Reducing Mortality: Change in Culture, Structure, Process and Outcomes

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Background

• Mortality ratio (O/E) was 0.88
• Goal was achievement of COTH top decile ratio (0.67)
• Sepsis was the #1 clinical diagnosis associated with preventable death
  – Sepsis-related mortality ratio was 1.17 (O/E)
  – Aim was at least 20% reduction (ratio of 0.94).
Background

Information from surveys and observation

– Mortality review processes varied across hospitals,

– Understanding of data definitions and documentation sometimes differed from CMS criteria,

– No standardization of evidence-based sepsis protocols,

– Palliative care/hospice services were misunderstood and underutilized.

– From a cultural perspective…
  
  • there was no system-wide commitment to standardization,
  
  • loose accountability for monitoring delivery of a comprehensive sepsis bundle,
  
  • lack of acceptance of timely, well-documented palliative care & hospice services.
Marriage of clinical and *cultural* interventions

- Evidence existed for surviving sepsis (resuscitation and maintenance bundles)

- Evidence existed - clinical documentation improvement had significant impact on mortality (more accurate reflection of *severity of illness* and *risk of mortality* placed patients in correct O/E pool).

- Palliative care and hospice services didn’t directly reduce mortality; timely services influenced SOI/ROM. **Our patients deserved the very best level of care at the right time to support end of life goals.**

- MLH culture of safety and high reliability work was well underway but we were not applying principles beyond “preventable harm”.

- Language shapes culture. Cultural language included the word “accountability” (or lack thereof) on a daily basis…we had to do something transformational to address accountability.
Strategy for Building Reliable Culture of Safety

1. **Establish Expectations**
   Establish behavior-based expectations consistent with the organization’s mission, goals, and high management standards for event-free performance

2. **Educate - Develop Knowledge & Skills**
   Educate individuals at all levels of the organization on behavior-based expectations and error prevention techniques

3. **Build and Reinforce Accountability**
   *Establish an accountability system* to convert behaviors to work habits

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Donabedian’s simple path to quality

- **STRUCTURE**: Resources, Administration
- **PROCESS**: Culture, Co-operation
- **OUTCOME**: Goal achievement, Competence development
Transforming Systems of Care: MLH Quality and Safety Framework

Performance Improvement Leadership Council

*PI, Project Management Competencies & Perpetual Readiness

Financial, Clinical & Operational Analytic Competencies

Population Workgroups

Joint Replacements
Knee Hip
Cardiovascular Conditions
Respiratory Conditions
**High Risk Care Management

Cross-functional Workgroups

Safety Initiatives: Reliable Culture of Safety, Eliminating Harm and Reducing Mortality

Quality Initiatives: Improving Transitions of Care, Patient Experience and Delivery of Culturally Competent Care

Clinical Infrastructure work: (e.g. Smart Chart and Next Gen optimization, 3M Clinical Documentation and Ambulatory Quality/ACO)

Optimizing the Clinical Environment: Accountability Infrastructure

System Clinical Operations Council

Campus Clinical Operations Teams

Clinical Environment Workgroups and Microsystems

Inpatient Medicine and Critical Care CEW
BMH LMC PH RH

Emergency Medicine CEW
BMH LMC PH RH

Women and Infants CEW
BMH LMC PH RH

Surgical CEW
BMH LMC PH RH

Rehab Services

Ambulatory Services

Revised: 4/29/2014
*Process Improvement
**Includes patients enrolled in Pay for Performance programs
Clinical Interventions

**Care of Severe Sepsis**
Goal: Early identification and timely, consistent treatment
Tactics:
- Standardize order sets and protocols
- Sepsis screening bundle for the ED and inpatient areas
- Maintenance bundle/rapid response teams
- Sepsis alert implementation across system
- Department accountability

**Mortality Review Process**
Goal: Consistent process that will provide more actionable data
Tactics:
- Standardize internal review process through System Mortality Committee*
- Modify existing tools and database: triggers
- Develop algorithm for case review
- Summary reports identify individual or system failures
- Compliance with order sets monitored
- Appropriate documentation of SOI and ROM monitored

*Hospitalist contracted for part time system-wide mortality review function with a quality coordinator*
Interventions

**Documentation and Coding**
Goal: Accurate reflection of severity of illness and risk of mortality
Tactics:
- CDI reviewers hired and trained
- Concurrent review process – Medicare patients
- Physician training
- Tracking of physician queries

**Palliative Care and Hospice**
Goal: Patients placed in the most appropriate level of care and have access to services across the System
Tactics:
- Staff education: criteria development
- Consistent infrastructure across 4 hospitals
- Partnership with Home Care – site liaisons
- Tie in with existing goals
- Consider inpatient Hospice Unit
Results

• Overall 39% reduction in observed/expected mortality (p-value < .05) 1/12 – 12/13
  The hospital mortality reduction specific to calendar year 2013 is 44%.

• 55% reduction in O/E sepsis-related mortality (p-value < .001) 1/12 – 12/2013.

• Graphics display a significant number of potential lives saved.

• Hospice days doubled 2^0 increased awareness and resources to provide 24/7 services.

• Through more accurate documentation, SOI and ROM have increased from 4 to 7% (SOI)
  and 30 to 50% (ROM) from August 2013 through February 2014.

• Clinical leader dyads (VPMA/VPN and Medical Director / Nurse Manager) have accepted
  responsibility for Transforming Systems of Care, driving accountability for reducing
  variation in care and implementing best practices for all QPS priorities.

• Results sustained: Current performance – top decile for overall mortality ratio 0.48;
  just under top decile (0.55) for sepsis related mortality (MLH ratio 0.59)
Overall Hospital Mortality
Observed/Expected Mortality Ratio
& Potential Lives Saved (Expected minus Observed Deaths)

Intervention Period Begins Dec 2012

39% decrease over 8 quarters, p<.05
44% decrease over 4 quarters (2013)
Sepsis Mortality
Observed/Expected Mortality Ratio
& Potential Lives Saved (Expected minus Observed Deaths)

Intervention Period Begins Dec 2012

55% decrease over 8 quarters, p<.001
40% decrease over 4 quarters (2013)
In Conclusion

- Mortality reduction results can be replicated in other organizations by identifying the need for improvement, prioritizing the work, setting expectations for caregivers, providing them with education and tools, holding them accountable.

- Using evidence based clinical tools aimed at key drivers of mortality plus cultural strategies to improve accountability resulted in significant improvements.

- Data transparency with leaders, particularly those involved with chronically ill patients nearing end of life, is critical to driving results.

- Sustainment - through a commitment to safety culture and high reliability, enabled by a QPS framework and accountability structure, attention to new relationships with hospice and palliative care experts, and patient and family involvement.
Thank you to our MLH Mortality and Sepsis PI Teams…

And to our exceptional team leaders! ⭐️⭐️
(Eileen German, Lankenau, Mortality Team; Laura Tansey, Bryn Mawr, Sepsis Team)