

# COMPASS AWARDS 2017

COMPENDIUM OF ENTRIES



## COMPASS AWARD

INNOVATION IN  
ACCOUNTABLE HEALTHCARE

Enhancing Culture and Leadership

Improvements Across the Care Continuum

Improving Organizational Efficiencies

Physician Practice Innovations

Providing Care to Special Populations

Reducing Hospital-Acquired Conditions and Readmissions



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DEDICATION  
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**HEALTH**  
DREAMS

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# MHA ACCOUNTABLE CARE COMPASS AWARDS 2017: IMPROVING CARE ACROSS THE CONTINUUM

The Massachusetts Health & Hospital Association (MHA) created the Accountable Care Compass Awards to highlight the tremendous work that Massachusetts providers undertake each day to improve patient care.

While much public attention is focused on the cost of care or improving access to care, the life-saving, health-improving care itself is often overlooked or taken for granted. Yet each efficient practice and program that hospitals and physician practices carry out not only are improving the health of the patients being served, but are also driving down healthcare costs throughout the state. Providers are also crafting initiatives to target specific, often underserved populations to improve access while ensuring good health.

The 2017 Compass Awards resulted in 30 hospitals, physician groups, and other care providers submitting 53 nomination forms under six categories:

- 1. Enhancing Culture and Leadership**
- 2. Improvements Across the Care Continuum**
- 3. Improving Organizational Efficiencies**
- 4. Providing Care to Special Populations**
- 5. Reducing Hospital-Acquired Conditions and Readmissions.**

Six independent judges from across the United States reviewed the submissions, which were anonymous – meaning that there were no details included that would allow the judges to match the initiative to a provider. One judge was assigned to a single category and picked three finalists from that category. From those three finalists, one winner with the highest combined score was chosen.

The judges were M. Natalie Achong, M.D., FACOG – director of health equity, Connecticut State Medical Society; Yale University School of Medicine Department of Obstetrics, Gynecology and Reproductive Sciences. Jay Bhatt, M.D. – president & CEO, HRET; chief medical officer, American Hospital Association. Ann Scott Blouin, R.N., PhD, FACHE – executive vice president, The Joint Commission. Rahul Koranne, M.D., MBA, FACP – senior vice president for clinical affairs and chief medical officer, Minnesota Hospital Association. Julie Morath, R.N., MS, president & CEO, Hospital Quality Institute. Sam Watson, MSA, MT(ASCP), CPPS – senior vice president for patient safety and quality, Michigan Health & Hospital Association.

MHA held an awards breakfast on March 9, 2017, at the Burlington Marriott emceed by arts and entertainment reporter Joyce Kulhawik and attended by nearly 200 representatives from the healthcare community.

This booklet contains an overview of each of the 53 entries, including a list of outcomes achieved and three lessons learned. A contact person for each initiative is included so their peers can contact them to learn more about the initiatives and how they may be adapted for their own facility.

We thank all of those who submitted applications for the Accountable Care Compass Awards and we hope this booklet serves as a valuable resource for our members to learn about their peers' innovative best efforts.

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# ENHANCING CULTURE AND LEADERSHIP

*Ensuring that an institution's quality and safety, as well as equity of care, requires an "all-hands-on-deck" attitude that infuses the entire facility's culture from leadership on down. While institutions often follow a prescribed path to changing their culture [through, for example, TeamSTEPPS, the Comprehensive Unit-based Safety Program (CUSP), or the High Reliability Organization (HRO) process], other facilities take a less circumscribed route to strengthening their safety culture or leadership.*

# 1) Beth Israel Deaconess Hospital – Needham **WINNING ENTRY**

Sustaining Transformational Change: Creating a Culture of Safety in a Hospital

Heidi Alpert RN, MS, Sr. Clinical Director, Patient Care Services; halpert@bidneedham.org



## **PROJECT DESCRIPTION**

In 2013, during a period of significant institutional growth, an organization-wide effort was initiated to enhance the hospital's commitment to patient safety, employee engagement and patient and staff satisfaction, resulting in the creation and sustainment of transformative changes. Scores on the Culture of Safety (AHRQ) Survey went from the bottom 5th percentile rank to the 98th percentile rank within one year of implementing this project and have been sustained since then, with our 2016 survey scores remaining in the 96th percentile. This effort was led by the hospital's executive leadership team with the engagement and full support of the board of directors.

Since 2010, the hospital has conducted, through an approved vendor, the Culture of Safety (AHRQ questionnaire) Survey. In 2013, the overall survey results put our hospital in the bottom 5th percentile of the AHA region I peer group, down from the 60th percentile in 2010. These results indicated an immediate need to evaluate the factors affecting the hospital culture and the physicians' and employees' lack of confidence in the environment for patient safety and workplace satisfaction. Over the next year, a comprehensive evaluation of existing processes, procedures and behaviors was conducted throughout the hospital with a message to all staff and physicians of a renewed commitment to patient safety and staff engagement and empowerment in finding solutions.

Following this broad assessment, a hospital initiative entitled "Drive" was developed in partnership with leadership and direct line staff members. This initiative focused on Leadership Development and Accountability, Employee Engagement, and Improving the Patient Experience. As part of the cultural transformation process, goals included increasing transparency and consistency of communication, moving from a culture of blame to a just and learning culture relative to errors, changing staff perception from distrust to confidence in the safety event reporting system, and improving follow-up after events were reported. Multi-disciplinary workgroups were put in place and included leadership and direct care givers. Commitment to patient safety was always central to the goals.

Leadership Development and Accountability focused on developing and maintaining management accountability goals with metrics, developing 90 day work plans, monthly individual and leadership group meetings to discuss progress and barriers toward goals, quarterly leadership development retreats to provide structured learning, setting behavioral expectations for all leaders, teambuilding and ensuring that managers and leaders have the resources and tools to do their jobs.

Employee Engagement work focused on leaders engaging employees. This included developing streamlined and consistent written communication with progress toward goals that was made available for all staff. A rounding process was established in which each leader/manager meets with each staff member on a monthly basis.

Improving the Patient Experience activities focused on improving patient outcomes by team training, and establishing work teams for specific patient clinical safety issues, such as fall prevention, skin care, patient-clinician communication, pain management, and patient satisfaction with specific aspects of care and hospital services.

Since implementing this initiative we have seen sustainment of staff confidence in the safety culture as well as improved job satisfaction, evidenced by results on the Culture of Safety Survey. Additionally, because of the improved transparency of communication and teamwork, we are able to respond more quickly and be proactive when we identify potential problems via monthly quality surveillance (eg, fall prevention, skin integrity, medication events). Our patient satisfaction, as per HCAHPS scores has seen consistent improvement in numerous domains. The hospital remains committed to sustaining the gains and continuously evolving the hospital culture to make patient safety and patient experience its highest priority.

## OUTCOMES ACHIEVED

- Culture of Safety Survey results (rank in AHA region 1 ):
  - » 5th (bottom) percent in 2013
  - » 98% in 2014,
  - » 92% 2015
  - » 96% in 2016
- Staff Satisfaction with Job
  - » 23% in 2013
  - » 94% in 2014
  - » 95% in 2015
  - » 97% in 2016
- HCAHPS scores: Mean Score: Top Box
  - » Rate Hospital:
    - ◇ 69.3 in 2013
    - ◇ 73.2 in 2016
  - » Nurse Communication
    - ◇ 77.2 in 2013
    - ◇ 82.8 in 2016
  - » Responsiveness of Staff
    - ◇ 53.4 in 2013
    - ◇ 69.6 in 2016

## LESSONS LEARNED

- Leadership and Board support are essential for driving transformational changes
- Staff engagement and partnership with leadership is essential to driving sustainable change
- Transformational change occurs with commitment and organizational purpose



## 2) Boston Medical Center – FINALIST

*Driving from Individual to Institution using a Preventable Harm Index*

*Abhinav Vemula, M.D., Quality Improvement Fellow*

### PROJECT DESCRIPTION

Sparked by the Institute of Medicine's (IOM) report in 2000 that highlighted the unacceptably high number of preventable patient complications, institutions nationwide have focused on reducing preventable harm.<sup>1</sup> Although the precise definition and measurement of preventable harm continues to be debated widely, there is little doubt that the pursuit of reducing patient harm is valuable. Many different articles and indeed entire journals have been devoted to showing progress on specific outcome measures, but few institutions have been able to truly transform their culture to center it on patient safety. In a society that emphasizes individualism and fragmentation, it is difficult to orient and prioritize hospitals, governance boards, leadership, and individuals toward a collective culture of patient safety.<sup>2</sup>

Our institution has been working toward this goal of culture transformation and reduction in patient harm for many years now and has battled with the same barriers as other institutions. Through various localized projects, we came to realize that to truly change culture, we would need not only a more centralized, structured framework with leadership support, but would need one easy-to-understand, easily trendable, discrete metric that would symbolize the relative "safety" of our patient care. Such a metric would allow for everyone involved in our institution from our board of directors to our first-line providers to feel a palpable sense of responsibility toward the safety of our patients and remain actively engaged in the ongoing projects. To fill this need, we developed the Preventable Harm Index (PHI).

The development of the PHI was a collaboration between the senior leadership of our organization, the reporting and analytics department, patient safety and quality specialists, and numerous clinical staff. It was decided that the PHI would be an observed to expected (O:E) ratio that was standardized to the median performance of large academic centers in the University HealthSystem Consortium (UHC) database (a collaborative of over 1,300 acute care hospitals). Specifically, the PHI was comprised of a selection of measures from the Center for Medicare and Medicaid Services (CMS) Value-Based Purchasing (VBP) program as well as Hospital-Acquired Condition Reduction Program (HACRP). Data were collected directly from UHC as well as the Centers for Disease Control and Prevention (CDC). Using these data, the median O:E among similar hospitals was determined and set to be 1.0. Compared to this median performance, our hospital was determined to be at an O:E of 1.14, which translates to 14% "excess patient harm". When given a denominator for any specific period of time, the PHI could therefore be interpreted as a raw number of excess patients harmed at our institution. This was a powerful message that could be circulated throughout the institution that not only spurred the competitive drive of our staff, but more importantly, hit at the heart of our altruistic providers.

The PHI quickly became a line item at every Board of Trustees meeting and the Board's enthusiasm behind the measure quickly aligned our executive leadership behind the same goal. From there, the dissemination through the quality and safety department and by extension, throughout the departmental physician quality leaders, chairs, chiefs, and medical directors brought an institutional alignment around patient safety that was unprecedented at our institution. With our executive leadership's strong backing, numerous institution-wide, interdepartmental quality projects were started and the next 12 months would largely be widely successful resulting in a drop in our PHI from 1.14 to 0.82. Our institution also saw a drop in O:E mortality from 0.95 to 0.88 over the same time period.

1. Brillli et al. The Preventable Harm Index: An Effective Motivator to Facilitate the Drive to Zero. *JPeds* 2010;157(4):681-3.

2. Leape L, Berwick D. Five years after To Err is Human. What have we learned? *JAMA* 2005;293:2384-90.

## **OUTCOMES ACHIEVED**

- Shift in institution wide culture toward patient safety
- Development of a clear centralized framework to measure, monitor, and communicate institutional progress and goals regarding patient safety
- Decrease in O:E of hospital acquired patient harm (i.e., a tangible decrease in the raw number of patients that experienced preventable adverse events)
- Decrease in O:E of hospital all-cause mortality from 0.95 to 0.88

## **LESSONS LEARNED**

- A singular goal to unify focus is a useful lever to ensuring robust frame locally tied to patient safety culture.
- Creating a novel index of preventable harm aligned with CMS's programs is feasible and generalizable.
- Ensuring understanding of preventable harm and the index was of paramount importance to securing buy-in both at the leadership and staff level.

### 3) Signature Healthcare – FINALIST

#### Safety Marketing Communication Strategy: Helping to Change a Culture

Nicole Logan, Internal Communications Coordinator; [nlogan@signature-healthcare.org](mailto:nlogan@signature-healthcare.org)

#### PROJECT DESCRIPTION

In September of 2015, a new internal patient safety initiative called “I Choose Safety” was launched aimed towards establishing, encouraging, and achieving a Culture of Safety. The goal was to transform the organization into a system-wide culture that made safety a first priority – from nurses and physicians providing direct care to Environmental Services staff alerting patients to fall hazards to food service employees taking steps to reduce contamination. A full scale Marketing and Communications plan was developed to improve critical thinking, communication and compliance by providing all employees with the tools necessary to prevent potential patient and employee harm.

A staggering figure, over 100,000 people die each year in United States hospitals due to medical errors. Tracking its Serious Safety Event Rate (SSER) to report to multiple regulatory bodies, the organization noticed its rate was increasing toward 8%. That meant a patient somewhere in the healthcare system experienced a preventable event that resulted in serious harm or death every month.

Armed with this knowledge, safety became the number one priority within the organization, with training as part of the overall education to every employee. A Culture of Safety Tools and Tones Bundle was designed to help all employees ensure the highest level of safety for patients, employees and visitors. In partnership with Healthcare Performance Inc. (HPI), employees were provided with training and proven methods for building and sustaining a Culture of Safety to prevent human errors and detect and correct weaknesses that could lead to events of harm and unwanted outcomes.

Safety committees were formed including Senior Leadership, the Culture of Change Steering Committee and Safety Coach Steering Committee to strategize and implement the organization’s Culture of Safety program. Prior to its launch, 28 employees were trained as Culture of Safety Instructors who in turn educated 2,761 employees, including physicians over a span of seven weeks.

Culture of Safety instructors met in workgroups and mastered the curriculum, taught in pairs using customized training tools, and adapted to literacy needs during staff training classes. Employee training guidebooks were created by the Marketing department and distributed to each employee to use during the four hour class and served as a reference tool upon completion.

In order to sustain comprehension and utilization of the Safety Tools and Tones following training, a key aspect included the implementation of a Safety Coach program across all aspects of the organization in both the hospital and ambulatory sites. To date, the organization has identified and trained over 50 coaches and is working towards an ultimate goal of having one Safety Coach on every shift in every department.

In addition, daily rounding is performed by management to continuously educate staff on the Safety Tools and Tones, and Safety techniques are reviewed during 140 daily departmental huddles conducted throughout the organization.

## **OUTCOMES ACHIEVED**

- Previously, the highest number of days without a serious safety event was 79. Thanks to staff diligence and their focus on safety by utilizing the Safety Tools and Tones, the organization has surpassed its best, reaching 221 days! Currently holding an SSER of .14 per 10,000 adjusted patient days, that is an 81.6% reduction from the organizations peak at 0.76 – surpassing a two year expectation in the first year, alone!
- Engaged and empowered, staff members have submitted over 400 Great Catches to date which detail errors caught before they reached a patient through utilizing one of the Safety tools – substantial evidence the program is working and employees are applying the Tools and Tones on a daily basis, preventing patient harm across the organization.

## **LESSONS LEARNED**

- The organization's cause and failure modes resulting in Serious Safety Events were similar to other healthcare organizations and could be addressed and reduced through cultural change supported through training, standard leader work and coaching.
- Healthcare Performance Inc. stated rigorous training and culture change could reduce Serious Safety Events by 80% within two years. This goal was surpassed in the first year alone with an 81% reduction rate.
- Continuously presenting employees with the Safety Tools and Tones through various communication outlets led to a decrease in the Serious Safety Event Rate. Employees absorb the information over time, preventing patient harm by utilizing the methodology.

## 4) Baystate Health

### Enhancing Perinatal Safety with Culture and Leadership

*Daniel R Grow, M.D., Professor and Chair Department of Obstetrics and Gynecology, University of Massachusetts Medical School-Baystate Health; daniel.grow@bhs.org*

#### PROJECT DESCRIPTION

Hypoxic ischemic encephalopathy, also referred to as birth asphyxia, is a condition that can occur with inadequate oxygenation of the fetus during labor. This condition occurs in the US an average of 1.5 cases/1000 births (95% CI 1.3 - 1.7 cases/1000), and may result in cerebral palsy 15% of the time. Our hospital was pretty average with this statistic, and having just over 4000 births/year, had case on average every 60 days for the last five years. A cluster of cases in 2015 caused us to carefully examine our practices, and focus on prevention. This disorder can be crippling for babies and families alike. It also puts our providers at risk of litigation and is very demoralizing to the spirit of a unit.

Through a series of Root Cause Analysis, we discovered specific improvement areas. These included: improved staffing for physicians and nurses, better communication between the professional groups, a need for standardization of FHR tracing education and a standard approach to 'concerning' FHR tracings amongst nurses, midwives, and physicians. We identified some need to improve the culture of safety, and create better teamwork.

An OB Leadership team was convened, with an agreement to redesign our quality structures.

Our Interventions:

**Enhanced Education:** GNOSIS is a state-of-the-art web-based training tools for obstetrical care providers that focus on fetal heart rate tracing education. By the end of 2015, every obstetrical caregiver, nurse, midwife, resident and physician was held to the same standard around electronic fetal monitoring. The GNOSIS platform was adopted, with everyone tested and completing all 8 learning modules. A GNOSIS certificate was required to work for anyone in our unit. Protocols were put in place for the management of Category II and III tracings. Additional GNOSIS learning modules on best practices in communication and management of Obstetrical hemorrhage have also been completed by all nurses and providers. Uniform standards send a powerful message.

**Safety Rounds** were created at 10 A and 10 P every day, and the care of every patient is discussed. Patients are presented by a nurse to the providers, and there is standard SBAR+R communication with tracing review and characterization with NICHD terminology. PDSA cycles were employed with discussions and surveys to maximize attendance.

Safety Huddles were created to redirecting the care of a patient whose treatment plan is in question. If any care team member questions the care of a patient, a Safety Huddle can be called. A patient's care team gathers to discuss the care plan. This is taught in Team STEPPS, along with techniques for resolving conflict.

**Improving our Culture:** TeamSTEPPS is an evidence-based set of teamwork tools, aimed at optimizing patient outcomes by improving communication and teamwork skills among health care professionals. To date 150 of 283 staff members have completed the training, including 13 physicians, 18 residents, 13 midwives, 85 nurses, 9 OAs, a surgical tech and a phlebotomist. We have taken a unique approach, creating Provider-Nurse dyads that lead small group sessions of about 12 staff members. Our end of session evaluation question, "will this change your practice?" was answered 3/3 on the Likert scale, by 98% of attendees.

**Enhanced staffing;** we have aggressively filled our nurse vacancies, and have doubled physician coverage at night. Our two physician model has increased teaching on the unit, improved communication and teamwork, and has dramatically decreased stress. Review of our increased staffing model has been glowing.

**Continuous Learning.** Most importantly we believe was the creation of a mechanism for continuous learning. A list of 'Adverse Outcomes' was defined, and the Leadership Team reviews any case when a pre-defined indicator is met. Ob Case Review often attracts up to 50 participants, is interdisciplinary, and has become a safe place to discuss tough issues with honest questions. It is orderly, transparent, and a trusted place for group learning. We are most proud of our Case Review.

## **OUTCOMES ACHIEVED**

- Culture of continuous learning
- Virtual elimination of HIE. No preventable cases in over 500 days.
- Reduction of Apgars < 7.
- Reduction of the Primary Cesarean section rate.

## **LESSONS LEARNED**

- Challenging another's judgment has the potential to create conflict.
- An improved culture allows us to ask the tough questions, and keep the patient at the center of care.
- Don't quit. It's worth it.

## 5) Massachusetts General Hospital

### Peer-to-Peer WalkRounds: The Development and Maintenance of an Interdisciplinary Patient Tracer Program

*Elizabeth Mort, M.D., MPH, Senior Vice President for Quality and Safety, Chief Quality Officer, MGH/MGPO; emort@partners.org*

#### **PROJECT DESCRIPTION**

Patient and system tracers have been conducted at our institution since 2008. Prior to this project, inpatient, ambulatory and procedural tracers were performed by multiple departments and a unified approach to surveillance did not exist. Likewise, there was no collective mechanism to identify trends, compare performance, inform senior leadership or longitudinally assess risk.

The primary objectives of the Interdisciplinary Patient Tracer Program were to measure compliance with the National Patient Safety Goals and serve as an educational resource to hospital staff.

#### **OUTCOMES ACHIEVED**

- We developed a Peer-to-Peer Interdisciplinary Patient Tracer Program to assess compliance with the National Patient Safety Goal.
- We achieved representation from over eight disciplines including nurses, physicians, pharmacists, infection control practitioners, patient advocates, compliance specialists, medical interpreters, patient safety professionals and process improvement experts.
- We have demonstrated sustainability, performing tracers on over 77 units in 2014, 93 units in 2015 and 81 units in 2016.
- We did not receive any National Patient Safety Goal findings during our triennial Joint Commission Hospital re-accreditation survey in April 2015.

#### **LESSONS LEARNED**

1. Interdisciplinary Patient Tracers are an integral complement to traditional quality and patient safety performance metrics
2. The interdisciplinary and Peer-to-Peer approach to patient tracers improves the ability of surveyors to integrate all aspects of care, including policies, practices, providers, patients and the physical environment when assessing quality
3. Incorporating process improvement and defining accountability for risks identified helps to ensure that findings are mitigated.

## 6) Northeast Hospital Corporation

### CREATE the Best Place to Give and Receive Care

*Eileen Hession Laband, R.N., MBA, NE-BC, CPHQ, Manager, Patient and Family-Centered Care; Elaband@nhs-healthlink.org*

#### PROJECT DESCRIPTION

The journey to enhance patient/family-centered care, a strategic priority, began with an acknowledgment that our numerous projects and efforts were not sufficiently moving patient satisfaction scores in a positive direction. Employee engagement survey results showed an opportunity to improve teamwork, both within units and between departments. In addition, the overall colleague engagement score was slightly less than the national healthcare average. Recognizing the link between employee engagement and patient experience, leaders began discussing ways of engaging the hearts and minds of colleagues to become a more patient and family-centered organization.

Real and sustained improvements in patient satisfaction and employee engagement are realized through articulated core values, attitudes and organizational culture rather than discrete initiatives. A group of leaders convened in 2015 to do short and long term planning for a cultural enhancement to address these issues. They decided on a “grass roots,” bottom-up approach rather than the conventional top-down method often used. Leaders wanted the process to improve colleague engagement as well as patient satisfaction.

In their planning, leaders reflected on all aspects of the patient experience with the help of members from the Patient and Family Advisory Council (PFAC). They also considered what type of support colleagues needed to accomplish such a cultural shift.

Over 40 front line staff known for their commitment to ensuring a positive patient experiences met with an outside consultant to identify organizational values to guide all colleagues. They also defined the supporting behaviors. The result was a shared vision of “CREATE the best place to give and receive care.” With the help of the Communications Department, an easy to remember acronym was designed – CREATE –to reflect the core values developed by the team: Community, Respect, Excellence, Accountability, Teamwork and Empathy. The final step of this process was ensuring that this set of beliefs and behaviors were fully supported by the leadership of the institution.

Two members of the patient experience team collaborated with an outside consultant to design a 3-hour workshop which included an introduction by a member of the senior leadership team, interactive exercises, a self-assessment, thought-provoking videos, speaker presentations and a personal story from a former patient or family member. This story was a crucial component of the workshop. Each one featured the positives and negatives of the experience with key points for improvement. Once CREATE was developed, senior leaders set a goal of training 75 percent of staff within four months.

Leaders were trained starting in June. This was an essential step in gaining support from directors and managers. The planning team wanted to ensure the leaders took ownership of the process. These sessions were considered pilots. With feedback from each session, the workshop was fine-tuned. In August a pilot session for staff contributed further improvements. CREATE was offered to volunteers and Spanish interpreters were tapped to attend sessions with staff whose first language was not English.

Participants were seated with colleagues from other departments and sites to offer opportunities for conversation and sharing. Exchanges at the tables allowed participants to better understand and appreciate each other’s roles.

Facilitators acknowledged the good work that was going on at the organization yet presented the values in a way that would raise awareness and prompt different thinking. As one of the values was accountability, the workshop included discussions about colleagues holding one another accountable.

The program has energized staff and improved communication with patients and families and across departments.



## **OUTCOMES ACHIEVED**

- 1978 staff trained on CREATE (76% of all colleagues)
- 48 physicians attended with more enrolled
- 2 board members attended
- 89% of participants rated the program as very good or excellent
- 94% agreed or strongly agreed that they would recommend the program to a colleague
- Overall rating for the workshop was 4.43 (scale of 1-5)
- Statistically significant increase in HCAHPS Likelihood to Recommend and Overall Rating of 9 or 10 from December 2015 – May 2016 (6 months prior to implementation) to June 2016 – November 2016 (after implementation)

## **LESSONS LEARNED**

- Cultural enhancement requires frontline staff input and leadership commitment.
- Offering opportunities for staff to meet and interact with colleagues from other departments, sites and disciplines helps build a sense of community.
- Using an acronym for organizational values helps colleagues easily remember them.

## 7) South Shore Health System

### Stop the Line

*Noreen Maclean R.N., MSN, Patient Safety & Clinical Risk Coordinator Risk Prevention; Noreen\_Maclean@sshosp.org*

#### **PROJECT DESCRIPTION**

The institution has set a Strategic Goal of reaching zero preventable patient harm by the year 2020. To achieve this goal, it is critical to empower frontline staff to recognize potential and actual patient harm and intervene. Based on feedback from our frontline staff -- which included reluctance to report near miss/actual events, perception of punitive treatment for reporting, cumbersome system/extra time for reporting and a belief that nothing will change based on reporting -- the Safety Committee recommended a new approach to engage staff and align the hospital's strategic goals.

Our workgroup set out to design a "Stop the Line" process, inspired by the Patient Safety Alert system at Virginia Mason Medical Center and based on Toyota Production System / Lean principles.

An inter-professional team with a heavy front-line nurse presence was created to: review current safety literature, review current reporting of safety events, and using a lean methodology to create an innovative safety alert process. The team reviewed areas of preventable harm and chose falls and medication errors as the most impactful events. The team included:

- Clinical Staff RNs
- Patient Safety and Clinical Risk Coordinator
- Pharmacy- Medication Safety Officer
- Rehab- OT Supervisor/ Safety Committee member
- Nurse Manager
- Clinical Professional Development Specialist

#### **"Stop the Line" Standard Work**

The frontline staff member identifies a medication safety event or fall, and once the patient is safe, a text page is sent to the Patient Safety paging group or "swarm team". Local nurse leaders and patient safety leaders arrive to the floor. A "Stop the Line" staff huddle is called where a brief description of the event is given and the root cause is determined using the 5 WHYS method. During the huddle a safety event report is completed in our electronic database (Quantros) and the frontline staff member is thanked for speaking up and reporting the near miss or actual event. "Stop the Line" events are discussed at change-of-shift huddles for the next 24 to 48 hours so that all staff can benefit from learning.

#### **The Pilot**

The Stop the Line process was piloted on one medical/surgical unit for several months, beginning with day shift and then expanding to all shifts. Criteria for "Stop the Line" medication events were expanded from high-risk medications only, to all medications, in order to rapidly gain experience and comfort with the process. By the end of the pilot, the number of safety reports submitted by nurses had increased significantly. Many reported events had already prompted system improvements. Staff were asking for additional follow-up information, so a Close the Loop board was developed.

#### **The Spread**

After the Stop the Line program was fully implemented on the pilot unit (all shifts), the core team met to plan the spread of the program to 6 other medical/surgical units. Administrative leaders were eager to go live with all other units right away. However, the core team felt strongly that the program involved cultural changes and required substantial time and attention to make it successful. We were able to develop a slow and steady spread plan, in which each unit was given 1 month to prepare and develop local Stop the Line champions, and enhanced support for the first month after go-live.

## **OUTCOMES ACHIEVED**

- The Stop the Line process is now active on all medical / surgical units on all shifts.
- The total numbers of reported medication safety events have exceeded initial targets
- Improves the quality of information in fall reports
- Numerous system / process improvements have resulted from Stop the Line Events
- In our 2016 Culture of Safety Survey, frontline staff identified Stop the Line as the best program the hospital has started and supported to keep our patients safe and fix underlying systems processes.
- Administrative leaders realize the value of a slow spread of this key initiative, and have stated they intend to utilize this approach in the future.
- Other teams in the hospital have voluntarily adopted a “Stop the Line” approach, so that this terminology is now an established part of our culture
- The Emergency Department has developed a similar real-time response program inspired by the Stop the Line initiative in medical-surgical units.

## **LESSONS LEARNED**

- In order to spread/ sustain this initiative we needed administrative buy-in to “go slow to go fast” to significantly impact the culture on each unit.
- The visual management and process needs to be adjusted to fit the uniqueness of each unit.
- While much of this process is driven locally, sustaining it does require a large time commitment to attend the events, investigate, and close the loop.

## 8) Tufts Medical Center

### Creating an Escalation Pathway for Perioperative Services

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*Kristen Mansur, R.N., Executive Director, Perioperative Services Clinical Operations; kmansur@tuftsmedicalcenter.org*

#### **PROJECT DESCRIPTION**

The Perioperative environment is a high risk clinical care area that has a long standing history of hierarchy amongst the multidisciplinary care team members. The Senior Perioperative Leadership Team recognized that in order to create a culture of safety a formalized escalation process was required to respond in real-time to actual and potential quality and safety concerns. The Senior Perioperative leadership team, consisting of the Chief of Surgery, the Chair of Anesthesiology, the Executive Director of Clinical Operations and the Executive Director of Business Operations, developed the Perioperative Services Escalation Pathway policy to clearly define the process that would be followed when addressing concerns within the Perioperative care areas.

The purpose of implementing this process was to establish a reliable pathway to utilize to escalate, address and resolve, in real time, personnel, quality, and patient safety issues and concerns that occur within Perioperative Services.

Every member of the Perioperative team is empowered to “stop the line” when they identify an issue that undermines the culture of safety or to address matters that negatively impact the quality of care being delivered. The escalation pathway is a non-punitive process that promotes a diplomatic and systematic approach to reaching resolutions in real-time. The escalation pathway is available for activation 24 hours per day/7 days per week in order to provide support during all hours of Perioperative operations.

The Perioperative Services Escalation pathway consists of the following steps.

1. In the event that a member of the perioperative team identifies an immediate concern they will notify their direct supervisor, manager or the designated person in charge of their area.
2. Once notified the supervisor will immediately investigate the situation and if they are unable to resolve the situation satisfactorily they will notify their respective discipline within the Senior Perioperative Leadership Team, activating the escalation pathway.
3. The Senior Perioperative Leadership Team consists of the following members.
4. The Senior Perioperative Leader notified of the event will notify all other members of the team, including the Vice President of Risk Management and the chief of the involved service and an immediate investigation will commence. The team will collaborate to develop a real-time solution.
5. In the event that the team is not in agreement regarding a resolution, the situation will be elevated to the Chief Medical Officer, Chief Nursing Officer and or the VP of Risk Management for final arbitration.
6. The Chief Medical Officer and Chief Nursing Officer will be notified of all events that are addressed through the Perioperative Escalation Pathway in order to review and determine if any subsequent follow-up is required.
7. All members of the Senior Perioperative Leadership Team will have a predetermined coverage plan in place in the event that they are absent or unavailable.
8. The Surgeon in Chief will assign a Surgical Chair to assume the role as first call and all related responsibilities during all planned absences. In addition, a Surgical Chair will be assigned as an alternate, M-F, to act as a second call should the Surgeon in Chief, or the first call designee, is unavailable due to clinical or academic responsibilities.

## **OUTCOMES ACHIEVED**

- Overall Perception of Safety improved 15% from previous year following implementation of the Perioperative Services Escalation Pathway.
- Staff's ability to freely speak up if they see something that may negatively affect patient care improved 10% from previous year following implementation.
- The percentage of respondents who disagreed with the following statement "Staff are afraid to ask questions when something does not seem right" increased 6% from the previous year.
- The percentage of staff who felt that our procedures and systems are good at preventing errors from happening improved 15% from the previous year.

## **LESSONS LEARNED**

- Without a clearly defined pathway frontline care providers struggle to alert the appropriate leadership members to achieve a real-time solution as events occur.
- Creating common language amongst perioperative care providers regarding the escalation process reduces the incidence interpersonal conflict and increases awareness of the defined course to reach resolution.
- The clearly defined pathway empowers team members to speak up as it results in a real-time response thus creating a supportive, non-punitive and engaging environment.

# IMPROVEMENTS ACROSS THE CARE CONTINUUM

*Accountable care, bundled payments and other such innovative payment-and-delivery models require crisp patient handoffs, advancing/fostering advanced care planning activities, smart case management, concise tracking and follow up. Applicants in this category will detail how transitions of care across various settings improved the health of patients, improved public health, and/or reduced healthcare costs.*

# 1) Baycare Health Partners Inc., Pioneer Valley Accountable Care, LLC – **WINNING ENTRY**

## Acute Care Alternative Program

Abbie Courtemanche, DO, ACO Acute Care Physician and Associate Medical Director;  
acourtemanche@baycarehealth.org



### **PROJECT DESCRIPTION**

The entity is a physician/hospital organization that includes four hospital-system hospitals and approximately 1,400 physicians in about 200 medical practices in western Massachusetts. The entity's subsidiary is an accountable care organization (ACO) whose goal is to reduce the cost of care while improving quality and the patient experience. The ACO participated in the Centers for Medicare & Medicaid Services Medicare Shared Savings Program between 2013 and 2015. Effective January 1, 2016, the ACO is one of 18 ACOs nationally that are participating in the Next Generation ACO (NGACO) Model, recently launched by the CMS Innovation Center. NGACO is a population-based payment initiative for health care organizations and clinicians who are experienced in coordinating care for patients across care settings. Approximately 35,000 Medicare beneficiaries are attributed to the ACO involved in this Mass. program..

Potentially avoidable hospitalizations have been identified by experts as leading to poor health outcomes and costly care. According to Premier Comparator Reports, the ACO performed above the collaborative average for Ambulatory Condition Sensitive Admissions (ACSAs) with approximately 45% of ED visits for 2015 NGACO beneficiaries being deemed preventable. The ACO therefore created the Acute Care Alternative Program with goals of reducing avoidable admission for ACSAs as well as decreasing the intensity of resource utilization while improving clinical outcomes and patient experience.

The program was initiated March 21, 2016. It is staffed by one embedded physician within the emergency department. A board-certified internist, she is present four days per week during outpatient office hours. She works closely with the Emergency Department Providers, Nurse Case Managers, and patients in shared decision making regarding discharge dispositions. She is supported as well by outpatient entities including visiting nursing associations, preferred skilled nursing facilities, primary care office nurse care managers/coordinators, and primary care/specialist providers.

While the top three ACSAs identified by Premier include COPD/Asthma, CHF, and diabetes, our internist's top diagnoses for admission diversion thus far have been weakness, non-surgical fractures, mechanical falls, and musculoskeletal pain. She has also had successful admission diversion within the diagnostic categories of the respiratory system, digestive system, and skin.

### **OUTCOMES ACHIEVED**

- 95 diverted admissions
- >100 care coordinated efforts
- Estimated cost savings >\$440,000
- Patient experience surveys have been overwhelmingly positive

### **LESSONS LEARNED**

- Predicted ACSAs not fully reproducible
- System wide identification system of beneficiaries needed for efficiency
- Necessity for all participating providers to accommodate outpatient access to care

## 2) Atrius Health – **FINALIST**

### Care Facilitation Across a Large Ambulatory Pediatric Practice

*Marci Sindell, Chief External Affairs Officer; Marci\_Sindell@atriushealth.org*

#### **PROJECT DESCRIPTION**

In 2014, we recognized an opportunity to better coordinate care and improve health outcomes for our medically complex pediatric patients. These patients, ranging from ages 0-22, are identified as medically or psychosocially complex based on the presence of chronic disease, multiple specialist involvement, significant disability, social barriers to achieving optimal health or psychiatric complexities. When left alone to navigate the healthcare system, these patients are vulnerable to error, sometimes redundant assessment and missed opportunities which can lead to negative health outcomes, higher costs and gaps in care. A practice-wide Electronic Medical Record (EMR) based registry was developed identifying over 1500 pediatric patients across the organization with complex medical needs, functioning as a driver for monthly case conferences by multi-disciplinary teams to coordinate care and manage referrals. Care facilitators have been introduced as integrated members of our pediatric practices to aid patients and families in accessing care and navigating the healthcare system during and between medical visits. The care facilitators attend proactively to the needs of their patients assuring that all preventive services are completed and that barriers to needed care such as transportation, poorly coordinated specialty appointments, and cultural competencies to name a few are addressed and overcome. Our care facilitators have backgrounds as medical assistants or medical secretaries and have demonstrated outstanding communication and patient advocacy skills. They are further supported by regional nurse case managers and social workers to provide clinical expertise assessment and intervention. Transitions of care to our tertiary partner have been enhanced and family councils have been developed to improve our care model by our primary customers. To date, care facilitators are present within 60% of our offices and have aided nearly 1000 patients. Complete rollout to the rest of our sites is planned for 2017.

#### **OUTCOMES ACHIEVED**

- Inter-disciplinary case conferences that address barriers to care and include family voice, community agencies, school as well as extended primary care team.
- Reduction in Medicaid and commercial admits/1000
- Decrease in total medical expense of the Medicaid population
- Enhanced hand offs between our ambulatory practice and specialists
- Improved provider experience
- Strong patient experience performance
- Development of Family Councils
- Pediatric Integration of Care Survey: A patient –reported outcome measure

#### **LESSONS LEARNED**

- Families with complexity are not always prepared to accept offered assistance. Face-to-face introductions by the primary care provider when these families are in the office and patiently and persistently reaching out typically promotes development of therapeutic relationships.
- Value is created by deploying an interdisciplinary team to address the medical and social needs of our patients.
- Risk/Capitated payment models allow for the necessary investment in infrastructure to achieve the triple aim.



### 3) South Shore Health System – **FINALIST** \*

#### A Transitional Care Model in a Bundle Payment Program

*Kelly O'Neil MSN R.N. ACM, Manager of Transitional Care; Kelly\_O'neil\_care\_progression@sshosp.org*

#### **PROJECT DESCRIPTION**

Our organization was awarded the opportunity to participate in the Bundled Payments for Care Improvement (BPCI) Model 2 initiative starting July 2015. This initiative was designed to initiate organizations into payment arrangements that include financial and performance accountability for episodes of care. Medicare is using the Bundled Payment initiative to encourage doctors, hospitals, and other health care providers to work more closely together during and following hospitalizations. It is hoped that these models will lead to higher quality, more coordinated care at a lower cost to Medicare.

The initial challenge in this endeavor was to develop a methodology to accurately identify patients who would ultimately fall into 1 of 11 selected Diagnosis Resource Groupings (DRGs). Early identification was instrumental to designing workflows to allow for tracking, monitoring, early intervention and documentation for a large patient panel over the 90 day post acute discharge bundle period.

A Transitional Care team was organized to develop processes to identify, evaluate, transition, and stabilize bundle care patients through the 90 day post acute risk episode to ensure optimal care transitions for qualifying patients. Processes incorporated transitional care management strategies which extended from the acute to sub-acute settings. This included skilled nursing facilities (SNF), visiting nurse agencies (VNA) and community physician practices. It was projected that 39% of the total cost of the selected 11 bundles was generated from patient care delivered across three settings: Skilled Nursing Facilities (SNF) (21%); Rehab (11%); and readmission costs (7%).

Team interventions included:

- use of Lean modalities to engage in process improvement across the continuum
- preferred provider relationships
- post Acute Care Management
- daily updates from SNFs using piloted web application
- strengthened communication between care providers across settings (handoffs)
- coordination with visiting nurse agencies
- secure messaging via use of Imprivata
- telephonic outreach post hospital discharge to patient's not receiving in home skilled care
- telephonic outreach to patients post discharge after VNA services are discontinued

The team quickly engaged its sub-acute partners in the care of the identified bundle patient. In December 2015, after a rigorous application and review process, 9 area SNFs were selected as preferred providers for BPCI qualifying patients. Starting January 2016 and throughout the year, the Transitional Care team developed a more robust collaborative working relationship with these 9 preferred facilities.

Efforts were made from the beginning to build the relationship between the Transitional Care team and the SNF. As these relationships developed, mutually beneficial quality improvement initiatives began to emerge. The first initiative looked at transfer of information at time of referral, screen and transfer to the skilled nursing facility. This led to several smaller process improvement activities throughout the year. A second process improvement project was around a re-design of the warm handoff process upon discharge to SNF. A larger and ongoing initiative is to work collaboratively to share information and data to better understand readmissions from skilled nursing facilities.

In addition to building more robust relationships with our SNF partners, we also worked with our closely aligned visiting nurse providers. One of the major goals of this collaboration was to develop ways in which bundle patients could be identified for the VNA in an effort to keep them connected to the transitional team. There is a large push to loop back patients to the telephonic outreach team once VNA care was complete. This would allow for the Transitional team to telephonically monitor the patients until the end of the 90 day post-acute period.

Our work is ongoing and continues to mature. We aim to continue to foster collaborative engagement for process improvements with respect to patient care transitions. Over this year we have seen remarkable program achievements (as listed below). This is proof that the program that we have developed and the care we have taken to engage our post-acute partners has had a positive impact to not only provide cost savings to Medicare but most importantly improve the health of patients served.

## **OUTCOMES ACHIEVED**

- Readmit Rate is down 3.5% from baseline (pre-program Jan – June 2015)
- Reduction in the Total Cost of Care (Projected at 8.2% in the first year)
- Combined Preferred SNF Readmission Rate down to 14.3% (baseline 18.6%)
- Overall SNF Readmission Rate down to 14.8% (baseline 21.1 %)
- Home with NO VNA Readmission Rate 12.9% (baseline 17.4%)
- Home with VNA Readmission Rate 14.8% (baseline 17.4%)
- Reduction in Average SNF LOS for Major Joint Replacement of Lower Extremity to 15.3 days in Q2 2016 (baseline 24.9 days) for the bundle period.

## **LESSONS LEARNED**

- We are a team all working for the patient and need to organize ways to ensure patient safety and quality across settings working collaboratively
- Share data across settings.
- Standardize process across settings wherever possible.

*\* PLEASE NOTE: "The statements contained in this document are solely those of the authors and do not necessarily reflect the views or policies of CMS. The authors assume responsibility for the accuracy and completeness of the information contained in this document."*

## 4) Brigham and Women's Physicians Organization/Brigham and Women's Hospital

### Total Knee Replacement Episode of Care

*Karl Laskowski, M.D., MBA, Associate Medical Director*

#### PROJECT DESCRIPTION

Total knee replacements (TKRs) are one of the most common surgical procedures performed nationally as well as at our own institution. Despite the frequency of the procedure, there is considerable variation in both cost and patient outcomes. In response to this, Centers for Medicare and Medicaid Services (CMS) implemented mandatory bundled payments for total joint replacement episodes of care for randomly selected regions in the country. Our own institution was not selected to participate in this effort. However, we were facing the same challenges. For example, in fiscal year (FY) 2013 and 2014, there was variation of up to \$2000 in direct inpatient costs across our surgeons, with corresponding significant variations in hospital length of stay (LOS), post-surgical infection rates, readmission rates, and significant variability in utilization of post-acute services. Coordination between surgical providers and post-acute staff was poor, resulting in duplicative or needlessly expensive services, unnecessary emergency department evaluation and readmission, and frustration among clinicians and patients.

To address this, clinicians in our Orthopedics department implemented a clinical pathway to provide surgeons with tools to improve clinical outcomes, proactively increase efficiency, and manage appropriate utilization. Goals included: reducing variability in resource utilization and clinical outcomes across the continuum of care, increasing coordination across the inpatient to rehab/home transition, and, ultimately, decreasing costs.

Specifically, the following initiatives were put in place:

- RAPT scores were calculated at a patient's pre-operative visit to assist with discharge planning and determination of what level of service a patient would need post-discharge (home with outpatient physical therapy (PT), home with in-home PT, or inpatient rehab or skilled nursing facility)
- Patients were advised to attend an in-person or online TKR class designed to educate patients on the procedure and specifically to set expectations for post-operative management and recovery.
- Inpatient physical therapy adjusted their work hours to increase the number of patients that started PT on post-op day (POD) 0; i.e., within a few hours of surgery completion. The goal was to then discharge a greater number of patients on POD 1.
- Weekly conference calls were held with a partner home health agency to review all TKR discharges. The goal was to decrease the number of unnecessary home visits, thereby accelerating patients' transition to outpatient PT.
- A Physician Assistant (PA) was hired as a patient navigator who assisted with coordinating patients' care across the continuum of care, particularly after discharge. Phone calls were made to each patient within one week of discharge to evaluate recovery, progress with PT, signs/symptoms of post-op infection, etc.
- A dashboard consisting of quality and outcome metrics for each TKR surgeon was created and shared with the department on a quarterly basis. The metrics included:
  - » OR Time
  - » PACU Time
  - » RAPT Scores
  - » Inpatient length of stay (expected and actual)
  - » Discharge destination
  - » Direct Costs - inpatient
  - » Readmission Rate
  - » ED visit rate
  - » Length of stay at skilled nursing facility or home services

## OUTCOMES ACHIEVED

Compared to 2013-14 (pre-implementation), after implementation of the clinical pathway in 2016:

- 72% of patients received physical therapy on post-operative day (POD) 0.
- Inpatient length of stay decreased from 2.74 days to 1.84 days (33% decrease) with 40% of patients discharged on POD 1.
- Direct inpatient costs decreased by 18%
- Discharges to skilled nursing facilities (SNFs) decreased by more than half from 35% to 14%, with 82% of patients discharged directly home.
- For patients who received services from our institution's home health agency, the average length of time for home services were decreased from 6 weeks to 15 days

## LESSONS LEARNED

- Through increased collaboration across acute care and post-acute providers, patients can safely be discharged home (rather than to post-acute facilities), and transitioned more rapidly from home-based services to outpatient therapies, reducing expense and promoting quicker recovery from surgery.
- Culture change, particularly among physicians, remains a barrier to complete engagement. Utilizing non-physician extenders (including patient navigators) to facilitate patient engagement and post-discharge coordination can help to promote significant progress despite significant obstacles.
- Despite years of efforts at care improvement, there remain significant opportunities to reduce variation, improve quality, and more efficiently care for patients presenting for elective orthopedic surgery.

## 5) Hallmark Health PHO, Inc.

### Proactive COPD Management Initiative

*Caryl Beison, MPH, Executive Director; cbeison@hallmarkhealth.org*

#### **PROJECT DESCRIPTION**

The objective of this initiative was to identify patients for proactive management of Chronic Obstructive Pulmonary Diseases (COPD) through adherence to clinical protocols and through “at-home” prescriptions and equipment kits to prevent COPD exacerbations requiring emergency department (ED) visits and inpatient admissions.

The medical director, a pulmonologist, worked with nurse care managers to develop a COPD admission prevention protocol. Guidelines and protocols were based on World Health Organization (WHO) Global Initiative for Chronic Obstructive Lung Disease (GOLD) standards. The protocol included a checklist (PCP visit three times per year; Advanced Directives; MOLST; Pneumovax, Prevar and influenza vaccines; referral to high risk care management); standard equipment list for the home (Oximeter; Oxygen tank; Peak flow meter; scale); maintenance medication kit for the home (maintenance inhalers; inhaled steroid if needed); and, an at-home exacerbation rescue kit (albuterol rescue inhaler; prednisone; antibiotic; benzodiazepine).

A presentation was given to all PCPs to introduce them to the protocol and COPD “at-home” kit and PCP practice managers were informed of the initiative. Hospital nursing departments and VNA staff were also educated on the protocol. Nurse care managers identified patients based on claims, utilization, EMR, or ED and hospital reports. Nurse care managers educated patients about the protocol, their disease, the signs and symptoms of COPD exacerbation and were given smoking cessation counseling, taught proper inhaler use, nutrition counseling, anxiety management (for patient and caregiver) and counseled about exercise and referred to pulmonary rehabilitation if needed.

#### **OUTCOMES ACHIEVED**

- Lower ED visits and inpatient admissions
- Increased awareness and use of COPD “best practice” guidelines, management tools and at-home medication kit
- Increased caregiver engagement and coordination across continuum of care

#### **LESSONS LEARNED**

- Challenge of medically complex patients refusing to address end of life issues
- Importance of engaging patient’s family
- Importance of having multi-lingual patient educational materials.

## 6) Partners HealthCare

### Effective Team-Based Decision-Making Using naviHealth Decision Support

Marianne Turner R.N.,M.S., CCM, Director Population Health Management; meturner@partners.org

#### PROJECT DESCRIPTION

In the U.S., Massachusetts leads the nation in post acute spending. To address this, we implemented an interdisciplinary team to plan for patients' discharge needs. This team is comprised of hospitalists, case managers, rehabilitation and nursing staff, and transition coordinators. Our goal is to provide the highest quality and most appropriate care in the right setting while reducing unnecessary health care costs. The team considers the patients' prior level of functioning, maintains that level during the hospital stay, and plans a discharge to the setting which will maximize their functional gains.

To achieve this goal, we partnered with naviHealth, a leader in the development of decision support strategies for discharge planning and utilization. Coordinating the efforts of the interdisciplinary team is the Transitions Coordinator. In addition to collaborating with the team, the Transitions Coordinator meets with the patient and family to gather the information regarding mobility, self-care ability, and cognition. Once this assessment is completed, the Transitions Coordinator enters the information into the naviHealth decision support tool. This software program utilizes a database of two million patient records collected over 15 years to effectively create a care plan that will determine the most appropriate post-acute setting, length of stay, therapy intensity, expected functional improvement, and risk of readmission for that particular patient.

It has taken the combined efforts of everyone on the care team to change our culture. Hospitalists now guide the team with "home" as the goal when appropriate. Nursing revised their assessments to include a comprehensive baseline and ability to monitor ongoing progress. Physical therapy is leading the initiative in many ways, including comprehensive evaluations, increased work with patients, and supporting nursing in the ambulation initiative.

Case management has a synergistic relationship with the Transition Coordinator in formulating the plan as well as working with patients and families to set clear goals. If a skilled nursing facility (SNF) stay is indicated, we use a core group of facilities whenever possible and the length of stay is established with the patient prior to the acute discharge. Once the patient is admitted to a SNF, a Transition Care Manager works with the post-acute team and patient/family. The Transition Care Manager receives weekly updates regarding progress, attends interdisciplinary meetings at the facility, and visits patients every week. The goal is to remove barriers to the patient's safe return home and collaborate with the team and family to ensure success upon discharge.

#### OUTCOMES ACHIEVED

- 19% reduction in SNF stays per 1000 from 108 to 87
- 18% reduction in SNF length of stay (LOS) from 21 to 17
- 33% reduction SNF days per 1000 from 2,253 to 1510
- ~78 patients deferred from a SNF discharge to home in the first year
- Achieved a \$2 million savings in the first year of implementation
- Increased the retention of patients using our core SNF's by 30 %
- 85-90% of patients needing a SNF are discharged to a core facility.

#### LESSONS LEARNED

- Culture change is difficult - it's imperative to create a foundation for this work to flourish. This includes leveraging leadership champions to present a clear understanding of the organizational goals and providing ongoing education for all acute departments and skilled nursing facilities.
- Always keep in mind that this is a work in progress. We are a continuum care team that works together with primary care, specialty care, and acute and post-acute care. Constant communication, collaboration and refinement of work flows in the acute and post-acute settings are needed to align all and move the work forward.
- We must always keep the patient at the center of all that we do. The naviHealth decision support tool is just that, a "tool" and not a "rule." We need to make the best plan for the individual patient situation.

## 7) Pioneer Valley Accountable Care/Baystate Health System

### Post-Acute Integrated Population Management

*Adrienne Seiler M.D., Medical Director; Adrienne.seiler@bhs.org*

#### **PROJECT DESCRIPTION**

A system-wide assessment identified Post-Acute Care as a critical opportunity for success in Medicare Based Risk Contracts (MSSP and NGACO). Our stakeholders include a large health system as well as an Accountable Care Organization (ACO) comprised of a mix of health system and Community-based primary care and specialty physicians. Given the diverse physician practice base, a multi-faceted cross continuum approach was devised and executed over the course of 2 years to drive quality, efficiency, and shared accountability from our Post-Acute Providers. A Strategic Post-Acute Collaborative Committee (SPACC) served as the central nervous system for strategy development. This committee thoroughly vetted a Preferred Skilled Nursing Facility (SNF) network that is highlighted to patients for providing the highest quality and collaborative care in the region. To manage our population and critical outcomes in the post-acute setting, both hospital-based and ACO-based post-acute dashboards were developed, implemented, and undergo monthly committee review.

SNF network engagement and collaboration was driven through quarterly two region collaborative meetings comprised of hospital case managers and leaders, regional VNA leadership, ACO outpatient practice care managers, healthcare quality, home infusion, and other community partner representation. An improvement and accountability model was implemented at not only Preferred, but also Non-Preferred skilled nursing facilities to drive population health management across the region no matter where our patients chose to select SNF care. As part of this, bimonthly performance meetings at each site were established. The ACO Medical Director and staff meet with the SNF Quality Improvement Team comprised of the SNF Administration, Nursing Director, Social Worker, Physical Therapy and Medical Director to review outcome data. Each 30 day readmissions is also reviewed by the team with a standardized "Learning from Care" Tool to drive accountability and continuous learning and improvement.

At outset, a major focus was improved communication and standards of care with our SNF continuum. Thus, a Standardized SNF Discharge Summary Template was designed and implemented and quickly followed by protocols to ensure reliable communication and transitions in care to ACO primary care sites. The world was made to feel smaller by standardizing communication between the SNFs and the outpatient care managers. Previous to this, it was a veritable "black hole" when ACO patients were receiving care in a SNF. The implementation of an application for real-time electronic tracking platform, led ACO patient care protocols to be initiated on our patients, allowed the ACO to see real-time patient events when patients were admitted and discharged from any local SNF, and allowed the SNF to know how and when to communicate with our outpatient care managers embedded in our Primary Care Practices. Furthermore, we embedded a Post-Acute Care Manager to actively manage the quality and appropriate utilization of SNF days while ACO patients are in any of our local SNFs.

This infrastructure allowed us to successfully implement NGACO's 3-Day SNF Waiver. This enabled us to provide seamless, efficient care for over 90 patients utilizing this waiver benefit in less than a year. Furthermore, active collaboration and integration with our network of independent SNFist providers has led to the development of innovated shared savings strategies for non-employed providers.

## **OUTCOMES ACHIEVED**

- Conduct bimonthly performance meetings and quarterly post-acute collaborative meetings with SNFs
- Standardized communication with primary care practice embedded ACO Care Managers
- Standardized discharge summary communication from SNFs
- Implemented an application for real-time, electronic patient tracking
- Implemented 3-Day SNF Rule Waiver on over 90 patients
- Hired Post-Acute Medical Director (MD) and Care Manager (RN)
- 7% Reduction in SNF Average Length of Stay in 9 months for entire NGACO population
- 15% Reduction in SNF Average Length of Stay in 9 months for Preferred Network
- Execution of Innovative Shared Savings Program with private SNFist Clinicians

## **LESSONS LEARNED**

- Development of a comprehensive SNF network management strategy can show rapid efficiency and quality gains
- Engagement and accountability strategies are critical to successful horizontal alignment with SNF partners
- A multi-faceted strategy is necessary for success, but most critical and time-consuming is building the necessary culture of engagement at the SNF ground level.



## 8) Spaulding Nursing and Therapy Center, West Roxbury

### Complex Care Coordination Pathway

Maureen Calnan R.N. CRRN WCC, Director of Nursing; Mcalnan1@partners.org

#### PROJECT DESCRIPTION

The Complex Care Coordination Pathway is a structured, care coordinated pathway for logistically and medically complex patient cases. It was developed by the Interdisciplinary Transition Team in response to evidence that poorly executed care transitions and limited care coordination duplicate services, waste resources and can increase hospital readmissions and the identification of a need for improvements in interdisciplinary team communication and collaboration to address the unique challenges of high-acuity, medically complex patients. It addresses the complex care needs of a specific patient population, who are identified using high-risk indicators as patient inclusion criteria. The goals of this initiative are to provide earlier and more patient-centered quality of interventions, earlier and more effective patient and family education, greater patient and family preparation for and satisfaction with discharge, which will result in safer and more sustainable transitions to home. It is hoped that by achieving these goals, we will also appreciate a decreased length of stay, measureable improvement in patient functional status during the patient's stay, and ultimately a decreased hospital readmission rate. The 30 day readmission rate of the general patient population of this facility is approximately 10 percent. The hospital readmission rate of the complex case patient population is 19 percent.

There are five Core Components to the Complex Care Coordination Pathway:

**Interdisciplinary Team Tracking Sheets** – utilized during weekly interdisciplinary team meetings to identify and track patient needs and goals

**Best Practice Standards** – followed to optimize positive patient outcomes

**Patient and Family Engagement Strategies** –

- Family Meeting Preparation document - explains the purpose of the family meeting, requests additional information about the home set-up and any services currently in place;
- Discharge Planning packet - provides community resource and caregiver support agency information
- Therapy Recommendation Packet which provides additional education to caregivers to maximize the patient's safety and independence upon discharge to home

**Collaborative Care Plan Meeting/Family Meeting 1** –an introduction to the Care Team, a discussion about the Plan of Care and opportunity for questions; includes patient, family, social worker, case manager, nursing, therapy and physician or nurse practitioner

**Family Meeting 2/Family Training Day** – family hands-on training with therapy and nursing; discharge discussion with case manager and/or social worker; Therapy Recommendations packet issued.

#### OUTCOMES ACHIEVED

- Decreased average length of stay for complex cases from 29.5 days to 27.5 days since Jun, 2014
- Improved communication and collaboration among interdisciplinary team members
- Care Plan meeting attendance by patients and families has increased from 10% to 90 %.

#### LESSONS LEARNED

- A Discharge Checklist is needed to ensure complex case completion
- Advance Care Planning and Goals of Care Discussions are a vital missing element of the program
- Barriers to data collection, such as lack of resources, continue to exist.

# IMPROVING ORGANIZATIONAL EFFICIENCIES

*As organizations move toward accountable care they are streamlining processes to lower total medical expenditures, while maintaining high-quality care. In this category, applicants will detail the processes they've undertaken (for example, LEAN, Six Sigma, etc.) that have led to demonstrable efficiencies.*

# 1) UMass Memorial Healthcare – HealthAlliance Hospital – **WINNING ENTRY**

Maximizing Operational Efficiencies through Reduction in  
Emergency Department Boarders

*Allyson Jarry, MHA, CLBB, Senior Process Improvement Specialist; ajarry@healthalliance.com*



## **PROJECT DESCRIPTION**

The below nomination outlines the impactful work of an interdisciplinary team who used a lean problem solving approach to uncover bottlenecks, remove silos, and study traditional workflows to achieve higher throughput, and move patients through an entire system/hospital, end to end, more quickly. Engagement, passion and the use of scientific thinking resulted in reducing emergency room boarding time by 70% in 1 year. The process used to achieve breakthrough strategies, included a

- 1) Compelling case for change
- 2) Clear problem the team was solving
- 3) Meaningful and actionable outcome and process metrics
- 4) Strong plan to address fundamental root causes
- 5) A culture of engagement and continuous improvement.

This approach has yielded measureable improvements in patient wait times and flow resulting in sustainable interventions.

### **The Problem:**

When a patient is admitted from Emergency Department to another level of care, studies have shown that this is a vulnerable time regarding morbidity and mortality. The intricacies and workflows of the transfer from the Emergency Department care team to the inpatient care team have a major impact on a patient's overall experience and outcome of the entire hospital stay. Patient crowding is not solely an Emergency Department problem, but rather a symptom of dysfunction within interrelated parts of a hospital. In the case of improving Emergency Department boarders at a 122 bed community hospital, identifying efficiencies at the system level versus department level is key. According to The Joint Commission, Emergency Department boarding is the practice of holding patients in the Emergency Department after the decision to admit or transfer has been made by a physician.

### **Background/Current Conditions:**

At our community hospital, the goal is that admitted patients wait no longer than two hours after decision to admit. In 2015, patients wait an average of 5.9 hours in the Emergency Department monthly. This baseline data demonstrated a strong case for change. Senior Leadership aligned the organization to support this case for change and an interdisciplinary team gathered to identify ways to maximize patient safety through efficient flow.

### **Goal:**

The initial goal established was to reduce total boarding hours by 20% from the FY15 monthly average of 6.8 to 5.5 hours.

## OUTCOMES ACHIEVED

### Outcome measures:

- 18 countermeasures/interventions implemented.
- 50% reduction in total number of patients boarded.
- 70.2% reduction in average monthly total boarding hours (6.8 to 2 hour reduction in total boarding hours).
- 22% reduction in inpatient mortality.

### Process measures:

- 15% increase in anticipated discharge orders placed Feb, 2016-Aug, 2016.
- 43% increase in patients discharged before noon since June, 2015.
- 70% reduction in average monthly ICU boarder hours (18 to 6.45 hour reduction in total boarding hours).

### Balancing measures:

- 4.1 to 3.9 day reduction in average length of stay.
- 20% increase in total admissions despite reduction in # of boarders and total boarder hours.

## LESSONS LEARNED

- Team discovered to improve Emergency Department boarder hours, the patient flow process from admission to discharge had to be studied and multiple interventions were required to improve patient flow. Focusing solely on the Emergency Department was not enough.
- There were numerous undefined practice models and workflows resulting in inefficiencies and waste.
- Caregivers, of the Emergency Room and inpatient floors, learned what ordering criteria and timing was required and how their behaviors impacted the patient. For example, placing an admission order too early or too late could cause delays in an admission. Understanding behaviors improved teamwork and respect for each caregiver's role.

## 2) Saint Vincent Hospital – **FINALIST**

### Minimalist Approach for Transcatheter Aortic Valve Replacement

*Lesley Fucci, Senior Director of Quality & Patient Safety; Lesley.Fucci@stvincenthospital.com*

#### **PROJECT DESCRIPTION**

Since October 2014, 112 patients have undergone a transcatheter aortic valve replacement (TAVR) procedure at this facility in the hybrid cardiovascular interventional lab. A TAVR is an interventional treatment option for patients at high risk or inoperable for aortic valve surgery due to critical aortic valve stenosis. In October, 2014 this facility began to offer a TAVR procedures in our community.

With the teamwork of a structural and valvular heart providers and clinical team, a minimalist approach was implemented for select patients. With this approach, patients undergo the procedure with conscious sedation, avoiding the need for intubation, invasive neck lines, and transesophageal echocardiography. This has been well-tolerated with earlier patient recovery.

The Structural and Valvular Heart Team invited a national speaker to discuss the operational efficiencies and improved patient experience in using a minimalist approach. Although this approach was not used in other Massachusetts hospitals, the TAVR team worked collaboratively to modify the traditional cardiac surgical anesthesia and management practices to a minimalist approach. With experienced cardiac anesthesiologists, patients can safely undergo the procedure under conscious sedation without the needs for intubation. With this approach, a surface echocardiogram (transthoracic echocardiogram) versus having a probe placed in the throat and esophagus to perform a transesophageal echocardiogram now occurs. From the perspective of the patient's experience, feedback has been overwhelming positive.

Recently, CMS has approved TAVR for intermediate risk patients based on the Society of Thoracic Surgery (STS) risk score, expanding the number of patients to whom this procedure can be offered. In 2016, 65 TAVR procedures were performed, 51 (78%) were performed with a minimalist approach. The average length of stay was reduced by 1.2 days for patients with this approach (3.0 days) versus use of general anesthesia (4.2 days).

#### **OUTCOMES ACHIEVED**

- 78% (51/ 65) of TAVR procedures in 2016 used conscious sedation verses general anesthesia.
- 78% reduction in 2016 of procedural transesophageal echocardiography in TAVR procedures
- 78% reduction in 2016 of placement of central neck invasive lines in TAVR procedures
- An average reduced length of stay by 1.2 days in 2016 for TAVR procedures performed with conscious sedation

#### **LESSONS LEARNED**

- A specialized multidisciplinary structural heart team can effectively implement change to improve operational efficiency and patient recovery.
- Patients undergoing a minimalist approach report feeling better during their recovery period resulting in improved outcomes
- A TAVR procedure can be safely performed in a cardiovascular invasive lab procedure room instead of an operating room.

### 3) Brigham and Women's Physicians Organization/Brigham and Women's Hospital – **FINALIST**

#### Anticoagulation Management Services Automation of Appointment Reminder Calls

*Karl Laskowski, M.D., MBA, Associate Medical Director, Brigham and Women's Physicians Organization*

#### **PROJECT DESCRIPTION**

Patient with thromboembolic disease are at significant risk for morbidity and mortality. Millions of people use anticoagulation medications, such as warfarin, to manage blood disorders.<sup>1</sup> Close surveillance and management of anticoagulation medication is critical; ineffective anticoagulation therapy can result in fatal patient outcomes.

Anticoagulation monitoring is done prior to and after therapy is initiated. DNA Panel Blood Test identifies potential genetic issues with the prescribed dosing. Upon starting anticoagulation therapy, patients' international normalized ratio (INR) is monitored closely to assess the patient's hemorrhaging risk. Patients who do not complete their INR testing as directed are at an increased risk of anticoagulation-associated adverse drug events.

Management of anticoagulation therapy is resource intensive and, at our institution, is centralized to a pharmacist-run, hematologist-supervised Anticoagulation Management Services (AMS). Our AMS group manages more than 3500 patients on anticoagulation therapy each year. Roughly 350 patients are scheduled to test their INRs daily. Because patients who miss testing are at a high risk for a bleeding event, they receive a reminder call the next day. With a 28% non-compliance rate, we spend, on average, 23 manual hours per day tracking down non-compliant patients.

Our clinic is busy, yet still relies heavily on outdated or inefficient technology, such as faxing and manual patient outreach for test results and missed appointments. We aimed to improve efficiency by implementing automated systems and improved workflows to decrease unnecessary manual work, such as manual reminder calls, processing paper faxes and generating yearly anticoagulation order renewals. Pharmacists are then able to spend less time emailing, texting and calling patients manually. Additionally, automation helps to increase patient compliance, decrease time to patient contact to reschedule missed appointments, and improve patient outcomes with alternative options to communicate medication regimens (email or text rather than voice only).

This project was also part of an innovative hospital-wide effort to identify and support pilots aimed at improving value in care delivery. As part of this framework, the project received coaching in process improvement methods (team building, Lean/PDSA methodology, data acquisition and analysis) and direct access to hospital senior leadership, who were involved in the selection and evaluation of the pilot.

#### **OUTCOMES ACHIEVED**

- 46% reduction in manual patient calls/week (538 to 288)
- 55% reduction in manual hours per week, resulting in 10+ additional hours of pharmacist time to pursue high value complex patient coordination tasks
- Despite much reduced manual hours, automated reminder calls actually increased the rate of testing compliance by 6%.
- Automated system increased variety of available communication options (e-mail, text, pharmacists call or automated call) to better meet patient needs and convenience
- By reducing delayed and missed labs, the improved outreach system as the potential to prevent 12 significant bleeding events/year, and reduce total medical expense by more than \$30,000 annually.

#### **LESSONS LEARNED**

- Reducing unnecessary, manual work increases capacity for pharmacists to address complex patient safety initiatives
- Enhanced technology improves workflow and overall patient care
- Automation of one part of the process helped prime team to expand automation into other low value manual tasks (e.g. annual clinician re-order)

## 4) Beth Israel Deaconess Care Organization

### Clinical Data Management Team

*Bill Gillis, Chief Information Office; bgillis@bidmc.harvard.edu*

## PROJECT DESCRIPTION

### Clinical Data Management

The Clinical Data Management Team was formed in 2013 to combine several disciplines in health care. The intent was to bring together Electronic Health Record Support, Quality Improvement Specialists and Data Analytics into a cohesive team to support practice level improvement in clinical documentation and ACO quality measures. The network is a heterogeneous collection of PCP and Specialist practices utilizing 46 different EHR systems throughout Eastern Massachusetts. With clinical outcomes and technology requirements drawing closer together the organizational structure needed to adapt. There was a clear need for the network to have an interdisciplinary team that had a deep understanding of our contracted quality measures, EHR systems, and practice workflow from pre visit to post visit and results follow up. This organizational structure would give us the ability to partner with our practices to maximize the opportunity for quality and financial success.

The team was split into two workgroups, EHR Optimization and Clinical Data Integration. The Data Integration team was asked to build direct EHR data feeds, normalize data, and create quality reporting that could be used by our pods and practices. The EHR Optimization Team was tasked with delivering these analytics to our practices, helping to interpret the results, and formulating practice improvement plans to improve our quality outcomes based on the findings.

### Data Integration Team

The Clinical Data Integration Team's first directive was to build clinical data feeds from our disparate EHR systems to our quality data warehouse. The intent was to deliver more real time data directly from the EHR systems to our data warehouse and ultimately populate and normalize that data in our Athena Population Health software. Their goal was to maximize the accuracy and completeness of the clinical data from the EHR's to Athena. We needed to provide insight into the chain of custody of EHR data. With the lag of payor claims files lasting up to 120 days there was an immediate need to have a quality reporting mechanism that was clinically relevant and actionable for our providers. By building these direct connections to the EHR systems we were able to collect that data in near real time and develop reports to support our physicians with information that was timely and accurate for their patient population.

Based on the normalized clinical data sourced from the EHR's, the Clinical Data Integration team built a suite of reports to give our providers insight into how they were performing against the Pioneer ACO measures. The ACO quality reports were developed to allow network leadership, the EHR Optimization Specialists, and Practices the ability to look at the data from high level and drill down to the patient level. Developing the capability to leverage cascading analytics proved to be critical component for our success in the pioneer ACO quality program. The Quality Reporting Suite consisted of three separate reports. A monthly dashboard report, a measure ranking report and a care gap report.

## **EHR Optimization Team**

The EHR Optimization Team was asked to be the face of the network with our partnered practices. The team was tasked with assisting our practices and providers improve their quality scores through expertise in practice workflow, electronic health record systems, and quality measures.

The EHR Optimization Team was able to partner with our practices to develop practical customized plans to improve clinical data capture and quality scores based on a practices specific EHR data, current staffing, utilization of the EHR, patient outreach programs and procedures, existing workflows, and quality goals. The ACO practice improvement plans were designed with a continuous improvement cycle in mind. The team needed to diagnose the problem, develop a plan, implement the practice specific plan and evaluate the results. The type of interventions varied from practice to practice and measure to measure. The improvements included technical fixes in the EHR and data feeds, practice workflow improvements, quality measure education and documentation training and in some cases overcoming resistance to documenting a specific measure.

The Clinical Data Management team helped the network perform as a top Pioneer ACO in quality. We were able to improve our clinical data and reporting capabilities and help our physicians provide outstanding patient care.

## **OUTCOMES ACHIEVED**

- BIDCO was ranked the number one Pioneer ACO in quality nationally for measurement year 2015.
- It was ranked number three Pioneer ACO in quality nationally and number one in Massachusetts for measurement year 2013.

## **LESSONS LEARNED**

- There is no silver bullet for improving quality. By putting the right structure around the team, leveraging the available clinical data, and partnering with our practices we were able to achieve a successful outcome.
- It is a continuous effort to refine and normalize clinical data. Having a dedicated team that is focused on keeping the data normalized proved to be a critical component for success. This effort is not a one-time project but really is continuous cycle of improvement.
- Partnering with our practices to build a collaborative program to improve quality is essential. Without physician buy in you cannot influence positive change for quality improvement.



## 5) Beth Israel Deaconess Hospital – Plymouth

### Mid Shift Safety Shuffle

Elizabeth Charron RN, BSN, Clinical Nurse Manager; echarron@bidplymouth.org

#### PROJECT DESCRIPTION

The concept of the Mid Shift Safety Shuffle came from a desire to decrease unit fall rates and improve overall patient safety. The Nursing leadership team had been participating in a monthly meeting to review patient falls and identify ways to reduce our unit's overall fall rate. Despite the multiple different interventions that had been implemented over several years, there was no significant improvement in our fall rate.

It was not until front line staff was encouraged to come to the monthly falls meeting and empowered to create change in their practice that we were able to achieve an improvement in our fall rate. The idea of the Mid Shift Safety Shuffle was the result of a brainstorming session with Certified Nursing Assistants (CNA's) who spend the most time with the patients at highest risk for falls. They were committed to reducing falls in the hospital throughout the duration of our improvement efforts however; it was their solution that seemed to be successful in reducing falls in the unit.

The process is simple. We take a timeout every day, every shift, at the midpoint of the shift, i.e., 11:00, 19:30 and 04:00. Each CNA alerts their nurse teammates that they will be leaving their assignment to participate in the Mid Shift Safety Shuffle. The CNAs each move in a clockwise fashion to the next assignment where they review a standard safety check list for the patients in that assignment. Patient safety items reviewed include:

1. The level of fall risk for each patient (level is assessed and documented by RN only)
2. Check that all appropriate interventions are in place for that patients level of risk
3. Ensure the call light is within reach of the patient
4. Conduct an environmental check to confirm that there are not wires to trip over, spills on the floor, and that there is a clear path to the bathroom
5. Visually inspect that the white board in the patient room has been updated especially with hourly rounding documentation.

The Mid Shift Safety Shuffle takes an average of about 5 minutes each shift and as the fall rate chart on page 4 demonstrates, it has had a positive impact on decreasing our fall rate. The staff was thrilled to participate in a process change that originated from their idea. It worked well with their workflow, and has helped to improve the care, overall experience and safety of our patients. The Mid Shift Safety Shuffle has hardwired real time safety auditing, and allowed staff to provide real time feedback to each other about their job performance.

#### OUTCOMES ACHIEVED

- Decreased falls rate
- Increased awareness about patient safety
- Improved knowledge of standard fall prevention plan and interventions tailored to each patient's fall risk score.

#### LESSONS LEARNED

- Confirmed the importance of engaging frontline staff and empowering them to impact clinical outcomes.
- The importance of standardizing work flow and ensuring it is executed the same way by each employee.
- Organizing and ensuring tools for execution, i.e. grid with fall risk and specific interventions for each level of risk are readily available to staff.

## 6) Boston Children's Hospital

### Improving Patient Access Through Operational and Organizational Efficiency

*Kevin Pawl, MS, CMPE, Director of Patient Access; Kevin.Pawl@childrens.harvard.edu*

#### **PROJECT DESCRIPTION**

The Practice Liaison Program (PLP) is a specialized service to facilitate access and one point of contact to specialists for referring providers, primary care physicians and patients. Additionally, they assist specialty departments by providing before and after hours, overflow and staff meeting coverage. For patients that need multiple appointments, the PLP can be a single point of contact to book multiple appointments.

The PLP is also staffed by a Nurse who assists in triaging patients who may be referred to the institution but are unsure of their first point of contact. The Nurse can coordinate with the departments and ensure that the patient receives the appropriate care. Since the Nurse joined the team approximately 18 months ago, she has assisted families 255 families from 37 states.

Approximately 30% of patients need to see multiple providers during one point of care. That requires significant care coordination, operational efficiency and organizational effectiveness to be patient-centered. This level of skill is supported by standard processes and quality assurance monitoring. The PLP provides a critical role in helping to achieve this efficiency for our patients.

#### **OUTCOMES ACHIEVED**

- Mystery Shopper results demonstrated that the PLP performed better in all 4 areas of Fundamental Customer Service, Customer Respect, Appointment Process and Employee Initiative. Employee Initiative had a statistically significant difference at a 95% confidence interval.
- Increased process output: 371% increase in scheduled appointments from FY2011 to FY2016.

#### **LESSONS LEARNED**

- Leadership buy-in is critical to the success of enterprise-wide initiatives. Local leaders are critical for early and spreading adoption.
- Investing in Lean Six Sigma tools help teams to be nimble, responsive and develop high-performing operations.
- Importance of the Family Advisory Council. The patient voice was represented every step of the way and helped us to design a truly patient-friendly system.

## 7) Brigham and Women's Faulkner Hospital

### New Surgeon Meet and Greet

*Kitty Rafferty, MSN, NEA –BC, RN, Associate Chief of Ambulatory and Peri operative Nursing; krafferty@partners.org*

#### **PROJECT DESCRIPTION**

New surgeons often expressed concerns rotating to a new surgical area at sister hospital. When surgeons were given a choice they stayed at their initially assigned operative area. When coming to an alternate surgical site this led to surgeon and staff dissatisfaction and concerns for smooth patient surgery and potential for an adverse event. In an effort to maintain a High Performing Surgical Team, research was conducted to see what best practices improved the surgical experience. The New Surgeon Meet and Greet Program is based on the Royal College of Surgeons of England, practice of communication, partnership, and teamwork, Using the Royal College's principles the English Surgeons which improved patient outcomes, created a culture of openness and safety in surgery, maintained respect for the expertise and contributions of allied disciplines, and lastly shared a goal of high quality. The best practices of the British Program were tailored to meet the patient needs at our hospital. The goal of this program is to meet the patient's clinical objectives, streamline operational and logistical objectives, and finally connect the new surgeon to all hospital services. Using the Lean Methods of evaluating the baseline system and then employing PDCA cycle the new Program began. First step of the standardization of Clinical Care between hospital systems. This was achieved with the standardization of care between campuses; an example is the Pre Operative History and Physical. Second step was an operational checklist to ensure the new surgeon is provided with systematic information the checklist is tailored to the service line, while some aspects remain the same ( such as ID Badge, Order Sets, etc).. Last was introducing the surgeon how to access hospital systems such as radiology, pharmacy, and rehab services. This step facilitated to bridge both parties and make a smoother and more collegial atmosphere and better patient experience.

#### **OUTCOMES ACHIEVED**

- Maintain high quality surgical experience.
- Increase Patient, Surgeon, and Staff Satisfaction.
- Created Checklist for New Surgeons.
- Smoother surgical experience for patients and staff.
- Decreased adverse events minor and major,
- Decrease in room turnover times

#### **LESSONS LEARNED**

- Spending time initially during orientation can increase patient, staff and surgeon overall satisfaction.
- Having a systemic approach decreases adverse events.
- Increased surgical volume without reducing quality by having a systematic approach to new surgeons.
- Low tech human interventions can be best.

## 8) Newton-Wellesley Hospital

### A Comprehensive, Multidisciplinary Approach to Reducing Excessive Telemetry Alarms on Medical Surgical Units

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#### PROJECT DESCRIPTION

Continuous monitoring of patients in the acute care setting is oftentimes necessary, but a byproduct of this is an inordinate number of hospital alarms. Many of these alarms can be clinically irrelevant and may mask true alarms. False alarms result in staff behaviors that may lead to suboptimal patient care practices. Alarms increase patient/family anxiety and the tethering of patients to cables or wires may reduce mobility, increase fall risk and interfere with rest and healing. Alarms management is a quality and patient safety issue and “using alarms wisely” represents a 2017 National Patient Safety Goal by The Joint Commission. Judicious use of cardiac telemetry monitoring in particular has been a focus in the American Board of Internal Medicine Foundation Choosing Wisely campaign and the American Heart Association.

Our multidisciplinary team adopted several interventions to address excessive telemetry alarms. These interventions can be categorized into two main types: those designed to decrease the number of alarms and those aimed at reducing the inappropriate ordering of telemetry or its inappropriate continued use. We conducted extensive education among nurses and doctors, employing Super Users during the intervention period. Finally, we empowered nursing staff to further modify alarm parameters if an individual patient continued to have frequent alarms of no clinical relevance. These changes were implemented en bloc in June 2015 on all our medical and surgical floors. Executive support for our work was strong and consistent, allowing for sufficient funding and manpower.

We selected a one-week baseline period (in December 2014) and two post-intervention periods: one immediately after the intervention (July 2015) and one three months later (October 2015, to determine whether the impact of our interventions was sustained. Alarm volume and types were supplied by the telemetry vendor (General Electric). We used Poisson regression analysis and chi-square testing to compare the number of telemetry alarms that occurred before and after our interventions.

Interventions to reduce telemetry alarms:

1. Education of staff regarding alarm fatigue and the appropriate management of clinical alarms.
2. Change in heart rate alert thresholds from 50/120 to 45/130 beats per minute.
3. Augmentation of the criticality of certain alarms from warning to crisis.
4. Implementation of a protocol replacing telemetry electrodes with new ones three times per week.
5. Incorporation of the American Heart Association guidelines on telemetry monitoring into our provider electronic orders for telemetry.
6. Daily discussion between physicians and nurses during multidisciplinary rounds regarding telemetry utilization.

Balance measures (code blue events and rapid response protocols) were analyzed to determine whether untoward outcomes were associated with our interventions.

#### OUTCOMES ACHIEVED

Primary outcome measures:

- 80% decrease in overall telemetry alarms from December 2014 to October 2015 (49,128/week down to 9,960/week)
- 84% decrease in telemetry alarms when adjusting for patient volume ( $p < 0.0001$ )
- 71% decrease in technical alarms by changing telemetry leads three times/week

Balance measures:

- • Code blue events in 6-month period before intervention: 6
- • Code blue events in 6-month period post intervention: 6
- • Rapid response protocols in 6-month period before intervention: 351
- • Rapid response protocols in 6-month period post intervention: 354

## LESSONS LEARNED

- Nurse and physician collaboration was key in the adoption of several interventions aimed at reducing excessive telemetry alarms.
- Key to this multidisciplinary approach was the inclusion of front line licensed and unlicensed staff in our monthly Clinical Alarms Committee, co-chaired by nurse and physician leaders trained in advanced clinical process improvement methodology. We provided opportunities for front-line workers to identify and help solve challenges. It is essential that the concerns and observations of the front-line are validated.
- We discovered that nurses were unaware of the implications of the varying tones of telemetry alarms. While all registered nursing staff was required to demonstrate competency in cardiac telemetry monitoring within six months of hire and complete an annual telemetry review, our course content did not address differentiation of audible alarms or individualization of rate parameters. Our telemetry monitoring program has been revised to include an interactive audio education course for initial training and annual competency review.

## 9) Tufts Medical Center

### Protocol Development Collaboration Process

*John Adam Reich, M.D., Vice Chair Critical Care, Department of Anesthesiology and Perioperative Medicine; jreich@tuftsmedicalcenter.org*

#### **PROJECT DESCRIPTION**

Prolonged ventilator weaning and immobility in the cardiothoracic intensive care unit (CTU) in patients resulted in longer than necessary length of stay (LOS). Operating room cases were sometimes delayed or canceled due to lack of ICU beds. This limited access for patients in need of cardiothoracic surgical care.

To address this issue, a cardiac intensive care program was born. To facilitate a team-based approach and involve all stakeholders, we instituted multidisciplinary rounds including critical care intensivist, physician assistant and/or surgeon, bedside CTU nurse, pharmacist, and respiratory therapist. Timely ventilator weaning, avoidance of excessive sedation, and promoting early mobility became cornerstones of care. We developed daily goal sheets so that plan of care was implemented and communicated to all stakeholders-including patient's family. Working to avoid physical deconditioning and unnecessary time on ventilator as the cardiovascular system normalized, we were able to reduce CTU LOS.

#### **OUTCOMES ACHIEVED**

- Reduced LOS patient population for coronary artery bypass surgery (CABG) and valve replacement surgery
- Improved access to tertiary cardiovascular surgery
- Increased cases were able to be completed in consecutive years by allowing more access to CTU beds.

#### **LESSONS LEARNED**

- Efficient implementation of best practices can be achieved through multidisciplinary collaboration
- Written goal sheets provide clarity to facilitate the goal of early mobility
- Best practices are not consistently implemented unless a unit-level process is developed and agreed upon by all relevant providers.

# PHYSICIAN PRACTICE INNOVATIONS

*In the pursuit of clinical and/or research excellence, physician practices both within and outside of hospitals are on the leading edge of innovations to improve care throughout the commonwealth. This category recognizes the physician groups that are forging new paths that lead to the efficient and safe provisions of medical care, whether they employ new software models, systems of care, process reconfiguration, or clinical trials and procedures.*



## 1) Partners HealthCare – **WINNING ENTRY**

### Patient Reported Outcome Measures Program

*Peter M. Meyers, Program Director, Clinical Contact/Medical Director; pmmeyers@partners.org*

#### **PROJECT DESCRIPTION**

The Patient Reported Outcome Measures (PROMs) program is evolving patient and physician culture and is improving the practice of patient care in the clinic to use the “outcomes that matter most to patients” – self-reported changes in functional status, symptoms, mental health and quality of life.

While PROMs questionnaires are not unique, what is unique is our comprehensive approach and drive for acquiring and utilizing patient reported data. From our perspective as well as feedback from others engaged in PROMs work nationally, we believe our approach is on the forefront of fostering measurable, sustainable quality improvement using PROMs.

Going beyond more limited endeavors to collect and use PROMs data, the PROMs program is driving the adoption in a broad-based way not seen elsewhere. We are collecting PROMs:

- Multi-modally –from home via patient portal and in-clinic on tablets
- System-wide – across all conditions/specialties
- Longitudinally – over extended timelines up to ten years forward.

The PROMs program and our leadership believe that incorporating the patients’ own, direct feedback on their symptoms, functional status, mental health and quality of life is a necessity in the evolution of patient care as well as a future requirement of payers and the consumer to assure quality and value.

Data collected is being used in two complementary ways:

- For immediate use in the patient-provider dyad to ask/receive answers to the right questions before the encounter and to ideally inform and drive discussion in the encounter.
- To build aggregate data to inform joint decision making as well as quality improvement/best practice identification at the clinic and system levels.

The program is now entering its next phase: establishment of PRO (Patient Reported Outcome) Performance Measures for use in enterprise wide, clinical collaboration committees to inform quality improvement. Examples of data informing this effort are below.

The adoption of PROMs is a system-wide journey and depends on providers making important changes in their practice to incorporate PROMs. To raise awareness of PROMs and to share best practices, we held our Second Annual PROMs Summit in November, 2016, featuring clinical presentations from our providers and clinic staff, to approximately 200 peers. Exemplary approaches to PROMs workflow, and successful patient care, research and analytical work were shared. Preceding the Summit, a “roundtable” dialog was started with the program’s most involved providers to facilitate learning among the system’s clinical PROMs thought leaders and to identify areas for program improvement.

The PROMs team is also collaborating with a number of systems and programs nationally and internationally. These include the National Institute of Health (NIH) funded PROMIS program from Northwestern University and product development personnel from Epic (electronic medical record software). These connections are leading to knowledge transfer and the spread of patient reported data approaches and measurement nationwide.

Additionally, PROMs data will be featured on a website, “Care Decisions” launching in February, to show aggregate PROMs data for selected procedures and to feature patient accounts of the use of PROMs data in their care. The PROMs team is planning a series of publications describing workflow, clinical care and quality improvement/value demonstration aspects of its work.



## OUTCOMES ACHIEVED

- Collection of over 200,000 PROMs questionnaires
- Across 25 conditions/specialties
- In over 65 clinics across 5 hospitals, both academic and community including post-acute.
- Analysis of aggregate data in 5 initial conditions has identified potential areas of excellence in surgical practice. Anecdotal comment from providers shows PROMs in the medical record during exams can surface critical medical and other issues.
- Clinician collaboration committees from across our system have started to implement PROMs for quality improvement, while system-level quality leadership is now starting to identify performance measures for key conditions.

## LESSONS LEARNED

- Multimodal, longitudinal PROMs collection is key to maximizing PROMs data collection.
- Workflows are available to collect PROMs in the clinic, but engagement of clinical leadership is the key to the staff collection of PROMs.
- The keystone to program success appears to be engagement of individual providers in using PROMs data in clinical practice; thus education and communication materials are critical.

## 2) Atrius Health – **FINALIST**

### Total Joint Replacement Program

*Marci Sindell, Chief External Affairs Officer; Marci\_Sindell@atriushealth.org*

#### **PROJECT DESCRIPTION**

Prior to the program's 2014 launch, 66.8 percent of the physician practice's patients needing joint replacement required admission to skilled nursing facilities (SNF) after surgery. To help more patients recover comfortably at home, surgical providers from the practice, nurses from their home health care subsidiary, and hospital case management formed a unique collaboration to institute pre-operative outreach calls and home visits as part of a proactive care model for this population.

The provider reviews the patient's health record, identifies potential risks and care gaps, and speaks by phone with the patient to review key information and any post-op issues. This conversation helps alleviate patient fears or confusion about the surgery and sets expectations for hospital stay and recovery. The provider communicates potential barriers to home discharge with the home health care team.

Simultaneously, the home health care team arranges a pre-op home visit with the patient 10-14 days before surgery. During the visit, the physical therapist identifies and helps troubleshoot potential barriers to make the home safer for recovery (or propose a change in discharge plans), assesses the patient's mobility, and teaches the patient about the surgery and self-management techniques to be used following the procedure.

The practice, along with the home health care team, tracks patients from the pre-op visit across care transitions to ensure coordination and high patient/family satisfaction. The home health care liaison tracks the patient before and after surgery and throughout their hospital stay. Upon discharge, the liaison coordinates a safe transition home with the hospital case manager, and the patient is admitted onto certified service, with skilled nursing and physical therapy visits the next day.

#### **OUTCOMES ACHIEVED**

- 477 patients discharged from the hospital directly to home; with only one patient readmitted to the hospital.
- Average number of patients transitioning directly from hospital to home increased from 33.2 percent to 71 percent
- Average number of patients discharged to a skilled nursing facility decreased from 66.8 percent to 29 percent.
- Decreased average SNF length of stay by 2 days.
- Estimated \$665,682 in savings.

#### **LESSONS LEARNED**

- When surgical providers and home health care work together, creating a more coordinated care experience, joint replacement patients benefit tremendously with improved outcomes and a better care experience.
- Improved communication between case management staff at the hospital and the rest of the care team allows for more timely notification of patients' medical condition and a more seamless transition in care.
- Avoiding unnecessary hospital and SNF admissions improves access to the right level of care based on the patients' unique needs.

### 3) Pediatric Physicians' Organization at Children's – FINALIST

Enhancing Patient Safety and Quality of Care in the Pediatric Primary Care Setting

*Elene Scheff, PT, Patient Safety Manager, Program for Patient Safety and Quality; Elene.Scheff@childrens.harvard.edu*

#### PROJECT DESCRIPTION

The hospital and associated pediatric primary care physicians organization (PO) collaborated to establish an ambulatory patient safety program in response to increasing malpractice claims and patient safety concerns in the pediatric ambulatory setting. The patient safety program uses a multi-pronged approach of education, shared learning, collaboration, and real-time support to implement sustainable change to improve the safety and quality of the care provided in pediatric primary care settings.

Education occurs through use of Learning Communities consisting of 4 in-person sessions and 2 webinars combined with monthly Safety Tips. The topics of these tips are aligned with safety event report trending and National Patient Safety Goals. The Ambulatory Risk Management Learning Community (ARM LC) is a longitudinal, interactive educational series through which the fundamentals of patient safety science are taught while promoting a culture of safe sharing. Proactive risk mitigation strategies include teaching application of adult learning principles; Clinical Microsystems tools (Plan Do Study Act cycles, process maps, fishbone diagrams, 5-Ps) to support the improvement and creation of highly-reliable processes related to closed-loop communication including, but not limited to, patient handoffs, test results and referral management, care transitions, and care across the continuum. An environment of shared learning activated a shift in the culture of patient safety. These adult learning principles were leveraged to engage diverse members of the primary care practices, both clinical and non-clinical in the patient safety work.

Proactive monthly outreach to all providers requests that they reflect on their daily work and note any vulnerability to patient safety. This program component has elicited reporting of near misses, safety events, and identified opportunities for improvement.

Real-time, continuous support from the PO patient safety program is provided by a dedicated patient safety team consisting of a Patient Safety Manager and a Quality Improvement (QI) Consultant for Patient Safety. Safety events, near misses, and requests for consultation are reported to the patient safety team by the primary care practices. The patient safety team responds in real time and utilizes patient safety principles including Root Cause Analysis (RCA) to gather details around the reported events, identify immediate needs, and provide ongoing support around implementation of action items and sustainable change necessary to prevent repeat events.

#### OUTCOMES ACHIEVED

- A multifaceted patient safety curriculum was successfully developed, implemented, and served as a model for future dissemination
- Practices are actively engaged around patient safety
- Practices are proactively identifying risks to patient safety and applying Clinical Microsystems tools to mitigate risk
- There has been a significant increase in safety event reports to the ambulatory patient safety team
- Over 30 quality/process improvement processes are currently in process or have been fully implemented.

#### LESSONS LEARNED

- Patient safety integrated with quality improvement is effective for implementing a patient safety program
- An environment of shared learning and use of adult learning principles activates a shift in the culture of patient safety
- Development of proactive strategies educates and imparts change.

## 4) Brigham and Women's Physicians Organization/Brigham and Women's Hospital

### Reducing Dermatology Referrals for Acne Using Point-of-Referral Clinical Decision Support

*Karl Laskowski, M.D., MBA, Associate Medical Director*

#### PROJECT DESCRIPTION

Acne is a frequent dermatologic complaint in the primary care setting, and a common reason for dermatologic referral. The vast array of topical and oral therapies, the somewhat subtle differences in severity of acne, and the complexity of matching patient insurance coverage to appropriate covered treatments leads to frustration by both generalist clinicians and patients. As a result, patients are frequently referred for specialty evaluation and treatment. However, specialty care for mild to moderate acne is costly and inefficient. Patients face long wait times for dermatology appointments and very often no-show for these visits. This creates waste in the system and patients do not receive needed treatment. Mild to moderate acne can be safely and effectively treated in the primary care setting.

Our program developed a point-of-referral decision support algorithm, built into the electronic medical record (Epic), to more rapidly arrive at appropriate treatment. Upon ordering a dermatology referral for "acne," clinicians receive a Best Practice Advisory (BPA) pop-up module which prompts the clinician to assess the severity of disease. Visual reference pictures are provided as a real-time guide. Upon selecting the severity, clinicians are presented with appropriate corresponding treatment plans that match to the severity and insurance coverage and allow for easy ordering of appropriate therapies. Severe disease prompts an expedited referral for specialty care.

In addition to automated launch at the time of ordering a referral ("push" to the clinician), the decision support is also available by querying the electronic medical record for "acne" SmartSets ("pull" by the clinician). Our expectation is that the "pull" method will ultimately supplant the "push" notifications as clinicians become familiar with the decision support.

To date, we created the algorithm with consultation from expert specialist clinicians, gathered feedback from 40+ generalist mid-level and physician providers, programmed the software to launch the BPA and SmartSet decision support, and launched in "silent" mode to assess frequency of triggering and to identify technical problems. During a 10 week trial period we observed that the BPA decision support would have been triggered an average of 2.8 times per week. The BPA and Smart Set are scheduled to officially "go live" as of 1/17/17.

We expect that applying this algorithm in which patients are treated with topical treatments and antibiotics prior to referral to dermatology will reduce initial dermatologic referrals by 86.7%, and eliminate referrals to dermatology completely for 72% of patients. Patients would receive treatment on average 28 days sooner than they would if they waited to be seen by dermatology. Algorithm based treatment is estimated to save \$20000 per year via avoided visits and reduced no-shows.

Furthermore, the algorithm should help primary care clinicians to more rapidly and effectively triage and treat acne, and potentially improve access to both specialty and primary care clinicians as a result. While automated decision support is often viewed as a burdensome administrative barrier, we believe that our collaboratively created solution will be a popular and helpful tool which has the potential to increase provider efficiency, reduce patient wait times, improve patient treatment and outcomes, and improve both patient and clinician satisfaction.

The early success of our intervention has proven a model for other decision support efforts at our institution, and is being adapted for other clinical indications across several specialties.

## OUTCOMES ACHIEVED

- Collaboratively developed electronic guidance for acne treatment
- Modified electronic health record (EHR) to launch decision support when referral to dermatology for acne is ordered
- Gathered feedback and review from 40+ primary care providers
- Tested for 10 weeks: decision support triggers an average of 2.8 times per week.
- Reviewed treatment recommendations from electronic software against chart review of results of dermatologic office visits and found 100% concordance.
- Estimate 150-200 triggers per year, as well as additional use of a “smart set.”
- Formal “go-live” scheduled for 1/17/17
- If decision support followed 100% of the time, would result in 72% reduction in dermatology referrals for acne and an annual costs savings of \$20,000.

## LESSONS LEARNED

- Off the shelf EMR decision support is inadequate and disruptive to workflows
- By engaging generalist and specialist clinicians, sophisticated automated decision support can better support efficient value based care
- Interventions in one clinical specialty can serve as model and foundation to replicate in broader clinical context

## 5) Hallmark Health PHO

### Congestive Heart Failure (CHF) Practice Improvement Project

*Caryl Beison, MPH, Executive Director; cbeison@hallmarkhealth.org*

#### **PROJECT DESCRIPTION**

Congestive Heart Failure (CHF) is associated with a high mortality risk and frequent hospital admissions. The economic burden is predicted to increase due to the increased risks of an aging population. The CDC reports that heart failure costs the nation \$32 billion per year. CHF accounts for 17% of all hospitalizations and over 250,000 deaths per year, prompting a renewed interest in evidence-based strategies to reduce hospitalizations in patients with CHF. Education to improve early recognition of CHF precipitates appropriate interventions, thus reduces costs. This quality improvement project focuses on prevention strategies, understanding risk factors, adherence to medication compliance, and dietary and lifestyle modifications to improve quality of life and prevent hospital re-admissions.

The goals of this practice-based project were:

- Improved outcomes for our primary care group of vulnerable CHF populations with age greater than or equal to 75 years of age and an ejection fraction of <40%.
- Improved education of staff and CHF populations to precipitate earlier interventions
- Earlier symptom reporting
- Improved communication and assessment of the physical and emotional needs and improved quality of life for the vulnerable CHF population.

The project involved education of the care team to understand the risk factors, physiology of the disease, assessment and treatment of CHF, the Zones Educational handout on CHF, the Warning Signs of Heart Failure handout, follow up care and documentation of the CHF population. The team of providers, nurses and MA's updated the problem list with CHF type and updated ejection fraction (EF). Phone triage staff were instructed to book visit if in the yellow zone, triage to 911/ER or call MD/NP if in red zone. Staff educated all patients and their families regarding CHF and treatment strategies, plan of care.

- The practice team assessed for medication compliance, safe use, the need for refills and documented in the EMR, as appropriate.
- The practice team assessed the need for updated labs, educate about medication side effects and providers will assess need for updated imaging.
- The practice team instructed populations to do daily weights and record those at home after voiding and call if gain of three pounds in one day, or five in one week. All CHF patients were directed to have a 2000 NA diet (and 1500 cc fluid restriction if persistent symptoms) and to avoid salty foods and fluids.
- The team educated patients about appropriate nitroglycerin use as needed.
- The practice team offered patient and caregiver support as indicated ( Case Management, Nutrition Consult, Elder Services, Sr. Ctr., VNA, Day Care, Respite, Coach, Protective Services, Social Service.)

Staff facilitates communication to tertiary care teams re: de-compensated CHF, Arrhythmia, AICD, ventricular assist devices, pacers and obtain records of needed.

#### **OUTCOMES ACHIEVED**

- Decreased CHF Admissions
- Patient survey/satisfaction measures improved.
- Informal office meeting 12-6-16 with small focus group of vulnerable CHF population expressing improved quality of life, education, reporting and communication regarding CHF that meets their physical and emotional needs.

#### **LESSONS LEARNED**

- Need better way to engage patients who declined to participate
- Behavioral health needs and depression impact the CHF population
- Need more dedicated resources to educate patients about CHF

## 6) Saint Vincent Hospital

### Blood Product Utilization Management Initiative

*Thomas King, M.D., PhD, Chief, Department of Pathology and Laboratory Medicine;  
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#### **PROJECT DESCRIPTION**

The goal of this project was to implement a restrictive/conservative transfusion strategy for medically stable patients thereby reducing the number of patients transfused and number of units of blood/blood product utilized.

Managing the provision and administration of blood and blood products in the hospital setting is a quality and safety initiative that not only improves outcomes but protects a precious resource.

The most important benefit is that better blood management improves patient safety. Giving blood introduces the risk of infection, can increase wound complications and can potentially contribute to length of stay or mortality. When we give blood to patients unnecessarily, we potentially cause avoidable harm.

In addition, for the hospital, another benefit of better blood management is spending less for a number of expensive resources. Using only what's needed translates to substantial costs savings for blood procurement and nursing time.

#### **OUTCOMES ACHIEVED**

- Significant reduction in overall red blood cell utilization.
- Significant improvement in provider compliance with evidence based transfusion triggers.
- Imputed improvement in patient care based on accumulating evidence favoring conservative red blood cell transfusion practices.

#### **LESSONS LEARNED**

- Typical EHR data can be mined to provide provider specific feedback on transfusion practices and affect behavioral change.
- Ongoing individual peer comparison and education can significantly impact provider transfusion ordering practices
- Effectively managing transfusion utilization using evidence based guidelines can improve patient outcomes and hospital financial performance.

## 7) South Shore Health System

### Opioid & Controlled Substance Prescribing Initiative for Acute and Chronic Pain Management

*Christine Just, R.N., MSN, CNM, Senior Project Manager; Christine\_Just@sshosp.org*

#### **PROJECT DESCRIPTION**

The national concern for opioid addiction and overdose deaths has raised awareness of the patterns in how Surgeons and Primary Care Providers prescribe opioids for pain control. The Opioid and Controlled Substance Prescribing Initiative for Acute and Chronic Pain Management is an innovative quality improvement project to standardize treatment of, and prescribing for, acute post-procedure pain and chronic pain. Two opioid task forces were created within our health system to focus on the specific issues related to each type of pain management. Periodic engagement occurs between the two groups to keep apprised of each other's work and to acknowledge the role that excessive post-procedure prescription pain medication can play as the impetus for chronic substance use, misuse, abuse, dependence and addiction which can lead to heroin use and death due to overdose.

The Opioid Task Force for Post-Procedure Acute Pain Management, a multi-disciplinary team of surgeons, advanced practice clinicians and nurses, was developed to explore the variation in post-procedure prescribing between clinicians. There are no national guidelines or benchmarks for prescribers to reference in relation to particular surgical interventions. A pioneering orthopedic practice in our system had made some improvements in reducing the variation in prescribing among their surgeons in March of 2014 through October of 2015 with the main goal of reducing excess pills on the street. The task force was created in November of 2015 with the aim of refining, augmenting and spreading those improvements to other specialties, including reducing the number of pills prescribed based on the number that patients actually take, encouraging the use of single-agent Oxycodone (rather than combination narcotics) and educating patients on how to safely manage their pain. The task force used Lean Process Improvement (Plan-Do-Study-Act). Pre- and post-standard prescribing data were collected via survey, chart review and Qlik database.

The Opioid Task Force for Chronic Pain Management oversees a quality improvement initiative in the primary care office that includes adoption of a policy affecting opioids, benzodiazepines and stimulants, adoption of supporting workflows, intervention tools, and a patient review/ intervention process for qualifying patients. The policy is based on accepted national standards for treatment of this population and mandates appointment requirements, treatment agreements, urine drug screening with standardized result processing, aberrant behavior reporting and documentation, medication refill processing, and prescription monitoring program utilization. The patient chart review process includes a review by a clinical pharmacist with pain management training focusing on the evaluation of the risks and benefits of the current treatment plan and, if appropriate, they offer potential therapeutic interventions to the primary care team to reduce risk while maintaining a high quality level of care and symptom control. Numerous workflows for all levels of clinical and non-clinical staff as well as interventional tools were also created and are utilized.



## OUTCOMES ACHIEVED

- 5 specialties (Orthopedic, Urology, General, Thoracic and Breast Surgery) developed standards and decreased the number of pills prescribed by 25 – 58%.
- The use of single agent Oxycodone 5 mg increased by 50% for specialties that were primarily using combination medications prior to implementing standards.
- Breast, General and Orthopedic Surgery assessed number of pills taken by patients as compared to the number dispensed for certain procedures and found the majority of patients (86% to 100%) took 5 pills or less, received optimal pain relief and did not request refills.
- Developed and implemented patient education on how to safely take pain medication.
- Over 900 primary care patients reviewed, 500 with pre/post data
  - » Gross morphine equivalent reduction: 12,862mg
  - » Net morphine equivalent reduction: 7,498mg
  - » Sedative burden reduced in 33 patients

## LESSONS LEARNED

- Key components for success include having multi-disciplinary participation on the task force and identifying physician and nurse champions to promote the initiative.
- Prior to setting standards by procedure, it is best to first assess the actual number of pills taken by the patient as compared to the number dispensed rather than arbitrarily reducing the number of pills prescribed via consensus among prescribers
- Adoption of clearly communicated standards of care provided improves quality and safety of care for these patients and our community and provides improved satisfaction for all staff and providers interacting with this patient population.

# PROVIDING CARE TO SPECIAL POPULATIONS

*In this category, applicants will detail their facility's efforts to target a population or improve equity of care by designing a healthcare program to meet its specific needs by carrying out initiatives that lead to measurable improvements. The population could be defined by socio-economic boundaries; by race, ethnicity or gender; by age; or by a specific diagnosis, such as diabetes or the various components of behavioral health. Applicants will be required to clearly define the population targeted.*

# 1) Atrius Health – **WINNING ENTRY**

## Behavioral Health Adult Care Model Redesign

*Marci Sindell, Chief External Affairs Officer; Marci\_sindell@atriushealth.org*



### **PROJECT DESCRIPTION**

Between 2013 and 2016, a physician-led Accountable Care Organization (ACO) with a large behavioral health (BH) department completely redesigned adult behavioral health care, taking four years to conceive, research and implement a new model. The BH department conducts approximately 200,000 visits annually, and supports the BH needs of roughly 700,000 patients in primary care. Previously, the department mostly treated higher functioning patients who regularly attended appointments and required straightforward interventions. By doing this, those with more complex diagnoses often had lesser access to care. The department had limited ancillary resources and insufficient evidence basis for treatments, and therapists' caseloads were significantly inflated (on average, more than 100 patients for 1.0 FTE), resulting in poorer treatment planning and lower quality interventions.

The redesign sought to effectively treat the needs of poorly-resourced patients with highly complex BH challenges and to address systematic problems with access to treatment, frequency and duration of care, and the evidence base for psychotherapy through the following mechanisms:

- Development of a standardized triage service to facilitate full awareness of the BH needs of patients, and deliberately guide them to appropriate treatment within the organization or at an affiliated partner
- Creation of a manual of evidence-based treatment standards for most common disorders
- Right-sizing of therapist caseloads and treatment durations based on empirical evidence.
- Development of a robust group treatment program, to expand capacity for treatment.
- Establishment of a "care facilitator" program to serve case management needs and identify unmet BH needs in the larger internal medicine population

Implementation of a validated quality assessment tool for use at all sites and with all BH patients, to track treatment effectiveness and facilitate further quality improvement.

### **OUTCOMES ACHIEVED**

- Over 8,000 patients through the triage service since 02/2016
  - » 80% receive triage call within 2 days of referral
  - » Access to individual psychotherapy reduced to 10 days (as of 10/2016) from 60 days (as of 1/2016) on average [please see attached graph in the data section].
- Establishment of 63 confirmed outside provider network affiliates, receiving 200-400 referrals a month.
- Therapist caseloads reduced from 108 patients to 34 patients on average. Total therapy cases reduced from nearly 5,000 active patients to roughly 2,000, while maintaining the same therapist FTE.
- Treatment principles manual created, vetted, and distributed.
- Care Facilitator program pilot running with 5 full-time hires, and 5 more for 2017 (please see the supporting report in the Results/Data section).
  - » Initial savings indicate \$380 per member per month (PMPM) for the three months post treatment
  - » Reduction in emergency department (ED) usage from 1,674 per 1000, to 1,116 per 1000
  - » Reduction in hospital admits = from 558 per 1000 to 279 per 1000
- Quality outcomes assessments deployed to 14 sites for all patients
  - » Over 10,000 unique patients through the system since 8/2016
- Therapy groups increased from 9 to 58 (12/2016; please see graph in Results/Data section)
- Press Ganey patient satisfaction scores up 2.3% from 77.5% to 79.8% from 1/2016 to 11/2016 (please see graph in Results/Data section).

## LESSONS LEARNED

- Involving clinicians and staff in the development process dramatically increases buy-in to the resultant changes
- Dramatic change can be self-funded in a multi-specialty organization with strong backing from senior leadership – this results in increased adherence and long-term sustainability.
- Fee-for-service payment models present a significant barrier to this kind of innovation.

## 2) Massachusetts General Hospital – **FINALIST**

### Expanding Capacity and Improving Care for the Acute Psychiatric Inpatient Population

*Jeff C. Huffman, M.D., Medical Director, Inpatient Psychiatric Services; jhuffman@partners.org*

#### **PROJECT DESCRIPTION**

The extreme shortage of psychiatric inpatient beds has been a well known problem in health care in Massachusetts for many years and was the subject of a multipart Boston Globe Spotlight last year, and was again front page on January 5. This project's focus was on a 24 bed inpatient psychiatric unit that runs at essentially 100% capacity 365 days a year receiving referrals from across the state. It offers unique enhanced medical capabilities and generally receives greater than 10 referrals every day for an available 1-2 beds. Recognizing that by improving throughput they would be able to provide services to more patients in need, the physician and nursing leaders of the unit set out to define a multidisciplinary project that improved efficiency of care while maintaining low rates of readmission, reducing rates of restraint and seclusion, and otherwise maintaining high-quality care.

The specific defined goals were to:

1. Initially improve capacity by reducing mean admission duration ('length of stay') by 10% and increase pre-noon discharges from 6% (baseline) to 20%.
2. Initially reduce restraint and seclusion to less than 5 hours per month
3. Continue to have lower than projected rates of readmission (via MassHealth metrics)

We also aimed to maintain gains in all three areas by reaching these goals again in each of the three subsequent years.

#### **OUTCOMES ACHIEVED**

- Reduced average length of stay from a baseline of 11.1 (in 2011) to an average of 9.36 over 4 years (2013-2016) exceeding the goal of a 10% reduction in length of stay in each year
- An approximate 15% increase in patient admissions over that time – from 750 discharges in prior years to 840-900 in subsequent years
- In all years 7- and 30-day rates of readmission were below projected rates for Massachusetts Behavioral Health Patients (the only patients for whom we have such data)
- Restraint and seclusion dropped from over 20 hours/month in 2011 to less than 5 hours per month every subsequent year
- These changes happened with no increase in staffing.

#### **LESSONS LEARNED**

- Gather multidisciplinary support and expertise to make change
  - » It is critical to gather information from multiple perspectives
  - » You need champions in multiple disciplines
  - » Front-line staff need to embrace the change and their ongoing input is VITAL
- Make a specific and concrete plan
  - » Think it through, write it down, and promote it
  - » Make sure most people agree, and all understand
  - » Follow through and follow up often—checking in with staff living the changes
- Measure, Measure, Measure
  - » Have specific metrics and a specific timeframe
  - » Share the results widely and often

### 3) Partners HealthCare – **FINALIST**

#### Behavioral Health Integration, Collaborative Care

*Susan Garrels, LICSW, MSW, Senior Program Manager, Behavioral Health Integration; sgarrels@partners.org*

#### **PROJECT DESCRIPTION**

Our system has developed and implemented a model of care, called Collaborative Care, which provides support to adult primary care providers in the identification and management of patients with behavioral health conditions in the primary care setting. We aim to improve quality of care and patient outcomes in behavioral health as well as medical conditions. Collaborative Care is a team-based approach that includes the patient, a behavioral health support specialist (BHSS), the primary care provider, and a psychiatrist. Primary care providers utilize screening tools and clinical assessments to identify patients with behavioral health conditions and then refer those identified to the BHSS for follow-up and care management. The psychiatrist provides case review and curbside consultation on patients, making proactive treatment recommendations for appropriate stepped care.

The program includes four key elements: 1) measurement-based treatment to target; 2) care management; 3) proactive monitoring with a registry tool; and 4) regular psychiatric caseload review. Research has shown that the combination of these elements leads to improved outcomes and decreased costs for patients enrolled in these programs.

The program uses measurement-based treatment to target through close symptom monitoring and follow-up. Patients are administered symptom monitoring tools such as the Patient Health Questionnaire -9 (PHQ-9) and Generalized Anxiety Disorder-7 item scale (GAD-7) at each encounter with the BHSS, generally every 2 weeks. We also developed a registry tool that allows us to proactively monitor treatment to target by running a report for patients who have not responded to a treatment plan within an expected period of time. Patients who have not reached the target treatment goal are then reviewed in a timely manner with the consulting psychiatrist for recommendations on treatment changes according to evidence-based protocols. Recommendations are also discussed with the primary care provider. This continues until patients have reached their target treatment goal or it is determined that they should be stepped up to specialty care.

During the course of this work, the BHSS is providing care management by keeping in close contact with the patients, monitoring treatment adherence, developing behavioral activation plans, and using motivational interviewing to engage patients in behavior change. They provide psychoeducational materials on the patient's disorder and treatment options and are responsible for keeping the primary care provider informed about the patient's progress and any concerns that may arise.

Psychiatric case review is a key element of our program. Psychiatrists participate in regularly scheduled, systematic case reviews with the BHSS to discuss new referrals, patients not responding to treatment, and patients with any additional concerns. They work to ensure patients are being treated to target and are able to provide support to the teams with diagnostic clarification, treatment plans, and supervision.

#### **OUTCOMES ACHIEVED**

- Enrolled 2,528 patients in the program
- Implemented in 48% of adult primary care practices across the network; FY 2017 target is 83%
- 66% reduction in PHQ-9 (Patient Health Questionnaire -9) scores over an average of 4 months for those who completed the program. PHQ-9 measures severity of depression symptoms.

## LESSONS LEARNED

- Not all primary care providers want assistance managing this population; many prefer the usual practice of referring patients out for specialty care. Readiness level, comfort, and skill varied among the practices. We acknowledged this reality and worked with the practice and providers to build trust, understand their perspective, and work toward change together.
- Engaging this population is challenging. We adjusted our approach and worked closely with our patient engagement team to identify new ways to engage this population through technology, outreach and training.
- Practices need help with all behavioral health conditions, not just mild to moderate depression, which was the initial focus of the program. This became very evident as soon as we had a BHSS in a practice and providers were referring all patients with behavioral health needs. In order to succeed and support our providers and most importantly our patients, we adjusted our workflows and standards to support all patients, not just those with mild to moderate depression.

## 4) Beth Israel Deaconess Hospital – Milton

### Care Integration Pathways for Behavioral Health Patients in the Emergency Department

*Ashley B. Yeats, M.D., FACEP, Vice President of Healthcare Quality & Clinical Integration/Chief Medical Officer, Director of Graduate Medical Education, Emergency Physician; Ashley\_yeats@bidmilton.org*

#### **PROJECT DESCRIPTION**

The CHART 2 Grant is a \$2.1 million investment supported by the Health Policy Commission (HPC) to reduce the length of stay and improve patient care in the Emergency Department (ED) for behavioral health boarders. The project supports the Care Integration (CI) Program and was developed in response to a growing number of patients presenting to the ED in serious behavioral health (BH) crisis, for whom the ED was sub-optimally resourced to support clinical needs and an alternative placement was not readily available. The model provides continuous organizational development and training for ED staff to more safely and effectively manage BH patients. Clinical enhancements include a dedicated Care Integration Team consisting of a masters-prepared RN Director of Care Integration, two co-located Licensed Independent Clinical Social Workers from the regional Behavioral Health Emergency Services Provider, a part-time Music Therapist and Chaplain, ED physician and RN champions, a pharmacist, a security officer and administrative and analytical support. Under the traditional model, patients do not receive clinical services or active treatment until they reach their therapeutic placement. Time spent in the ED is a missed opportunity to begin treatment that might result in a lower level of care. Under the enhanced integrated model, patients receive a bundle of services to reduce their risk of symptom escalation, including more timely crisis evaluation, insurance verification and care transition management; therapeutic interventions (i.e.: cognitive behavioral therapy), medication management, music therapy, faith counseling, peer services, familial counseling and support. Consistent team meetings occur between the MD, RN, and LICSW; and a return ED care plan is developed to expedite future treatment, ensuring patient and staff safety and facilitating expedient disposition to appropriate clinical services. A “warm hand off” to all receiving providers and follow up by a community behavioral health navigator and peer worker is standard of care upon discharge. Technology innovations support active and ongoing patient management. Tiger Text secure/encrypted texting supports timely clinical interventions and rapid interdisciplinary input and Medisolv sends a daily census report and a real-time dashboard of core patient indicators. The primary outcome of the CI Program is to reduce ED length of stay for boarding BH patients. In spite of the closure of a large medical center leading to a spike in ED volume, a shortage of inpatient psychiatric beds and a statewide opioid crisis, the Care Integration Team was able to reverse an upward trend in length of stay for BH patients.

#### **OUTCOMES ACHIEVED**

Since March 2015, the CHART 2 team has:

- increased ED staff skills (all disciplines) to effectively manage behavioral health emergency care through targeted training,
- identified and alleviated the barriers to communication and care between the medical and behavioral health system which impede effective care transitions for patients in the ED
- developed a coordinated system of care for behavioral health patients
- reduced ED length of stay for BH patients.

#### **LESSONS LEARNED**

- There are significant gaps in the construct of a traditional ED model of care and BH transitions which impede care and the ability to provide optimal milieu management.
- There are barriers within state agencies and payer organizations that perpetuate emergency department patient boarding for behavioral health patients.
- Early identification, ED treatment intervention and coordination with community resources decreases ED BH boarding, recidivism and utilization.



## 5) Beth Israel Deaconess Hospital – Plymouth

Integrated Healthcare & Substance Use Collaborative (IHSUC)

*Sarah Cloud, LICSW, Director of Social Work; scloud@bidplymouth.org*

### PROJECT DESCRIPTION

To address the growing opioid epidemic in our community, we strategically formed alliances, embedded behavioral health specialists within medical settings and took steps to reduce barriers to care. People enter the program through many points, including his/her primary care provider (PCP), the emergency room, an overdose (OD) in the community, and drop in centers to highlight a few.

A person's behavioral health needs are addressed and co-managed, along with their physical health, with behavioral health specialists embedded in PCPs offices and ED. By embedding specialists in medical setting, treatment practices have changed and evolved in the following ways:

1. Social Workers and Psychiatric Nurse Practitioners provide specialized consultation and intervention.
2. Prescribers continuously self-evaluate opioid prescribing trends and implement plans of utilizing non-opioid analgesics in combination with opioids for the treatment of acute pain.
3. A Pain Management Stewardship Committee was formed and is instrumental in developing new clinical pathways, education, and leadership.
4. A detailed approach of customized care for individual patients was developed through care plans. The purpose of the care plan is to create institutional memory across numerous providers; make easily visible prior recurrent presentations and related testing; identify a patient's existing clinical, behavioral, and social services; and recommend strategies to promote safe, high-quality care in the acute care setting.
5. Patients are educated on:
  - » Risk/Benefits and proper storage and disposal of opioids
  - » Narcan
  - » Pain management

These same specialists provide aftercare follow-up in the community following an OD and are available at local drop in centers for any member of the community to seek help, information, support and hope.

Through our collaboration with various partners, the outreach component of the program focuses on connecting people with treatment for an opioid addiction. The goal is to visit individuals in their home who overdosed within 12 to 24 hours after being discharged from the hospital. This initiative began on December 1, 2015, with one local town and has expanded to include 14 towns and is posed to go county wide in 2017. The premise of the outreach component is that each time there is an opioid overdose in one of the participating communities, a plain clothed officer and Behavioral Health professional go to the person's home to offer services, support and hope. Most of these individuals had been transported to an ED following the administration of Narcan and Cardiopulmonary resuscitation (CPR) at the time of the overdose. In the ED they were treated and assessed but declined services. This program engages them for a second time to offer services in the individual's home where family members are often engaged. Individuals are provided with support and offered services as well.

In addition to the opioid follow up visits in the community, the program hosts drop-in centers in partnership with area treatment providers and the faith community. The drop-in centers are a replication of another community's initiative and offers individuals, family members, loved ones and members of the community an opportunity to access information, treatment, support, Narcan kits and training, and hope in a community setting. Members of the substance use network who participate in the drop-in centers include members from our various community collaborators network.

Using this approach, the program has helped more than 3,000 patients and families affected by mental health and addiction problems find the care they need from the point of crisis through to early recovery.

## **OUTCOMES ACHIEVED**

### Outreach Component:

- 89% of the individuals were able to be located
- 100% engaged in a discussion with the officer and behavioral health professional.
- 85% were connected with treatment from the home visit.

### ED Component:

- Prescribers engaged in self-evaluation opioid prescribing trends. Resulting in a 48.3% reduction in opioid prescriptions per patient seen.
- Since October 2015, almost 3,000 individuals received behavioral health services in the ED and more than 450 in primary care practices.

## **LESSONS LEARNED**

- Engaging people in their natural environment with their support networks available increases the likelihood of entering treatment.
- Addiction affects the entire family therefore the whole support network may need services to improve outcomes.
- Collaboration within our institution between disciplines and departments along with external community stakeholders and families is important to the success of the program.

## 6) Brigham and Women's Faulkner Hospital

### Narcan Dispensing by a Hospital Emergency Department to Patients at Risk of Opioid Overdose

*Joseph O'Day Jr. M.B.A., R.Ph., Director of Pharmacy Services; joday@partners.org*

#### **PROJECT DESCRIPTION**

At this 140-bed acute care hospital, we believe that patients admitted to the Emergency Department for a life threatening opioid overdose should be discharged with nasal naloxone in hand.

For someone at such high risk of relapse, handing the nasal naloxone product to a patient or their family, as opposed to handing them a prescription, eliminates the unnecessary step of traveling to a pharmacy to fill it. These vulnerable patients may not be able to pay for the naloxone prescription, may be too ashamed to face a pharmacist, or may not make filling the prescription a priority.

Having the product in hand eliminates these pitfalls, gives caregivers a chance to teach the procedure of naloxone administration, and stresses the urgency of calling an ambulance as soon as possible in a case of recurrence.

Last March we started a program where patients admitted to the emergency department for opioid overdose received nasal naloxone antidote kits on discharge. Initially, the kits contained two injectable 2 mg prefilled naloxone syringes, a nasal device for syringe attachment, and an instruction pamphlet. Additionally, these patients and their families (or friends) received counseling from a nurse or provider prior to leaving.

A few months after the program's launch, we switched to Adapt Pharma's newly available product, Nasal Narcan, manufactured specifically for intranasal use. Slightly more expensive than the syringe kits (\$120 vs. \$60), they were simpler to use (requiring less manipulation), available as a small box with two doses, and contained clearer, simpler instructions. Since March 16, 2016, a total of 79 nasal naloxone kits (syringe kits + Nasal Narcan) have been handed to patients or their loved ones.

Fortunately, Massachusetts passed legislation allowing easy access to nasal naloxone.

Naloxone truly does save lives. We've received feedback from family members how our nasal naloxone program saved the life of their loved one.

Our facility has developed a multi-tiered approach to treating opioid addiction, including an active inpatient and outpatient Addiction Recovery Program. We know from our Addictionologists the importance of creating opportunities for recovery, and nasal naloxone is part of that opportunity.

Addiction recovery is a difficult path. There may be numerous relapses. Every step we take to make this antidote simpler to access and to administer can be the key that unlocks the door to successful recovery. A study published in *Annals of Internal Medicine* August 16, 2016, demonstrated that at risk patients prescribed nasal naloxone had fewer opioid related emergency room visits compared with patients who did not receive naloxone.

Fewer emergency room visits would mean decreased costs and improved access to the overcrowded emergency departments across the state.

Making an affordable life-saving medication readily available to a vulnerable population in the simplest least cumbersome way saves lives and gives patients a chance to recover.

## OUTCOMES ACHIEVED

Goal: Patients admitted to the emergency department for opioid overdose will receive upon discharge a Nasal Narcan kit plus instruction on its use.

Outcome: Program begun on March 16, 2016. As of December 30, 2016, 79 patients have received a Nasal Naloxone kit and been instructed of its proper administration. In several cases, their families and friends also received instruction.

## LESSONS LEARNED

1. Patients at risk for a repeat opioid overdose should be discharged with nasal naloxone in hand and receive instruction on its use.
2. A recent study (Ann Intern Med. 2016;165:245-252) found that patients on long-term opioid therapy who received a nasal naloxone prescription had 47% fewer opioid-related ED visits per month in the 6 months after receipt of the prescription and 63% fewer visits after 1 year, compared with patients who did not receive naloxone.
3. The authors mentioned several limitations, including that their data did not confirm patients actually filling their naloxone prescriptions. We believe that receiving the nasal naloxone product in hand (rather than a prescription) at discharge eliminates significant barriers to having the naloxone when urgently needed.

## 7) Brigham and Women's Physicians Organization/Brigham and Women's Hospital

Virtual PSA monitoring clinic (PSAMC)

*Karl Laskowski, M.D., MBA, Associate Medical Director, Brigham and Women's Physicians Organization*

### PROJECT DESCRIPTION

Prostate cancer is one of the most common cancers among men. Survival rates are high, with nearly 100% of patients surviving 5 years, and 95% still alive at 15 years. High survival rates are promising, but place a significant burden on the healthcare system. Patients in this specific population require lifelong monitoring and follow-up to assess for recurrence or progression of disease. Regular lab monitoring is indicated, and changes in Prostate Specific Antigen (PSA) levels may trigger a change in care plan. For this reason, patients have historically scheduled ongoing, in-person follow-up appointments to test and monitor PSA levels. These visits are often short and uneventful, with normal values indicating only a need for ongoing surveillance. However, the volume of follow up visits threatens to crowd out capacity to see newly diagnosed cancer patients. At our institution, like most others across the country, PSA monitoring has been overseen by multiple distinct departments: Radiation Oncology, Medical Oncology, Urology or Primary Care. Each department has historically had independent workflows for managing these patients, though all have revolved around in-person, office visits. With upwards of 70 patients per week seeking follow up care, delivering coordinated and efficient care to this population is challenging.

Office visit based care is resource intensive, expensive and inconvenient for patients. It is also reactive, relying on a patient keeping a physical appointment to trigger acquisition and review of labs (i.e. PSA values). We piloted a virtual PSA monitoring clinic to accomplish 3 goals:

- 1) Establish a standardized clinical practice and workflows for follow-up care to ensure all patients get appropriate surveillance care
- 2) Improve patient convenience and experience by removing the requirement for an in-person visit
- 3) Increase our capacity to see newly diagnosed patients, who will require initial in-person evaluation and treatment planning.

The clinic developed simple tracking tools to identify and monitor scheduled outreach. Patients were instructed to obtain lab draws locally. The results were reviewed, and patients were then contacted via telephone, electronic secure messaging, or scheduled video visits to discuss the results and follow up care plan.

Launched in our radiation oncology clinic, the pilot successfully shifted 34% of in-person clinic visits to virtual appointments, allowing the department to increase new patient consults by 27%. Surveyed about the experience, patients overwhelmingly (>90%) reported that the clinic helped make their care easier and more convenient, reducing travel related stress and out of pocket expense, with 66% of patients reporting that they saved > 3 hours of time as a result.

Lastly, quality of care did not decrease; no patients were lost to follow-up, and 98% of patients reported that they understood their PSA results and ongoing monitoring plan as a result of the virtual visit.

The intervention has become a model for how virtual care may be used to replace some in-person interactions at our institution.

## **OUTCOMES ACHIEVED**

- 34% decrease in clinic follow up visits for PSA monitoring
- 27% increase in new pt consults seen
- 173 virtual interactions over 7 months
- 98% of patients agreed or strongly agreed that they understood their results after the virtual “visit”
- 92% of patients agreed or strongly agreed that the intervention made their healthcare easier; 96% that it made their care more convenient
- 94% of patients reported that the intervention saved them time, with 66% reporting a savings of >3 hours
- Only 10% of patients declined to be enrolled in the intervention, preferring an in-person visit to virtual contact
- 0 patients lost to follow up

## **LESSONS LEARNED**

Replacing low complexity in-person office visits with more efficient virtual interactions allows for:

- Improved quality, with fewer patients lost to follow up
- Improved patient access, convenience and experience
- Reduced costs

## 8) Hebrew Rehabilitation Center

### Optimizing Medication Use in our Seniors

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#### **PROJECT DESCRIPTION**

In 2011 a multidisciplinary team created a work team aimed at reducing the impact of poly pharmacy on our seniors. The literature indicates the following key points: (1) the efficacy of medications on advanced age may be diminished and (2) multiple medications can lead to side effects that negatively impact our seniors such as nausea, changes in cardiovascular responses that lead to falls, and negatively impact memory and cognition. In the field of geriatrics, goals of treatment and quality of life are also critical aspects when optimizing medication. Though the literature indicates the need to minimize the number of medications whenever possible, there is no identified or standardized process to help geriatric health care providers manage medications that consider both quality of care and quality of life.

The initial reason for the multidisciplinary team of nurses, providers, pharmacy staff, and pharmacy students to meet monthly was to “reduce the number of medications” for our elders. Using the 5 why approach (asking why five times to get at the root cause) this team was able to understand the true cause of why reducing medications was so challenging. Based upon the 5 Why quality approach, three problem statements were identified. 1. The facility does not have a standardized approach to managing medications. 2. Lack of a evidenced based approach for making medication changes makes it difficult for health care providers to discuss with families. 3. Families resist to reducing or discontinuing medications because there is no written documentation or outline to help educate families about medication considerations in seniors.

Once the root causes were identified the team was able to focus their efforts on the following interventions: 1- create a house-wide philosophy for health care providers around medication optimization, 2- develop a family brochure that outlines critical considerations when managing medications in our seniors so that assists health care providers can use and discuss upon admission and throughout their stay, and 3-create evidenced base clinical decision algorithms for health care providers to assist them when considering goals of care and benefits of medications in advanced age.

The family advisory council provided much needed input to the development of the philosophy (from the families’ perspective) and the final brochure. The pharmacy students, as part of their clinical experience, collaborated with an assigned health care provider to create categories of clinical decision making templates that were then approved by the medical staff and by Pharmacy and Therapeutics.

The unique collaborative efforts of the health care team, pharmacy students, and family advisory council, has resulted in a 50% reduction of medication over the past 5 years. Evidence based protocols assist the health care team when discussing with families and deciding optimal medication use that benefits both the quality of care and when the quality of life for our seniors.

#### **OUTCOMES ACHIEVED**

- 50% reduction of medications per resident over a 5 year period of time
- Improved satisfaction of our staff with clarity of philosophy
- Improved partnership with families because of family friendly medication optimization booklet.

#### **LESSONS LEARNED**

- Health care providers needed to change the focus from “reducing medications” to optimizing medication use to minimize fears from families and balance both the quality of care and quality of life needs.
- Family council involvement is critical to understanding learning needs and with developing critical discussion points for family education.
- Evidenced based algorithms ensure there is a standardized approach that minimizes conflicting messages to families and allows the team to consider the “whole person” when optimizing medications.

## 9) Lahey Health and Medical Center

### EMS & ED Stroke Feedback Tool: Improving Patient Outcome

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#### PROJECT DESCRIPTION

Stroke care begins in the field with emergency medical services and the emergency room with their rapid recognition and activation of the emergency medicine services; "stroke alert" and the hospitals; "brain attack" systems. A stroke alert from the field triggers an internal brain attack page to the acute stroke team. The acute stroke team once they receive the page reports to the emergency department to receive the inbound stroke patient.

We hypothesized that providing feedback to emergency medical services and emergency department on stroke care would improve the hospital's stroke core measures, and raise the stroke defect-free care. In order to raise the stroke defect free care- all stroke core measures must be met. The stroke core measures include intravenous tissue plasminogen activator (t-PA) arrive by 2 hour, treat by 3, antithrombotics administered prior to end of day 2, venous thromboembolism prophylaxis prior to end of day 2, antithrombotics prescribed at discharge, anticoagulation prescribed at discharge for patients with atrial fibrillation/flutter, smoking cessation education, low density lipoprotein cholesterol measured within 48 hours of patient's arrival and if over 100, prescribed a high intensive statin at discharge, dysphagia screen prior to any oral intake, stroke education provided at discharge, and rehabilitation consideration. Meeting all of the stroke core measures in essence means we were able to provide the stroke survivor with the best possible stroke care.

The primary goal of the project is to standardize care and increase awareness for the patient that presents via emergency medical service or emergency department with a potential stroke. The stroke patient has a short window of opportunity for treatment (0-3 hours and 3-4.5 hours with additional exclusions for intravenous medication, 0-5 hours for interventional neuroradiology) and the ability for emergency medical services and emergency department to recognize that the patient may be suffering from a stroke is essential to ensure the best possible patient outcome and survival.

The secondary goal- by standardizing the care and increasing awareness, emergency medical services' and emergency department's stroke measures and the hospital's stroke core measures will be consistently met. Consistently achieving all of the patient's stroke core measures provides the stroke survivor with the best possible care and ensures an optimal outcome.

#### OUTCOMES ACHIEVED

- Within the first six months after initiation of the emergency department feedback tools- brain attacks in the emergency department increased by 29% by end of Dec 2015 and 39% end of 2016. Emergency medical services stroke alerts increased by 155% by end of Dec and 30% end of 2016.
- Hospital's Stroke defect-free care rose: 2015 Q1/Q2 77.3%; 2015 Q3/Q4 86.2%; 2016 96.4%
- Based on the responses from emergency medical services and emergency department, the feedback tools are the most expedient and efficient means of communication and continually educates the emergency medical services crews and emergency department staff on the care of the stroke survivor both pre-hospital and hospital.
- Improved relationships with our emergency department and emergency medical services. Stroke became a team effort rather than an individual's department effort.

#### LESSONS LEARNED

- Establishing relationships prior to the initiation. Ask for their feedback on the form- what can be changed in order to make it more meaningful to the recipient.
- Become an active participant in the process to better understand the barriers.
- Seek and respect the recipient's feedback on the process and be open to suggestions for areas of improvement.



## 10) New England Quality Care Alliance

Pediatric Behavioral Health Program to Achieve the Quadruple Aim

*Shirley Huang, M.D., Pediatric Medical Director; shuang3@neqca.org*

### PROJECT DESCRIPTION

Our Pediatric Behavioral Health Program has aspired to achieve the Quadruple Aim of better health, better care, lower costs, and improved provider satisfaction. Our program embeds licensed social workers on site within pediatric practices as part of the care team in order to coordinate the behavioral health (BH; to include developmental, behavioral, and mental health) needs of pediatric patients and their families.

We designed this program in a step-wise approach beginning with practice specific needs assessments, developing a care coordination tracking tool, and examining and refining workflows. Through relationship building, we developed a database of BH resources. We then identified educational needs and supports and furthered community engagement. Outcomes were measured throughout the process, and the program has been continually refined to allow for replication and expansion.

The program began in mid-2014 as a year-long pilot, with one behavioral health social worker (BHSW) working with one pediatric practice. We conducted a needs assessment of the practice and helped to create site-specific work flows to improve coordination of care. A care coordination tracking tool and database of resources were developed, specific to location being covered. The BHSW identified community-based behavioral health programs and through relationship building, improved access to outpatient behavioral health services (including therapists for counseling as well as child psychiatrists). On site presence in the pediatric practice was maximized whenever possible to allow for warm hand-offs and improve communication and care. A payor-blind, all inclusive program to provide assistance to all children regardless of insurance was established in order to optimize work flow and allow BH integration to be part of routine care. We then sequentially expanded the BHSW over the course of the pilot year to two additional practices located in a similar geographical region, conducting similar needs assessments and workflow refinements in each site.

Once the pilot was completed, we expanded the program over the past year to all regions in the greater Boston area with pediatric practices in our network. Six additional BHSWs were added to the program to cover a total of 21 practices.

Additional components of the program that were developed based on identified need include ongoing educational support for our BHSWs as well as for all of our pediatric primary care providers (PCPs) through case conferences, topic discussions, and clinical support from an academic child psychiatrist and a developmental behavioral pediatrician. This allowed for direct consultative support from traditionally difficult to access specialists.

Through our program, we identified other opportunities for improvement in BH care, such as the need to better integrate with community BH and school professionals. We have hosted regional networking events with community PCPs, developmental behavioral pediatricians, child psychiatrists, other BH professionals (including therapists, psychologists, social workers), and school personnel (including special education teachers and counselors) to facilitate discussion on how to better integrate care across the continuum. This initiative is called "Let's ACT (Accomplishing Care Together)!" The events have been held in three separate geographical regions and have been so well received with engagement across all professionals that it has led to subsequent follow-up forums to allow further conversation on how best to work collaboratively and integrate care.

## **OUTCOMES ACHIEVED**

- Identification of community based behavioral health resources.
- Creation of a care coordination tracking tool and resource database.
- Improved access to community behavioral health programs and resources.
- Improved provider satisfaction.
- Improved patient/family satisfaction.
- Decreased ED utilization.
- Decreased inpatient utilization.
- Development of a model for expansion across the network.

## **LESSONS LEARNED**

- Importance of developing relationships and working collaboratively across professionals in all settings (PCP office, BH office, and schools) to develop awareness, break down silos, and improve integration of care.
- Identification of physician champions within practices has created and allowed expansion of a program with engaged providers and integrated care teams.
- There continues to be tremendous work to be done in order to provide optimal BH care to pediatric patients and families.

# 11) Signature Healthcare

## Homeward Bound Program

Lorraine McGrath, Director of Marketing; [lmcgrath@signature-healthcare.org](mailto:lmcgrath@signature-healthcare.org)

### PROJECT DESCRIPTION

Homeward Bound is an innovative partnership between the hospital and the hospital's school of nursing to coordinate care for patients who have been hospitalized with Congestive Heart Failure or Chronic Obstructive Pulmonary Disease. Since its inception, it has expanded to include an RN Care Manager to follow these patients as well as affiliations with two new schools of nursing.

Launched in September 2013 thanks to a grant, and sustained by the hospital's CHART program, Homeward Bound served 22 patients in its first year, none of whom were re-hospitalized, representing significant cost savings for the hospital.

Today, the program strives to continuously reduce 30-day readmission rates for patients with Congestive Heart Failure and Chronic Obstructive Pulmonary Disease. To accomplish this, nursing students, hospital staff, and faculty work together to monitor patient conditions on a daily basis through home visits and telemedicine.

According to the Centers for Medicare and Medicaid Services, 90% of all readmissions for heart failure are unplanned or preventable. Most of these readmissions are due to patients' poor understanding of their diagnosis, non-compliance with their medication regime, and lack of motivation to change their diet and/or exercise.

In order to prevent this from occurring, patients are identified for Homeward Bound by the Advanced Heart Failure Program Coordinator who meets with them personally to provide information on and invite them to join Homeward Bound.

Once enrolled, patients receive weekly home visits and are given a telemedicine package that includes an iPad mini, a scale, and a blood pressure cuff, all with wireless connectivity. Patients use this equipment each morning and measurements are automatically sent to the Telehealth Nurse Liaison at the hospital who monitors patients' electronic medical records, coordinates any changes in medications or treatment, and communicates with primary care physicians, pharmacists, nursing students, and other providers on the team.

Through this telehealth method, the Telehealth Nurse Coordinator is alerted to the early warning signs of a patient's deterioration so that medical attention and/or treatment changes can be scheduled immediately.

### OUTCOMES ACHIEVED

Beginning with 22 Congestive Heart Failure patients entered into the program in 2013 with zero readmissions, the program has grown to 33 Chronic Obstructive Pulmonary Disease patients and 14 Congestive Heart Failure patients for a total of 47 actively enrolled Homeward Bound patients in FY16 with zero readmissions for seven months out of the fiscal year! A 47% increase in enrollment and the expansion to include Chronic Obstructive Pulmonary Disease patients, the hospital and its nursing school are making a serious impact in the lives of patients in this chronically ill population.

## LESSONS LEARNED

- One of greatest findings has been the importance of communication in all forms (person-to-person, face-to-face via technology, electronically) and with all members of the team. Communication between team members is critical to providing real-time information on a patient's condition in order to avoid adverse events. The impressive health outcomes of the patients in Homeward Bound once again demonstrate the power of teamwork. This teamwork is based on mutual respect with a shared goal of excellent care.
- Another important lesson learned is the healing power of students. Nursing students bring youth, energy, and enthusiasm to their work which translates to higher levels of motivation in patients to follow their treatment regime. Nursing students are also more approachable to patients because they are not in a position of power, but rather a position of support. As a result, patients immediately connect with them.
- Research supports the model of home visits with telephonic/electronic contacts as the most effective way to transition patients with Congestive Heart Failure and Chronic Obstructive Pulmonary Disease from the hospital to their home. Education and symptom self-management interventions have also been shown to decrease mortality and readmission rates in patients with both diseases when delivered by trained personnel.

# REDUCING HOSPITAL-ACQUIRED CONDITIONS AND READMISSIONS

*This category recognizes efforts to reduce readmissions and/or hospital acquired conditions that include, but are not limited to, catheter-associated urinary tract infections (CAUTI); central line-associated infections (CLABSI); and surgical site infections (SSI) for coronary artery bypass graft surgery (CABG), hip/knee prosthesis arthroplasty (HPRO/KPRO), and abdominal/vaginal hysterectomy (ABHYST/VHYS).*



## 1) Lahey Hospital and Medical Center – **WINNING ENTRY**

### Reduction of Catheter-Associated Blood Stream Infections in the ICU

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#### **PROJECT DESCRIPTION**

Central Line Associated Blood Stream Infection (CLABSI) presented a significant improvement opportunity for our institution's Intensive Care Units (ICU). Our overall ICU rate, based on Targeted Assessment for Prevention (TAP) 2015 state data showed that we had the 5th largest gap to overcome among state hospitals, relative to the number of infections we would need to eliminate (the Cumulative Attributable Difference [CAD]) to reach the National Prevention Target Standardized Infection Ratio goal (0.5 observed/predicted infections). To reach that goal our institution would need to cut our central line (CL) infection rates in half. Our combined Medical ICUs ranked 4th worst in the state with a CAD=2.19 cases (5 CLABSIs), and our Surgical ICU ranked the worst with a CAD=3.7 cases (6 CLABSIs). We identified three main potential sources for our poor results. First, we lacked standardization of policies and procedures related to decision for CL placement, technique of placement, and use and maintenance across our ICUs and other units. We had six different nursing policies governing CLs across our institution, covering both our ICUs and Medical/Surgical units. Second, we had a relatively high ICU CL utilization rate compared to both national and state comparison groups. Third, we believed we had a high false positive rate of CLABSIs due to a higher than appropriate blood culture contamination rate, resulting from the practice of using drawback cultures through central lines when not indicated. This practice has been demonstrated to increase blood culture contamination 3x over drawing peripheral cultures. Review of two years of patients classified as having CLABSIs showed tremendous variability of blood culture technique, with over 90% of patients having drawback cultures drawn, instead of preferred peripheral cultures.

Improvement efforts were based on a FOCUS-PDCA model where, after identifying sources of variation, we identified a constellation of best practices [Strategies to Prevent CLABSI in Acute Care Hospitals: 2014 Update, published by the Society for Healthcare Epidemiology of America (SHEA) and the Michigan Appropriateness Guide for Intravenous Catheters (MAGIC)], and re-designed our policies and procedures around line utilization decisions, placement technique, decisions about continuation of catheters, and culturing techniques. We leveraged decision support within our electronic medical record (EMR) to drive appropriate CL utilization and culture decisions. This included 1) embedding decision support algorithms, 2) empowering the intravenous therapy nurses to preferentially place a midline catheter rather than a peripherally inserted central catheter (PICC) when the indications for a midline catheter (a peripheral catheter) were met, and 3) preferentially offering as first option peripheral blood cultures rather than central line drawback cultures when an order for blood cultures was placed in the EMR. All of these efforts were rolled out between December 2015 and April 2016.

#### **OUTCOMES ACHIEVED**

- MICU/ICU- CLABSI reduction from 5 in 2015 to 1 in 2016, with one of our two MICU/ICU units, which had 4 CLABSIs in 2015 going >562 days (as of 12/31/16) to date without a CLABSI, statistically significant compared to previous 8 years.
- SICU- CLABSI reduction from 6 events in 2015 to 3 events in 2016, and none since wide scale initiation of interventions in April, > 271 days (as of 12/31/16) without a CLABSI, statistically significant compared to previous 8 years.
- Marked increase in the use of midline catheters over PICC lines (4% before vs. 46% after new order set).
- 17% reduction in central line utilization in the ICUs (0.74 line days/patient days before intervention reduced to 0.62 line days/patient days after intervention (26% reduction in MICU/ICU utilization, 10% reduction in SICU, 1% reduction in CCU).
- Reduced drawing blood cultures from central lines from 52% to 14% of cultures in ICUs.
- Reduced blood culture contamination 61%, from 2.18% Oct 2014-Mar 2016 to 0.85% Apr 2016-Nov 2016 (both ICUs and Medical/Surgical).

## LESSONS LEARNED

- Identify framework for improvement, if available, and use project management approach to address all components of framework
- Clarify potential causes of the problem by effectively analyzing process flow and data. For example, contaminated blood culture data was only identified after reviewing sources of blood cultures for previous two years of CLABSIs
- Leverage decision support in electronic medical record to help providers do the right thing.

## 2) Boston Medical Center – FINALIST

### Leveraging the EMR to Reduce Hospital-Acquired Clostridium Difficile Infections

*Deborah Gregson, MSM, Quality Improvement Specialist; Deborah.Gregson@bmc.org*

#### PROJECT DESCRIPTION

Clostridium difficile (C Diff) infections are the leading cause of health care-associated diarrhea, and are reported to cause approximately 500,000 patient infections in the United States each year. They are also associated with a 20% mortality rate, making their prevention critical to improving patient care quality and outcomes. At the onset of 2016, the C Diff infection rates at our hospital were higher than the median performance nationally, and fell well above the National Benchmark established by the Centers of Medicare and Medicaid Services (CMS). In response, a multidisciplinary team convened to address elevated C Diff infection rates and focus on two priorities:

- 1) Decreasing inappropriate repeat testing, which leads to inaccurate results and inflates the number of reportable cases; and
- 2) Improving Contact Plus Isolation orders to better sequester and test patients at the time C Diff infection is suspected, reducing the risk of infection spreading.

Utilizing Quality Improvement methodologies, the team took a data-driven, evidence-based approach to identifying and testing possible solutions. Once methods for change were identified, the team leveraged them via integration into our electronic medical record (EMR).

Specifically, this rapid cycle improvement strategy included several additional C Diff infection order sets: instructions on appropriate test frequency; an automatic display of past lab results; a best practice alert that “fires” during an order if a laxative has been administered in the past 72 hours, recommending that the laxative be discontinued prior to testing; and C Diff infection testing and Contact Plus Isolation order panel to reduce the risk of environmental contamination. Negative lab results in the EMR were also modified to include instructions to discontinue isolation.

#### OUTCOMES ACHIEVED

- 1.) Decrease in overall C Diff infection rates due to improve use of isolation orders.
  - » The incidence of C Diff infections fell from a Standardized Infection Ratio for Hospital Onset Clostridium Difficile Infection of 1.573 in 2013 to a four-quarter average of 0.78 in 2016. This represents a large improvement and is well above the national goal (a ratio of 1) established by CMS.
- 2.) Decrease in inaccurate and unnecessary C Diff infection testing
  - Following changes in the EMR, C Diff infection test volume decreased by 38%.
  - Inappropriate repeat testing within 7 days of a prior negative result was reduced by 80%.
  - Inappropriate repeat testing within 30 days of a prior positive test result was reduced by 66%.

#### LESSONS LEARNED

1. Integrating Quality Improvement solutions into the EMR led to reduced C Diff infection rates by improving the issuance of isolation orders and reducing repeat testing.
2. Identified solutions became the standard of care because new practices were hardwired into the EMR—this was critical to achieving significant improvement in just 14 months.
3. The multidisciplinary approach leveraged the different specialties and unique perspectives of team members enabling them to identify solutions rapidly.



### 3) Massachusetts General Hospital – FINALIST

#### Stay Connected Program

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#### PROJECT DESCRIPTION

The Stay Connected Program (SCP) is a bundle of interventions available for patients at high risk for readmission on randomly selected pilot units (6 general medicine units). An algorithm was developed that scans each patient record for terms that may be an indication for readmission. The two dominant factors in the algorithm are number prior admissions within the past year and total bed days within the past year. Additional factors include socioeconomic determinants and chronic, complex conditions. This algorithm is run on each patient after 24 hours of admission and gives the patient a high or low risk rating. This program targets the patients rated high.

The SCP bundle offers a variety of services that literature supports will help reduce readmissions. The first is helping patients to schedule a post-discharge appointment at a time that works for the patient. The coordinator sits with the patient prior to discharge to understand his/her needs and availability and then makes an appointment based on these preferences; it is usually within 7-14 days after discharge.

The next option is “meds to beds”; the discharge prescriptions are handed to the patient at or just prior to discharge. This intervention also includes medication counseling from a pharmacist.

The third option is geared toward patients going to a Skilled Nursing Facility (SNF). It is a partnership with a network of SNFs that provides an onsite Nurse Practitioner (NP) from the SNF to see the patient prior to discharge and coordinate the handover of care between the acute hospital and the SNF. It also provides continuity of care for the patient as the patient may see the same provider at the SNF.

The fourth option is geared towards patients going home. It is a Care Manager (CM) to coordinate care efforts for the patient for 30 days post-discharge. This CM will coordinate services such as “the Ride” or other basic needs the patient may have. This CM will also work closely with the patient’s Primary Care Physician (PCP) and other clinicians involved in the patient’s care.

The fifth option is also geared towards patients going home. It is an NP that will see the patient post-discharge, usually within 24-48 hours. The NP can provide advanced clinical care above what home nursing can provide. The NP can order diagnostics or services for the patient. IV lasix and diuretics are also available with this program. This NP will work closely with all of the patient’s care providers such as the PCP, Care Manager, and other specialists.

#### OUTCOMES ACHIEVED

The SCP program has some preliminary results; it will take more time to see results long-term and determine if improvements are truly sustained. The anticipated outcomes are based on literature that supports these efforts.

- It is estimated that 30% of high risk patients will readmit.
- Of those patients, it is estimated that about 27% are preventable.
- We are estimating that this program will achieve a success rate of 50%; meaning that of the 27% preventable readmissions, we would reduce those by half.
  - » In our pilot units, the numbers come out to be about 264 preventable readmissions in a year, and we aim to avoid 132 of those.
  - » This would bring the current rate of 15.9% (on the pilot units) down to 14.7%.
- Supporting literature references:
  - » Auerbach, et al., Preventability and Causes of Readmissions in a National Cohort of General Medicine Patients, JAMA Internal Medicine 3/7/2016
  - » Jackson et al., Annals of Family Medicine, March/April 2015
  - » Rutherford, P. IHI MA STAAR Collaborative Learning Session Presentation 10/11/2011

## LESSONS LEARNED

- The post-discharge appointment scheduling has received favorable feedback from both patients and clinicians. It takes away the burden of the scheduling and makes it more convenient for the patient.
- The Meds to Beds program is also well received by patients and clinicians.
- Primary care and specialty providers have been extremely appreciative of the communication to them around their patient's care plan.
- It has been a challenge to limit services to pilot units and high risk patients. The ultimate goal will be to make this program available for all units and all patients. Currently bandwidth does not support this expansion but the team is working towards increasing capacity.

## 4) Atrius Health

### Pharmacist Consultation For Home Care Patients: A Collaborative Program

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#### **PROJECT DESCRIPTION**

Medication errors and confusion about medications that commonly occur during the transition from inpatient setting to home put patients, especially elderly home care patients, at risk for hospital readmission. When a patient transitions to home from an inpatient setting, he or she often has 4 medication lists: the list on the discharge papers, the prescriptions given to the patient at time of discharge, the medication list managed by the patient's primary care physician, and the list of medications the patient has in his or her home and is actually taking. More often than not, these lists are not the same. Discrepancies among these lists lead to unintended duplication, adverse drug interactions, and errors in dosing.

The home care clinician is the member of the health care team best positioned to inventory the medications a patient is prescribed, the medications the patient has in the home, and the medications the patient is actually taking and how he or she is taking them. The resulting list can be long, and the complexity of regimen is often beyond the expertise of nurses and physical therapists. Software in electronic medical records that scans for Adverse Drug Interactions is necessary but insufficient.

The Pharmacist Consultation Program (PCP) is a targeted medication management intervention implemented during this critical transition. The program leverages the expertise of a consulting Pharmacist in collaboration with the primary care physician and home care clinician to ensure patients are taking the right medications at the right time and in the right way. The program's goal is to mitigate the risk of 30 day rehospitalization caused by medication error and confusion about medications.

In 2014, the participating home care agency approached a network of physician practices about outcomes of a pilot Pharmacist Consultation Program the agency completed in 2013. The physician practices were interested and the program was launched. To the best of our knowledge, this is a first of its kind program.

The program employs a certified geriatric pharmacist to consult on patients discharged from hospital to home who are shared between the physician practices and the home care agency. The pharmacist has access to the home care electronic medical record (EMR) and the physician practices' EMR, and is able to communicate with all clinicians electronically. A report of potential patients is automatically generated each day and sent to the pharmacist, and she is able to consult remotely.

On receipt of the daily report, the Pharmacist performs a standard intervention for all patients coming to home care from an inpatient setting: review of all medication lists associated with a patient, and reconciliation of the lists and medications. She then emails the home care clinicians with requests for clarification/correction of medications and high priority medication teaching points for patient and family (particularly around high risk medications). She also emails the primary care physician with suggestions for medication changes to avoid adverse drug events, to improve illness management, and to decrease medication regimen complexity. The pharmacist tracks patient progress and medication regimen for 30 days after consultation, and records patients who are re-hospitalized in this period.

Since the program started in 2014, the pharmacist has consulted on over 640 patients. She has also tracked a convenience cohort of 140 similar patients who comprise a comparison group. Results of the program are encouraging: the 30 day rehospitalization rate for the patients with pharmacist consultation is 12 %, while that for the comparison group without a consult is 25%. While numerous variables contribute to rehospitalization of home care patients, the fact that the rate for patients who received pharmacist intervention has been consistent and been below the comparison group over the course of 2 years is promising.

## **OUTCOMES ACHIEVED**

- Consistent rate of rehospitalization among patients consulted on by geriatric pharmacist = 12%
- Consistent rate of rehospitalization among similar patients who were not consulted on by geriatric pharmacist = 25%

## **LESSONS LEARNED**

- Majority of patients referred for home care have medication reconciliation concerns and need for teaching about medications
- Clinician engagement (both home care and physicians) has been slow to occur but repetition and consistency of consultation process is strengthening their collaboration
- Home care clinicians' knowledge has improved and their teaching, particularly around high risk medications, now is initiated prior to pharmacist's recommendations.

## 5) Boston Medical Center

### Addiction Medicine Consult Service (ACS)

Zoe Weinstein, M.D., Director of Addiction Consult Service at BMC; Zoe.Weinstein@bmc.org

#### PROJECT DESCRIPTION

People with addictions are well described as high utilizers of costly emergency and inpatient care. In response to the growing addiction epidemic in the US and the demonstrated need to improve such care, addiction medicine providers at this hospital established an Addiction Medicine Consult Service (ACS) for inpatients. The goals of the ACS are to (1) improve quality of addiction care for inpatients while they are in the hospital, (2) initiate evidence-based medication during hospitalization, (3) transition patients to outpatient addiction treatment programs that are either integrated with primary care or collaborate closely with primary care providers, (4) optimize inpatient length of stay and reduce readmissions, and (5) improve provider satisfaction caring for patients with substance use disorders and increase their addiction medicine knowledge/skills. Studies show that integrating treatment of substance use disorders with medical care in hospitalized patients is an effective model for engaging patients in care and starting medications for substance use disorders during acute medical treatment improves retention in outpatient care and decreases substance use.

The ACS team, comprised of a medicine attending physician, addiction medicine/internal medicine fellows (when available), internal medicine and/or family medicine residents (when available) and a half-time registered nurse, offers consultations to all inpatient services at the hospital Monday through Friday. They provide expert substance use knowledge and also diagnose substance use disorders; provide motivational interviewing and harm reduction education; initiate and manage inpatient medication, including providing bridge prescriptions; collaborate with social work, case management, medical teams and nursing; and coordinate with outpatient providers and develop follow-up plans.

#### OUTCOMES ACHIEVED

- Improved provider satisfaction—although residents experience less comfort and satisfaction in managing patients with substance use disorders, the targeted curriculum of the ACS has increased their knowledge regarding addiction, and, consequently, their satisfaction in caring for these patients.
- Increased number of patients receiving treatment for their substance use disorders—from July 2015 to January 2016:
  - » Over 300 unique patients were seen by the ACS
  - » Over 500 substance use disorders were diagnosed (many patients diagnosed with more than disorder)
  - » More than 180 medication-assisted treatments (methadone, suboxone, naltrexone, etc.) were initiated
  - » Roughly 80% of patients started on methadone linked to outpatient substance use care and over 50% of the buprenorphine/naloxone patients linked to primary care based.

#### LESSONS LEARNED

- There is substantial need for inpatient addiction services that provide diagnostic, management, and discharge linkage consultation.
- Initiation of addiction medications is feasible in the inpatient setting.
- Improving provider comfort and satisfaction in caring for patients in substance use disorders is critical to meeting the increased demand for addiction services.

## 6) Brigham and Women's Physicians Organization/Brigham and Women's Hospital

### Proactive Psychiatric Care in the Medical Intensive Care Unit

*Karl Laskowski, M.D., MBA, Associate Medical Director, Brigham and Women's Physicians Organization*

#### **PROJECT DESCRIPTION**

Delirium is common in the Intensive Care Unit (ICU), and is the greatest predictor of ICU length of stay (LOS) even after accounting for age, illness severity and medications used. ICU care is the most expensive care available to patients. Delirium prolongs hospital and ICU length of stay and cost, and increases the risk of nosocomial infections and other adverse events. Delirium is also associated with increased staff and family stress, and the development of Post Traumatic Stress Disorder, all of which further diminish overall quality of care.

In the typical hospital consultation model, medical teams have the option of utilizing the psychiatric consult service for assistance with managing psychiatric illness among medical inpatients. However, the current pattern of utilization of psychiatric consultation often fails to identify patients with significant comorbid psychopathology, or results in delayed consultation where an earlier intervention might positively impact patient care or address barriers to discharge (Desan et al.). The rate of psychiatric consultation within the ICU patient population has been estimated at 3% (Huyse et al.)

Our intervention embedded a psychiatrist in one of two nearly identical Medical Intensive Care Units (MICUs) at our institution, reserving the other MICU as a usual care comparison unit. The embedded psychiatrist rounded with the MICU team Monday through Friday for an 8 month period, screening each patient for delirium or other active psychiatric symptoms, particularly if they were interfering with clinical care or recovery, and served as a resource for ICU staff. The psychiatrist performed a full evaluation on appropriate patients and made recommendations to the interdisciplinary team. Daily communication between the psychiatrist and ICU team facilitated patient care and response to treatment recommendations. The psychiatrist continued to follow patients after transfer from the ICU to the medical floor, allowing for cross-departmental continuity of care.

The proactive model of psychiatric evaluation was particularly effective in patients requiring ICU care for respiratory failure, where it increased delirium free days by 25%, decreased time to resolution of delirium from 2.4 to 1.4 days (a 60% decrease), reduced ICU length of stay from 6.7 days to 4.9 days, and overall hospital LOS from 19.4 days to 13.4 days. Mortality and 30 day readmission rates were unchanged despite earlier ICU and hospital discharge.

This high value intervention accomplishes a number of desirable outcomes at a modest cost. Short term outcomes include shorter length of stay and decreased duration of delirium, both of which will substantially reduce cost with the potential to improve patient care and wellbeing. We predict that long term outcomes will include decreased incidence of hospital-associated complications and lower rates of delirium-associated sequelae. These outcomes will improve patient care and reduce costs.

## OUTCOMES ACHIEVED

- ICU LOS decreased by 0.8 days for all patients
- ICU LOS decreased by 1.8 days for respiratory failure group
- Hospital LOS decreased by 2.7 days for all patients
- Hospital LOS decreased by 6 days for resp failure group
- Calculated ROI based on internal costs savings vs cost of program was 50.3 among all patients, 55.4 in resp failure group.

## LESSONS LEARNED

A proactive psychiatric consultation model for patients hospitalized for critical illness in the medical intensive care unit.

- Dramatically improved patient outcomes, primarily by reducing incidence and length of delirium, and resulting in significant ICU and overall inpatient Length of Stay reductions
- Significantly reduced the per capita cost of healthcare services delivered
- Was well received by patients, families, and clinical staff.

## 7) Emerson Hospital

### Transitional Care Pharmacy Services for High-Risk Patients

*Georgia Feuer, MPH, Project Manager for Care Transitions; gfeuer@emersonhosp.org*

#### **PROJECT DESCRIPTION**

As part of a larger program to reduce readmissions among high risk patients (defined by high risk diagnosis or high prior utilization), the Transitional Care Pharmacist completes medication reconciliation, pharmacy teaching during inpatient stay, and phone calls after discharge.

The Pharmacist performs a thorough medication reconciliation on admission, ideally when the patient is in the Emergency Room. The Pharmacist reconciles the home medication list to inpatient orders and clarifies discrepancies with providers. Discharge medications are reconciled, and the Pharmacist resolves any barriers for a safe discharge regarding medications. Medication teachings are also performed, as able, prior to discharge when a high risk patient is started on a new medicine(s) or multiple changes have been made to medications. Lastly, the Pharmacist makes follow up telephone calls to patients after discharge to ensure appropriate medication use and compliance. The Pharmacist then communicates with outpatient providers and caregivers as appropriate.

Throughout the first year of the intervention, the data has shown consistent, positive impact as a result of this intervention. The patients receiving services by the Pharmacist have shown equal or improved readmission rates compared to other high risk patients that did not receive services by the Pharmacist.

#### **OUTCOMES ACHIEVED**

- High risk patients receiving services by the Transitional Care Pharmacist have lower readmission rates than high risk patients that do not receive transitional care pharmacy services
- The Transitional Care Pharmacist is finding and addressing high numbers of medication discrepancies, leading to improved medication safety.

#### **LESSONS LEARNED**

- In a system where patients may have multiple providers on multiple electronic medical record systems (EMRs), discrepancies between medication lists are common. A detailed medication reconciliation by a pharmacist is necessary to catch the majority of these discrepancies and resolve them.
- Making follow up phone calls is a high-impact opportunity to catch post-discharge risks that could lead to a hospitalization.
- Members of the medical team have reported greater professional satisfaction and significant time saved during discharge medication reconciliation as a result of a dedicated pharmacist in this role.



## 8) Massachusetts General Hospital

A.R.M patients against CAUTI, (Catheter Associated Urinary Tract Infections)

*Colleen K. Snydeman, PhD, R.N., NE-BC; csnydeman@partners.org*

### PROJECT DESCRIPTION

A multidisciplinary task force initiated a bundle of strategies over a 3.5 year period to reduce Catheter Associated Urinary Tract Infection, CAUTI rates in the ICUs and the general care units. The CAUTI Task Force identified improvement strategies, best practices and gaps in current practice across the hospital. Three main areas of foci were established: Avoiding catheter placement, Reducing catheter days and Maintaining catheters in place (ARM). The ARMs bundle of strategies included hospital-wide education, implementation of best practices, a nurse driven protocol for removal of catheters in all inpatient areas:

- Avoid the use of catheters
- Hospital approved indications for catheter use included in prescriber orders
- Alternative non-invasive products made available
- Promotion of straight/intermittent catheterization usage
- Reduce the dwell time or use of catheters
- The Attending Nurse initiates a daily assessment during rounds regarding the need for a urinary catheter
- A Nurse Driven Protocol implemented for efficient urinary catheter removal
- “Best Practice Advisory” electronic alerts notify prescribers within 24 hour of catheter continuation and offers option for removal, NDP, or continuation
- Maintain the catheter
- Promotion of practices related to catheter care:
  - » Securing catheters
  - » Maintaining a closed system
  - » Ensuring collection bag below level of bladder
  - » Use of sterile technique/hand hygiene prior to insertion and when manipulating tubing
  - » Daily catheter care.

### OUTCOMES ACHIEVED

- A 78% reduction in the overall inpatient SIR from 2.07 to 0.21 over a 3.5 year time period
- A 15% reduction in urinary catheter use in the critical care areas, from 91% to 78%
- A 22% reduction in urinary catheter use in the general care areas, from 19% to 15%
- Audit data demonstrated 94% compliance with evidence based practices

### LESSONS LEARNED

- Successful CAUTI reduction was the result of a bundle of strategies.
- The Avoid-Reduce-Maintain model was an effective framework to market these strategies.
- Raising awareness through multiple forms of interprofessional communication engaged staff.

## 9) Milford Regional Medical Center

### Traditional Roles with Unconventional Approach to Reduce Readmissions

Annette Roberts, BSN, R.N., Director of Quality; aroberts@milreg.org

#### PROJECT DESCRIPTION

Identifying the need to reduce readmission rate, our team learned there needed to be a more focused and coordinated approach with patients when they returned home. We recognized gaps and barriers to care beyond the hospital walls. In order to provide a level of service that extended beyond visiting nurses and home care, a High-Risk Mobile Team (HRMT) was developed. The team consists of a physician assistant who specializes in palliative care, a nurse case manager, a clinical social worker and a clinical pharmacist.

Our chief nursing officer, a hospitalist and an emergency room physician became the leadership champions. We engaged community partners (primary care office case managers, visiting nurses association, home care agencies and skilled nursing facilities/rehabilitation facilities) in identifying the missed opportunities and needs of patients that were being readmitted.

The information systems department assisted in developing daily reports of the high-utilizer readmissions, patients with three or more admissions in a twelve month period, so that every nurse manager, hospitalist, social worker, case manager and senior leadership member would know each day how many readmissions were occurring. Icons were developed to identify the high utilizers, both in the emergency department and in house. The emergency department also piloted a "treat and return" program with their area skilled nursing facilities (SNF). The facility will send a patient to the emergency room for testing, diagnosis and treatment; when the patient is stable s/he can be returned to the SNF for continued care. One member of the HRMT huddles daily with the case managers and social workers to identify potential needs. This individual also attends multi-disciplinary rounds on the inpatient units, as appropriate.

While the HRMT member is rounding, our palliative care physician assistant is seeing patients who fall into the high utilizer category. The automatic consult was approved by the medical executive committee prior to implementing. The two other members of the HRMT are out in the field visiting patients, to assess and assist them with medical, physical, psychosocial and medication needs. The pharmacist engaged a local pharmacy to provide medication delivery prior to discharging the patient home. The pharmacy also packages the medications by daily dosing schedules (when applicable). This unconventional role of the pharmacist, allows him to meet with patients who often confide in medications not taken, due to cost or misunderstandings. He is then able to advocate for the patient to obtain medications at a reduced or no cost. He also plays an integral role in educating patients and their families about their medications.

Another initiative the HRMT has initiated is the development of High-Risk Management Plans for high utilizers. The plans, which are created in the SBAR (situation, background, assessment and recommendation) format are developed by the multi-disciplinary team caring for the patient. When developing the care plan with the patient, family members and other care providers as indicated. These plans are then placed in the patients' record (for both inpatient and emergency room visits). The plans allow for cohesive care to be provided.

Also, in collaboration with our Patient and Family Advisory Council, our team hosted an educational forum focused on palliative care. The forum, attended by the community as well as hospital staff, received overwhelming positive response.

## **OUTCOMES ACHIEVED**

- We have achieved a decline in readmissions during this and the last phase of the grant
- Increase in Palliative Care Consults
- Recognition of high utilizers and asking “what can we do better to help them”
- Data is measured monthly and shared at department-wide meetings, to the performance improvement committee, senior management, patient care assessment committee and to the board of trustees
- The HRMT have received accolades from patients and families for the care that is being provided.

## **LESSONS LEARNED**

- This initiative required dedicated champions from senior leadership and physicians
- Engaging community partners to view this issue as a continuity of care from one service to another has forged better communication and collaboration.
- Be open to revise or modify your plan, which allows you to design the program that best meets the need of your patients and community.

## 10) South Shore Health System

### The “Didyah??” Campaign

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#### PROJECT DESCRIPTION

Hand hygiene is widely recognized as the most important measure to prevent the spread of infection and is one of the cornerstones of reducing hospital acquired infections (HAIs). According to the Centers for Disease Control and Prevention, despite the body of evidence that demonstrates the effectiveness of hand hygiene, on average healthcare workers clean their hands less than half of the times they should. Like many other organizations, our hospital has continued to fall short in meeting and maintaining our target of 100% compliance.

In an effort to bring greater awareness to the importance of hand hygiene the hospital launched the “Didyah??” campaign in the fall of 2016. Playing on the Boston accent, an internal team comprised of members of the Hand Hygiene Committee and the Marketing Department developed a poster asking colleagues if they used “Soap & Watah” or “Hand Sanitizah” to wash/clean their hands. It simply asks colleagues “Didyah??”

The Hand Hygiene Committee displayed posters throughout the hospital including in common area restrooms, hand washing stations, nourishment stations, etc. Anecdotal feedback from colleagues as well as patients and families has been overwhelmingly positive. This visual has helped put hand hygiene at the forefront of our colleagues’ minds.

In addition to the poster, the Hand Hygiene Committee developed a “Didyah??” video featuring hospital employees and leaders including the health system’s CEO and several department medical chiefs. The video sets out “Didyah” as a code word colleagues can use to discreetly deliver just-in-time feedback. Colleagues have consistently relayed that they are not always comfortable delivering just-in-time feedback to individuals who missed a hand hygiene opportunity, especially if the individual is a person of higher authority or with whom they do not have a good working relationship. In the video, the health system’s CEO encourages colleagues to say “Didyah??” to anyone who may have forgotten to wash/clean his or her hands. This message not only empowers colleagues to speak-up, but also equips them with an easy way to do so.

The “Didyah??” video was played at the organization’s “All Leaders” meeting, hospital “Forums” (which are attended by hundreds of employees throughout the organization), the Quality Council meeting, the Medical Executive Committee meeting, Nursing Shared Governance meetings, the Patient Care Assessment Committee meeting, department meetings, etc. It is also played at employee orientation for all new hires to the organization.

#### OUTCOMES ACHIEVED

- The “Didyah??” campaign directly supports the hospital’s FY17 strategic goal of reducing hospital acquired infections (HAIs) including catheter associated urinary tract infections, surgical site infections and central line associated blood stream infections – practicing proper hand hygiene is a key way all colleagues can work in support of the organization’s goal to reduce preventable harm.
- The hospital’s creative promotion of hand hygiene has colleagues, patients and hospital visitors talking and thinking about the importance of clean hands.
- The campaign equips colleagues with a discreet way to deliver just-in-time feedback to individuals who miss hand hygiene opportunities.

#### LESSONS LEARNED

- In delivering messages that aim to change behavior, bold visuals and minimal text are the most effective way to deliver a message.
- Not everyone is comfortable delivering just-in-time feedback. Our colleagues need to be equipped with easy, safe and specific language they can use to address missed hand hygiene opportunities.
- Leadership support sets the tone for the rest of the organization – engagement in physician leadership, in particular, is key to inspiring change in behavior.

# 11) Spaulding Hospital Cambridge

## Integrating Environmental Monitoring in Reducing C. difficile

Keith Chin, R.N., BSN, CIC, Infection Prevention Coordinator; Kchin1@partners.org

### PROJECT DESCRIPTION

Infection prevention strategies to prevent, control, and reduce C. difficile infections have long been focused on hand hygiene and contact isolation. The environment plays a critical role in supporting the spread of infection, since C. difficile is shed in feces, and any surface, item, or medical device that becomes contaminated can act as a reservoir for spores and, therefore be involved in infection transmission.

With leadership support, we identified an opportunity to quantitatively assess and monitor the effectiveness of our cleaning practices through Ecolab's EnCompass Environmental Monitoring Program, which uses a fluorescent gel to objectively measure the thoroughness of disinfection cleaning on each surface.

All Environmental Services staff were re-educated on correct cleaning policies and procedures and the importance of cleaning the seventeen high touch objects and surfaces in each patient room. The cleaning of each object or surface was evaluated for every staff member individually and feedback and/or remedial education were provided after.

When we first started this program in the first quarter of 2016, our C. difficile infection rate was 16 per 10,000 patient days and overall cleaning was only at 53%. By the second quarter, our C. difficile infection rate decreased to 10.97 and overall cleaning improved significantly to 93%. For the third quarter, C. difficile held steady at 9.28 even with overall cleaning decreasing slightly to 87%.

### OUTCOMES ACHIEVED

- Decreased C. difficile infections
- Improved performance of cleaning practices
- Ability to objectively measure and provide feedback to each staff member
- Ability to trend performance over time

### LESSONS LEARNED

- The patient environment is a critical piece in the C. difficile transmission continuum
- This is truly an objective way to evaluate cleaning effectiveness
- We were able to demonstrate to the staff how their role directly impacts this growing problem in health care

# Appendix: List of Entities Submitting Nominations

## **Atrius Health**

- Behavioral Health Adult Care Model Redesign
- Care Facilitation Across a Large Ambulatory Pediatric Practice
- Pharmacist Consultation For Home Care Patients: A Collaborative Program
- Total Joint Replacement Program

## **Baystate Health**

- Enhancing Perinatal Safety with Culture and Leadership

## **Beth Israel Deaconess – Needham**

- Sustaining Transformational Change

## **Beth Israel Deaconess – Plymouth**

- Integrated Healthcare & Substance Use Collaborative (IHSUC)
- Mid Shift Safety Shuffle

## **Beth Israel Deaconess Care Organization**

- Clinical Data Management Team

## **Beth Israel Deaconess – Milton**

- Care Integration Pathways for Behavioral Health Patients in the Emergency Department

## **Boston Children's Hospital**

- Improving Patient Access Through Operational and Organizational Efficiency

## **Boston Medical Center**

- Addiction Medicine Consult Service (ACS)
- Leveraging the EMR to Reduce Hospital-Acquired Clostridium Difficile Infections
- Primum non Nocere: Driving from Individual to Institution using a Preventable Harm Index

## **Brigham and Women's Faulkner**

- Narcan dispensing by a hospital emergency department to patients at risk of opioid overdose
- New Surgeon Meet and Greet

## **Brigham and Women's Physicians Organization**

- Anticoagulation Management Services Automation of Appointment Reminder Calls
- Proactive Psychiatric Care in the Medical Intensive Care Unit
- Reducing Dermatology Referrals for Acne Using Point-of-Referral Clinical Decision Support
- Total Knee Replacement Episode of Care
- Virtual PSA monitoring clinic (PSAMC)

**Emerson Hospital**

Transitional Care Pharmacy Services for High-Risk Patients

**Hallmark Health PHO**

Congestive Heart Failure (CHF) Practice Improvement Project  
Proactive COPD Management Initiative

**Hebrew Rehab Center**

Optimizing Medication Use in our Seniors

**Lahey Hospital and Medical Center**

Neurology Stroke Team  
Reduction of Catheter Associated Blood Stream Infections in the ICU

**Massachusetts General Hospital**

A.R.M patients against CAUTI, (Catheter Associated Urinary Tract Infections)  
Expanding Capacity and Improving Care for the Acute Psychiatric Inpatient Population  
Peer-to-Peer WalkRounds: The Development and Maintenance of an Interdisciplinary Patient Tracer Program  
Stay Connected Program

**Milford Regional Medical Center**

Traditional Roles with Unconventional Approach to Reduce Readmissions

**New England Quality Care Alliance**

Pediatric Behavioral Health Program to Achieve the Quadruple Aim

**Newton Wellesley Hospital**

A Comprehensive, Multidisciplinary Approach to Reducing Excessive Telemetry Alarms on Medical Surgical Units

**Northeast Hospital Corp.**

CREATeIng the Best Place to Give and Receive Care

**Partners HealthCare**

Behavioral Health Integration, Collaborative Care  
Effective Team-Based Decision-Making Using naviHealth Decision Support  
Patient Reported Outcome Measures Program

**Pediatric Physician's Organizatrion at Children's**

Enhancing Patient Safety and Quality of Care in the Pediatric Primary Care Setting

**Pioneer Valley Accountable Care/Baystate Health System**

Post-Acute Integrated Population Management

**Baycare Health Partners Inc., Pioneer Valley Accountable Care, LLC**

Acute Care Alternative Program

**Saint Vincent Hospital**

Blood Product Utilization Management Initiative

Minimalist Approach for Transcatheter Aortic Valve Replacement

**Signature Healthcare**

Safety Marketing Communication Strategy: Helping to Change a Culture

Homeward Bound Program

**South Shore Health System**

A Transitional Care Model in a Bundle Payment Program

Opioid & Controlled Substance Prescribing Initiative for Acute and Chronic Pain Management

Stop the Line

**Spaulding Hospital Cambridge**

Integrating Environmental Monitoring in Reducing *C. difficile*

**Spaulding Nursing and Therapy Center**

Complex Care Coordination Pathway

**Tufts Medical Center**

Creating an Escalation Pathway for Perioperative Services

Protocol Development Collaboration Process

**UMass Memorial Healthcare –HealthAlliance Hospital**

Maximizing Operational Efficiencies through Reduction in Emergency Department Boarders