

HOSPITAL ENGAGEMENT NETWORK 2012-2014:

Improving Patient Safety and Quality



PROJECT REPORT | JUNE 2015



Improving Individually, Learning Collaboratively

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Acronyms

ADE – Adverse Drug Events

CAUTI – Catheter-Associated Urinary Tract Infections

CLABSI – Central Line-Associated Bloodstream Infection

EED – Early Elective Delivery

HEN – Hospital Engagement Network

OB – Obstetrics

SSI – Surgical Site Infection

VAP/VAE – Ventilator-Associated Pneumonia/Ventilator-Associated Events

VTE – Venous Thromboembolism

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- American Hospital Association/Health Research & Educational Trust Hospital Engagement Network
- Missouri HEN participants
- Center for Patient Safety

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Executive Summary

The past decade has led to significant efforts to improve the safety, quality, delivery and value of health care. Beginning in 2001 with the Institute of Medicine’s “Crossing the Quality Chasm” report, to the initiation of the Centers for Medicare & Medicaid Services’s Partnership for Patients Hospital Engagement Network in 2011, the Missouri Hospital Association has participated in many national initiatives and led state initiatives to improve processes of care.

The HEN established bold aims of 40 percent harms reduction and 20 percent readmissions reductions as a catalyst to prompt adoption of best practices. Data was utilized to drive and empower performance improvement capacity within hospitals. Since the program’s inception, 98 Missouri hospitals have participated in the Missouri HEN led by MHA. Of those hospitals, 93 completed the project as it concluded on Dec. 8, 2014.

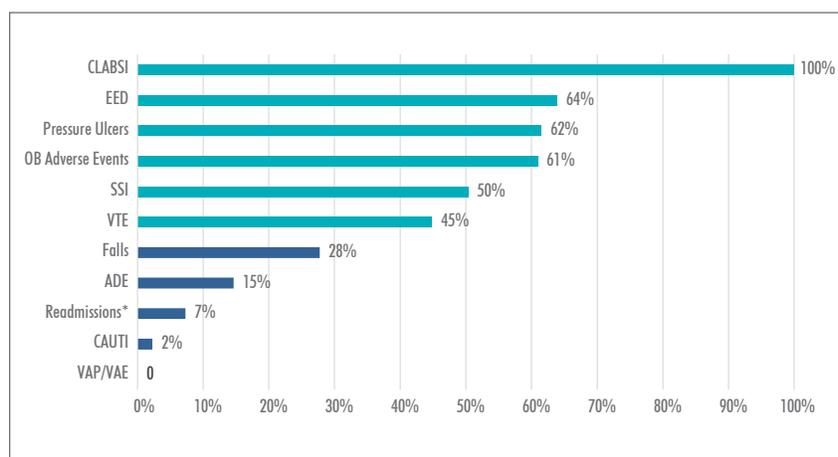
Missouri HEN hospitals made significant improvements both individually and collectively. In sum, Missouri HEN hospitals achieved 40 percent harms reduction in six specific measures tracked as part of 11 clinical conditions (Figure 1). These include central line-associated bloodstream infections, early elective delivery, pressure ulcers, obstetric adverse events, surgical site infections and venous thromboembolism. Total harm reduction projections include 9,060 harms and readmissions saved, with a total value of \$91.7 million.¹



The 93 hospitals completing the HEN project include the following types.

- *Acute Care Hospitals – 53*
- *Critical Access Hospitals – 29*
- *Children’s Hospitals – 1*
- *Psychiatric Hospitals – 4*
- *Long-Term Acute Care Hospitals – 2*
- *Rehabilitation Hospitals – 4*

FIGURE 1: PERCENT IMPROVEMENT BY TOPIC



Source: HRET Comprehensive Data System, MO HEN, 2011 baseline through Dec. 1, 2014; represents months with hospitals reporting at 85 percent or greater from baseline.

Measures Used to Define Percent Improvement by Topic
EOM-ADE-13
MO-CAUTI-2-1
MO-CLABSI-3-1
EOM-Falls-37
EOM-OB-120
EOM-PrU-63
EOM-SSI-88
MO-VTE-8-1
EOM-VAE-96a
EOM-READ-75
EOM-OB-40

¹ Results based on HRET Total Harm Calculator methodology and are projected from 2011 baselines.

“We have learned so much valuable information, and had collaboration and sharing through HEN participation. This work has truly improved our quality.”

– Paulette Powelson R.N.,
Pike County Memorial Hospital,
Louisiana, Mo.

The improvements made by Missouri hospitals demonstrate the high levels of hospital engagement and program value. The educational stipends and reimbursement for national certifications and national and state conferences provided hospitals’ quality staff access to subject matter experts, networking opportunities and innovative program-design. The work of the HEN has afforded MHA and Missouri HEN hospitals the opportunity to participate in an exceptional pilot project that increased the quality improvement capacity for hospitals and served as a platform for improving patient safety and health care quality goals; thereby, increasing value while decreasing health care spending.

Many Missouri hospital leaders and quality directors attribute their quality and patient safety improvements to their Missouri HEN involvement. The Missouri HEN project has created a venue for quality improvement, engagement of patients and families, and collaboration among participants and communities, while establishing the critical data goal of baselines and benchmarks as a foundation to track ongoing improvement. Reflecting on the past three years, many lessons learned have been identified that MHA will utilize strategically to support ongoing improvement efforts. With the seeds planted by participation in this program, MHA and Missouri’s hospitals are in a pivotal position to continue this journey.

Throughout this project, a valuable benefit was the ability for hospital quality professionals to network. MHA will continue to facilitate the platform for shared learning and urge collaboration regionally, statewide and nationally. MHA is continuing on the quality improvement journey and Missouri’s hospitals are eager to build on the success of the HEN. The work continues.

MHA’s comprehensive quality strategy, under the direction of its board of trustees, continues quality improvement efforts in Missouri hospitals in 2015 and beyond. This strategy aligns with the work that was started during the HEN, the National Quality Strategy and opportunities to decrease financial penalties in Missouri. Many new opportunities for technical and adaptive support, collaboration, networking and pilot/immersion initiatives are planned. MHA will continue relying on outcomes data to drive planning and support for its members.

Concurrently, MHA’s Board of Trustees approved moving forward with statewide hospital quality and pricing transparency initiatives — both scheduled to be available to health care consumers in 2016. A focused strategy to reduce variation and improve care is underway. MHA and Missouri hospital leaders and providers are poised to lead the efforts in every Missouri community. Achieving the Triple Aim of better health, better care and lower costs will take concentrated effort by hospital leaders, external stakeholders and consumers of health care.



MISSOURI'S HEN RESULTS 2012-2014

MHA, the Center for Patient Safety, and 93 Missouri hospitals participating in the Missouri HEN teamed up to achieve the following patient safety improvements.

- 

93% of reporting hospitals now have a hard-stop policy for early elective deliveries
- 

Reporting hospitals achieved a 7% reduction of all-cause readmissions
- 

96% of reporting hospitals achieved a 45% reduction in venous thromboembolism
- 

100% of HEN hospitals providing obstetric services achieved a 61% reduction in OB adverse events
- 

100% of HEN hospitals reported zero central line-associated bloodstream infections per patient day since October 2012
- 

23 Missouri HEN participants achieved 40/20 reduction in 10 of the 11 HEN topics
- 

96% of HEN hospitals achieved a 62% reduction in pressure ulcers
- 

77% of reporting hospitals achieved a 50% reduction in surgical site infections
- 

434 falls with injury were prevented



<p>TOTAL PREVENTION AND SAVINGS</p>	<p>9,060 episodes of patient harm prevented</p>	<p>=</p>	<p>\$91.7 million in health care cost savings</p>
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Engaging Leaders, Patients and Families: A Key Strategy to Quality Improvement

LEADERSHIP ENGAGEMENT

MHA has a strong relationship with health care leaders throughout the state, which provided a foundation for further engagement related to quality and patient safety. The primary ways leadership was involved were through site visits and regular HEN updates at association board of trustees' meetings and regional district council meetings. In addition, CEOs received data feedback reports to track their hospital outcomes and data submission thresholds. Distributing the outcome reports to leadership proved valuable and increased engagement. MHA staff promoted the quality agenda and distributed materials during each of their visits with Missouri's health care leaders. One element of evaluation was a survey of Missouri HEN hospitals assessing leadership engagement in quality improvement efforts using the following four metrics.

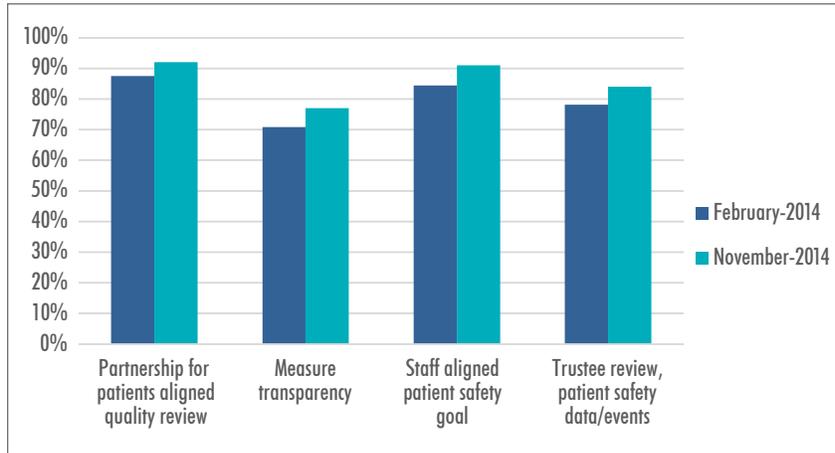
“This would not have been successful without our senior leadership because they all have supported the HEN initiatives tremendously.”

– Stephen Njenga MPH, MHA,
Clinical Excellence Coordinator,
Cox Monett

- Hospital has regular quality review aligned with the Partnership for Patients goals.
- Hospital has a public commitment to safety improvement with transparency in sharing more than core measurement data with the public.
- Hospital staff, all or nearly all, have a role or perceived goal in patient safety.
- Hospital board of trustees has a quality committee established, with regular review of patient safety data, including review and analysis of risk events.

Figure 2 notes the improvement in leadership engagement in participating Missouri hospitals in February 2014 and November 2014. The results indicate that although leadership engagement was already high, increased engagement was achieved in all four metrics, suggesting a greater understanding of the importance of quality improvement to the overall health of the organization.

FIGURE 2: LEADERSHIP ENGAGEMENT IN QUALITY IMPROVEMENT AND METRIC REVIEW



Source: MHA Leadership Survey, December 2014.

PATIENT AND FAMILY ENGAGEMENT

Research shows that when patients are engaged in their health care, it can lead to measurable improvements in safety and quality.ⁱ Investments in activities that promote patient and family involvement in health care decisions and treatment plans are worth the effort, as consumers receive improved health care and overall health care costs decline.

The American Hospital Association created a framework, *Engaging Health Care Users: A Framework for Healthy Individuals and Communities*, for engaging health care users throughout the points of contact in the health care system.ⁱⁱ MHA has promoted this framework and continues to support hospitals in their journey toward patient and family engagement.

The Missouri HEN facilitated several patient-centered educational events, both virtually and in-person, including hosting a collaborative focused solely on patient and family engagement. The collaborative was an interactive day with subject matter experts and included a testimonial from a patient’s family member. Hearing this perspective inspired participants and created a sense of urgency within HEN hospitals to better engage patients and family members in care delivery. Figure 3 shows Missouri HEN hospitals’ progress in applying the evidenced-based strategies to engage patients and families in the design and work of improving safety and care.

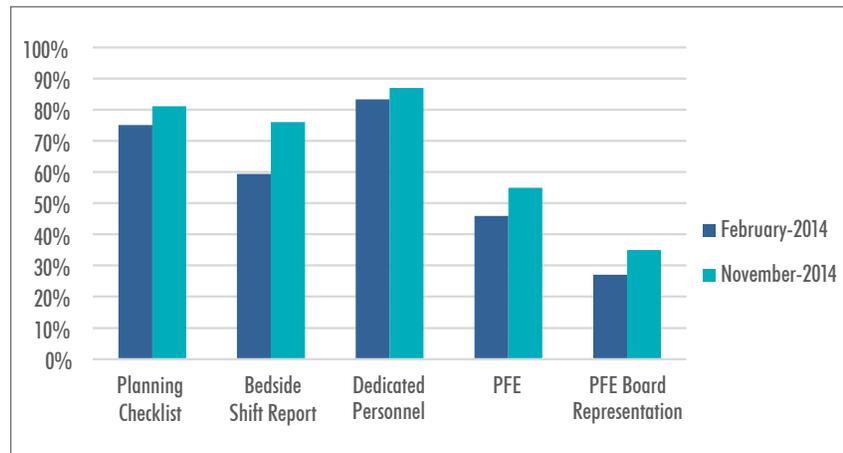
“The challenges we all face in health care require us to provide safer care and better clinical outcomes with less reimbursement for that care. As a team, it’s not about doing more with less. It’s about doing better with less. Leadership engagement with front-line staff is imperative for alignment and achieving results.”

– John Dawes, CEO,
Bothwell Regional Health Center,
Sedalia, Mo.

Patient and Family Engagement Strategies in Missouri Hospitals

- » pre-admission planning checklists
- » specialized discharge teaching forms
- » teach-back method of reviewing education with patient to ensure understanding
- » follow-up phone calls
- » greater inclusion of patients and family during staff reports, care plan reviews, shift changes
- » support groups
- » dedicated hospital staff committed to improving patient experiences
- » patient advocate role development
- » patient advocate presence on hospital boards, quality teams

FIGURE 3: PATIENT AND FAMILY ENGAGEMENT METRICS



Source: MHA Patient and Family Engagement Survey, December 2014.

PATIENT AND FAMILY ADVOCATE

Engaging patients, family and caregivers is necessary to achieve the Triple Aim of better health, better care and lower costs. MHA staff works with a local community member patient advocate for the patient/caregiver perspective on a variety of strategies, best practices and systems changes that will be shared with Missouri hospitals throughout the year, with the goal of exploring engagement strategies that are proven best practices and easily replicable. MHA will continue to reinforce how to measure and make the business case for engaging patients and families.

KEY STRATEGIES

- 24-hour patient visitation policies
- conducting nursing bedside shift reports with the patient and family
- improving communication with patients and families using the teach-back method
- utilizing evidence-based toolkits to promote Patient and Family Advisory Council development and implementation
- promoting a patient/family advocate to participate on hospital patient safety teams
- promoting process design that includes the consumer's viewpoint
- utilizing patient and family engagement opportunities as a cross-cutting strategy in all quality work

CREATING A CULTURE OF SAFETY AND HIGH RELIABILITY IN MISSOURI HOSPITALS

According to the Institute for Healthcare Improvement, “In a culture of safety, people are not merely encouraged to work toward change; they take action when it is needed.” Senior leaders must drive the culture of change by demonstrating their own commitment to safety and providing the resources to achieve results. The safety message must be consistent and sustained, as it takes time for a culture to change. Surveys that measure staff perceptions about the organization’s culture regarding safety are often useful tools to assess the presence of a culture of safety. High-reliability organizations maintain an assurance of safety at all levels, from front-line providers to executives. This commitment creates a culture of safety that includes the following key features.

- acknowledgment of the high-risk nature of an organization’s activities and the determination to achieve consistently safe operations
- a blame-free environment where individuals are able and encouraged to report errors or near misses without fear of reprimand or punishment
- encouragement of collaboration across ranks and disciplines to seek solutions to patient safety problems
- organizational commitment of resources to address safety concernsⁱⁱⁱ

Improving the culture of safety within health care is an essential component of preventing or reducing errors and improving overall health care quality. Studies have documented considerable variation in perceptions of safety culture across organizations and job descriptions. In prior Hospital Survey on Patient Safety culture surveys, nurses have consistently complained of the lack of a blame-free environment, and providers at all levels have noted problems with organizational commitment when establishing a culture of safety. The underlying reasons for an underdeveloped health care safety culture are multifaceted, with poor teamwork and communication, a culture of low expectations, and authority gradients all playing a role.

“The results from the HEN organizations participating in the culture survey reveal positive changes in teamwork and communication.

“The progress we see can be attributed to a strong commitment and active participation in culture and safety improvement collaboratives.”

– Becky Miller, Executive Director,
Center for Patient Safety,
Jefferson City, Mo.



SIX KEYS OF A CULTURE OF SAFETY

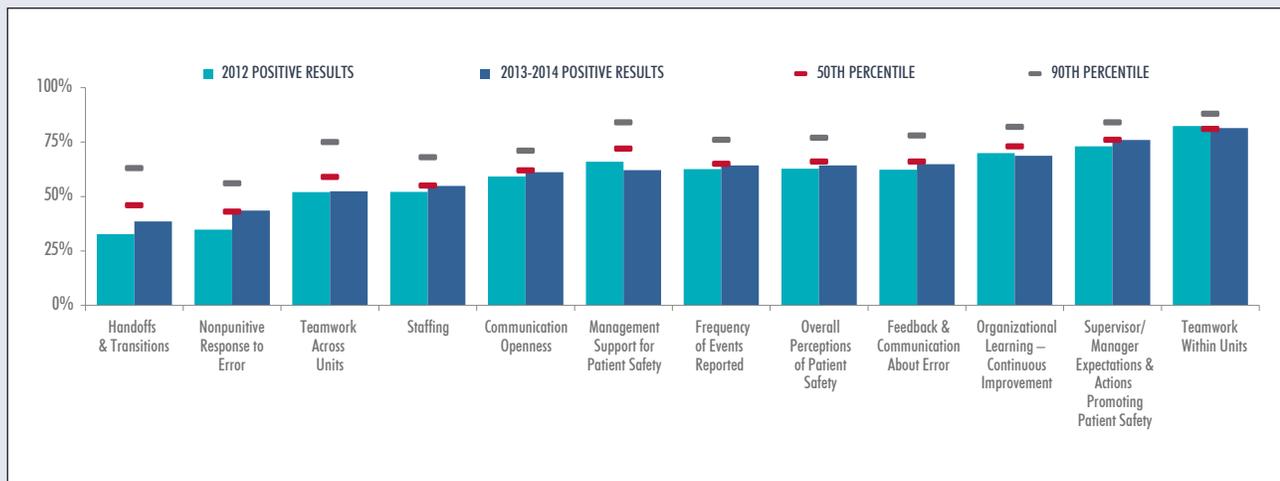
- 1) Patient safety culture starts at the top.
- 2) Patient safety culture is driven by a vision.
- 3) Patient safety culture involves everyone at every level.
- 4) Patient safety culture requires some evolution.
- 5) Commitment to patient safety culture is consistent.
- 6) Patient safety culture ultimately transcends the leadership.^{iv}

The best measure of whether an organization has achieved a culture of safety is to see how well the organization sustains the culture once there is a change in leadership.^{iv}

HSOPS is a measurement and diagnostic tool created by the Agency for Healthcare Research & Quality. Since its release in 2004, the survey has been administered in 45 countries and 24 languages. The survey includes a variety of standard questions that combine into 11 different dimensions. The results provide a snapshot of the culture within an organization and give meaningful insight into staff perceptions of patient safety. Actively analyzing the results and making suggested improvements can significantly improve the quality of patient care, reduce staff turnover, improve organizational financial stability, enhance employee engagement and improve patient satisfaction.^v

Thirty-six Missouri hospitals took advantage of this survey provided by the Center for Patient Safety through the HEN project.

FIGURE 4: TOP SAFETY CULTURE PRIORITIES BY DIMENSION



Source: Center for Patient Safety, Hospital Survey on Patient Safety Culture, 2013-2014.

According to the CPS, the HSOPS survey (Figure 4) noted the following results.

- **Questions with the greatest improvement:**
 - » staff feel like their mistakes are held against them (+9.2%)
 - » when an event is reported, it feels like the person is being written up, not the problem (+8.9%)
 - » important patient care information is often lost during shift changes (+8.4%)
- **Top 3 Priorities – lowest scoring dimensions**
 - » handoffs and transitions
 - » nonpunitive response to error
 - » teamwork across units
- **Top 3 Strengths – highest scoring dimensions:**
 - » teamwork within units
 - » supervisor/manager expectations and actions promoting patient safety
 - » organizational learning — continuous improvement

The CPS reports that the top initiatives utilized to improve the culture of safety in hospitals included the following.

- Utilizing the HSOPS tool to bring awareness to the team and identify how the organization can build on the results. The Comprehensive Unit-based Safety Program (CUSP) program both pre-HEN (since 2009) and during HEN helped to institute awareness and suggestions to change the organizational culture.
- Training for TeamSTEPPS (provided through the HEN)
- Implementing a Just Culture Collaborative with ongoing information, support and encouragement
- Building on the culture of safety framework established pre-HEN. Examples include ongoing awareness and training integrated into the HEN project, such as HSOPS, CUSP and segments of other CUSP/HAI initiatives outside of HEN.



Data Drives Performance

A key component of the HEN program was robust data submission. Hospitals began the HEN by collecting data on two topic areas, then proceeded to six and ended the program reporting on 11. Adverse drug events was introduced in 2013, while the topic of ventilator-associated pneumonia was changed to ventilator-associated events. This change resulted in collection of a different metric and altered the ability to correlate improvement across the timeframe of the program. Additionally, the topics of obstetric hemorrhage and pre-eclampsia management were added in 2014. In 2012, Missouri participating hospitals developed the understanding and capacity to abstract and report measures, and in 2013 and 2014 hospitals significantly increased their data reporting (Figure 5). To reduce the data reporting burden, MHA formed data-use agreements with the Hospital Industry Data Institute and participating hospitals to confer rights on certain HEN-inclusive measures. This provided the opportunity for organizations to spend more time on improvement activities related to each topic versus data abstraction.

As the HEN project evolved, CMS directed HEN hospitals toward a standard set of measures, which HRET and MO hospitals aligned with in 2014. The data in Figure 5 reflects the percent of hospitals submitting data aligned with these guidelines.

Value-Added Benefits To Missouri Hospitals

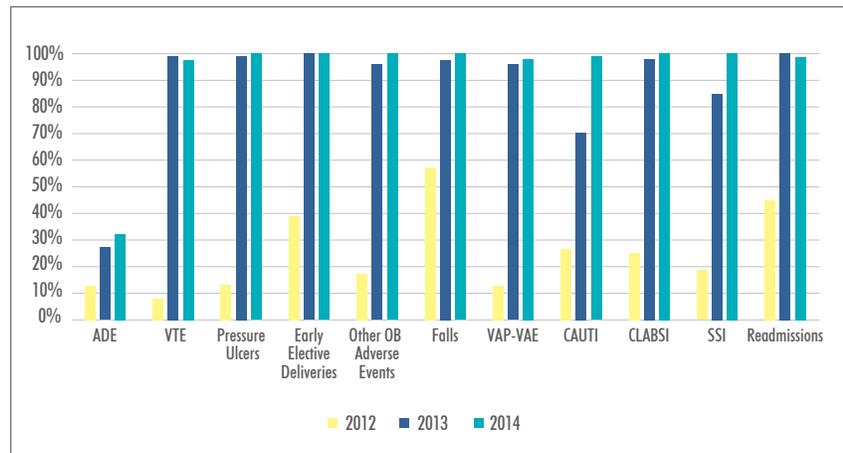
Through the HEN, Missouri hospitals were able to build improvement capacity and knowledge in multiple ways through multiple venues. The value of these opportunities cannot be underestimated. Educational opportunities supplemented organizational offerings and provided access to state- and national-level content experts in harm topics and cross-cutting strategies. A secondary outcome of the HEN was the opportunity to network with state and national peers through various in-person and virtual events. Participants repeatedly noted networking opportunities as one of the parts they valued most upon evaluation of programming.

Educational Opportunities

- Missouri HEN staff completed **99 hospital site visits in 2014**.
- Educational funding was awarded for specific quality and patient safety opportunities, including the NAHQ 39th Annual Educational Conference, quality and patient safety certifications, a perinatal conference, and MHA's Annual Convention.
 - » 2013: \$162,500 (61 hospitals funded)
 - » 2014: \$213,000 (71 hospitals funded)
 - » **Total: \$375,500**
- Seventy-eight state and national events had a **total of 1,115 hospital participants**.
 - » webinars, conference calls, and virtual and in-person events covered all topic areas.

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FIGURE 5: PERCENT ELIGIBLE HOSPITALS SUBMITTING DATA BY TOPIC

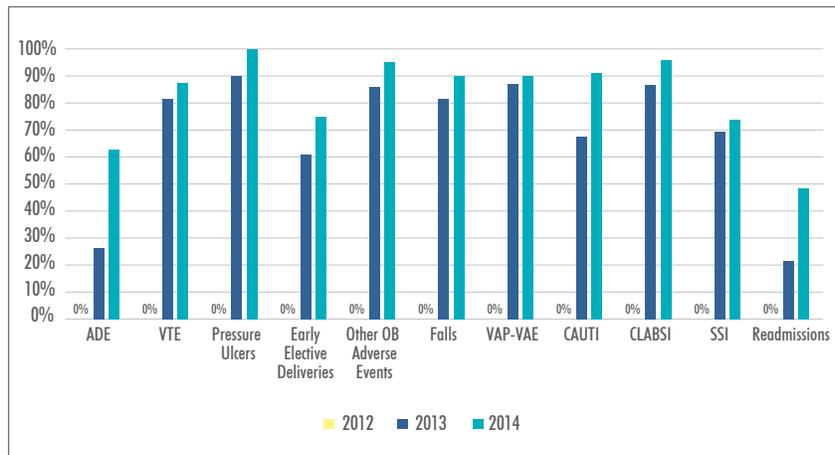


Source: HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

Figure 6 shows the percent of reporting hospitals that met the 40 percent harm reduction and 20 percent readmissions reductions goals from 2012 through 2014. Again, significant progress was made across the three years of the program. As hospitals were aware of their performance based on data submission, they were able to prioritize areas of improvement and apply appropriate resources to result in positive change.

In conjunction with HIDI, MHA sent participating Missouri HEN hospitals comparative data reports to inform and promote improvement to the 40/20 reduction goals. Progress reports and data submission reports in the form of CEO snapshots were provided to primary HEN contacts and CEOs in 2014 in all participating hospitals. Additionally, HEN staff promoted participation in monthly “What’s Up Wednesday?” conference calls and webinars where national and Missouri aggregate data were shared, explained and discussed. The data reviews provided opportunities to prioritize and shift resources, as needed, to address lagging topic areas and participants lacking data submission to recommended levels. Data stipends also were given in 2014 totaling \$279,000 to promote and support data abstraction and reporting required by the HEN.

FIGURE 6: PERCENT OF HOSPITALS MEETING TARGETS



Source: HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

Data was based on the most recent three month rate. Hospitals met performance in one of three ways as defined by the AHA/HRET HEN.

- 40 percent improvement (20 percent for readmissions)
- rate less than or equal to the benchmark rate
- zero rate for greater than or equal to 12 months

continued ▼

» cross-cutting topic areas included the Comprehensive Unit-based Safety Program (CUSP); TeamSTEPPS; patient and family engagement; leadership and physician engagement; team management; process improvement tools; and data measurement, reporting and analysis

- Improvement Leader Fellowship trainings in conjunction with the Institute for Healthcare Improvement in 2014; **nine monthly trainings** held with **22 hospitals** and **130 individual hospital staff participants**.
- IHI Open School in 2014: Missouri HEN hospitals had **458 people registered with 966 courses completed**.
- National Patient Safety Foundation courses in 2014: the Missouri HEN had **68 people registered with 59 courses completed**.
- The Purdue Medication Safety Course in 2014, **16 individuals participated** in courses 1.0 and 2.0.
- Reimbursement for quality and patient safety-related conferences, sponsored by MHA, including its annual Infection Control Conference, with **54 participants** who attended through the HEN.
- Partnered with Health Literacy of Missouri to **provide consulting to 12 hospitals in 2013** to improve patient discharge and medication materials to increase patient literacy, understanding and compliance.

Harm Reduction Victories

Central Line-Associated Bloodstream Infections

Key CLABSI Reduction Strategies

Hospitals in Missouri are working tirelessly at risk reduction in CLABSI. In 2014, these efforts moved out of the intensive care units and into all areas of the hospital where central lines are utilized. This drive toward a rate of zero CLABSIs hospitalwide led to the development of creative engagement methods through the use of CUSP principles and detailed evaluations by infection preventionists within the hospitals.

In the three years of the project, Missouri HEN hospitals utilized and promoted evidenced-based practices to achieve significant reductions in CLABSI. Examples of strategies include the following.

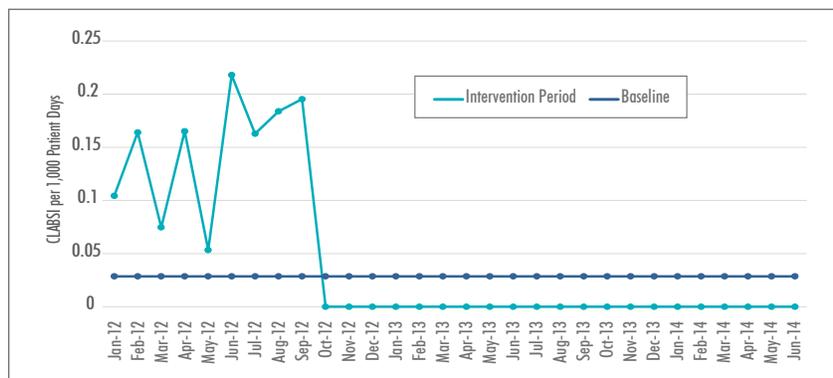
- implement central-line insertion bundles and maintenance bundles – both should include checklists
- discuss patients with central lines at daily clinical huddles and track the central lines on the staff huddle boards

continued ►

An estimated 30,100 central line-associated bloodstream infections occur in U.S. acute care facilities each year.^{vi} CLABSI is a serious infection typically causing increased length of stay, cost and risk of mortality. CLABSI can be prevented through proper insertion techniques and strict management of the central line.

Since October of 2012, Missouri HEN participants reported only two CLABSI infections per 1,000 patient days (Figure 7).

FIGURE 7: CLABSI PER 1,000 PATIENT DAYS



Source: HAC-27 crosswalks to MO-CLABSI-3-1 per patient days all units. Hospital Industry Data Institute, Missouri HEN 2012-2014.

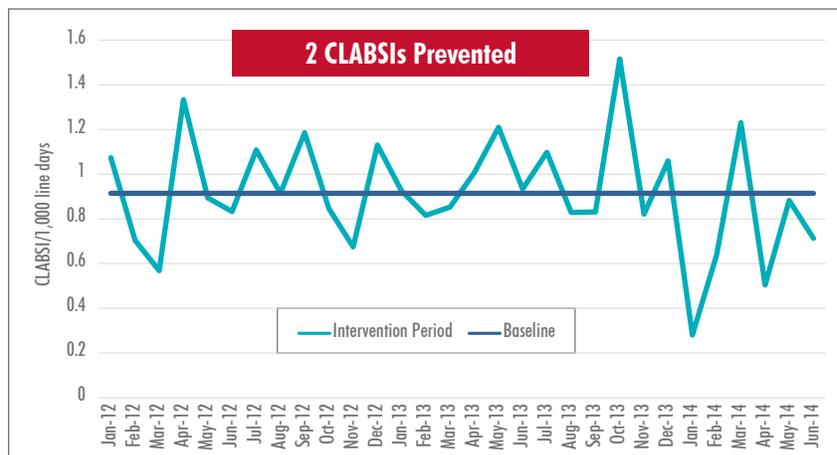
Data reported through the CDC’s National Healthcare Safety Network are reported as central-line days not patient-days, as only patients with a central line are at risk of developing a CLABSI.^{viii} The NHSN methodology also stipulates that no matter how many central lines or lumens each patient has, each patient is counted as one catheter-day.^{viii} During the project course, HEN hospitals showed a rapid decline in the CLABSI rate per central-line days (Figure 8).



0 CLABSI’s for 3 years and counting!

That is 0 infections out of 1,002 central line device days.

FIGURE 8: CLABSI PER 1,000 LINE DAYS



Source: CLABSI-24, CLABSI per number of device days all units. HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with hospitals reporting at 85 percent or greater from baseline.

CLABSI: HOSPITAL SPOTLIGHT — CITIZENS MEMORIAL HOSPITAL



Kim Tarka, R.N., Performance Improvement Coordinator at Citizens Memorial Hospital, in Bolivar, attributes their organizational success in achieving zero CLABSIs for more than three years to the following interventions.

Citizens Memorial Hospital's Key Strategies

Multidisciplinary team engagement

- “Make it Better” team including nursing managers and an infection prevention nurse reviewed processes, equipment and best practices. The team determined standardization of equipment and processes throughout the system would be beneficial.

Reduce variation

- Insertion kits were developed for both central and PICC lines. A checklist for utilization during insertion was developed. Designated nurses were trained to be a member of the PICC team for insertions and monitoring of lines during the patient’s hospitalization.

Policy updates

- Policy and procedures were updated and reviewed with medical staff for approval.

Education

- Education was provided to staff to use during every insertion and dressing change. Continued monitoring is accomplished by the PICC team, infection prevention nurse and infection control committee.

continued ▼

- require that every insertion has an observer/helper who completes the insertion checklist for central lines, thus benefiting from a two-person peripherally-inserted central catheter team
- hard-wire daily chlorhexidine gluconate bathing for all intensive care patients and CHG prep on all insertions, and standardize dressing changes and flushing protocols
- utilize alcohol-impregnated caps on all access ports and hang in patient rooms for easy access
- real-time debrief with all departments involved (e.g. PICC team, nursing and infection control) when a CLABSI is identified
- share personal patient stories with nursing staff when a patient develops a CLABSI, emphasizing the gravity of the issue to staff
- train home health agencies on dressing changes and PICC care and removal

Harm Reduction Victories

Falls

Key Fall Reduction Strategies

Increased awareness of risk, vigilance towards interventions and teamwork have led to a reduction of 434 falls for patients in HEN participating hospitals (Figure 10). According to HRET, the average fall with injury costs \$663. By preventing 434 falls, an estimated \$228,000 in health care costs were saved. Examples of strategies include the following.

- Use of a standardized fall and injury risk assessment for all patients admitted to the hospital. These assessments should be reviewed during hourly patient rounds on all shifts.
- Communication among providers is a key strategy to fall prevention. Daily staff communication and all patient hand-offs between shifts and departments should include a review of fall risk.
- Multidisciplinary teams benefit from frequent reviews and discussions about a patient's risk for falls. Team members should include physical and occupational therapy, nursing, physicians, pharmacy, patients and their families.

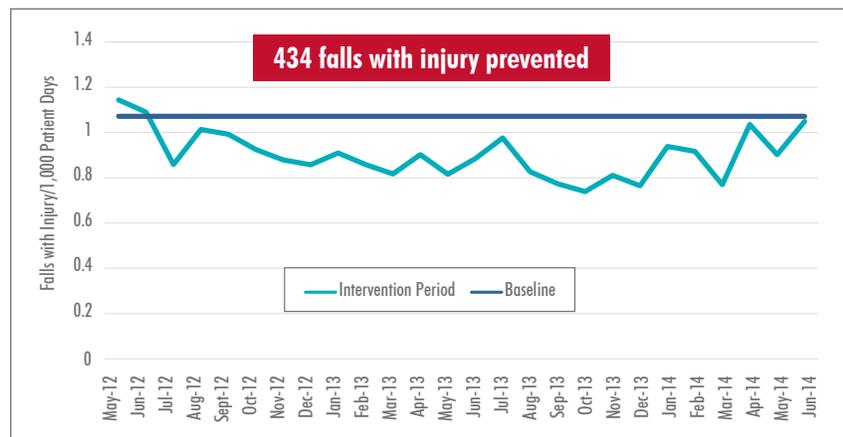
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Up to 50 percent of hospitalized patients are at risk for falls, and almost half of those who fall suffer an injury.^{ix} Falls have a tremendous impact on the patient's quality of life. Patients who fall experience an increased hospital stay of 12.3 days on average, with injuries from falls leading to a 61 percent increase in patient-care costs for health care organizations.^{ix}

Although the Missouri HEN did not achieve an aggregate 40 percent reduction in falls, the 28 percent reduction is viewed as a large success because of the difficulty in mitigating risks surrounding preventing patient falls. Many variables exist in understanding why patients fall that may or may not be under the direct control of the health care team. Figure 9 notes that Missouri hospitals prevented 434 patient falls with injury over the course of the project.

Patient falls in hospitals are among the most frequently reported incidents and may result in fractures, soft tissue injury, lacerations or internal bleeding. These events can prolong hospitalization, require rehabilitation, increase health care costs and severely affect a patient's quality of life. Approximately one-half of patients are unable to regain their ability to live independently, and patients who fall and experience a hip fracture have an increased mortality risk.^x

FIGURE 9: FALLS WITH INJURY PER 1,000 PATIENT DAYS



Source: Falls-38, HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with hospitals reporting at 85 percent or greater from baseline.



28 Falls With Injury Prevented!
Estimated Savings = \$18,564



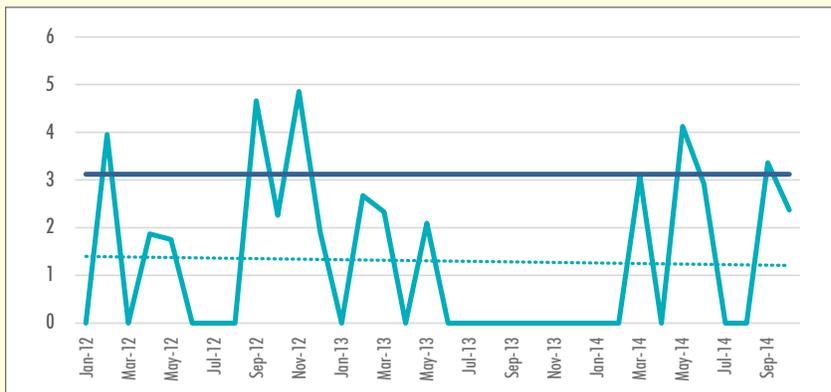
FALLS: HOSPITAL SPOTLIGHT — BARTON COUNTY MEMORIAL HOSPITAL



Eden Ogden, R.N., BSN, CDE, Director of Quality/Risk Management, at Barton County Memorial Hospital, in Lamar, attributes their organizational success in reducing harms from falls to the use of the teach-back method when educating patients about their fall risk, using debriefs to gain understanding of how to prevent future falls and empowering nursing staff to design safer patient care processes.

Barton County Memorial Hospital's Key Strategies

FIGURE 10: FALLS WITH INJURY COMPARED TO HOSPITAL BASELINE



Source: Data retrieved from HRET CDS, 2011-2014.

Teach-Back

- Teach-back has been one of the hospital's most successful endeavors. After nurse training on the importance and components of teach-back, it was implemented for hospital inpatients. The importance of this to patients and families was reflected in Barton County's HCAHPS scores. Scores related to communication about medicines and discharge information skyrocketed. Increasing those scores was not a new focus but an added benefit. Teach-back was an invaluable tool to achieve success in reducing falls.

Post-Fall Huddle/Debrief

- Post-fall huddles and debriefs provided a way to evaluate what could have been done differently to prevent falls. Through the huddles, everyone, including the patient and family, learns from each other about how to better manage and prevent future fall risks. It also has been a good tool to evaluate if all appropriate fall-risk precautions are in place and if they are being followed to decrease patients' risk.

Nurse Empowerment

- Getting the nurses' input to the needs and barriers they observed and ways to address them is critical. Nurses are doing the work and their opinions need to be considered and utilized to promote buy-in and to create systems that prevent harm. The HEN team gave them a platform to be involved.

continued ▼

- Staff should routinely discuss why a patient is at risk for falls in the hospital with the patient and family. Education is key to prevention.
- Visual cues also provide communication that may help staff identify patients at high risk of falls. One such example is placing yellow socks on patients at high risk for falling, providing an immediate cue for staff. Another is signage in the patient room and on assignment boards.
- Assigning accountability — specific staff assigned to ensure toileting rounds — and ensuring frequent rounding is completed for patients at high risk for falls.
- Use of a post-fall debrief should immediately be conducted to identify the type of fall, how and why it occurred, and changes in care to prevent another fall. When possible, the patient and family should be involved in the debrief. Reviews should include the opportunity to provide for stronger care systems.
- "No Passing Zones," a process that encourages all staff to check on patients with call lights on, regardless of their job responsibilities, has been helpful in fall prevention. The goal is to answer the call light and receive the patient's request. Educating patients and families to your team's approach to answering call lights is recommended.

Harm Reduction Victories

Early Elective Deliveries and Obstetrics Harm

Key EED Reduction Strategies

The March of Dimes has been a critical partner in the reduction of EEDs in Missouri. It distributed signage and education to providers and patients explaining the importance of avoiding early delivery. The MOD's Perinatal Conference and assistance with regional OB harm reduction meetings provided additional education and action planning opportunities for Missouri birthing hospitals. Examples of strategies include the following.

- Hospitals throughout Missouri have worked diligently to implement an enforceable hard-stop policy and procedure.
- Hospitals and other providers have engaged patients in understanding the benefits of preventing early delivery. Patient education materials developed by the MOD were distributed at prenatal classes, check-up appointments with physicians, education campaigns and through various community organizations.

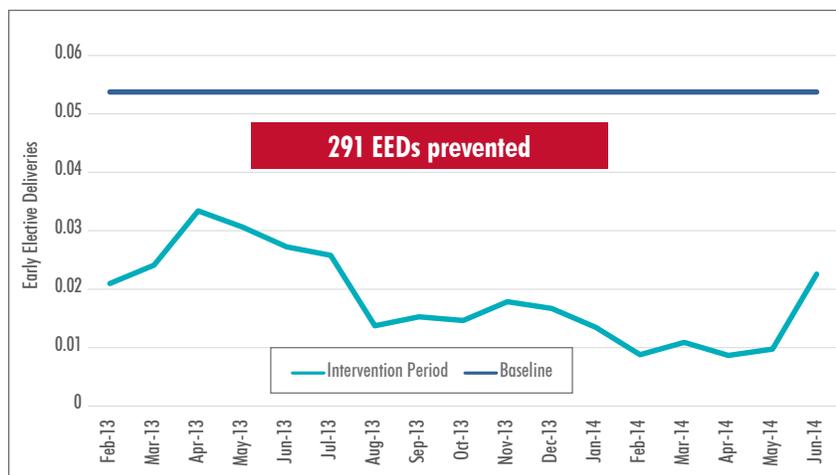
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EARLY ELECTIVE DELIVERIES

Early elective deliveries are associated with increased maternal and neonatal complications for both mothers and newborns, compared to deliveries occurring beyond 39 weeks and women who go into labor on their own. Infants born between 36 and 38 6/7 weeks gestation may weigh and appear to be the same as those born at full gestation, but they are more likely to have serious lung problems and other medical conditions that result in admissions to the neonatal intensive care unit. Long-term detriments in academic achievement, as measured by math and reading performance in third grade, also are evident with variations in gestational age at delivery. Maternal complications from elective induction include a higher rate of cesarean section deliveries in subsequent pregnancies and other medical complications, including obstetric trauma during delivery.

Missouri birthing hospitals achieved tremendous success in reducing early elective deliveries. In 2014, participating hospitals surpassed the national benchmark of 2 percent, achieving a 1 percent average (Figure 11).

FIGURE 11: EARLY ELECTIVE DELIVERIES



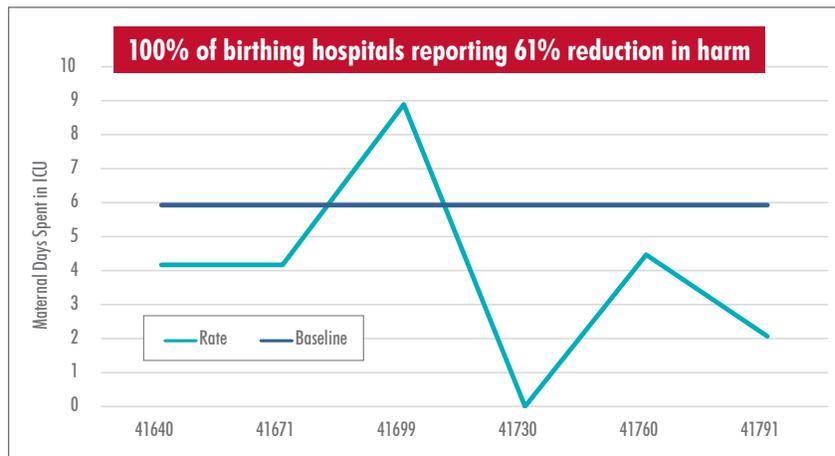
Source: OB-40, PC-01, HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

OBSTETRICS HARM

In February 2014, harm reduction efforts from pre-eclampsia and maternal hemorrhage were initiated as part of the work of the HEN. Missouri HEN birthing hospitals enthusiastically engaged in improvement efforts as evidenced by the rapid implementation of best practices and willingness to share across the state.

The rate of ICU days for pre-eclamptic women decreased dramatically during the first six months of data collection as compared to baseline (Figure 12). This decrease is attributed to early recognition via standardized diagnosis criteria and earlier intervention.

FIGURE 12: RATE OF ICU DAYS FOR DIAGNOSED PRE-ECLAMPTIC WOMEN



Source: OB-120, HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

OB hemorrhage was another new harm reduction initiative in 2014. Examples of initial reduction strategies included implementing a massive blood transfusion protocol, utilizing drills and simulation exercises to ensure preparedness, and developing standardized hemorrhage carts for staff use in emergency situations. During the initial six months of data collection, 43 percent of hospitals reported data on total and massive blood transfusions. This important work continues.

Missouri birthing hospitals also addressed harm issues associated with neonatal and maternal birth trauma. Figure 13 notes that 144 injuries to neonates were prevented in the last year of the HEN program. Much

continued ▼

- Electing a physician champion to disseminate evidence-based practice articles, educate reluctant physicians and empower nursing staff to advocate for policy enforcement has been another successful strategy.
- Collecting and trending data on EEDs. By tracking the outcomes and reporting the results to medical staff or peer review, information can be presented to help educate physicians and gain their input and recommendations.
- Passage of a MO HealthNet regulation that denies payment for EED for covered individuals occurred in 2014.
- Inclusion of EEDs in CMS' federal fiscal year 2017 pay-for-performance model.

Harm Reduction Victories

Early Elective Deliveries and Obstetrics Harm (continued)

Key Obstetrics Harm Improvement Strategies

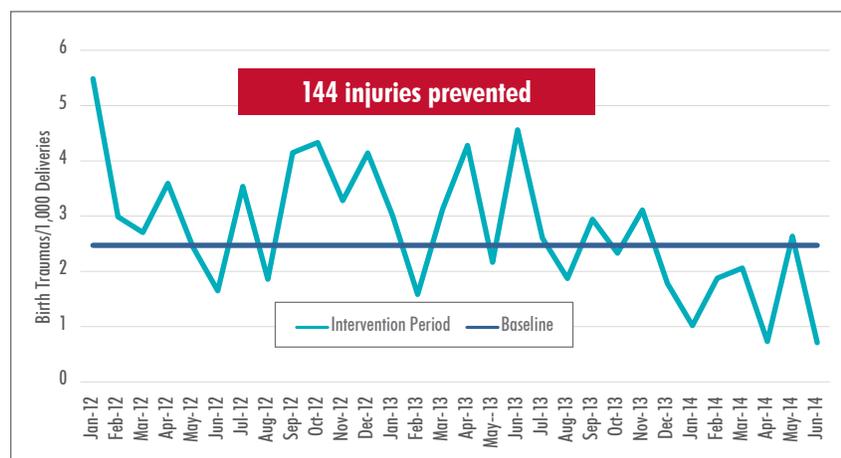
Many birthing hospitals in Missouri initiated best practices and protocols to help prevent maternal mortality. A three-pronged approach of readiness, recognition and response was utilized across Missouri's birthing hospitals to achieve OB harm reductions. Additional key strategies to improvement include the following.

- Collaboration with the MOD on five regional OB harm workshops in 2014.
- Conducted three webinars to reinforce learning from regional workshops. Workshops and webinars all have been modeled on the National Training Laboratories pyramid teaching model to reinforce learning and include time for planning and sharing.
- Provided bi-weekly OB Harm electronic updates.

continued ►

of this success is thought to be linked to the reduction in EEDs, expanded awareness by providers of newborn risk factors and a push to encourage natural labor processes. Allowing the mother time to deliver without provider intervention via an operative vaginal birth, unless medically indicated, also is key to preventing neonatal birth trauma.

FIGURE 13: BIRTH TRAUMAS: INJURY TO NEONATE



Source: OB-48, AHRQ PSI 17, HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

OB: HOSPITAL SPOTLIGHT — FREEMAN HEALTH SYSTEM



Cathy Waggoner, RNC, BSN, Perinatal Information System Coordinator at Freeman Health System, in Joplin, lists the following as keys to Freeman's success in OB harm.

Freeman Health System's Key Strategies

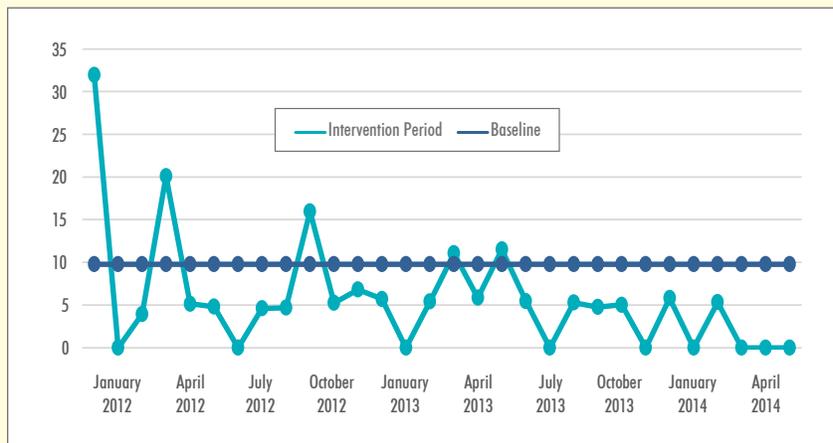
Networking

- The HEN afforded Freeman the opportunity to connect and network with other facilities. This connection has provided inspiration to improve processes for the safety of mothers and babies.

Evidence-Based Practice

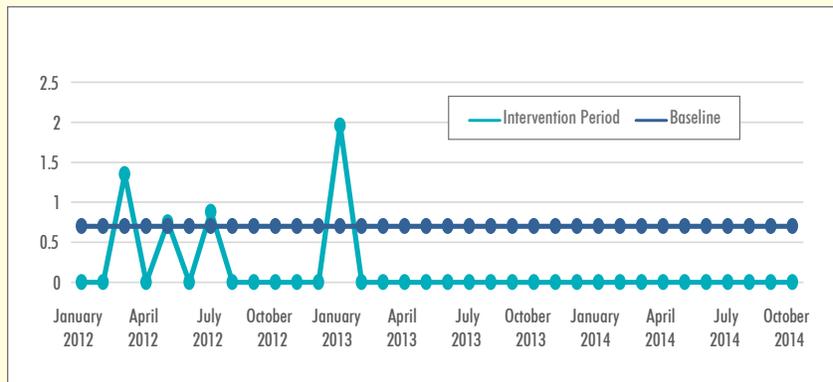
- The HEN has been a valuable resource and component in the quest to incorporate best practices, especially the task of provider buy-in of new processes for improvement. One improved process is elimination of EEDs. Freeman has achieved virtually a zero percent EED rate for the past two years. Another improvement was the response time and teamwork in the event of an OB hemorrhage with the development of a workflow that encompassed all departments in the treatment of hemorrhage. HEN has given Freeman the knowledge to continue identifying safety improvement needs of patients and families and to systematically meet these needs.

FIGURE 14: OB BIRTH TRAUMA-INJURY TO NEONATE



Source: Freeman Health System, OB Birth Trauma-Injury to Neonate, AHRQ PSI 17, data retrieved from HRET CDS, 2011-2014.

FIGURE 15: OB ELECTIVE DELIVERIES AT ≥ 37 WEEKS AND < 39 WEEKS



Source: Freeman Health System, Early Elective Delivery, PC-01, data retrieved from HRET CDS, 2011-2014.

continued ▼

- Provided information and education from California Maternal Quality Care Collaborative; Association for Women’s Health, Obstetric, and Neonatal Nurses; and American Congress of Obstetricians and Gynecologists on resources and protocols through HRET, National Content Developer and Premier webinars.
- Provided scholarships to the MOD’s Second Annual Perinatal Conference in 2014 for hospitals submitting poster presentations of outcomes relative to HEN initiatives.

“The Missouri HEN has been a catalyst in our quest to make improvements for mothers and babies.”

- Cathy Waggoner, RNC, BSN, Perinatal Information System Coordinator, Freeman Health System, Joplin, Mo.

Harm Reduction Victories

Pressure Ulcers

Key Pressure Ulcer Reduction Strategies

A thorough head-to-toe skin inspection and pressure ulcer risk assessment within four hours of admission should be conducted for all patients. Based on the skin assessment, hospital staff may develop and promptly implement an individualized patient care plan to prevent pressure ulcers. Examples of care protocols include the following.

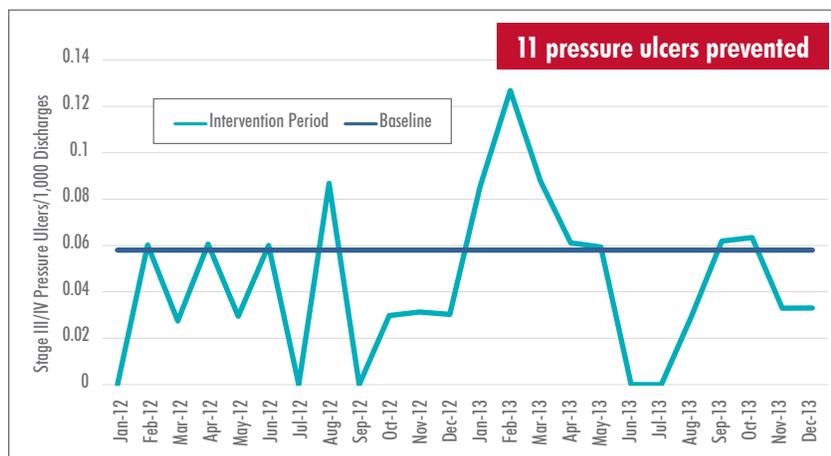
- Keep the skin dry and optimally moisturized to prevent conditions where pressure ulcers are likely to develop. This practice can lower the risk of skin breakdown by four times.
- Patients with nutritional deficiencies, including dehydration, may have muscle mass loss and weight loss that makes bony areas more prominent and prone to skin breakdown. Ensuring optimal nutrition and hydration is an important prevention intervention.
- Repositioning the patient every two hours helps redistribute pressure on bony prominences and avoid areas of breakdown.

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Pressure ulcers are localized injuries to the skin and/or underlying tissue, usually over a bony prominence that results from pressure and/or pressure combined with friction. Prevention relies on identifying patients at risk and implementing prevention strategies for all at-risk patients. Pressure ulcers reduce overall quality of life because of pain, treatments and increased length of institutional stay. They also may contribute to premature mortality in some patients.

Missouri hospitals reduced the number of Stage III and IV pressure ulcers by 11 on average throughout the course of the HEN (Figure 16). Providing treatment for a Stage III/IV pressure ulcer is very costly, averaging \$40,500 per case. While the overall numbers of pressure ulcers prevented initially may seem low, Missouri hospitals saved an estimated \$445,000.

FIGURE 16: STAGE III/IV PRESSURE ULCERS



Source: PU-63, HRET Comprehensive Data System, Missouri HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

PRESSURE ULCERS: HOSPITAL SPOTLIGHT — OZARKS MEDICAL CENTER



Mary Fine, R.N., B.C., Director of Quality at Ozarks Medical Center, in West Plains, shares keys to their success in reducing pressure ulcers. Although the HEN focused on the incidence of hospital-acquired Stage III/IV pressure ulcers, Ozarks Medical Center went further, looking to reduce Stage II pressure ulcers (Figure 17).

Ozarks Medical Center’s Key Strategies

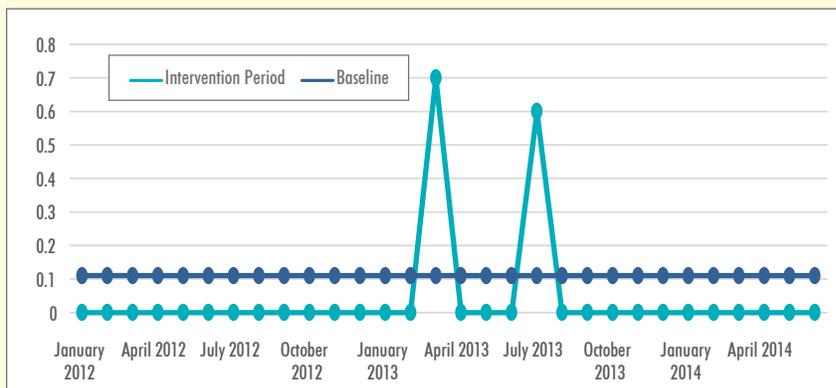
Evidenced-Based Practice

- The resources HEN provided were evidence-based. OMC staff changed how they applied interventions based on the Braden score. There is now intervention for each subset on the Braden score instead of interventions based on an overall score. Changing from overall score and interventions to each system score has been powerful.

Safety Team

- The pressure ulcer team did not have a great reporting system prior to the HEN. Previous data showed 100 percent reduction, but anecdotally the team knew that was not correct, so it was hard to see the need for improvement. With data from the HEN, the team has a true understanding of improvement opportunities. This allowed the team to implement strategies and capture hard work.

FIGURE 17: PRESSURE ULCER PATIENTS WITH AT LEAST ONE STAGE II OR GREATER NOSOCOMIAL PRESSURE ULCERS (NSC-2)



Source: Ozarks Medical Center, PU-63, data retrieved from HRET CDS, 2011-2014.

continued ▼

- Use of devices and techniques for patient transfers and position changes to prevent shearing of skin and friction prevents pressure ulcers.
- Educating patients and families on prevention strategies and early identification of changes in skin is a key to success.

Harm Reduction Victories

Surgical Site Infections

Key SSI Reduction Strategies

A key strategy to reduce surgical site infections is for practitioners to use a standardized approach to the recommended, safe and effective use of antimicrobial agents. These recommendations are based on currently available clinical evidence and emerging issues. They are graded on the strength of the evidence available and for following the recommendations below.

- perioperative dose timing
- selection and dosing
- duration of prophylaxis
- quality improvement efforts
- topical administration of irrigations, pastes and washes

In addition, hospitals have found success with following gloving recommendations from the Association of Perioperative Registered Nurses. Recommendations include the following.

- using specific methods during initial gowning for operative or other invasive procedures

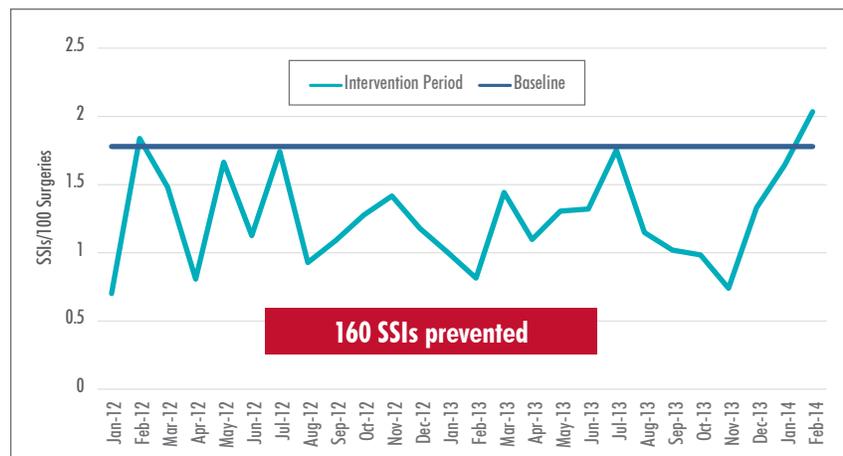
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A surgical site infection occurs after surgery in the part of the body where the surgery took place. Surgical site infections can sometimes be superficial infections involving the skin only, while others are more serious and can involve tissues under the skin, organs or implanted material.^{xiii} Infections develop in one to three patients out of every 100 patients who have surgery.^{xiv}

Missouri HEN hospitals prevented 160 SSIs when comparing the projected rate to the baseline rate. Missouri reduced SSIs by 30 percent overall through adherence to surgical protocols, universal infection control precautions, strict adherence to sterile procedures in the operating room and accurate, appropriate use of antibiotics pre-, peri-, and post-operatively (Figure 18).

During the last few months of the HEN, an increase in SSIs associated with a higher number of abdominal/gastrointestinal surgeries was noted. Due to this higher rate of SSIs, hospitals were queried and reported a higher number of GI surgeries for a variety of reasons. Public reporting requirements changed during the last year, which resulted in a possible seasonal shift in rates. Prevention activities aimed at risk reduction in this population were provided through coaching calls.

FIGURE 18: SSIs WITHIN HOSPITAL STAY



Source: SSI-88, HRET Comprehensive Data System, Missouri HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

SSI: HOSPITAL SPOTLIGHT — DES PERES HOSPITAL



Linda Ferrara, R.N., BSN, CIC, Infection Preventionist at Des Peres Hospital, in St. Louis, utilized a team approach in its operating room to focus on the following key strategies to reduce harm from SSIs.

Des Peres Hospital's Key Strategies

Best Practices

- Patients are given a bottle of Hibiclens soap during the presurgical assessment to eliminate the risk that the patients could not obtain it on their own. The patient is instructed to use the soap during pre-op showering. The operating rooms converted to Chloraprep for skin prep, as well.
- Surgical teams were designated by specialty to reduce variation and provide expertise.
- More recently, signage was posted on operating room doors to minimize door openings and extra staff in the room.
- The hospital's OR nurse educator held frequent infection prevention-focused educational huddles.

These strategies have enabled Des Peres Hospital to have zero SSIs for certain orthopedic procedures for more than three years.



Zero SSIs for certain orthopedic procedures for
3.5 years and counting!
That's no infections out of 1,795 discharges!

continued ▼

- changing gloves worn within specified guidelines
- proper handling of sterile fields during procedures

Another way Missouri has worked to reduce surgical site infections is by disseminating the Centers for Disease Control and Prevention's practice guidelines for patients. These guidelines and tools educate the community on ways to help end surgical site infections.

Harm Reduction Victories

Readmissions

Key Readmission Reduction Strategies

Throughout the HEN, three themes for reducing all-cause readmissions were utilized in a variety of ways across the state. Risk stratification of readmissions, engaging patients and families, and post-hospital follow-up are essential.

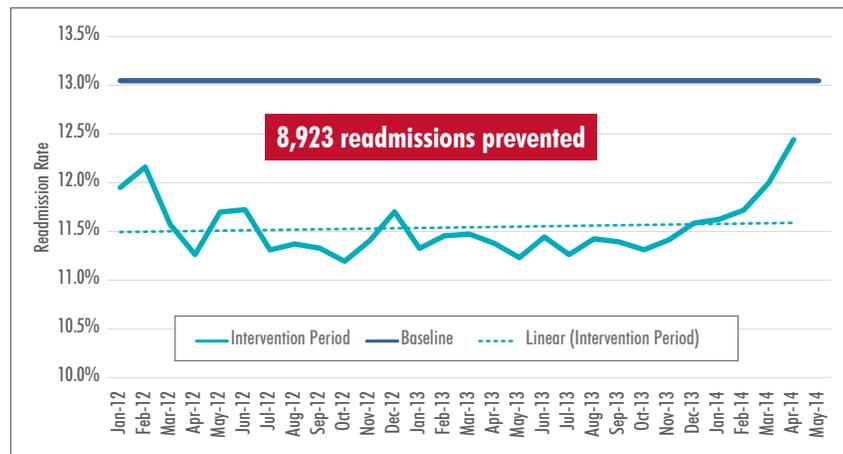
- Prevention of subsequent readmissions begins when patients are admitted. Upon admission, hospital staff should routinely perform an assessment of patient's potential risks for readmission and care needs following hospitalization. Standardizing risk assessment tools that tie specific actions and interventions to the patient's risk score is a beneficial strategy.
- Patient and family education is critical to preventing hospital readmissions. Discharge instructions should be initiated early in the hospital stay, and should be brief, concise, easy to understand, and meet the patient's literacy and language needs. Medications should be reviewed with patients and/or their families upon every transition within the care system. Effective

continued ▶

IHI states that a substantial number of all hospitalizations in the U.S. result from patients returning to the hospital soon after their stay. Because hospitalizations comprise nearly one-third of the amount spent on health care in the U.S., reduction is key to cost savings and providing increased efficiency of care. Rehospitalizations are costly, potentially harmful and often avoidable.^{xvi} Missouri reduced readmissions by 7 percent through the work of the HEN (Figure 19).

A statewide data boot camp on readmissions was held, as well as a statewide readmission collaborative. Readmission data dashboards with capability to review patient-level data for improvement opportunities were provided to participants. MHA offered a care transitions workshop and distributed a readmission issue brief statewide. Information on value-based purchasing, financial and quality connections, and sharing of best practices and lessons learned through networking opportunities proved valuable to participants.

FIGURE 19: READMISSIONS, 30-DAY ALL CAUSE



Source: READ-75, HRET Comprehensive Data System, MO HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.



These strategies enabled Carroll County Memorial Hospital to have a zero rate of 30-day heart failure readmissions for six months and counting.



READMISSIONS: HOSPITAL SPOTLIGHT CARROLL COUNTY MEMORIAL HOSPITAL

Mindie Stovall, LPN, CPHQ, Director of Quality and Clinical Nurse Staff at Carroll County Memorial Hospital in Carrollton, credits use of an evidence-based tool, engaged case managers and review of admission criteria as keys to their organizational success in reducing 30-day heart failure readmissions.

Carroll County Memorial Hospital Key Improvement Strategies

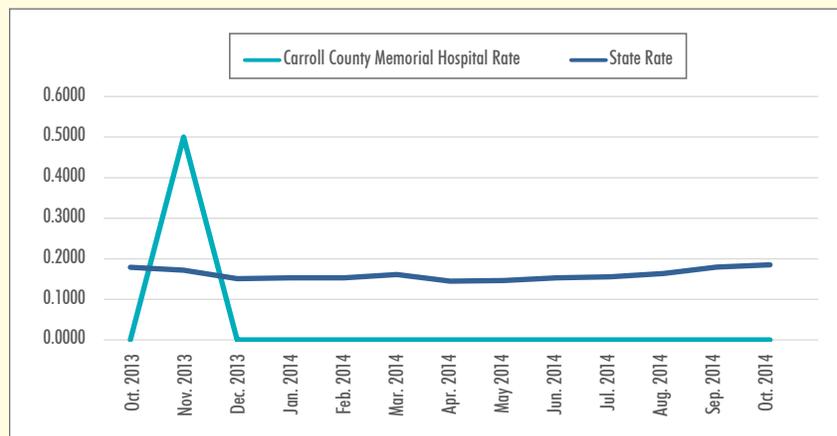
Evidence-Based Practices

- implemented the Project Boost form on all discharges to assess risk for readmission
- utilized the swing-bed program to assist patients who need continued care to decrease the number of possible readmissions
- case manager educates patients on how to manage their care at home prior to discharge and provides resources when necessary

Education

- CCMH educates providers on Interqual Admission Criteria and encourages them to call with questions prior to admitting the patient so that the correct level of care can be determined.

FIGURE 20: HEART FAILURE 30 DAY READMISSION – CARROLL COUNTY MEMORIAL HOSPITAL RATE COMPARED TO MISSOURI RATE



Source: Carroll County Memorial Hospital, heart failure 30 day readmission rate, data retrieved from HRET CDS, 2011-2014.

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patient discharge education and self-management skills should be provided using a patient teach-back technique. The outcomes of the risk-stratified admission assessment also should be addressed throughout the stay.

- Post-discharge follow-up, continuity of care and care coordination are important keys to preventing readmissions. One identified gap is communication of patient information to the next provider upon discharge. A discharge summary should be completed on the day of discharge and sent to the next provider within 24 to 48 hours of hospital discharge. Test results that are pending at discharge should be flagged and sent to the next provider. If possible, a copy of the summary can be given to patients and/or their families to take with them. Patients transferring to another care system will benefit from phone call reports between physician providers at the hospital and post-acute care facility.

Harm Reduction Opportunities

Catheter-Associated Urinary Tract Infections

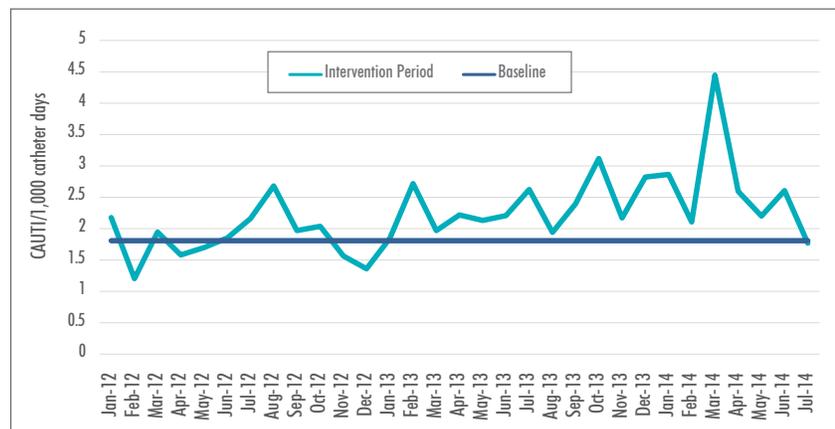
Key CAUTI Reduction Strategies

The CDC reports that nearly all hospital-acquired urinary tract infections are caused by instrumentation of the urinary tract — most commonly by insertion of a Foley catheter.^{xix} Prevention starts with the following.

- Avoidance of catheter insertion — particularly by monitoring ED utilization.
- Developing a zero tolerance policy for insertion without medical necessity should be implemented and providers held accountable.
- Implementing a nurse-driven protocol for catheter removal, with corresponding education and monitoring.
- Shift-to-shift review of catheter necessity based on medical necessity.
- Accountability to utilize a catheter stabilization device and to complete catheter care per defined evidence-based standards of care.

Missouri hospitals have an opportunity to focus strategic improvement efforts in several HEN topic areas where the 40 percent reduction goal was not met. One area is catheter-associated urinary tract infections where the rate of CAUTI per 1,000 catheter days actually increased (Figure 21). Measuring by catheter days versus patient days only includes those patients who actually had a urinary catheter in place. One reason for this increase could be improved recognition and surveillance reporting by infection preventionists through the NHSN measure. During the intervention period, approximately 1,064 patients experienced a CAUTI in Missouri reporting hospitals. Despite these numbers, many Missouri hospitals are reporting zero CAUTI days for substantial time frames.

FIGURE 21: CAUTI PER 1,000 CATHETER DAYS



Source: CAUTI-18, HRET Comprehensive Data System, Missouri HEN, 2011 baseline through July 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

CAUTI: HOSPITAL SPOTLIGHT GOLDEN VALLEY MEMORIAL HOSPITAL

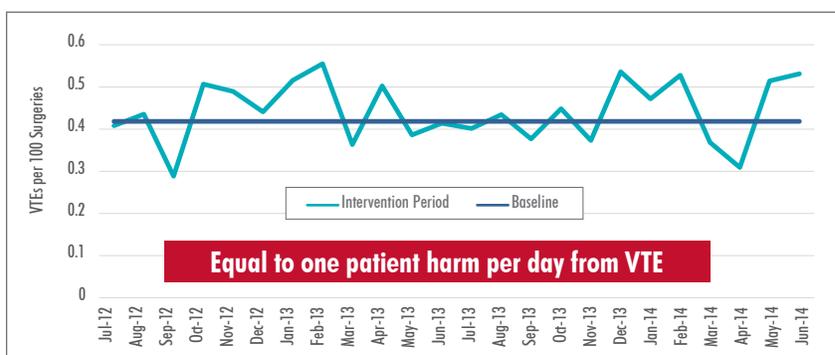


Along with instituting the recommendations in the CAUTI bundle^{vi}, Golden Valley Memorial Hospital, in Clinton, developed a multidisciplinary team that included a senior leader, infection preventionist, urologist, front-line staff from each inpatient unit, the emergency department, surgery, therapy and imaging. A CNA on the medical floor, who was a member of the improvement team, quickly became the unit's CAUTI champion and has been a catalyst in changing the culture of her department through asking nurses and physicians, "WTF?" (Why The Foley?). The medical floor successfully reduced its prevalence from an average of 25 percent to 8 percent, and has gone 674 days without a CAUTI. **GVMH's surgical floor has gone 550 days without a CAUTI, and the ICU has gone 388 days (as of Dec. 1, 2014).**

Venous Thromboembolism

Although Missouri HEN hospitals achieved more than a 40 percent reduction in VTEs per patient day (surgical and non-surgical related VTE), priority should be placed on reducing VTEs from certain orthopedic procedures (VTE-105). Throughout the course of the Missouri HEN, no appreciable harms were prevented for this measure, and the rate continued to hover around the baseline from 2011 (Figure 22). Between June 2012 and July 2014, approximately 739 patients with certain orthopedic procedures experienced a VTE in reporting hospitals. This is equal to one patient harm per day from VTE. HRET notes that preventable VTE is expensive at an average cost of \$22,000, which is not reimbursable through CMS' hospital-acquired conditions program.

FIGURE 22: POST OP VTEs



Source: VTE-105, HRET Comprehensive Data System, Missouri HEN, 2011 baseline through June 2014; represents months with reporting hospitals at 85 percent or greater from baseline.

VTE: HOSPITAL SPOTLIGHT HANNIBAL REGIONAL MEDICAL CENTER



Hannibal Regional Medical Center prioritized VTE prevention during the course of its HEN participation. HRMC approached improvement from a systems' level and designed highly reliable processes to succeed for patients and providers. Keith Griffeth, HRMC's Director of Quality Management, shares a few of their strategies.

- Placing Intermittent Compression Devices in each inpatient room to increase compliance to mechanical prophylaxis.
- Adding a "soft-stop" reminder to the CPOE portion of the electronic health record that looks for VTE prophylaxis orders and, if none are present, it reminds physicians to order prophylaxis every time they enter orders after the day of admission.
- VTE core measures data is shared with the medical staff in their monthly department meetings.
- A multidisciplinary core measures team with front-line staff representation meets monthly to discuss the VTE measures and next steps for improvement.

Key VTE Reduction Strategies

The primary reduction strategies for VTE include the following.

- Adherence to the VTE bundle.^{xx}
 - » assess all patients on admission for VTE risk
 - » provide appropriate VTE prophylaxis, including pharmaceutical and mechanical approaches based on national guidelines
 - SCIP measure compliance (minimum standard of care)
 - intensive care ventilated patients as part of the ventilator bundle
 - all other patients assessed to be at risk (based on American College of Chest Physicians' CHEST Guidelines)^{xxi}
- Provider education on risk factors and appropriate bundle implementation.
- Use of hard-stops in EHR software to flag patients at high-risk for VTE.
- Early and frequent ambulation for all hospitalized patients.



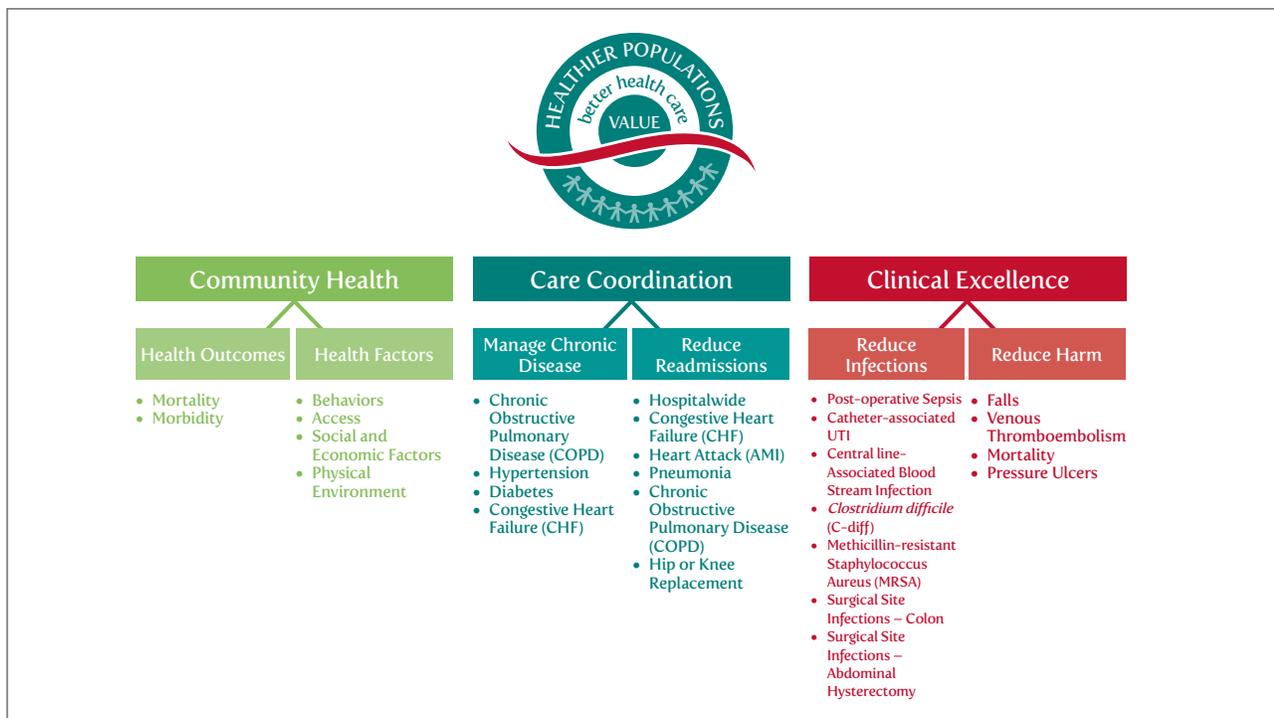
Quality Improvement Continues in Missouri Post-HEN

MHA’s comprehensive quality strategy continues the work it began during the HEN. Development of high-reliability organizations, higher engagement of patients and families, and innovations in care coordination across the health care continuum are needed to achieve the level of care delivery and harms reduction necessary to increase sustainability of the health care system.

Transparency of health care quality and pricing is being hailed as key to creating an urgency to provide better care at lower costs, although time will tell. MHA encourages Missouri hospitals to “tell their own story,” and utilize the opportunity to be transparent within their communities. This means showcasing what’s going well and talking about the solutions and opportunities to increase organizational safety and reliability in public venues and platforms. MHA is committed to improving the health and safety of Missourians, and to providing MHA-member hospitals with the highest value.

Figure 23 represents MHA’s selected quality outcome measures that will be used as part of the quality transparency strategy set to “go live” for consumers in 2016. Hospitals are encouraged to participate, review their data and identify improvement opportunities in an effort to achieve the Triple Aim.

FIGURE 23: 2015 MISSOURI OUTCOMES MEASURES



Congratulations to the Missouri hospitals who participated in the HEN program:

Bold denotes those who achieved 40 percent harm reduction and 20 percent readmissions reduction by the end of the HEN contract with the exception of adverse drug events.

Alton Memorial Hospital

SSM Health St. Mary's Hospital
– Audrain

Barnes-Jewish St. Peters Hospital

Barton County Memorial Hospital

Bates County Memorial Hospital

Boone Hospital Center

Bothwell Regional Health Center

Fulton Medical Center, LLC

Cameron Regional Medical Center

Capital Region Medical Center, Inc.

Carroll County Memorial Hospital

Cass Regional Medical Center

Cedar County Memorial Hospital

Centerpoint Medical Center

CenterPointe Hospital

Christian Hospital

Citizens Memorial Hospital

Community Hospital – Fairfax

Cooper County Memorial Hospital

Cox Monett

Cox Health

Cox Medical Center Branson

Des Peres Hospital

Ellett Memorial Hospital

Excelsior Springs Hospital

Fitzgibbon Hospital

Freeman Health System

Freeman Neosho Hospital

Fulton State Hospital

Golden Valley Memorial Healthcare

Hannibal Regional Hospital

Harrison County Community Hospital

Hermann Area District Hospital

Howard A. Rusk Rehabilitation Center

I-70 Community Hospital

Iron County Medical Center

Kindred Hospital-St. Louis Campus

Kindred Hospital-St. Anthony Campus

Lafayette Regional Health Center

Lake Regional Health System

Landmark Hospital of Columbia

Landmark Hospital of Joplin

Lee's Summit Medical Center

Liberty Hospital

Mercy Hospital Lincoln

Madison Medical Center

Mercy Hospital Jefferson

Mercy Hospital Joplin

Mercy Hospital Carthage

Mercy Rehabilitation Hospital

Mercy Hospital Washington

Parkland Health Center - Weber Rd.

Missouri Baptist Medical Center

Missouri Baptist Sullivan Hospital

Missouri Delta Medical Center

Moberly Regional Medical Center

Nevada Regional Medical Center

North Kansas City Hospital

Northeast Regional Medical Center

Northwest Medical Center

Ozarks Community Hospital

Ozarks Medical Center

Parkland Health Center-Farmington

Pemiscot Memorial Health Systems

Perry County Memorial Hospital

Pershing Memorial Hospital

Phelps County Regional Medical Center

Pike County Memorial Hospital

Poplar Bluff Regional Medical Center

Poplar Bluff Regional Medical Center (ext.)

Progress West Hospital

Putnam County Memorial Hospital

Ranken Jordan Pediatric Bridge Hospital

Ray County Memorial Hospital

Research Medical Center

Royal Oaks Hospital

Saint Francis Medical Center

Saint Louis University Hospital

Salem Memorial District Hospital

Samaritan Hospital

Scotland County Hospital

Shriners Hospitals for Children, St. Louis

Southeast Health Center of Reynolds

Southeast Health Center of Ripley

Southeast Health Center of Stoddard

Southeast Hospital

St. Alexis Hospital, Broadway Campus

Southeast Missouri Mental Health Center

St. Anthony's Medical Center

Ste. Genevieve County Memorial Hospital

St. Luke's Rehabilitation Hospital

Sullivan County Memorial Hospital

Texas County Memorial Hospital

Twin Rivers Regional Medical Center

Two Rivers Behavioral Health System

Washington County Memorial Hospital

Western Missouri Medical Center

Note: Sac-Osage Hospital closed. Hospital names up-to-date as of publication date.

RECOMMENDED CITATION

Williams, A., Rowden J., & Downing, D. (2015). Hospital engagement network project report, 2011-2014. Missouri Hospital Association.

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Data within this report may differ from data reported by other entities citing Missouri's results from the Hospital Engagement Network. Variation of results may occur due to differences in timeframe, measure definitions and data sources. Every effort was given to align data with the HEN project.

