Post-blunt trauma
 - Discharge to Rehab
 - Lengthy hospital stays
 - Poor Documentation¹⁷



Literature Findings

Process Outcomes

Improved Incentive Spirometer Documentation by Nursing^{14, 21}

Improved discharge documentation^{15, 16}

Standardized Care^{9, 10, 11}

Improved knowledge about geriatric trauma care for residents and nursing¹²

Patient Outcomes

Decreased Hospital Length of Stay^{14, 22}

Reduced Narcotic use¹³

Decreased Mortality⁵

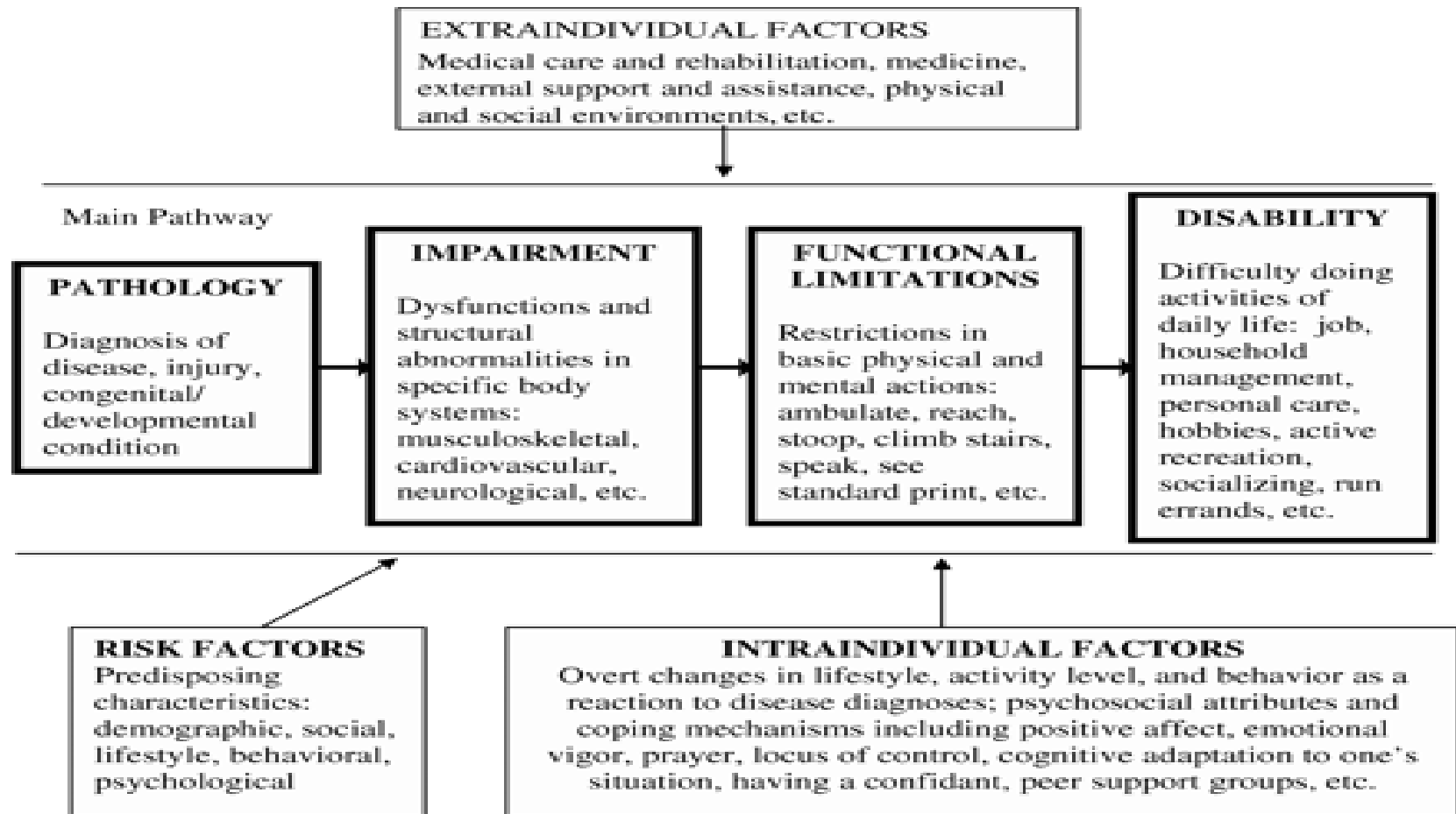
Decreased ICU length of stay⁵

Decreased Pneumonia rates⁵

Decreased Respiratory Distress Syndrome⁵

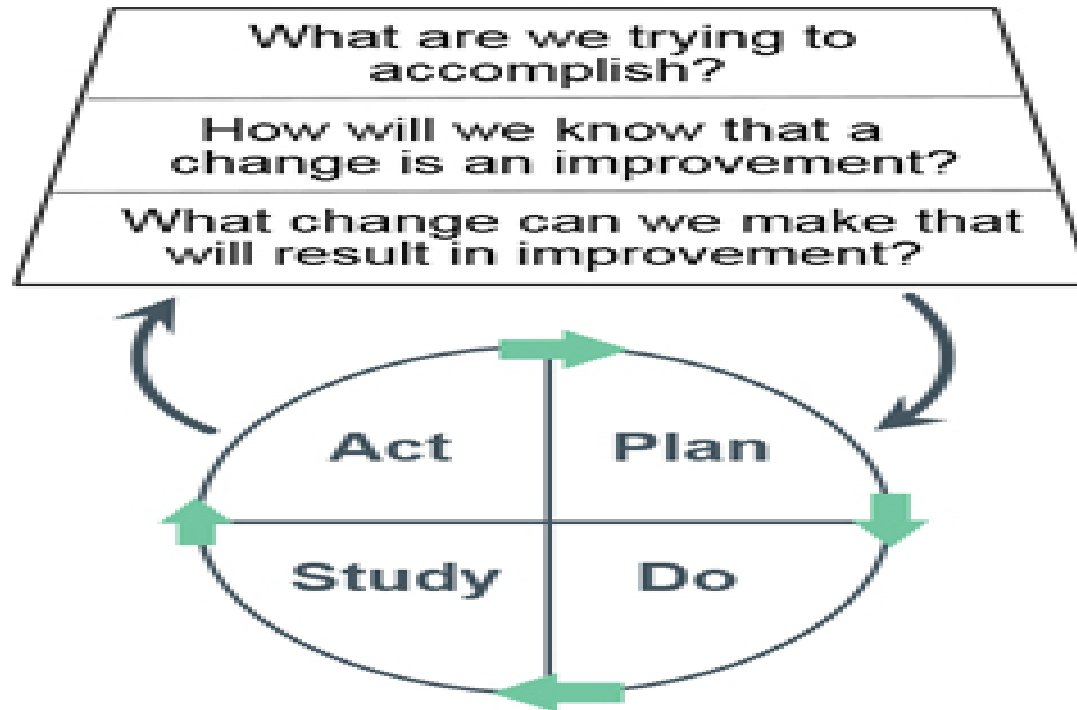
Improved Trauma Clinic Follow-up^{13, 15, 17, 23}

Disablement Process Framework¹⁹



IHI Model

Model for Improvement



IHI, 2018

Project Design

- IHI Model for Improvement¹⁸
 - Form the Team
 - Key stakeholders: TMD, CNS, ED and inpatient managers, nurses, trauma physicians and residents, respiratory therapist
 - Setting Aims
 - Focus on GTP with rib fractures and analyze 12 months of data with focus on process and outcome measures
 - Establishing Measures
 - Define the quantitative measures
 - Selecting Changes
 - Analyze the data to determine recommendations for evidence based change
 - Testing Changes
 - PDSA



Project Type and Purpose

- Quality Improvement Project
 - Determined to be quality by IRB from organization
- Purpose:
 - Gap analysis
 - Recommend evidence based initiatives for practice based on gap analysis
 - Improve process outcomes
 - Improve patient outcomes



Clinical Question

- Are there gaps in care for the GTP with rib fractures, compared to evidence based practice, that can be changed to improve patient outcomes?



Participants

– Subjects:

- Geriatric trauma patients aged 65 years and older with ISOLATED rib fractures

– Staff/Key stakeholder support:

- Project mentor (TMD)
- Trauma database coordinator
- Clinical Nurse Specialists
- Trauma physicians and residents
- Nurses
- Respiratory therapist
- ED and inpatient managers



Measurement: Sources of Data

- Data sources
 - Electronic Health Record
 - Trauma Database
- Observation of Staff
- Display Data
 - Dashboard



Project Objectives and Strategies

- Identified best practices through literature review
- Collected baseline data for specific process and outcomes measures:
 - ED
 - Inpatient setting
 - Trauma Services/Outpatient setting



Project Objectives and Strategies Continued

- Analyzed the baseline data and identify measures that need improvement
- Performed cost benefit analysis
- Presented data in a dashboard format to each department leader by February 1, 2019
- Created a sustainability plan for data abstraction and analysis by February 1, 2019
- Provided a recommended evidenced based improvement plan to each department based on the gap analysis findings

Project Evaluation Plan

- Distributed dashboard to key areas
 - monthly
 - Plan to transition to quarterly



- Identified key measure outliers for each department
- Recommended evidence based practice change

Sustainability

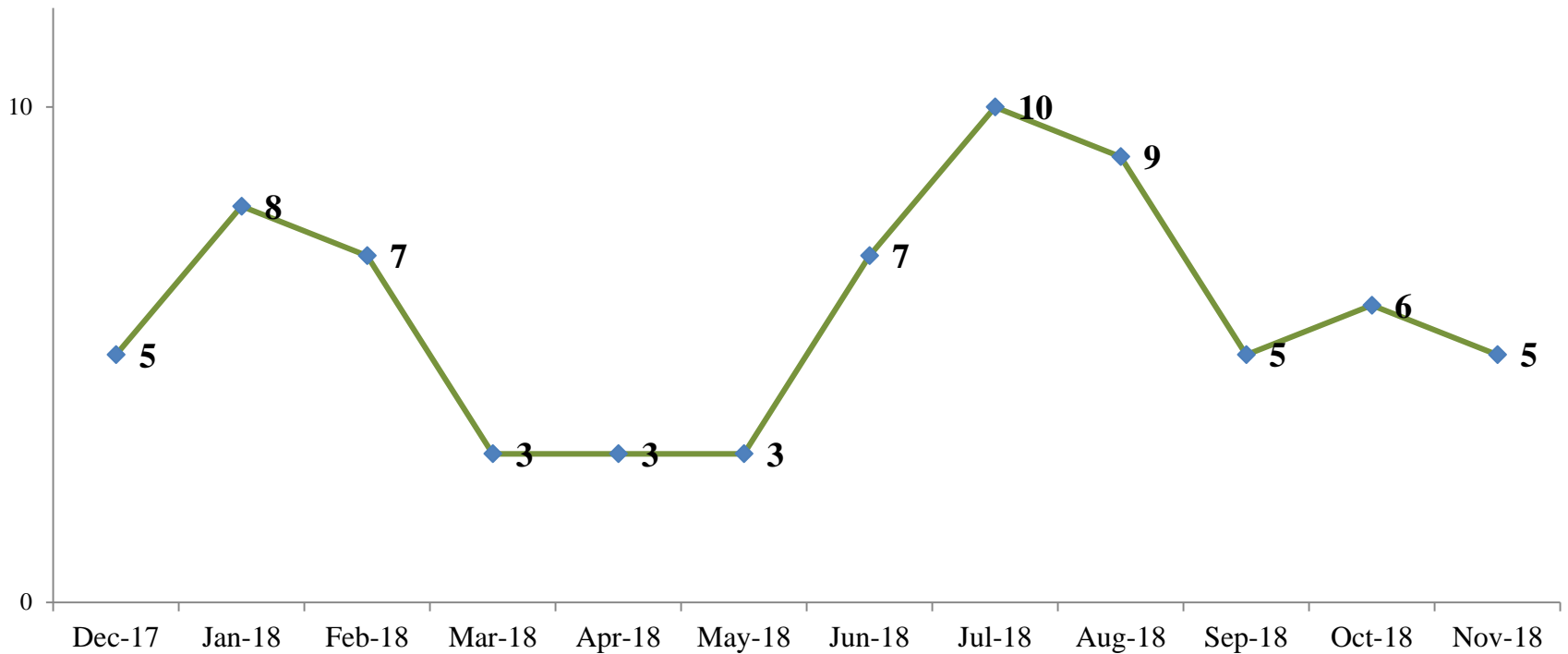
- Focused on Outcomes that are valuable and important to each department
- Decreased manual labor to obtain data measures
- Provided standardized reports for dashboard

Implications for Practice

- Proper treatment plans for GTP with rib fractures is important for survival
- Evidence supports protocols focused on patient care improves outcomes
- Identifying the gaps in care for GTP with rib fractures will allow each department to focus on evidence-based change

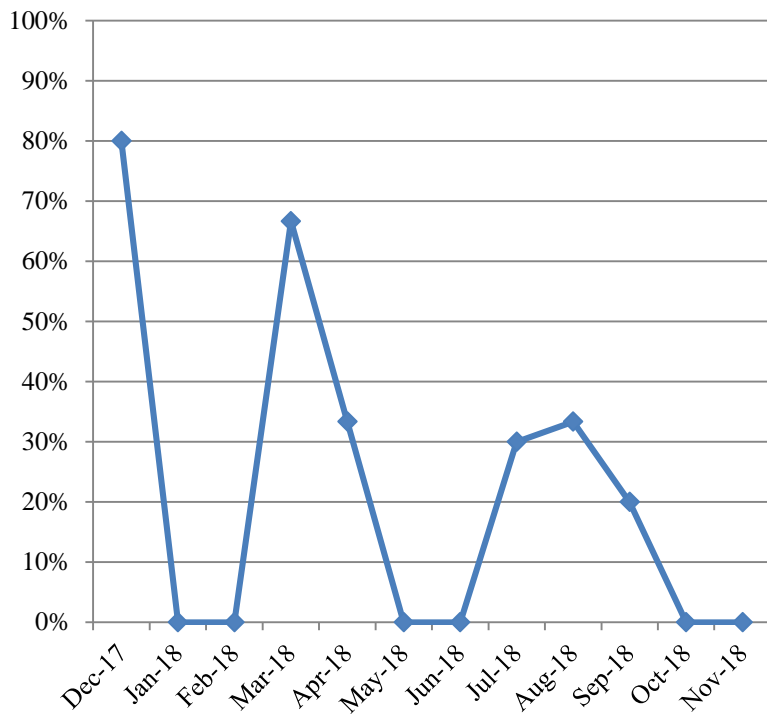
Results

Number of Geriatric Trauma Patients with Isolated Rib Fractures Per Month

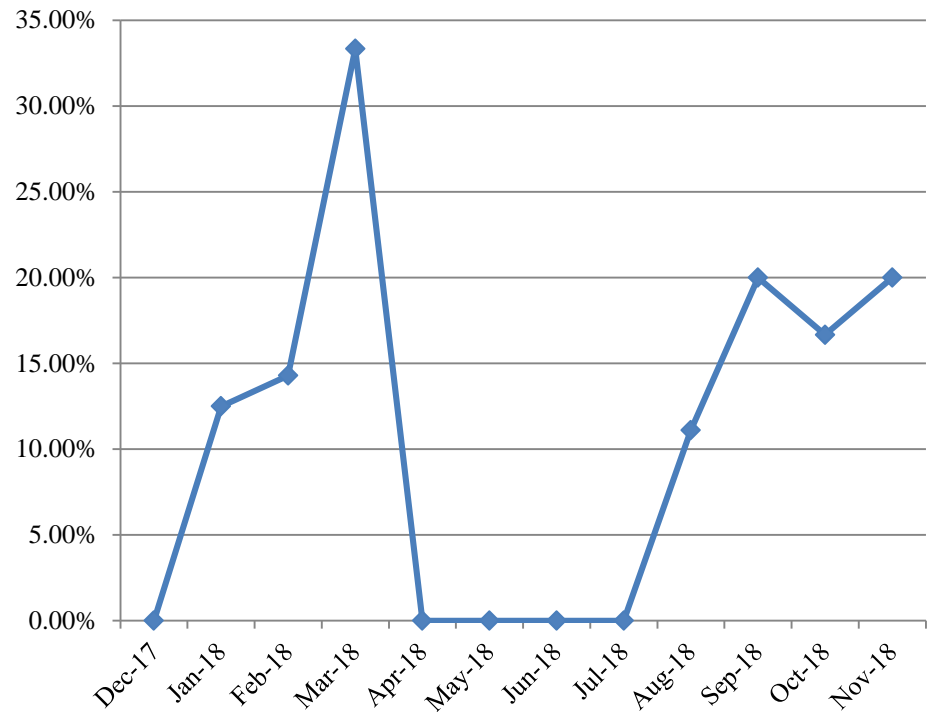


Results

ED Return Visits Within 30 Days

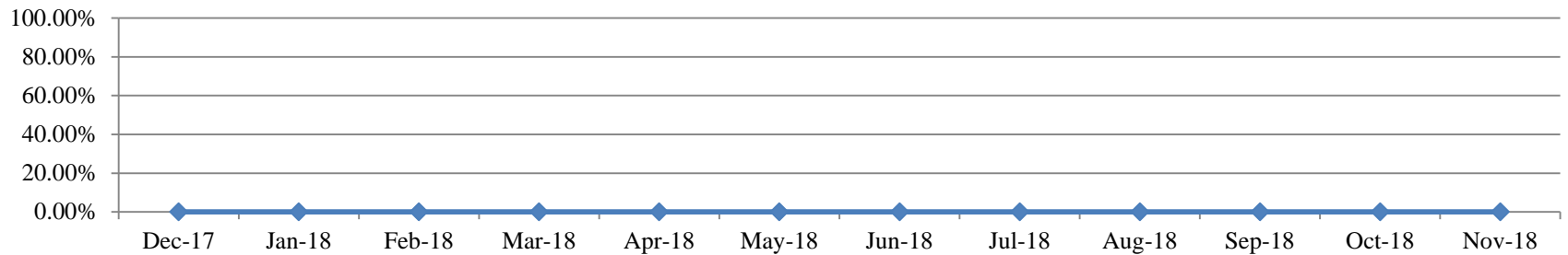


ED Return Visits With 31-90 Days

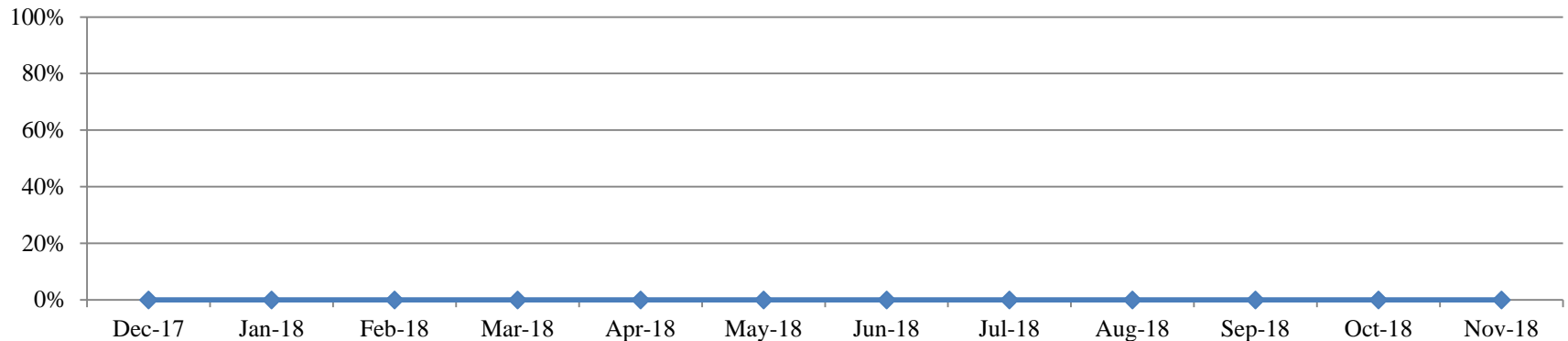


Results

Baseline IS Documentation in the ED

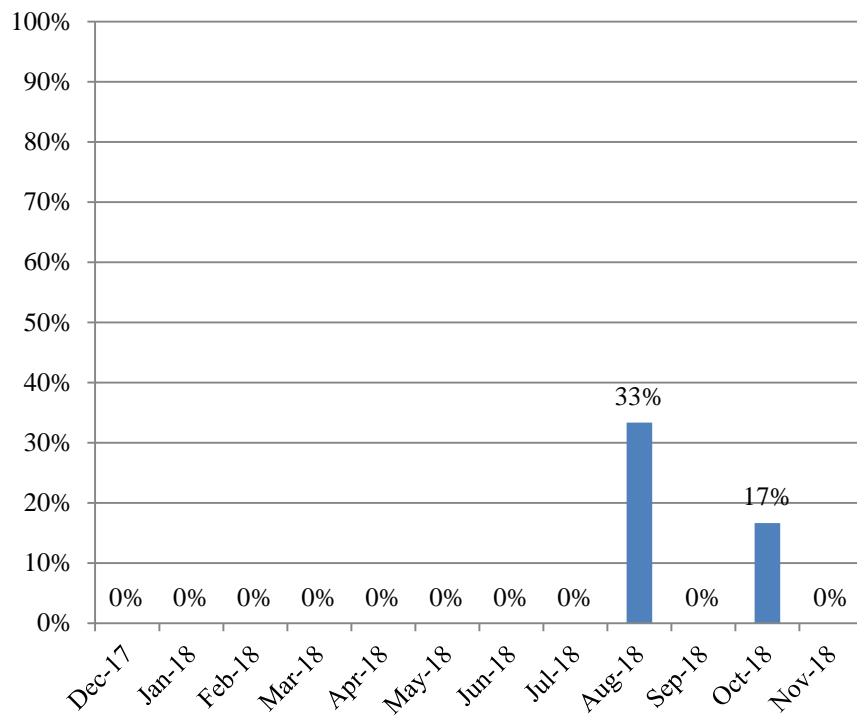


Inpatient Q4 Documentaion of IS

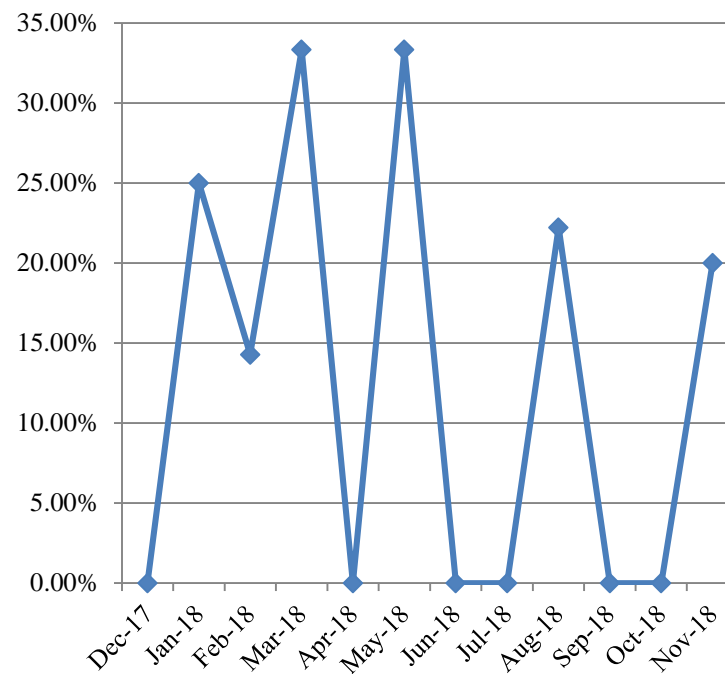


Results

FRAIL Documentation Completed

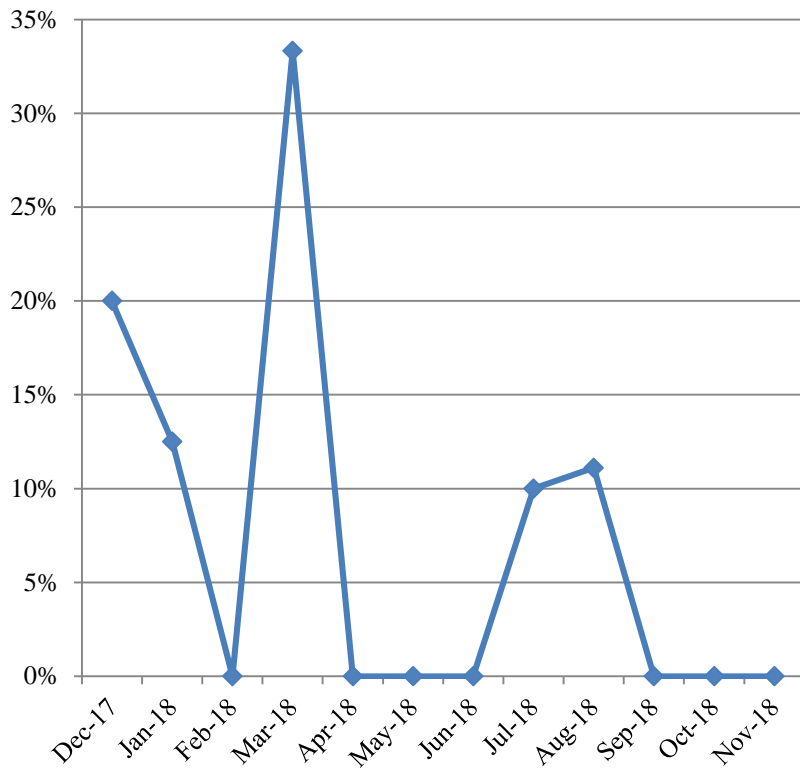


Trauma Clinic Follow-up within 2 weeks

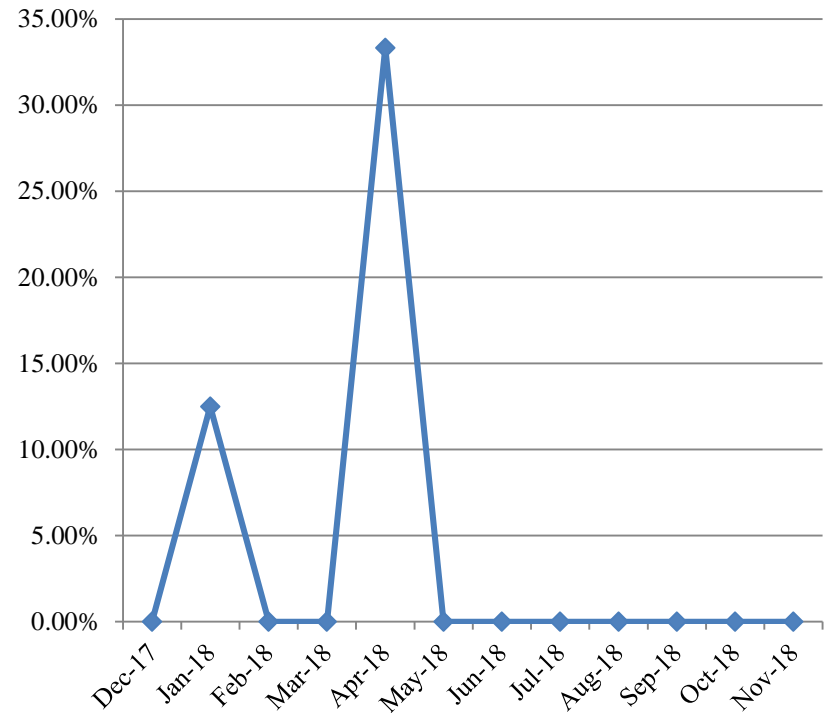


Results

GTP with Pneumonia

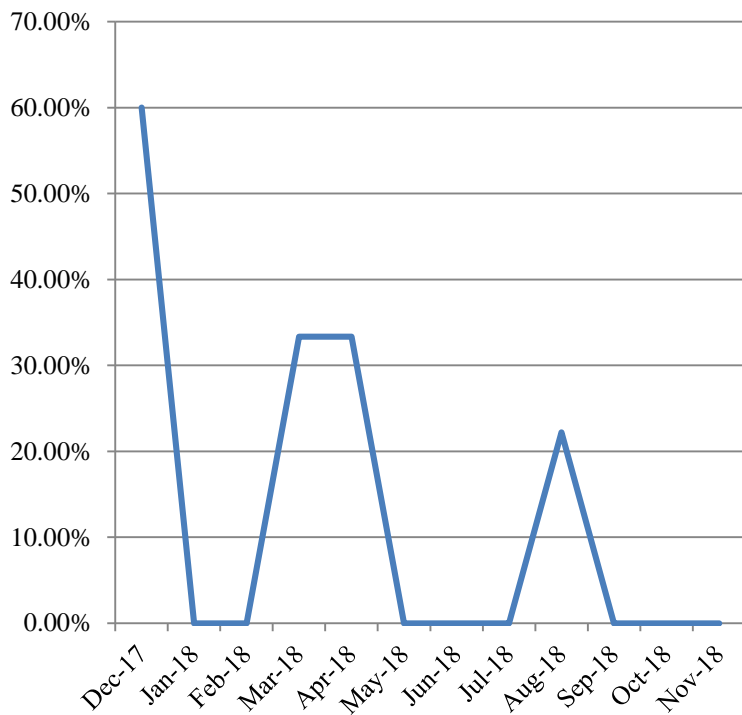


Unplanned ICU admits

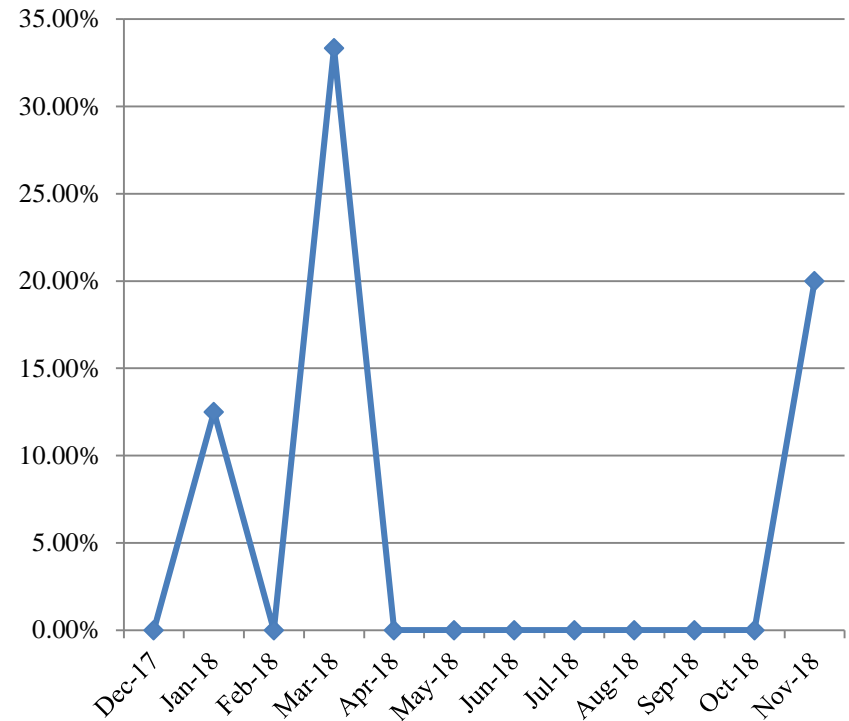


Results

Hospital Readmission within 30 days

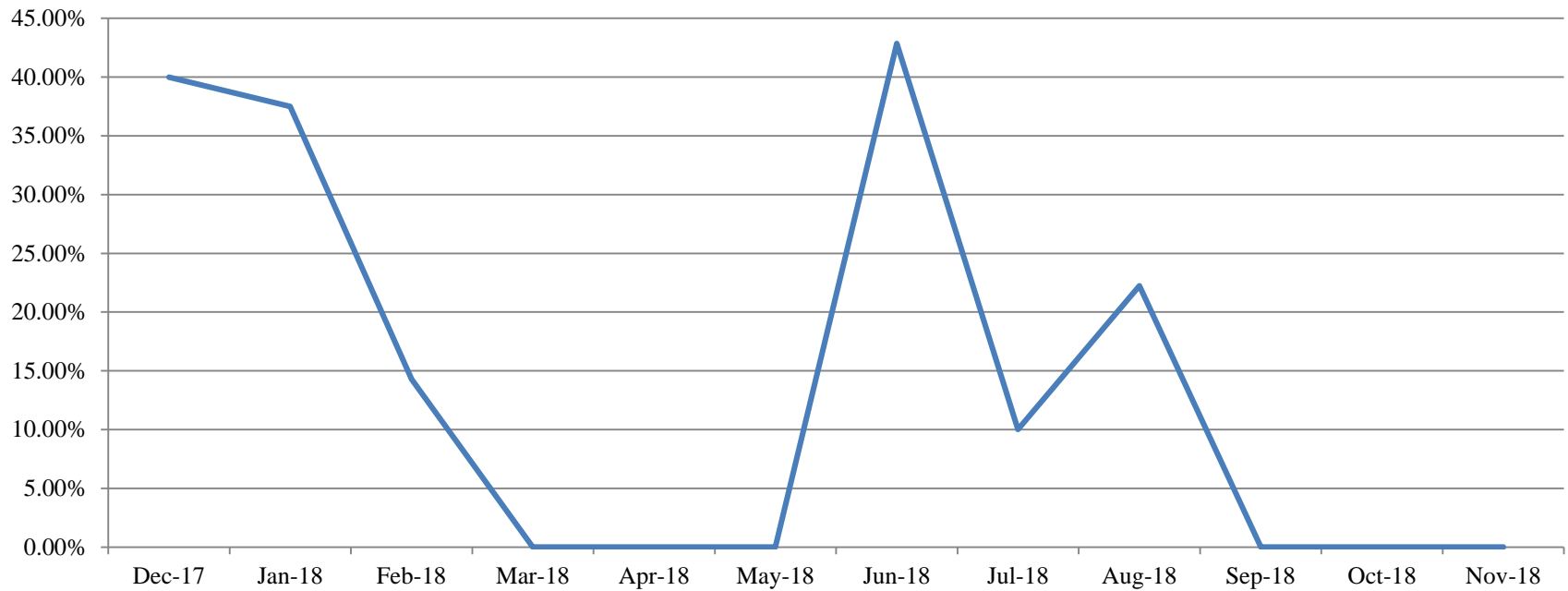


Hospital Readmission 31-90 days



Results

Mortality Rate for GTP with Rib Fractures



Key Findings

- Poor documentation of IS by nursing in the ED and inpatient setting
- FRAIL assessment was rarely utilized in ED for evaluation for ICU vs. general medical admission
- No standard process for follow-up plan

Evidence Based Recommendation

- Baseline IS documentation by the ED nurse
- Documentation of the IS by the inpatient nurse at least every 4 hours
- Utilization of the FRAIL assessment on admission
- Implementation of follow-up plan within 2 weeks of discharge whether to PCP or trauma clinic



Cost vs Benefit

	Cost/hour	Time to Spend on Project	Total
Trauma Database Coordinator	\$22.06/hour	2 hours/month for 4 months	\$176.50
Hospital Information Technologist	\$30.67/hr	20 hours to build reports	\$613.42
Clinical Nurse Specialists	\$43.52/hr	2 hour/month for 4 months	\$348.22
Student	Time donated	Time donated	Time donated
Total			\$1,138.14
Cost of Hospital Readmission for Pneumonia	n/a	n/a	\$23,400
Cost of ED Return Visit	n/a	n/a	23,000
Total			\$46,400
			Savings:\$45,261.86

Sustainability

- Improving Rib Fracture Care is a focus for the organization
 - Resident team developed a rib fracture protocol
- Choosing concise variables important to each department
- Majority of variables pulled from the trauma registry
- Variables unable to be pulled from the registry were strategically assigned to trauma staff during initial abstraction

DNP Essentials

- I- Scientific Underpinnings: health care phenomena
- II- Leadership: quality health care
- III- Evidence-Based Practice: literature
- IV- Information Technology: dashboards
- V- Health Care Policy: advocacy day
- VI- Collaboration: key stakeholders
- VII- Population Health: rib fracture care in the elderly
- VIII- Advanced Nursing Practice: excellence in care

Summary

Summary

- Providing evidence-based care is **KEY** to improving patient outcomes
- Tracking and trending of key measures helps to recognize areas in need of improvement
- Improving Geriatric Trauma care is a **MUST**



“The Fall that Saved my Life”



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