Give Decision Makers Access to Data and Evidence: Identifying Interventions to Reduce Hospital Readmissions at Elliot Hospital

Linda Kenney-Janosz
Sr. Data Analyst
Elliot Hospital Systems

Alisha Feightner
Director, Center for Clinical Excellence
Elliot Hospital Systems

#AnalyticsX
Agenda

- Who we are, what we do, our data
- Facilitation of data, evidence, improvement and leadership
- Results and reflections

AIM: Show how combining data, evidence, improvement science and clinical expertise can result in new understanding and insights in problem solving
Elliot Health System

Who we are

- Elliot Hospital is a 296-bed acute care facility located in **Manchester, New Hampshire**.

- We work in the Center for Clinical Excellence (CCE) department that supports and facilitates the quality and continuous improvement efforts of the Elliot Health System comprised of the hospital, specialty and primary care networks.

  - Alisha Feightner, Director
  - Linda Kenney-Janosz, Sr. Data Analyst
Team CCE

Data Analysts & Report Writers
Program Managers
Improvement Specialists
Clinical Partners
Case Managers

Improvement Facilitation & Tools
Quality Contracts & Regulatory Programs
Data & Analytics
Evidence-based Practice Research

Values:
- Respect for People
- Collaboration
- Shared Knowledge
- Staff-Driven Problem Solving
- Reflection
- Coaching

Multidisciplinary Team-Based Approach
Our Data

- **Electronic Medical Records**
  - EPIC system
  - Includes inpatient, emergency, surgery, specialist and ambulatory data
  - Over 10 years of history
  - Includes patients with an Elliot Physician Network primary care provider (PCP) as well as those outside our health system

- **Claims Data**
  - From our Medicare ACO for approximately 10,000 patients
  - Three years of history
  - Includes EHS provider claims but also visits to other hospitals, skilled nursing and specialists outside our system
Hospital Readmissions

- Patients who are admitted, treated and discharged but need to return to the hospital within 30 days
Why Do We Care About Readmissions?

- **Better Outcomes – Affordable Cost**
  
  » Researchers have estimated that inadequate care coordination, including inadequate management of care transitions, was responsible for $25 to $45 billion in wasteful spending in 2011 through avoidable complications and unnecessary hospital readmissions. “Health Policy Brief: Care Transitions,” Health Affairs, September 13, 2012.

- **Reimbursements**
  
  » Pay-for-Performance and Value-Based programs typically penalize hospitals for high readmission rates

- **Comparing Hospitals**
  
  » Readmission rates are publically reported and used as a basis for quality ratings
Baseline Data and What it Showed

From our data we knew

- There were monthly changes in the readmission rates reported to leadership but...
- Our readmission rate had not improved over time and was not at our target

From our discussions we knew

- There was no consensus around the drivers of change
- The data came from disparate sources which contributed to a lack of a shared understanding or trust of the underlying data
  - Including which patient populations are impacted or more actionable
Business as Usual Approach

- Traditional Process
  - Leadership sets a target for improvement
  - One or more solutions are identified and put in place by one or more owners
  - Results are reported in aggregate on a monthly or quarterly basis

- Traditional Results
  - Goal reached but often not sustained due to other priorities or change in solution owner OR,
  - Goal not reached and solution declared a miss, try new solution and new owner
New Approach

- Identify the root causes and drivers through
  - An informed, facilitated 4-hour session
  - With a multidisciplinary leadership group with decision-making authority representing the entire value stream for patients

- Create countermeasures that directly align to what the data and evidence support
Multidisciplinary Care Coordination Collaborative Practice Team (CPT)

- Physicians
  - Emergency, Hospitalists, Primary Care, Medical Directors
- Nursing
  - Inpatient, Emergency, Visiting Nurse Association, Care Coordinators
- Leadership
  - CMO, CNO, VPs, Directors
- Team CCE
  - CI Specialists, Program Managers and Data Analysts
We started the session by presenting our local (Elliot) data using various descriptive and predictive visuals

- Current Elliot readmissions trends & patterns
- Index admission diagnosis
- Post-discharge analysis
- Claims data analysis
- What if scenario
- Drilldown by
  - DRG
  - Age
  - Discharge Disposition
  - Etc.
We concluded the data analysis session by having clinicians log into the SAS® Visual Analytics (VA) report and create a “sandbox” copy that they could edit.

Users had hands-on time with graphs and tables including a “What If?” scenario with an input parameter to enter estimates and see the impact.

Clinicians were able to quickly drill down into the data to identify areas of opportunity and challenge assumptions.
Insights from Data Immersion

• Patients discharged to skilled nursing often are often readmitted from home
• Patients often are not readmitted for the same reason they were discharged
• Most readmissions are through the ED
• Missing patient-reported data on reason for readmission
• Reducing just a few readmissions (3 to 5 a month) can bring us to target
Evidence Analysis

- Introduction to evidence-based research
- Literature review
- Summary of the evidence
Bringing it all together...

Data
- SAS® VA visuals and sandbox

Evidence
- Best-available, peer-reviewed, critically appraised published information

Local Context
- Clinical expertise
- Operational experience and knowledge
- Hands-on data exploration

Source: xxxxxxxx
- Prioritization tool for readmission reduction interventions based on data and evidence
- Established values/criteria

Resulted in a list of scored and ranked interventions
- Confirm activities
- Assign process owners
- Establish timelines
- Added to CPT Strategy

- Care Coordination CPT
  - Provides direction and support to project teams
  - Barrier removal
  - Use of standard work
Prioritized Data-Driven Evidence-Based Activities Appropriate for EHS

- Concurrently flag and assess readmitted patients (prospective data collection)
- Initiate risk stratification and early identification of needs for enhanced discharge follow up
- Transition management for high risk patients moving from inpatient to outpatient settings
- Design an alternative system to readmission through ED
- Standardize patient education
- Standardize patient-focused after visit summary

KEY FINDING: Solutions based on local data, evidence and operational feasibility and NOT solutions based on “gut feel” or what worked elsewhere
Immersion Session Reflections

- Significant time to gather the analytics and evidence
  - Standard facilitation & tools helped

- Sandbox worked well: Level of detail;
  Participants able to challenge their own assumptions

- Bringing it all together was challenging

- More time needed for decision-making activity

- Requires commitments, resources, buy-in and follow-through
Post Meeting Data Reporting Using SAS VA
Thank you for the opportunity to share with you…

- How Elliot Hospital prioritized and launched readmission reduction efforts using data and evidence
- Our process & reflections
- A model that can be applied to any problem
- A way to bring context and understanding to data

Questions?