MHA Accountable Care Compass Awards 2015:

Improving Care Across the Continuum

MHA Massachusetts Hospital Association

The leading voice for hospitals.

Patient CareLink

Massachusetts Healthcare Providers Committed to Quality & Safety

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doing the next right thing isn't always easy or popular, but for us it's the bottom line

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MHA ACCOUNTABLE CARE COMPASS AWARDS 2015:

IMPROVING CARE ACROSS THE CONTINUUM

Each day caregivers across the Commonwealth of Massachusetts assemble teams to improve care, undertake programs to reduce lengths of stay and increase patient satisfaction, adopt efficient practices to improve outcomes, and tailor initiatives to target specific populations of patients – all with the goal of improving the public's health and driving down healthcare costs.

The Massachusetts Hospital Association (MHA) created the Accountable Care Compass Awards to shine a bright light on this important work.

The First Annual Accountable Care Compass Awards resulted in 37 hospitals, physician groups, home health agencies, and other care providers submitting 60 nomination forms under six categories:

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

Applicants were allowed to submit a specific project to only one of the categories, although an applicant could submit a separate and distinct project for each category. 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. (In two categories the judges picked four finalists due to a tie in the cumulative scores assigned to the nominations.)

The judges were M. Natalie Achong, M.D., FACOG, obstetrician and gynecologist, and faculty member, Yale University School of Medicine Department of Obstetrics, Gynecology and Reproductive Sciences; Jay Bhatt, M.D., chief health officer, Illinois Hospital Association; Ann Scott Blouin, RN, PhD, FACHE, executive vice president, customer relations, The Joint Commission; Robert Falcone, M.D., vice president, clinical strategy, Ohio Hospital Association; Rahul Koranne, M.D., MBA, FACP, chief medical officer, Minnesota Hospital Association; and Sam R. Watson, MSA, MT(ASCP), CPPS, senior vice president, patient safety and quality, and executive director, Michigan Health & Hospital Association Keystone Center.

MHA held an awards breakfast on November 12, 2015, at the Sheraton Framingham Hotel emceed by arts and entertainment reporter Joyce Kulhawik and attended by more than 150 representatives from the healthcare community.

The recognition and celebration was clearly important, but MHA had another motive – to create a platform to share best practices among all providers. Therefore we created this booklet that includes a cover page of sorts from each of the 60 entries, detailing an overview of the initiatives, the outcomes achieved and three lessons learned. We also include a contact person for each initiative so that if you want more details or the specific steps used to implement the initiatives, you can start a dialogue.

We thank all of those who submitted applications for the first 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

1) Chasing Zero Harms – WINNING ENTRY

Spaulding Rehabilitation Hospital Cape Cod

Linda S. Melillo, MA, MS, CPHRM, Spaulding Cape Cod Director, Quality & Compliance/Spaulding Network Director, Patient Experience; lmelillo@partners.org

WINNING ENTRY

PROJECT DESCRIPTION

Recognizing the need to build a "just culture", the leadership team at this hospital undertook a multidisciplinary, multi-pronged approach for improvement. First embedding a promise, in policy, to use incident and quality data for improvement purposes, not performance assessment, and then ensuring that staff were educated on this change, we provided the foundation for culture change. The hospital then joined the MHA Hospital Engagement Network and set zero harms, across the board, as its goal. Through targeted, multidisciplinary committees that included front level aides, staff education about our goals, frequent posting of outcomes data, and celebration of successes, we were able to create momentum and engagement. Patient Satisfaction efforts targeted areas not addressed through patient safety metrics, also with tremendous results. The hospital was then "firing on all cylinders" with success in one area supporting success in others, ultimately leading to an improved organizational culture.

OUTCOMES ACHIEVED

Chasing Zero Harms (Based on May-July '15 Data)

- Harm Across The Board reduced 80.2% to 6.4/1,000 patient days; saving the healthcare system $1,883,181 and preventing 557 to date.
- Medication Events reduced 96.3% to 0.7/1,000 patient days.
- CAUTI reduced 100% to zero harms.
- CLABSI-zero harms
- Falls reduced 52.1% to 2.1/1,000 patient days
- Falls w/injury reduced 76.9% to 0.2/1,000 patient days
- Stage III & IV Pressure Ulcers – zero harms
- VTE reduced 100% to zero harms
- Readmissions reduced 62.8% to 3.4% of discharges.

Patient Experience Results

- Overall Satisfaction reached the top 1-3% of Rehabilitation hospitals nationally (Press Ganey).

Supporting Data

- Referring Acute Care Hospital Penalties* reduced from 0.17% to 0.02% from 2013 to 2016. Acknowledged that reduction due in part to our partnership. (* Kaiser Health News, Medicare Readmission Penalties By Hospital Year 4)

Patient Safety Culture Survey Results

- From 2011 to 2013, scores were improved in all 8 major categories and above the national mean in all 8.

Staff Engagement Results

- Scores were statistically higher than prior scores in 6 major areas and higher than national means in 7 major areas.

Increased Incident Reporting

- 20.9 reports/1,000 patient days (calendar 2013)
- 28.6 reports/1,000 patient days (calendar 2014)
- 51.0 reports/1,000 patient days (calendar 2015 Jan through July)

LESSONS LEARNED

- Frequent, clear communication is essential to keep the issues at the forefront.
- Celebrate successes to keep initiatives energized
- Multidisciplinary collaborative efforts must be empowered to lead the charge

2) Baystate Breast & Wellness Center Cultural Compass

Baystate Health

Suzanne Hendery, VP, Marketing & Public Affairs, Baystate Health; Hendery@charter.net

PROJECT DESCRIPTION

The Breast and Wellness Center (BWC), created in 2013, is a combination of two premier breast programs in western Massachusetts; Radiology and Imaging (R&I) and the hospital's Health's Comprehensive Breast Center (CBC).

The primary goals for integration were to combine best practices and features of 2 existing organizations into a single entity to; (1) enhance the provision of quality breast health in the region, (2) develop a culture dedicated to exceptional patient experiences and true staff engagement, and (3) achieve improved financial performance.

To create a sustainable and "real" culture to support exceptional patient experiences and staff engagement, we had to try something different. We committed to breaking out of silos and collaborating across lines, involving all levels (administration, support, technical, and professional), and hearing from our most important constituents; patients and families. We partnered with Jake Poore, Integrated Loyalty Systems (ILS), Orlando, FL.

Involving Key Constituents and Stakeholders

The key to success was the full inclusion and engagement of representatives from the following groups:

- Patient and Family Advisory Board
- Patients utilizing R&I and/or Baystate Breast Health Services
- From Radiology, Surgery, and Oncology
- Support Staff
- Technical Staff
- Professional (Physician & Provider) Staff
- Administration
- Marketing and Strategy
- Human Resources

Developing our Cultural Compass

We laid out a foundational structure (action plan) for the new culture. The key pillars of this structure included:

- Patient and Family Interviews
- Staff Interviews and Open Forums
- Multi-Day Retreats of Key Constituents
- Identification of Verbal and Physical Graffiti
- Development of 3 Core Cultural Compass Elements:

1. Service Promise (Statement to capture and promote our culture)

We inspire hope and promote wellness in our community by creating outstanding experiences in a caring and compassionate environment.

2. Patient-Driven Care Priority Filters (Basis for shared decision making and reaction to various situations to help promote and live our culture)

- Safety: Ensuring the safety and well-being of everyone;
- Compassion: Showing empathy, courtesy and providing respectful care;
- Expertise: Developing and maintaining the highest levels of skills, knowledge and attitude;
- Time-Sensitivity: Taking action, providing care and following up in a timely fashion, based on patient expectations; minimizing the negative emotional impact of delay and waiting.

3. Compassionate Behaviors (Key behaviors that we commit to 'hard-wire' and promote our culture at all times)

1. I proactively greet every person with eye contact, a warm smile and say, "good morning!" (or time of day).
2. I introduce myself and my role. I ask, "How can I help you?"
3. I welcome each person by the name they prefer, affirm we've been expecting them and they are in the right place.
4. I set expectations by explaining the next set of steps and approximately how long it will take. I provide timely information to help people make the best decisions.
5. I speak positively about colleagues and partners who precede and follow me in the continuum of care. I work to ensure their success.
6. I listen actively.
7. I own problems, take responsibility and resolve issues.
8. I conclude every interaction with sincere thanks and appreciation.

The work was reviewed and supported by senior leadership. We conducted a full-staff orientation and cultural kick-off event. The event opened with our senior leader committing to this important and difficult work and concluded with the full team reading the Service Promise out loud and signing a banner with the words of our Cultural Compass, denoting our combined and individual commitment to exhibiting these behaviors every day).

OUTCOMES ACHIEVED

Patient Satisfaction (PRC)

- Overall Quality of Care at top-box level of "5" at 78% or higher since Q1 2013;
- Rank 100th percentile of compare groups for 5 of last 9 quarters. Top 10% nationally.

Gallup Staff Engagement

- 100% participation in last 2 surveys, 4+ score/5pt scale.

Volumes & Revenues

Screening mammography:

- Up 7% in year 1 (no loss despite move)
- Up 24% in year 2 (+9,000p) (49,000 patients seen)

Diagnostic mammography: Up 20%

Biopsies: Up 98%

Revenue: $500,000 ahead of prior year, without adding any additional expense

Consumer Confidence/Reputation

The hospital is Up 7 points over 2 years.

LESSONS LEARNED

- Have a clear, simple blueprint.
- Help each employee understand their role with constant communication.
- Never take your eye off the ball. Share metrics, problems, accountability.

3) Protecting Respect and Dignity for Hospitalized Patients

Beth Israel Deaconess Medical Center

Kenneth Sands, MD MPH, Chief Quality Officer; ksands@bidmc.harvard.edu

PROJECT DESCRIPTION

Consider the following actual scenario that occurred recently at our institution.

A 20 year old patient with a new spinal cord injury is quadriplegic and on a ventilator, unable to speak or move but otherwise awake and alert in the ICU. An ultrasound technician enters his room to do a procedure, but does not introduce herself or the reason for her visit to either the patient or his family. The patient's mother becomes very upset that the technician does not acknowledge the patient at all. The patient has a panic attack related to the procedure.

Would this event be recognized, categorized, and evaluated by most hospitals?

Over the last two decades, the patient safety movement has achieved enormous momentum towards the goal decreasing physical harm. The result is hospitals can now reference definitions, severity ranking systems, comparative data, and organized collaboratives to support improvement. However, there is nothing resembling this level of structure and organization in relation to emotional harm resulting from failure to provide respectful care to our patients and their loved ones.

The premise of this project was that failure to maintain a patient's respect and dignity represents harm, that these harms are common in hospitalized patients, and they deserve evaluation with the same level of rigor as physical harm... The project involved creating an infrastructure for monitoring violations of respect and dignity in the hospital setting.

Coordinating the work was a multidisciplinary team including representation from healthcare quality, social work, community relations, patient relations, hospital governance and hospital PFAC.

The following was achieved:

1. Defining Respect and Dignity: We defined dignity as: the intrinsic, unconditional value of all human beings that makes them worthy of respect. Respect was defined as: the sum of the actions we take to protect, preserve and enhance the dignity of our patients.
2. Capturing events: The institutional system for capturing adverse events was reconfigured by: a) creating a "respect and dignity" category in the incident reporting system alongside the more traditional categories such as "medication error"; b) screening patient complaints as well as reported adverse events for potential respect and dignity violations; c) promoting reporting through a number of different communication vehicles, such as committee meetings, leadership presentations, departmental meetings, printed pamphlets, and web-based communication.
3. Assessing Severity: We developed a severity scoring system based on whether the emotional impact could be anticipated to be minimal (memorable, but not long-lasting), moderate (significant and sustained); or severe (significant and likely permanent). Acknowledging the inherent subjectivity to this evaluation, we developed and validated a severity system that incorporates both patient and provider perspective.
4. Analysis, Reporting, and Corrective Action Development: Cases meeting defined severity criteria undergo root cause analysis, multidisciplinary review and corrective action, review and deliberation by senior leadership and Board of Directors, and finally public reporting on the institutional web site

OUTCOMES ACHIEVED

- We established a framework for evaluating emotional harm from violations to respect and dignity that fully integrates with existing systems for evaluating physical patient harm.
- We quantified the occurrence of violations of respect and dignity over several quarters, creating a new capability for understanding vulnerabilities and targeting corrective actions
- We have influenced institutional culture by:
    - Advancing respect and dignity as a condition which, when violated, represents an adverse event.
    - Increasing the voluntary reporting of violations of respect and dignity.
    - Formalizing respect and dignity as a metric that is tracked by senior leaders and institutional governance.

LESSONS LEARNED

- Emotional harm due to violations of respect and dignity is as common among hospitalized patients as physical harm.
- Hospital systems that have been developed to promote patient safety can be adapted to help protect respect and dignity.
- Health care workers and hospital leaders readily engage in efforts to protect respect and dignity.

4) Academic Innovations Collaborative (AIC) – FINALIST

Harvard Medical School Center for Primary Care on behalf of: Atrius Health; Beth Israel Deaconess Medical Center; Boston Children's Hospital; Brigham & Women's Hospital; Cambridge Health Alliance; Massachusetts General Hospital; Mount Auburn Hospital

Andrew Ellner, MD, MSc, Co-director; Harvard Medical School Center for Primary Care; Andrew_Ellner@hms.harvard.edu (please copy T_Mirescu@hms.harvard.edu)

PROJECT DESCRIPTION

The Collaborative was launched in 2012 to transform primary care practices through a focus on team-based care, management and prevention of chronic illnesses, management of patients with multiple illnesses, and patient engagement. The initial two-year effort engaged 19 teaching practices from seven Academic Medical Centers (AMCs) across the greater Boston area. The Collaborative design includes monthly webinars, in-person Learning Sessions three times annually, technical assistance with direct coaching tailored to practices' needs, and monthly update reports with individualized feedback. Recognizing engaged leadership as a critical component of successful practice transformation, the Collaborative's offerings also include a variety of opportunities for leader training and engagement: ranging from a Leadership Academy for frontline leaders to leadership presentations at each Learning Session.

Since its launch, the Collaborative has advanced innovation in education and care delivery at its participating practices, which collectively care for roughly 300,000 patients. Key accomplishments include:

- A high-functioning, highly-engaged inter-organizational learning community.
- Fundamental transformation at all participating practices to high-functioning, interdisciplinary clinical teams.
- A process of identifying and proactively addressing the unique needs of patients deemed high-risk or complex.
- Engaged and supportive leadership at all levels.
- Incorporating residents and students into the transformation process as both "agents of change" and care team members.
- A culture of quality, leveraging the Model for Improvement.
- Patient inclusion, partnership, and input on multiple levels.

Following on the success of the first two years of the Collaborative, its current iteration is a patient safety initiative (the Initiative) launched in 2014 in partnership with a regional provider of malpractice insurance. The impact and momentum of the early Collaborative attracted nine additional practices, bringing the total number of participants to 28. The Initiative is an ongoing two-year effort that focuses on patient safety while also continuing the emphasis on improving overall quality of care, and patient and clinician experience.

The aims of the Initiative are to:

- Continue practice transformation towards high-functioning, interdisciplinary teams.
- Prevent missed and delayed diagnoses of colorectal and breast cancer in adults, or to reduce the gap between identification of developmental delay to completion of a referral to Early Intervention for children ages 0–3 years.
- Reduce preventable harm for patients with multiple clinical, behavioral, or psychosocial morbidities.
- Train leaders capable of spreading and facilitating spread.

The Initiative is currently in its final year and is in the process of consolidating lessons and considering strategies to spread the learning from the past three years to other practices beyond the current cohort.

OUTCOMES ACHIEVED

The Collaborative's leadership partnered with an independent evaluation team drawn from two local academic and research institutions to assess the overall impact of the collaborative through completion of the current Initiative in June 2016. Results to date reflect the following:

- 10% improvement in team dynamics
- 7% improvement in care coordination
- Positive association between improvements in team dynamics and job satisfaction for primary care providers (PCPs), trainees, and staff

Since the inception of the Collaborative, participating practices have completed seven administrations of the Patient-Centered Medical Home Assessment (PCMH-A), developed through the Safety Net Medical Home Initiative (SNMHI). The PCMH-A is based on the eight Change Concepts for Practice Transformation. The results show:

- Continued and sustained improvement in all eight Practice Transformation change concepts

Other patient and provider satisfaction and experience measures are trending positively as well, though final data and statistical analyses are not yet available.

LESSONS LEARNED

The Collaborative has recognized several strategies that lead to culture changes supportive of continuous and sustained improvement in patient care:

- Actively involve and support leadership at all levels of the organization from the C-suite to the front line.
- Form multidisciplinary improvement teams within clinics that meet regularly to foster ongoing focus on improvement ideas and measurement, and to cultivate a culture of improvement within the broader clinical team.
- Deploy a multifaceted quality improvement strategy that includes dedicated team members, standardization, monitoring, and involvement of patients and the care team.
- Create a framework that encourages accountability and protected time for transformation work within each practice.

5) Bed Alarm Removal Initiative

Hebrew Senior Life

Tammy Retalic, RN, Chief Nursing Officer; tretalic@hsl.harvard.edu

PROJECT DESCRIPTION

Approximately 2 years ago frontline staff presented a proposal to remove bed and chair alarms facility wide. Their rationale was that alarms were noisy, often agitated our residents/patients and did not prevent falls but only alerted staff that a fall occurred. There was no evidence based research supporting the notion that bed alarms prevented falls. With the support of the multidisciplinary fall committee, a six month pilot was conducted utilizing the Plan Do Study Act (PDSA) methodology. After a successful pilot process a carefully implemented plan resulted in removal of all but 2 chair alarms for impacting a removal of approximately 300 alarms from patients and residents. The alarms were removed from our 3 service levels: Long Term Care, Skilled Rehabilitation and Medical Acute floors all the while maintaining a stable fall rate for all areas. Staff reported a much quieter environment that fosters a supportive healing experience.

The success of this project was possible due to the following key components:

- Front line staff were a critical part of the education design and the process improvement implementation. They identified key teaching concepts and determined a step by step approach to alarm removal that they felt would keep residents/patients safe.
- The leadership team's role was to support staff directed teams with implementation and not actively lead the project.
- Alarms were replaced by individualized purposeful rounding- a proactive instead of reactive approach. The 4 P's (position, pain, potty, and possessions) concept was instituted.
- Weekly huddles occurred during the alarm removal phase to ensure family, resident, and patient's understanding of the reason for removal and that care plans considered the unique needs of each resident/patient.
- A post fall huddle form was initiated that required a real time follow up for each fall with the intent of identifying the cause and altering the care plan to prevent further falls at the time of the incident.
- Ongoing data review regarding fall rates and reason for falls were discussed on the floors on a frequent basis to identify any changes and encourage proactive and timely follow through. The constant and in time review of information was essential to rule out "removal of bed or chair alarms" as the reason for a fall.

OUTCOMES ACHIEVED

- Fall rates in the hospital were generally stable compared to 2014 and were deemed to be in statistical control without significant deviations or patterns of change.
- Staff surveys around the effects of the changes was conducted and showed a majority of staff rated the changes conducive to less anxiety and noise while contributing to an environment where interventions such as purposeful rounding could better meet the patient's needs.

LESSONS LEARNED

- Buy in from frontline staff is critical when implementing untested clinical practice standards. The staff are instrumental in the design, implementation and sustainability of the new process.
- Use of PDSA methodology creates a logical blueprint for staff to follow and for others to replicate.
- Ongoing and real time review is essential so that there is confidence from the clinical team that that fall could not have been prevented by the placement of an alarm. Without this awareness any monthly increase of fall rate increase may easily be attributed to the removal of alarms.

6) Health Leadership Capacity Development – FINALIST

Lawrence General Hospital

Neil Meehan, DO, FACEP, MHCM, Chief Medical Officer, Lawrence General Hospital and Co-Medical Director of ChoicePlus PHO; Dan Hale, MD, FAAP, Chief Medical Informatics Officer, Lawrence General Hospital and Medical Director of Pediatric Hospitalist Medicine; dan.hale@lawrencegeneral.org

PROJECT DESCRIPTION

Four years ago the hospital had no clinical leadership development program. Physician "leaders" within the organization were primarily volunteer chiefs of services and few contracted medical directors; none of whom had formal leadership training. The voluntary chiefs were unengaged and essentially weakly aligned with the organization. There was little previous effort to develop physician leaders and directors were appointed based on "willingness" rather than leadership skills.

Like other health systems, we were inundated with change and facing problems that required adaptive solutions and physician engagement. The lack of physician leadership within the organization led to ineffective process improvement initiatives and poor change management. This inhibited our ability to be successful in quality measures, safety initiatives, and innovation. Building this adaptive capacity would require a major educational effort, primarily targeting our physicians.

Early efforts to send physicians to short term courses in leadership did not lead to a sustainable development path and were quite costly to the organization. Therefore, it was decided that physician leadership capacity building could be done "in-house" with resources that currently exist. This would not only cut cost but has the added value of convenience for the instructors, facilitators, and students. Several focus groups also came to the conclusion that viable development training required a long term commitment by the organization and the potential leaders. The focus groups eventually outlined a 2 year program with key domains of leadership that would be incorporated in the program. These include:

1. Organizational Behavior Concepts and Team Building
2. Finance and Budgeting
3. Operational Management
4. Compliance
5. LEAN
6. Quality Concepts and Measurement
7. High Stakes Communication/Public Speaking
8. Negotiation and Conflict Resolution

In order to have meaningful depth in these domains, the course requires 80 contact hours, spread over 2 years. Twenty sessions were scheduled and each session was mapped to a domain. The modules are grouped together by subject matter and a 4-hour learning module is taught to a cohort of students monthly. Two cohorts run simultaneously with each being offset by one year.

The course work is based on adult learning concepts and is dominated by facilitated activity and interaction. In order to have an immediate organizational advantage, didactic sessions are coupled with real-time challenges presented through a process of storyboarding. Storyboarding is a structured way to share a student's current project. It is meant to augment the course work by applying newly learned concepts to a current in-hospital initiative or constructive feedback when the project is faced by challenge.

Finally, each year ends with a leadership summit. This is a half-day event for the entire medical staff where several prominent physician leaders from the area are invited to give a presentation about their leadership journey.

The bulk of the course is taught by internal leaders at the hospital. Content experts were willing to volunteer their time as the core educators. Some examples include a leader who was black belt in LEAN, senior VP of quality and patient safety, and the CFO who would contribute to the finance and budget components.

The course is supported by the Medical Staff with an allocation of $7500 per year and the hospital budgets another $15K. The first class participated free of charge and subsequent cohorts are now paying a nominal fee of $500 per year which is typically sponsored by their department or other organization. Most similar courses will cost > $50 per credit for a total cost of $4000! Considering that more than 51 leaders have completed training or are currently in a training cycle, this is a tremendous savings to the participant, sponsoring departments, and the organization. It was estimated that the organization would spend $250,000 to replicate the training using outside sources.

OUTCOMES ACHIEVED

1. The program has become financially sustainable over the last two years and is now into its third year.
2. The program has consistently maintained a waiting list due to its overwhelming popularity, affordability, and quality of education.
3. The program has graduated 13 clinicians and is currently training 38 more.
4. We have increased our physician leadership capacity and now every major committee or task force is chaired or co-chaired by a physician leader.
5. The program has trained several new clinician leaders who have gone on to assume critical roles within the hospital and community. Some examples include the CMIO, Director of Hospitalist Medicine, and Medical Director of Population Health.
6. The program has trained clinicians outside of the community and certainly added to the collective capacity of physician leaders in Massachusetts and Southern New Hampshire. Physician representatives from academic medical centers, physician multispecialty groups, and community based practices have participated in the 2 year course.
7. Several of our innovations and quality milestones have been linked directly to these newly trained leaders and their respective teams. These include: a successful Medicare waiver program (DSTI) that brought $43 million to the organization, attestation of meaningful use stage 2, development of our Division of Population Health which has currently turned an $800K deficit ACO budget into a surplus, and across the board quality improvements. (Medicare Core Measures 25% improvement, Leapfrog improvement from 8th decile to 2nd decile, and improved patient safety indicators, health care acquired infections, and health care acquired conditions)

LESSONS LEARNED

1. Leveraging content administrative experts (CFO, VP of QPS, CEO, etc.) within your own organization is a very efficient, cost effective way to build a program and has the secondary effect of building rapport between clinicians and administration.
2. The initial effort was only focused on physicians however it became clear that effective teams and culture change prompting the program to extend the training to nursing and other services such as pharmacy.
3. There is a pent up demand for this type of training for physicians and other clinical roles evidenced by a yearly waiting list for every Cohort.

7) The Implementation of an Interdisciplinary Patient Tracer Program for Proactive Risk Assessment

Massachusetts General Hospital

Elizabeth Mort, MD, 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 an Interdisciplinary Patient Tracer Program to assess compliance with the National Patient Safety Goals
- 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 performed tracers on over 77 units in 2014, with an additional 93 units scheduled to be surveyed in 2015
- 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 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.

8) Continuous Improvement Academy (CIA)

New England Baptist Hospital

Tricia Ide, RN, MS, Senior Director Quality, Patient Satisfaction and Patient Experience; pide@nebh.org

PROJECT DESCRIPTION

A house wide effort was lead this year to teach and embed continuous improvement methodology and tools to ensure quality and safety advances are infused throughout and become enculturated within the organization.

Lead by our Quality and Safety leaders, all of our Leadership members and key physician leaders were invited to participate in a 90 day journey. We utilized the model for improvement, asking the three questions of Aim, Measures, Changes and the four step iterative change process of Plan, Do, Study, Act. Our focus was on rapid cycle, small tests of change. We also amplified on complementary methods of project tracking/ management, communication plans, change management and end-to-end process of quality (Lean, Six Sigma).

We designed 5 classes with 75-85 participants and sanctioned seven initial projects that teams work on while in the learning journey. A focus on creating tools such as charters, SIPOCs and data collection plans were revealed and utilized, followed by an understanding of reducing variation with process and analytics, system based thinking, SMART goals and use of teams. Sustainability and monitoring was discussed and templates were created along with a ~130 page reference guide.

A common roadmap that leverages patient-centric thinking with action & impact on: improvement skills; cross-functional teamwork; systems & end-to-end process thinking; motivators & change management; consistent approach, terminology; fresh ways to engage employees.

Through formal classes, small teams with coaching and mentorship and set tools with templates we were able to achieve outcomes on the seven initial projects and translation of that learning to an additional four projects.

OUTCOMES ACHIEVED

- Created a CI Academy focused on performance improvement utilizing the following tools/templates:
- Project plan template on Aim & Measure
- Project plan template on Change
- Project charter
- SIPOC
- Data Collection Plan
- Change/Communication Plan
- Issue-Cause Solution Idea List
- Pareto
- Cause/Effect Diagram/Fishbone
- Histogram
- Control Charts
- Process/Value Stream Map
- Driver Diagram
- Risk Analysis
- Impact-Influencer Matrix
- Define Roles (RACI)
- Scorecards
- Control/Response plan

LESSONS LEARNED

- Willingness to learn and understand how these tools work by all leaders
- Necessary to discuss and understand the impact on change management, accountability and sustainability with this work
- Bonus of cross-functional teams which were created to form our seven groups- we paired people who had never worked together and the result was very positive and fun!

9) Transformational Journey: Leadership's Role in Change

North Shore Medical Center

Nicholas Leydon, MBA MPH, Executive Director, Kaizen Promotion Office; nleydon@partners.org

PROJECT DESCRIPTION

As the conventional analogy notes, change occurs when an organization finds itself atop a "burning platform" and must choose to remain or jump. Faced with higher patient acuity, complex technology, increased specialization of services, and changing reimbursements, our hospital leadership acknowledged that we stood on a large burning platform.

To fundamentally address our clinical and financial challenges, in 2014 our leadership embarked on an organization-wide culture change, using the Toyota Production System (TPS) as our model for hospital transformation. While the TPS system aims to reduce waste, respect the worker, improve service, and reduce errors, the relentless goal is to deliver value to the customer – our patients.

This change is led by our President/CEO, who has studied TPS methods and developed a vision which capacitates operations leaders, such as managers who are responsible for budgets, human resources, and patient services, to build lean thinking into their daily work.

The decision to launch a hospital transformation was itself a journey. Over the course of a few years, our hospital's leadership studied industry leaders, such as the Harvard Business School, CRICO, the Institute for Healthcare Improvement and others. Although our early work envisioned transformative change, it resulted in incremental change that was missing collaborative leadership and a collective focus on organizational strategy and goals. Combined with a leadership trip to Japan, this was the prelude to lean principles and the launch of a management framework, anchored in operations, that provides an accelerated pace of change. By focusing on working with our patients and families, we could provide greater value.

Our hospital has successfully launched the first two pillars of a total quality management vision. First, our senior leadership identified three cross-functional priorities that address large patient populations as well as serious patient safety concerns. These included: (1) Timely transitions from the Emergency Department to inpatient units (2) Elimination of Catheter Associated Urinary Tract Infections and (3) Plan for every patient that is created by a multidisciplinary team with the patient and revisited regularly.

To systematically address these cross-functional challenges, senior leadership created a Kaizen Promotion Office (KPO) to oversee improvement activities and provide frontline leaders with tools. For the KPO to successfully host multi-day improvement events, senior leaders committed to including frontline workers in the innovation and backfilling the work so neither remaining staff nor patients were impacted. For the 90 days after a multi-day improvement event, senior leaders would gather weekly to hear updates about implementation and barriers from frontline managers. This shared learning and accountability provided continued focus until all barriers were removed.

The second pillar led by senior leaders, and executed by frontline managers, is daily lean management. Through on-site teaching and coaching, departmental leaders have learned basic tools to create Production Boards, which force a team to huddle and discuss the work for their shift, such as expected barriers and each worker's potential flexibility.

The third and final pillar, which is still under development, is our quality planning strategy. With the other pieces in motion, leadership has identified this as the strategic planning to solidify the improvement from one year to the next.

Note: While this application is focused on hospital intervention, our physician organization (also led by our CEO) has undergone a similar TPS transformation. At our organization we are concerned with the continuum of care, which we believe will be greatly enhanced by these parallel improvement journeys.

OUTCOMES ACHIEVED

- Host 11 multi-day improvement events within the first year of utilizing Toyota Production System methods.
- Conduct 9 months (35 weeks) of weekly report-outs to senior leaders at the stand-up accountability wall.
- Trained 38 frontline managers in a 4 day multi-month course titled "Lean for Leaders"
- Support 5 staff, including 2 senior vice presidents, to earn certification in lean production methods from a nationally-recognized institution.

LESSONS LEARNED

- Identifying priorities and protecting time to address those priorities is critical to improvement.
- Weekly attention from senior leadership to hear about implementation and barriers ensures progress.
- Operations managers must be ultimately held accountable for the implementation of innovations because they supervise the staff and control the budget of the area undergoing transformation
- Using data to state the problem, as well as the measure of success, is motivating for all operators.

10) Patient Centered Medical Home: Culture Engagement Program

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization;

PROJECT DESCRIPTION

Throughout the country, Primary Care is faced with ongoing waves of healthcare reform (e.g. Accountable Care Organization, ICD-10, changing payment structures). Locally, within our network, physicians are also facing an influx of change from the implementation of a new Electronic Health Record (EHR), transformation to a patient centered medical home, and ongoing metrics to improve patient care while reducing cost.

The Patient Centered Medical Home (PCMH) team has developed tools to redesign the practice and create efficiencies that will outlast the on-going waves of healthcare demands. As effective as these tools are, the local culture and collaboration of team-based care will ultimately dictate the success and sustainability of an organizations improvement efforts.

To support primary care practices, and better leverage the skills of the entire care team, we developed a culture engaged program. The start of this program began several years ago with the completion of the Agency for Healthcare Research and Quality (AHRQ) safety survey. This survey includes 10 domains and assesses the effectiveness of staff communication, training, standardization, patient tracking and the overall quality and safety of patient care. The survey results were shared with key stakeholders within the organization and practice leadership, which led to several improvement projects based on the preliminary results. In 2015, we developed a formal culture engagement program to engage all primary care practices.

The program began with a team of central PCMH consultants who met with each practice's clinical and administrative leaders to review the survey data and identify at least one area to target. The culture engagement program offered a menu of options for considerations, and in some cases, practices self-identified a project to best meet the needs of their staff. The central menu included the below areas, and all activities were facilitated by the central consultant team.

- Staff focus groups – allowing leadership to hear from staff and ultimately provide staff the autonomy to identify areas of opportunity.
- Team building sessions – presentation on "Understanding Communication Styles" among staff.
- Staff meetings – central forums for management and staff to discuss practice operations, share ideas, and review upcoming system/metrics changes.
- Mission development– convening multi-disciplinary workgroups to draft the practice mission and commitment to high quality patient care.
- Job shadowing – opportunities for clinical and administrative staff to observe the role and workflow of other workplace areas within the practice
- Practice retreats - session with multi-discipline representation focused on an area of practice redesign (e.g. revisiting/revising standard work, patient time studies, identification and eliminated of waste).

Other projects identified by the practice and during focus groups included, establishing a patient/family advisory group and creation of a communication board for staff.

To ensure accountability and follow through on the identified culture projects, leadership completed an action plan template with defined next steps. In the fall of 2015, staff will complete the same AHRQ survey mentioned above. The results will be compared to baseline data and shared with key stakeholders and practice leaders.

The culture engagement program provided an exemption to any practice scoring above the national 75th percentile on all 10 domains within the AHRQ survey. To further understand the importance of a "healthy" organization culture, outcomes data for these sites was compared to the network.

OUTCOMES ACHIEVED

- 36 practices conducted staff focus groups
- 19 practice retreats completed (varying from 1 hour to ½ day)
- 33 practices implemented regular staff meetings
- 10 practices chose a culture engagement project outside the central menu of options.
- AHRQ pre/post survey results will be available in January for further comparison
- Practices that demonstrated the healthiest culture, scoring above the national upper quartile in all 10 AHRQ survey domains, consistently performed better on patient outcomes, but not screening (See Figure 2). The identified screening measures are typically done outside the practice and rely more on the collaboration and scheduling of other providers.

LESSONS LEARNED

- Leadership follow-through after staff focus groups is critical; not all suggestions can be addressed however it is important to identify a few next steps.
- Practice staff meetings should be regular, meaningful and include input from all members of the team.
- Leadership presence and involvement in the daily operations of a practice creates a positive workplace.

11) Development and Implementation of a Quality Improvement Training Platform: The Quality Improvement Academy

Tufts Medical Center

Shelly Bazes, RN, MS, Quality Project Leader, Course Director – Quality Improvement Academy; sbazes@tuftsmedicalcenter.org

PROJECT DESCRIPTION

Our hospital made a decision to create its own quality improvement training for our workforce back in 2013. The impetus for the project was recognition of the need to build our capacity for doing improvement work, to create a common language of improvement, maintain high-quality care and align the projects with institutional goals and clinical priorities of: patient safety (example: Reducing C Diff Infections), patient experience (example: Quiet and Restful) and high reliability (example: Reducing Readmission – COPD patients). The Quality Improvement Academy (Academy) was instituted in 2013 and has run 3 intensive 2 – 5 month trainings since, training over 170 individuals and running 16 multidisciplinary project teams. Training was coordinated by a course director from the Department of Quality and Patient Safety and instructors were drawn from within the institution. Course curriculum, consisting of 16 hours of instruction, was developed by internal faculty. Trainees were drawn from clinical (physicians, residents, nurses, medical assistants), non-clinical (including patient representatives), business employees and patient representatives. The format included didactic and hands-on training of use of improvement methods, project charters, AIM statements, measurement/data analysis, and Plan-Do-Study-Act (PDSA) work. Each team received oversight from an executive sponsor and a coach/trainer and access to an institutional-wide shared QI drive which was utilized for communications and storage depot for course materials and team folders containing documents. Attendees were asked to complete a pre- and post- training confidence survey. We have created an innovative QI training model that is suitable for replication to other institutions.

The following is a brief description of each team:

- Medication Safety in Ambulatory- focus on creating process for efficient and reliable monitoring of 'outside of hospital' laboratory results (GI)
- Surgical Site Infection Reduction – Colon – goal: reduce rates of deep and organ space infections
- C Difficile Reduction – goal: 100% utilization Tru-D for terminal cleaning
- Patient Experience -Quiet Restful – goal: reduce Yacker Tracker triggers and nuisance alarms
- Patient Experience – Responsiveness- goal: create a Nurse Call data set that will measure effectiveness of process interventions in order to improve patient experience, Hospital Consumer Assessment of Healthcare Provider and System (HCAHP) scores
- Patient Experience – Cleanliness- goal: understand patients perception of clean and improve HCAHP scores
- Joint Replacement Team- Reducing Readmissions – goal: provide total hip or knee arthroplasty patients with standardized education preoperatively with goal of preventing readmissions

- Readmission – Reducing Readmission of Chronic Obstructive Pulmonary Disease (COPD) Patients – Goal: reduce annual unplanned COPD readmissions by 10%
- Ambulatory Moving Through the Visit –goal: improve workflow as well as patient experience
- Psychiatry- Improving Transmission of Continuity of Care Document-Goal: improve post discharge continuing care plan transmission rates to next level of care provider
- OB Elective Induction Bundle – Goal: reduce the number of elective inductions on full term pregnancies
- Improving Pain Management – Goal: improve patient satisfaction with management of acute pain on Infectious Disease and Renal Services
- HF Readmission Reduction – Goal: reduce 30-day heart failure readmissions to 20% by improving patient education and transitions in care
- GYN – High Risk Cytology F/U- Goal: develop a reliable, efficient and practical lab tracking system for monitoring of high risk cervical cancer screenings
- Implementing High Reliability Sepsis Management – goal: improve Sepsis order set utilization in order to improve reliability of sepsis care

OUTCOMES ACHIEVED

- Met goals of alignment to organizational goals, public reporting, prevention of harm
- 70% Academy graduates continue to use quality improvement skills on the job
- Post-Academy confidence survey demonstrated a significant increase in quality improvement knowledge from pre-Academy confidence survey
- Has been successful at establishing a cadre of QI mentors for our workforce
- Completed projects serve as resource material for testing changes for other institutional projects
- Our Academy model has a broad application to other health-care institutions and meets the Joint Commission's standard of PI.03.01.01 for improving performance on an ongoing basis

LESSONS LEARNED

- Important to offer trainees encouragement for mindset change from always rushing to solutions to testing and keeping simple
- With a cadre of trained staff and QI Mentors, our institution now has the resources to offer online version of the intro training and facilitate ongoing oversight of QI projects
- Motivation and recognition are key ingredients for team work and project success. Encouraging unit-based projects with leadership support and QI Academy mentoring is a strong predictor of success of future projects

IMPROVEMENTS ACROSS THE CARE CONTINUUM

1) Building a best in class skilled nursing facility network

Atrius Health

Marci Sindell, Chief External Affairs Officer; Marci_Sindell@AtriusHealth.org

WINNING ENTRY

PROJECT DESCRIPTION

In 2012, a physician-led Pioneer Accountable Care Organization ("ACO") recognized an opportunity to better serve patients requiring care in skilled nursing facilities after a hospital stay. The organization began building a preferred network of skilled nursing facilities ("SNF") and providers to improve collaboration between facility staff, attending teams and patients' primary care physicians to help patients recover and return home sooner, improve care coordination between the SNF and the primary care provider and reduce unnecessary hospital readmissions. The organization established key factors for evaluating potential preferred skilled nursing facility partners:

- Location of care in proximity to the organization's practices and patients' homes.
- High facility ratings, including the Centers for Medicare and Medicaid Services Star Ratings, Massachusetts Department of Public Health inspection, and patient satisfaction surveys.
- Cleanliness, friendly staff and accommodation of special diets for patients as well as facility amenities that appeal to patients such as internet and television.
- Staff willingness to collaborate in an active relationship to define care standards and metrics with a shared commitment to consistently meeting those goals.
- Standard model of operation providing high quality care at a cost-effective value for the ACO's patients.
- A set of SNF Facility and SNF Provider expectations were created and distributed to participating facilities and other Pioneer ACOs in Boston.

Outreach and evaluation efforts were extensive and involved contacting and/or visiting more than 100 skilled nursing facilities in the Greater Boston area where the ACO's patients had received care in the past. After completing these evaluations, it selected about 50 skilled nursing facilities as part of its preferred network.

Since its formation, patients and providers have many advantages in choosing a skilled nursing facility within the network. Patients receive care from the organization's physicians, advance practice clinicians, or affiliated physicians in one of the preferred facilities and one of the organization's affiliated Nurse Case/Care Managers oversee patient care during the stay.

Care is streamlined with access to patients' electronic medical records, supporting communication of patient health status and prescribed medications to their primary care providers. Information about immunizations, fall risk and any Advance Care Planning documents procured during the skilled nursing facility stay are also shared. In addition, primary care physicians are notified upon patient discharge in order to ensure timely follow up once the patient arrives home. Discharge summaries from the SNF provider are either directly entered in the electronic health record or are faxed to the primary care provider ensuring continuity of care.

As a result, the organization has reduced hospital readmissions, recovery periods in the facilities, and costs while creating a more collaborative care model. Furthermore, this effort enabled the ACO to achieve the triple aim goals of improving patient experience, quality of care, and lower costs.

OUTCOMES ACHIEVED

- Average readmission from the skilled nursing facilities back to the hospital decreased from 12.6% in 2012 to 9.6% in 2014 among Pioneer Accountable Care Organization aligned beneficiaries, while Medicare Advantage enrollees improved from 10.5% in 2012 to 8.6% in 2014, saving half a million dollars while avoiding the deconditioning for patients and chaos for families that usually accompanies avoidable readmissions.
- Average length of SNF stays decreased from 21.5 days in 2012 to 19.6 days for patients aligned to the Pioneer ACO in 2014, and from 14.9 days to 14.1 days for those enrolled in Medicare Advantage Plans. This resulted in two million dollars in savings and patients recovering sooner and returning home.

LESSONS LEARNED

- In developing a preferred network of skilled nursing facilities, organizations can implement a more coordinated care experience with improved outcomes for Medicare patients recovering from a hospital stay.
- Improved communication between staff at preferred skilled nursing facilities and the organization's medical care teams allow for more timely notifications about a patient's medical conditions as well as follow ups with patients following discharge.
- Use of the Medicare three-day rule waiver, which allows patients to be admitted to a skilled nursing facility without a 3-day hospital stay, has helped avoid unnecessary hospital admissions, improve access to the right level of care, and improve patient satisfaction.

2) Improving Healthcare Value at Baystate Medical Center through Bundled Payments – FINALIST

Baystate Medical Center

Stephanie Calcasola, RN BSN, Director, Quality and Medical Management; Stephanie.Calcasola@baystatehealth.org

PROJECT DESCRIPTION

The health system's vision in 2014 was "To transform the delivery and financing of health care to provide a high quality, affordable, integrated and patient-centered system of care that will serve as a model for the nation". A plan was made to expand the number of bundled payment arrangements and improve cost per case for up to three bundles. This strategy was in direct support of achieving the Triple Aim and Medicare's Accountable Care Organization (ACO) program.

In 2010, a pilot was performed with a private orthopedics group for total hip replacement. That successful pilot provided early experience in aligning care across the continuum, setting up gainsharing arrangements, and care model redesign.

In 2013, hospital leadership decided to apply for participation in the CMMI Bundled Payments for Care Improvement (BPCI) demonstration project and was selected to enter that program for Joint Replacement (TJR) and Coronary Artery Bypass Graft (CABG) in 2014. In preparation, the eight step process developed during the original pilot was followed:

1. Convene the right team
2. Define the episode
3. Develop measures (quality & financial)
4. Develop model of care
5. Price the bundle
6. Develop cost reduction opportunities
7. Plan the gain-sharing
8. Develop a continuous process improvement plan

The 'right team' for TJR included hospital operations, nursing, finance, and quality improvement specialists as well as Visiting Nurse Association, Case Management, private practice physicians and administrative leaders, health plan and post-acute care liaisons. The local best practice clinical guideline or 'Model of Care' included pre-operative steps, perioperative steps, and post-acute management plans including a patient pathway for patients requiring skilled nursing facility care which defined expected length of stay and rehabilitation milestones. Physician participation in its creation was essential to the subsequent practice change. Initial changes included:

- Reduction of blood transfusions
- Enhanced care coordination including ongoing education for SNF providers
- Patient engagement
- Standardized post-op nausea and pain protocols
- Early notification and clinical review of every hospital readmission

A dashboard was fed back to the team monthly including physician-specific processes and outcomes. Data analysis of Medicare Claims data was provided by a third party through participation in a national bundled payment collaborative. The Medical Center has been a leader in that collaborative, fielding phone calls and hosting a national meeting to share learnings. Additionally, national presentations have been made by invitation from Premier, the American Hospital Association, and the Institute for Healthcare Improvement over the past 3 years. The pilot experience was recently published in a peer reviewed journal.

Participation in the BPCI demonstration has been a huge success for the Medical Center. There were significant reductions in 90-day costs for both TJR and CABG. Additionally, there were significant decreases in hospital expenditures, increasing the operating margin associated with performing CABG procedures. More importantly, indices of quality and patient safety were maintained or improved while increasing engagement with patients and their families. Partnerships with post-acute providers have been strengthened with data sharing, regular educational offerings, and improved coordination of care for patients.

Currently, the medical center has added one additional CMMI bundle, applied for the CMMI Oncology Bundle, and is working on three bundles with a private insurer. The strategy is to grow the portfolio of bundled payment arrangements in order to improve value.

OUTCOMES ACHIEVED

2010 Pilot Total Hip Bundle Pilot (N=45 patients)

- $30,000 saving (average $666 per patient)
- 17% increase in patients discharged to home versus to a post-acute care facility
- Decreased readmissions, improved process measures of quality

2014 CMMI TJR (N=510 patients)

- $1,383,000 in savings; 9% cost reduction
- 10% reduction in discharges to skilled nursing facilities (SNF)
- Reduction in SNF length of stay (14.5 versus 8.5 days)
- Development of a preferred provider network
- 77% of patients discharged to a preferred provider skilled facility
- Cost reductions in blood products of $101.00 per case and diagnostics $77.00

2014 CMMI CABG (N=137 patients)

- Total Savings $389,000; 4.8% cost reduction
- Lower length of stay in SNF
- Less intense us of VNA services
- Inpatient cost decreased 7.1% - 1.9 day lower length of stay

LESSONS LEARNED

Success is dependent on:

1. Post-Acute partnership collaboration
2. Tightly aligned physician partnerships
3. Care model redesign which drives improvements in quality and secondarily in cost

3) Integrated Patient-Centered Care In Chronic Critical Illness (IP4CI) – FINALIST

Brigham and Women's Physicians Organization/Brigham and Women's Hospital

Karl Laskowski, MD, MBA, Assistant Medical Director, Brigham and Women's Physicians Organization; klaskowski@partners.org

PROJECT DESCRIPTION

For patients, the transition between acute and post-acute care is rife with risk. Even with modern electronic medical records and responsible clinicians who seek to collaborate with each other, information can be lost or misunderstood, patients can decompensate, and setbacks are common. Particularly challenging is coordination of care amongst patients who are "chronically critically ill." Defined as patients who have required long stays in the intensive care unit, or who require continued advanced therapies (mechanical ventilation, etc.) up on discharge, these patients often bounce between acute hospitals and post-acute facilities, frequently being readmitted to acute care hospitals within days of discharge. Never recovering enough to resume outpatient-based care, traditional care coordination models (e.g. patient centered medical home) fail to help quarterback their complicated care. At our institution, we found that patients who had spent time in the medical intensive care unit and who were subsequently discharged to long term acute care rehab (LTAC), had a 30 day readmission rate of 40%. We viewed this as unacceptably high and launched a pilot to improve peri- and post-discharge care in this population. This became our IP4CI program.

The IP4CI program focuses on preparing patients for discharge from the acute care hospital by introducing a "critical care continuity team" consisting of intensivist physician and clinical social worker. The team meets the patient and his/her family prior to discharge, working to set expectations for transfer and rehab, exploring and understanding goals of care, and becoming familiar with the patient's ongoing medical and social issues. After discharge, the team holds weekly video conference "rounds" with a multi-disciplinary team located at the LTAC. During these meetings, the teams from the two institutions can collaboratively review patients enrolled in the program, and arrive at the most appropriate care plans. Between weekly "rounds," the critical care continuity team is available to LTAC clinicians 24/7 via pager and/or phone should urgent questions arise. In addition to the weekly reviews between clinicians, the hospital-based "continuity team" continue to participate in direct patient care at the LTAC through weekly visits with the patients/families either in person at the LTAC, or via "virtual" video based teleconferencing, and by participating in any family meetings at the LTAC via videoconference—providing perspective from the acute care institution as the patient's medical status and goals continue to evolve over the course of their rehabilitation.

The intervention has been successful in reducing readmission rates by 1/3, and is being expanded to additional ICUs across our institution.

OUTCOMES ACHIEVED

- In the pilot, the project reduced 30-day readmission rate by 1/3 (from 40% to 25%)
- Since the pilot, we have maintained lower readmission rate at 29% while expanding program, preferentially triaging most complicated patients into program, and focusing on earlier transfer/discharge from acute care hospital for appropriate patients
- The program has enrolled 172 patients since inception
- The reduced readmissions and improved care have generated Total Medical Expense (TME) savings of over $450,000 per year

LESSONS LEARNED

- Traditional care coordination efforts often fail to serve patients who are "chronically critically ill."
- A multi-disciplinary approach between clinicians and administrators from two institutions can be successful in improving patient outcomes, quality of care, and patient and provider experience.
- Technology (virtual visits, video conferencing) can enable hospital-based teams to efficiently extend their reach and improve communication and coordination among collaborative institutions.

4) ntegrated Care Management Program (ICMP)

Emerson Hospital

Georgia Feuer, MPH, Project Manager; gfeuer@emersonhosp.org

PROJECT DESCRIPTION

The ICMP Program is a Care Manager collaborative created to ensure the transition of patient care across various settings. When an ICMP patient enters the emergency department, they are flagged in our computer system so that the Care Manager (CM) is notified. Once notified, the CM then informs the patient's Primary Care Physician of their hospital visit. Post-discharge, the CM schedules follow up appointments with Primary Care Physicians and Specialists within seven days to provide a smooth transition from inpatient to outpatient. Patients also have access to a variety of resources such as a social worker, pharmacist, and community resource specialist. Once a patient has been discharged from the hospital, a CM conducts a follow up call to make sure that their needs are being met. They continue to follow them in the community to provide patients with the best care.

OUTCOMES ACHIEVED

- Reduction in hospital stays
- Qualitative improvements in patient experience with the healthcare system
- Primary care physicians have a greater appreciation of the impact an integrated care manager can have to their patient's goals and engagements in their disease states.

LESSONS LEARNED

- Physicians and their staffs buy in of the program are crucial. The patients are more likely to participate if the request is coming from their physician.
- The care manager's patient load needs to be realistic of the patient population they are managing. There is no universal number that applies to all care managers.
- Electronic records and registries that have the ability to communicate to one another greatly improve productivity and patient outcomes.

5) The Implementation of the American College of Radiology Accredited (ACR) Lung Cancer Screening Program at a Community-Teaching Hospital

Newton-Wellesley Hospital

Bert A. Thurlo-Walsh, RN, MM, CPHQ, Vice President, Quality and Patient Safety; bthurlo@partners.org

PROJECT DESCRIPTION

The US Preventive Service Taskforce (USPSTF) made a grade B recommendation in 2013 following publication of the National Lung Screening Trial and in January 2015 the Centers for Medicare and Medicaid Services (CMS) and all other major payers began to reimburse for patients meeting a defined eligibility criteria for Lung Cancer Screening. It was determined that the local community-teaching hospital needed to develop an American College of Radiology accredited Lung Cancer Screening Program to serve the population.

A Lung Cancer Screening Committee was established comprising of a multidisciplinary team made up of representatives from Clinical and Administrative Leadership, Quality, Safety, Compliance, Radiology, Thoracic Surgery, Pulmonology and Oncology. The goals of the committee were to develop a robust Lung Cancer Screening program that provided easy, timely access, prompt follow up and tracking of all patients; provider and patient education with the support of a nurse navigator resource and necessary information technology/electronic medical record (IT/EMR) support to meet documentation and ordering criteria.

OUTCOMES ACHIEVED

- A protocol was developed to ensure the safe and timely management of LUNG RAD 4 results.
- Created an alert process for LUNG RAD 4 results.
- Established and secured funding for a Navigator role for this program.
- Developed a registry based on the American College of Radiology's data dictionary to ensure adequate tracking and follow up of patients within the screening program.

LESSONS LEARNED

- Engagement of the multi-disciplinary team was key to ensuring adequate and timely follow-up of high scores (LUNG RAD 4).
- The role of the Navigator assisted the patient with access to care, follow-up, and provided smoking education to patients.
- The need to expand the program to include incidental findings of lung nodules.

6) Unified Plan of Care: A Plan With and For Our Patients

North Shore Medical Center

Duncan Phillips, MBA, Director, Kaizen Promotion Office; dphillip9@partners.org

PROJECT DESCRIPTION

Our hospital aims to provide the perfect patient experience based on evidenced based medical practices. To achieve this, we have worked to formalize the creation, review and implementation of a patient's plan of care that connects the clinical care team to the patient. Using a comprehensive team-based approach, the critical elements of a patient's plan of care are communicated through a series of interactions between the clinical team and the patient (and family). This work was developed using lean-based process improvement techniques that focused on the voice of the customer, utilizing observational data to drive and sustain change throughout our organization.

The team recognized that patient a patient's plan should begin the moment the clinical provider first interacts with the patient and their family. This is the foundation from which the patient's plan of care is developed. Interactions between a patient and the care team (e.g. physician examination, nursing assessments, or case manager interviews) generate the critical elements to develop the patient's plan of care. During each of these encounters the patient's concerns and goals should be at the center of the discussion. Our work is the merger of these individual plans into a single unified patient plan of care that incorporates each element from the care team.

We have developed an intervention bundle that leads to a unified plan of care. The team shares information, asks questions, and provides the "voice to the patient" at two established standard clinical huddles each day (9AM and 2 PM). After these huddle, the physician updates the patient's plan of care, which is then communicated back the patient (and family) and carried out by all members of the clinical team.

As the patient's plan changes through their stay, the plan of care is reassessed and adjusted to achieve the clinical goals of the patient. Any changes are shared during a standardized RN/RN bedside hand-off which involves the patient, therefore linking back to the patient's goals. Finally, families are kept abreast of the plan of care through the use of patient communication boards that are located in every patient room.

The ultimate goal of the unified plan of care is to reflect the desires of the patient (and their family) so that every medical patient's hospitalization is clinically excellent, respectful, and an opportunity to heal.

OUTCOMES ACHIEVED

- 100% of all NSMC medical patients receive a Multi-disciplinary huddle at both 9AM and 2PM.
- 100 % of all NSMC medical patients have their RN/ RN shift hand off conducted at the bedside.
- 100% of patients surveyed indicated they are "very satisfied" with their level of involvement with the development of their plan of care.

LESSONS LEARNED

- Establishing a dedicated point in time for the clinical team to gather and discuss the patient's plan of care reduces the number of follow-up pages and interruptions that is typical of a process without such huddles.
- Helping clinical staff adhere to a standard script for reporting patient information requires regular "real-time" clinician to clinician coaching and mentoring.
- The use of observational data provides a foundation from which clinical staff can see their progression and adjust their methods to meet process requirements.

7) Skilled Nursing Facility (SNF) Three-Day Waiver Program

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization

PROJECT DESCRIPTION

The SNF 3-day waiver program is an exciting opportunity to test a new way of improving care and reducing costs. The waiver allows Pioneer Accountable Care Organization (ACO) beneficiaries to receive coverage for SNF services without a prior 3-day inpatient hospitalization. The waiver allows ACO beneficiaries access to the appropriate level of care, avoiding unnecessary and preventable days in the hospital contributing to:

- improved transitions of care and better communication and collaboration for providers;
- improved patient satisfaction in their overall course of care;
- reduction in the overall cost of care as well as in hospital admissions and readmissions and length of stay.

OUTCOMES ACHIEVED

- Reduced length of stay at SNFs for waiver patients'
- Lowered inpatient admissions and Emergency Department (ED) visits for waiver patients
- Developed a partnership with post-acute facilities to reduce variation in care and encourage collaborative care
- Supported on-going care management across the continuum
- Executed safe transitions using integrated IT, clinical teams and care protocols
- Matched patient needs and service

LESSONS LEARNED

- Know the patient's care needs
- Send patient to the right level of care (e.g. Home health, SNFs) and to the provider most suitable for the level of care needed
- Return patients to home and to primary care practices quickly (reducing length of stay)

IMPROVING ORGANIZATIONAL EFFICIENCIES

1) Care Connect

Mercy Medical Center

Mary Orr, Communications and Media Specialist, Sisters of Providence Health System; Mary.orr@sphs.com

WINNING ENTRY

PROJECT DESCRIPTION

This Massachusetts hospital committed to deliver the highest quality care with the greatest efficiency at the lowest costs. To do so, hospital leaders launched a bold transformation initiative called CareConnect. This innovative approach to care delivery applies many proven processes and tools used in other industries to ensure that planes fly safely, packages arrive on time, and manufacturing plants deliver expected volumes of quality products exactly when they are needed. These logistical principles are succeeding robustly in delivering high-quality, extremely efficient patient care.

Leaders from this hospital recognized the need for big, sustainable change. The traditional model for patient care was inherently inefficient. Before CareConnect, each department and clinical service area tended to operate independently. So even the most dedicated nurses and doctors struggled with communication gaps and imperfect care handoffs, extending stays for patients and creating frustration for patients and caregivers alike. And inefficient care drove down patient and service volumes while inflating care costs.

To tackle these challenges, the hospital leaders knew it would take more than just a single performance improvement project in one department or a new software system in another. The hospital set out to completely transform care operations to become fundamentally and continuously efficient. And it has succeeded by all measures— throughput efficiency, improved care quality, patient experience, physician and employee satisfaction, and lower costs.

With CareConnect, the entire organization embraced three key transformational changes:

A Program for Unified, Patient-First Culture Change: Hospital leaders knew that transformative change requires the enthusiastic participation of everyone in the organization. It's a whole new way of thinking. Executive and leadership focus groups and tools established a patient-first, zero-defect system aim and culture the entire hospital has embraced with passion.

New Care Coordination Model: A hub-and-spoke "production" model coordinates efficient team action across all departments to ensure every patient receives the right care at the right time in the right setting. A central "hub" continuously connects to ED, OR, nursing units, and service areas. The hospital established new processes, LEAN and Six Sigma tools, and roles to most efficiently manage simultaneous demand from all patients for limited care resources.

Enabling Technology: The hospital defined standard operating procedures for efficient, reliable delivery of high-quality care and outstanding patient experience. Then it adopted software built specifically to let doctors and caregivers easily and quickly see and do everything they need to provide that exceptional care for all patients, all the time.

OUTCOMES ACHIEVED

Since launching the innovative CareConnect initiative in May 2013, this hospital has realized dramatic improvements in efficiency, throughput, care quality measures, patient satisfaction, and physician and employee engagement. It has enjoyed two record years of operational and financial performance. Some highlights:

- Realized a financial benefit of $10.1 million through the end of 2014, based on significant cost savings through greater efficiency and increased revenue from higher patient and service volumes.
- Reduced average patient length of stay by a full day, from 4.6 to 3.6
- Cut the time from a pending patient admission to assigning the patient a bed from 73 to 21 minutes, a 71 percent improvement
- Reduced length of stay of observation patients by 4.8 hours
- Cut by more than half the number of patients who left the emergency room without being seen, driving the average down to 1.85 percent
- Reduced observed-to-expected (O/E) ratio for targeted discharges from 1.34 to 1.06 over a nine-month period
- Reduced patient 30-day readmissions to 9.6 percent, down from 13 percent
- Made a 50 percent improvement in inpatient satisfaction percentile ratings
- Climbed from 41st to the 67th percentile in employee engagement scores
- Won the Press Ganey 2013 Commitment to Excellence Award, reflecting the largest annual increase in employee engagement scores
- Reduced the door-to-door time for emergency room patients by an hour
- Reduced hospital-acquired pressure ulcers (HAPU) by more than half
- Improved SCIP bundle from 94 percent to 97 percent

2) Solving the Challenge of Off Shift Intubations at a Community Hospital

Brigham and Women's Faulkner Hospital

Margaret Duggan, MD, Chief Medical Officer; Mduggan3@Partners.org

PROJECT DESCRIPTION

Nighttime or off shift intubations are a low frequency high risk procedure in a community hospital with no anesthesia in house and inconsistent level of skill from our traditional in house resident and hospitalist coverage. Solving the problem is complex and can be costly. We sought to design a safe, cost effective, sustainable solution.

The project takes place in a 150 bed hospital with a very active inpatient medical/ surgical service. We were challenged to identify a safe effective way to provide consistent "off hours" intubations while continuing to provide safe coverage throughout the rest of the institution. There are no off hours in house anesthesiologists to manage airway needs. Historically, urgent off shift intubations would be covered by an Emergency Physician covering in the department. In a staffing to volume model we were faced with 5 hour blocks of time each night and 12 hour shifts on the weekends with one Emergency Department provider. In this situation the attending would need to leave the department unmanned in order to assist in the urgent intubation. We deemed this too high a risk and set forth to identify a consistent affordable alternative to the Emergency providers as intubators.

A task force was created by the Chief Medical Officer and Chief Nursing Officer, consisting of the Chief of service in Anesthesia, Medicine, Surgery, Emergency Medicine, the Director of Special Testing and Director of Critical Care Nursing. Frequent input from quality & safety leaders, as well as pharmacy was obtained along with other stakeholders. We identified the nighttime providers in house, their comfort level and training in emergent intubations. Despite our significant number of in house providers during night and weekend shifts, with current training and practice from the physician pool, only the emergency physician has enough experience to be tasked with emergent intubations on a consistent basis. We explored all options. The Massachusetts Hospital Association Chief Medical Officer listserv was queried to see how like hospitals were handling this challenge. Potential solutions considered were hiring a Certified Nurse Anesthetist or Emergency Medical Technician to stay in house during coverage times, change the type of intensivist staffing in our Intensive Care Unit, or shift primary responsibility to our Respiratory Therapists. Changing our intensivist structure or having Certified Nurse Anesthetist in house were both extremely costly. Emergency Medical Technician coverage has been used at other hospitals but is difficult to reliably fill. These would be brand new full time equivalents without other clearly defined roles during their shift. Consideration for respiratory therapists had many inherent benefits. Intubation is within the scope of their practice and licensure. We have a small group of off shift providers to retrain and monitor and there is always a Respiratory Therapist in house.

Medications: Algorithms were developed by the Chief of Medicine with input from anesthesia, nursing and pharmacy to be administered by the physician involved in the patient code or decision to intubate.

Code medications were expanded and repackaged

We went live March 1, 2015.

OUTCOMES ACHIEVED

- Development of rigorous training experience for Respiratory Therapists who would be certified for independent intubations
- Creation of a multidisciplinary oversight team for ongoing safety and effectiveness monitoring
- Significant cost savings for the institution while maintain safe care for all of our patients

LESSONS LEARNED

- Although Respiratory Therapists are licensed to intubate in the state physician resistance has led to limited experience in an ongoing way
- An open and transparent process can lead to wide acceptance of a novel idea
- Careful evaluations of resources and scope of practice can lead to cost savings for the institution

3) Identify and Intervene with Emergency Department Super-Users – FINALIST

Brigham and Women's Physicians Organization/Brigham and Women's Hospital

Karl Laskowski, MD, MBA, Assistant Medical Director; KLaskowski@partners.org

PROJECT DESCRIPTION

At our institution, a small group of challenging patients account for a disproportionate share of Emergency Department visits. Between March 2013 and February 2014, 50 patients accounted for 1,083 visits, or 1.7% of the total volume. We designated these patients "ED Super-Users." This level of ED overuse is associated with non-ideal care that is often targeted towards solving acute issues, and unsuccessful in addressing chronic care needs or social issues underpinning the frequent ED use. For the hospital, ED super-use increases costs and frustrates provider staff.

Our program utilized an ED-based community health worker, with ED attending physician oversight, to focus on this issue by

1) creating acute care plans in advance of ED visits in collaboration patients' outpatient treating physicians (PCP as well as any relevant specialists),
2) improving the coordination of care across the outpatient, ED and inpatient spectrum and between patients' multiple providers, and
3) performing outreach to patients outside of the Emergency Department, helping to address the medical and non-medical issues that led patients to frequently visit the Emergency Department.

Over the course of an initial 4-month pilot, 36 patients were identified for enrollment in the intervention, with 22 ultimately actively enrolled in the intervention (i.e. having had acute care plans developed and being followed on an ongoing basis by the CHW).

The program markedly decreased ED and Hospital utilization as compared to matched controls (see below), and succeeded in addressing concerns important to patients (e.g. food insecurity, financial issues) and providers (e.g. prior inability to improve health outcomes in this population, frequent no-shows to office visits, repeated ED visits). Both total medical expense and hospital costs were reduced.

The pilot has been extended for a full year, and is being considered for expansion.

Our project reduced the cost per visit, number of ED visits by super-users, and TME. It improved quality of care for these patients with complex medical and social needs.

OUTCOMES ACHIEVED

- Reduced ED visits by 0.19 per patient per month
- Reduced hospital admissions by 0.44 per patient per month
- Reduced total medical expense by 59% (annualized savings of $1.6M)
- Reduced hospital costs by 37% (annualized savings of $352K)

LESSONS LEARNED

- Low cost intervention (~$50K/yr.) improved patient and provider satisfaction and quality of care
- Generated reduction in total medical expense (TME) and hospital cost savings
- Targeted intervention with high utilizing patients can generate impressive ROI.

4) Continuous Improvement Program

Hebrew SeniorLife

Krystin Hein, Director of Process Improvement; krystinhein@hsl.harvard.edu

PROJECT DESCRIPTION

Under the leadership of the Process Improvement (PI) Department, our organization has been driving organizational efficiency through the deployment of continuous improvement using lean and six sigma methodologies. The deployment is based on four pillars; Education and Culture, Improvement Projects, Communication/Recognition and Employee Engagement.

Education and Culture: To drive long-term continuous improvement, it is imperative for all employees to become process improvement experts.

Our organization focuses on a top-down education program that started with a Lean Leadership Program targeting senior staff (director level and above) followed by all leaders. In this two-day program, leaders learn lean tools as well as techniques to lead continuous improvement. Leaders explore how to create an environment to support employees to always look for improvement. For certification, leaders are required to complete an improvement project with a coach from the PI department.

Phase II of training targets front-line employees through an introduction to lean and continuous improvement. Employees use the 7 fundamental wastes to change how they look at their work environment and see opportunities for improvement. They come out of the workshop having identified waste in their own workspace so that they can begin leading improvement immediately.

Improvement Projects: The process improvement team partners with business and clinical leaders to lead cross-functional projects using lean and six sigma methodologies. The goal of these projects is to reduce waste, improve efficiency and quality.

Communication/Recognition: The organization publishes a monthly "Continuous Improvement" newsletter to all employees. This newsletter recognizes projects from around the organization as well as teams and individuals who are embracing continuous improvement and driving change.

Employee Engagement: Sustainable continuous improvement comes from engaging employees to capture their ideas for improvement through "continuous improvement" boards. These boards are highly visible places for employees to submit ideas and track their progress to completion. The boards are split into 4 columns:

1) IDEAS: In this column, employees use sticky note to post ideas to eliminate waste, improve workflow, quality and patient experience
2) TO DO: Ideas move to this column when the team decides it is something they want to work on
3) DOING: Ideas move to this column when an owner has been assigned and it is actively being worked on
4) DONE: Ideas move to this column when the idea has been completed.

Process improvement and nursing leadership introduced a continuous improvement champion program on every nursing floor. Champions lead continuous improvement with their peers, including facilitation of improvement boards and sharing of ideas with each other.

OUTCOMES ACHIEVED

- Education and Culture: 167 leaders completed lean leadership, including 98% of senior staff. 64 front line employees educated in an introduction to lean and continuous improvement. At least $115K annual impact from completed lean leadership projects.
- Projects: As of August 2015, 18 active projects being led / facilitated by the PI department. 2015 financial impact = $531K
- Communication and Relationships: 12 newsletters in FY 2015. 24 employees recognized organization-wide for their contributions to continuous improvement.
- Employee Engagement: 31 continuous improvement champions named and active across nursing floors. 39 boards deployed with hundreds of ideas generated.

LESSONS LEARNED

- It is essential to make sure managers understand continuous improvement before training their employees. In one department, a group of employees were trained before their managers, leading to a bad employee experience. Employees went back to their jobs ready to start generating ideas, only to be met by managers who did not support them or understand.
- Educating employees means we can take on more projects. When the PI team engages in a project now, it is likely that most of the project team members have been through lean training. Start-up time is shorter and team members take on more of a leadership role in the project, allowing the PI team to take on more projects and have a greater impact on the organization.
- It is very important for the PI team to follow our own advice in engaging front-line employees. On a few projects, we realized part way in that we had not engaged front-line to really understand the problem and/or best improvement.

LESSONS LEARNED

- Transformation to consistently efficient "patient-first, zero-defect" care as a way of life is not a quick fix; it's a journey the entire hospital must embrace every day
- The most efficient care is also the highest-quality, compassionate care and superior patient experience
- Focus on the patient first and all good things will follow

5) Perioperative Medicine Model of Care

New England Baptist Hospital

Mary Sullivan Smith, RN, MS, Senior Vice President Hospital Operations, Chief Nursing Officer; mfsulliv@nebh.org

PROJECT DESCRIPTION

The Perioperative Medicine Model of Care is a triumvirate approach to the postoperative care of our patients. The surgeon, hospitalist (MD, NP or PA) and the case manager, in relationship with the patient's nurse, physical therapist and occupational therapist comprise the team. Pharmacy, Laboratory, Radiology and consultants are, of course, essential components of the care delivery system. The core team supports and supervises the patient's care from admission through discharge, with the goals of providing tightly managed, protocol-driven care to reduce variation, streamlined care delivery, and improved clinical outcomes. Our model also improves caregiver communication and coordination of care. Transforming care to enhance delivery and improve outcomes is a journey. This new model of care is very exciting and certainly transformative.

Patients with complex care needs must be closely managed to ensure team collaboration, coordination, patient safety and efficiency by eliminating duplication of efforts. For example, many patients will need multiple specialists during their stay depending on their personal health history and needs. Consultations can include specialists from cardiology, pain management, rehabilitation, pulmonary or diabetes care. It is important that all of the activity is coordinated and centered on the needs of the patient.

This team implemented a strategic goal of the organization. All members of the team remain highly engaged in the success of the evolution of the Perioperative Medicine Model of Care as evidenced by the work of the Continuous Improvement Academy to enhance patient care rounds. We are continuing to expand the role of the Hospitalist Team to take on more responsibility for all patients within the inpatient arena on our journey toward becoming a highly reliable health care organization. Our team in committed to and is actively working on enhancing the quality of care and reducing the cost of care.

The team that was charged with implementing the new model of care was truly an inter-professional team. As soon as the design team received approval of this innovative model, the implementation team went to work ensuring a successful transition to a new system of care that was embraced very quickly by all clinicians. From hiring and training new Nurse Practitioners and Physician Assistants, to creating new hand-off and patient rounding practices, to ensuring the provision of unit based care and more efficient transitions of care, the energy and enthusiasm surrounding this practice was palpable throughout the hospital. The high degree of collaboration between all members of the team was the foundation for the success of this implementation.

OUTCOMES ACHIEVED

- Overall increases in Patient Satisfaction Scores from 84.8% to 91.7%
- Increase in Patient Satisfaction Communication with Nurses from 83.2% to 85.1%
- Overall Percentile rank increased from 93 to 99
- Overall Reduction in LOS from 3.2 to 3.1 days
- Reduction in LOS Primary Hip from 2.6 to 2.4 days
- Reduction in LOS Revision Hip from 3.6 to 3.3 days
- Reduction in LOS Revision Knee from 3.9 to 3.8 days
- Reduction in LOS Lumbar Fusions from 4.4 to 4.0 days
- Reduction in the number of Outpatients being treated in inpatient beds from monthly average of 100.3 to a monthly average of 87.8
- Reduction in Laboratory Cost due to decreased testing - $50,000

LESSONS LEARNED

- Exquisite preparation of the patient and family from the physician office to pre-admission screening through surgery and to the inpatient unit has yielded phenomenal results in patient satisfaction, staff satisfaction, quality outcomes and cost.
- Tremendous value in the intra-professional team managing care coordination and communication thereby aiding in patient engagement of their care
- Effective and efficient care delivery as the patient moves through the system of care

6) Safe and Timely: Patient Transitions from Emergency Department to Inpatient Unit

North Shore Medical Center

Nicholas Leydon, MBA, MPH, Executive Director, Kaizen Promotion Office; nleydon@partners.org

PROJECT DESCRIPTION

Our hospital is dedicated to safely transitioning all Emergency Department patients who require an inpatient stay into a bed within 90 minutes. A multidisciplinary team has focused the past year on this goal by using Toyota Production System methods, including waste reduction, direct observations, and PDSA. Through a series of multi-day improvement events driven by frontline staff, our hospital was able to improve process measures (i.e. moving hospitalist workflow out of the ED) as well as outcome measures (i.e. the median number of minutes a patient waits for transition).

The keys steps to this process included (a) visioning session with key clinical and operations leaders, (b) a five-day improvement event every 90 days focusing on a specific aspect of transition issue (c) a weekly 5-minute report to hospital CEO to explain current implementation and barriers (d) monthly report to entire hospital about results (e) continued PDSA to create standard work.

While this effort was led by senior leaders and staff from the Kaizen Promotion Office, innovation and post-event implementation was carried out by frontline staff, such as nurses, techs, physicians, and patients. Our organization is proud that patients attended and helped design interventions during multi-day events.

OUTCOMES ACHIEVED

- Patients who accessed the ED during our focus period (7am-3pm) experienced a 37% reduction in wait time to 161.5 min (baseline 257).
- New telemetry criteria were developed, resulting in 46% fewer patients requiring telemetry. Unnecessary telemetry requests dropped 67%.
- Daytime rounding hospitalists now perform admissions instead of using an ED-based hospitalist. This reduces a handoff and ensures admissions are done in-flow, so the patient arrives in their bed quickly.
- Unit changes, which may indicate that patients transitioned quickly but not accurately, remained steady (~6%) demonstrating quality bed placement.

LESSONS LEARNED

- Multi-day improvement events, with focused weekly accountability, are structurally helpful for accelerating improvement.
- Involving a multi-disciplinary team is critical in developing new tools or methods.
- Using data to state the problem, as well as the measure of success, is motivating for all operators.

7) Partners in Care Practice Redesign Workshops / Improving Organizational Efficiencies

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization

PROJECT DESCRIPTION

As part of our efforts to ensure that all primary care practices across the network are recognized as Patient-Centered Medical Homes (PCMH) by 2018, we implemented practice redesign workshops. The Patient-Centered Medical Home is a way of organizing primary care that emphasizes care coordination and communication to transform primary care developed by the National Center for Quality Assurance (NCQA).

Our overall strategy began in 2012, and has two phases. The first phase (Phase 1) focused on the fundamental components of the PCMH model and is referred to as "Primed Status," which is a framework used to measure our evolution towards comprehensive, patient-centered, team-based care. Primed Status is composed of several foundational elements that are designed to position practices so that they are 'primed' for further transformation, including NCQA PCMH recognition. One of the building blocks is practice redesign using lean methodologies and team-based care, which is the focus of our application.

The second phase (Phase 2) focuses on supporting practices to implement the various components of the PCMH application, with an end goal of submitting an application to NCQA to be formally recognized.

Phase I:

Practice Redesign Workshops:

The practice redesign workshops are offered to primary care teams and include a 2 ½ day workshop focused on lean methodologies and resources/tools. The last day is a half day and onsite practice implementation lead by Advanced Lean Trained Coaches. The primary care teams include providers, clinical support staff and practice managers.

The Redesign Workshops teach practices to identify and eliminate waste and inefficiencies in the health care delivery process, making it possible to deliver both high quality and safe patient care. By streamlining repetitive and low-touch aspects of care delivery, staff members are free to spend more time treating patients and creating the capacity to operate as a PCMH (e.g. improving lab/referral tracking, continuous quality improvement projects, care management).

In 2014, phase II of the program was launched, which provides each practice with intense, high-touch, support from PCMH Consultants as well as a variety of training and education seminars. The role of the PCMH Consultant is to interpret the PCMH standards, brainstorm and share system workflows and review documentation to ensure the detail meets NCQA criteria.

OUTCOMES ACHIEVED

- 1,174 primary care providers, care team members, and administrators have attended the Redesign Workshops (as of Sept. 2015)
- 78% of Primary Care providers in practices have met the Primed Status metrics (as of Sept. 2015)
- 27% of Primary Care practices that have achieved NCQA/PCMH Level 3 Recognition with at projection recognition rate of 44% by year end 2015 (as of Dec. 2014)
- Statistically significant improvements in quality measures by Primed Status practices

LESSONS LEARNED

- Practice transformation requires a multi-pronged effort that includes ongoing education, best practice sharing, incentives, measurement, and coaching.
- Engaging the minds and hearts of practice leadership and staff are crucial in any change efforts. They must have a say in all aspects of implementing process change.
- Replicating and sustaining change efforts needs to permeate all levels of the organization. When continuous process improvement becomes "the way we do things," successful change happens.

8) TEMPO: Together Everyone Improves Patient Outcomes – FINALIST

Saint Vincent Hospital

Lesley Fucci, MHA, CPHRM, Senior Director for Quality and Patient Safety; lesley.fucci@stvincenthospital.com

PROJECT DESCRIPTION

TEMPO, an initiative undertaken in November of 2014 has transformed patient care at our hospital, resulting in better patient outcomes through improved interdisciplinary communications and organizational efficiencies. This journey began as a project to enhance our communication white boards in patient rooms and evolved into the development of electronic patient story boards to convey critical patient specific information to key stakeholders in the delivery of patient care. Project leaders assigned to this effort collaborated with all levels of the organization to determine what pieces of information would facilitate the delivery of safe and effective care. After several months of focused developmental work, the TEMPO board was created. As of today, they are present in each of our inpatient units as well as our Observation Unit.

This electronic board which is populated with information retrieved from our various electronic medical information systems refreshes every 3-5 minutes with updated patient data. Each E-TEMPO board is able to display over 30 pieces of information for each patient within the unit. For example:

- The patient's Geometric Mean Length of Stay and anticipated discharge date is displayed and drives the TEMPO discussion.
- Patient status relative to discharge date is indicated by Red, Yellow and Green bands that change automatically as time progresses to discharge date and act as a cue to RNs and Case Managers as to the critical tasks that need to be performed to progress the patient to discharge.
- Patients in observation status have a 24 hour countdown mechanism in place but all other information is similar.
- Outstanding consults for transition care coaches, palliative care team, rehabilitative services and discharge summaries are on the screen as visible reminders of potential barriers to early discharges and a check-mark automatically appears in that designated area to indicate completion.
- We are able to identify patients who are a fall risk, core measure patients, immunization status, and all 30 day readmitted patients by unique icons displayed on the board.
- Aside from room number and patient first name last initial, there is logic that alerts if two roommates have the same first name and if two patients on the floor have the same last name.
- Provider, RN and PCA names are also on the board which enhances our ability to effectively communicate regarding patient needs.

Employees have responded positively to this enhanced visual tool to coordinate and deliver safe care. Our staff and directors appreciate the visibility of the information so that they are not constantly making phone calls or checking into the EMR for follow-up issues. And because TEMPO was developed internally at our hospital, our ability to add suggestions from staff that will refine its various messaging is readily done without having to incur the wait or expense of utilizing a vendor and has engendered staff engagement. For example, the staff recognized the importance of tracking patient mobility to prevent debility that can contribute to falls and delayed discharges so a column was added to capture the actual distance a patient ambulates daily and cumulatively during their hospitalization. Additionally, the same logic is being employed to deliver this information to the desktop so that Hospitalists and APPs can access their patients on a personalized TEMPO board readily throughout the day to check on patient progress. For instance, a hospitalist can check to see if a REHAB consult was done, easily enter into the note and place necessary orders in just a few "clicks" within the TEMPO environment.

Our hospital which is a participant in a health care system was selected as a best practice for innovation and the board created is in the process of being implemented in other member organizations.

TEMPO has energized our staff and enabled our facility to not only provide better and more efficient care but to embrace a multi-disciplinary approach to providing the highest quality and safest care possible.

OUTCOMES ACHIEVED

- Decreased rate of readmission (2014 Composite Score=17.4% vs 14.8% YTD)
- 6 month sustained success with zero hospital acquired CAUTI and 20 month sustained success with zero CLABSI in our ICU
- 6 month trend of decreased Medicare excess days
- Improved management of adherence with sepsis bundles and consequently a decrease in sepsis excess days
- Increased immunization rates for flu and pneumonia
- 2% Increase in Patient Satisfaction
- Improved HCAHPS scores

LESSONS LEARNED

- The investment of time in thoughtful process improvement to enhance communication of key patient specific needs and risks can significantly impact patient safety and outcomes
- Technology, when effectively used can improve employee satisfaction because it maximizes the use of their time and enables them to provide better hands-on care. By centralizing patient data in a visual tool, less time is expended trying to extract that from paper records or a complex EMR platform.
- When caregivers are empowered to participate in the development of a tool from its initial stages, the engagement at implementation is substantially improved.

9) Burn Tele-medicine Program

Spaulding Rehabilitation Hospital

Joseph Castellana, M.B.A., Ph.D., Vice President, Medical Administration, Partners Continuing Care Network; jcastellana@partners.org

PROJECT DESCRIPTION

Telemedicine, successfully utilized in many areas of medicine, is yet to be evaluated during the rehabilitation phase of care. This initiative linked the burn center in an academic medical center with a rehabilitation facility. The goal was to evaluate the use of telemedicine and its effects on patients, providers, and cost in the transition and quality of care.

The rehabilitative phase of burn care can be as intensive and highly specialized as the acute phase, requiring a continuation of the multidisciplinary efforts of the burn surgeon, occupational and/or physical therapist, nursing/wound care, nutritionist, psychologist/psychiatrist, social worker, and others. This prolonged care necessitates numerous clinic visits for evaluation of wounds with respect to healing, contractures, pigmentation, and psychosocial factors that include return to work, school, and the community. For patients with large burns, this can last several months to years. Missed outpatient sessions can create a domino effect wherein a worrisome wound could require skin grafting, subsequent immobilization, and thereby prolong the rehabilitation phase of therapy, scar treatment, and ultimately reintegration into society.

At this burn center, the majority of large burn survivors requiring inpatient rehabilitation are discharged to a nearby comprehensive, rehabilitation hospital, which compelled a collaborative program between them. Initially, the burn surgeon traveled to the rehabilitation hospital for weekly rounds. Soon thereafter, to improve practitioner efficiency, virtual real-time patient rounds via synchronous video replaced in-person physician rounding. Goals remained unchanged: facilitate a seamless transition between acute and rehabilitative phases of burn care, improve the overall quality of care and patient experience, reduce unplanned readmissions, and lower global costs. Our telemedicine session brings together more than the patient and the burn surgeon, as is typical in the clinic setting. The patient's nurse and therapist are also present, and each session includes the entire team (burn clinic practice manager, surgical administrator, telehealth engineer, telemedicine nurse, and occupational therapist) with the patient playing an active role in the evaluation.

This telehealth program included all patients who were transferred to the rehabilitation hospital. Weekly, structured consultations were established, including a pre-round huddle, patient evaluation, debriefing, and quality evaluation with a patient satisfaction questionnaire. The huddle was used to identify scheduling, staffing, or equipment issues prior to starting the telemedicine sessions.

An IRB-approved retrospective review was performed on all patients enrolled in the telemedicine/rehabilitation program between March 2013 and March 2014. Data collected included total number of encounters, visits, type of visit, physician time, and readmissions. Transportation costs were based on local ambulance rates between the facilities. The impact of telemedicine was evaluated based on the time saved for the physician, burn center, burn clinic, and rehabilitative days saved. A patient satisfaction survey was also administered.

OUTCOMES ACHIEVED

- 146 ambulance transports averted, totaling $101,110.
- 6.8 outpatient burn clinic days saved, or 73 clinic appointments of 30 minutes duration.
- 80 inpatient bed days saved at the burn hospital due to ability to perform more outpatient surgery
- 2-3 patient days saved at the rehabilitation hospital by avoiding unnecessary travel.
- Demonstrated patient satisfaction with the encounters, primarily related to time saved. The decrease in patient travel time between clinical sites improved adherence to the rehabilitation care plan, and increased throughput at the rehabilitation facility by 87 bed days.
- Zero unplanned acute transfers to the emergency department; zero unplanned readmissions to the burn hospital.

LESSONS LEARNED

- Videoconferencing between a burn center and rehabilitation hospital streamlined patient care and reduced costs, while maintaining quality of care and patient satisfaction. Inpatient burn rehabilitation was improved by maximizing time spent in therapy and avoiding unnecessary patient travel to offsite appointments.
- Surveys demonstrated patients to be satisfied with the encounters.
- A feature of the telemedicine software lets providers share their screen with the patient, allowing patients to view their own wounds/grafts/scars close up and in high definition, regardless of location. Patients comment: "Now I'm able to look at my injury and talk to the doctor at the same time;" and, "for the first time, I wasn't a bystander in my care and I was actually able to see my wounds."

10) Understanding Factors Contributing to Increased Length of Stay Following Left Ventricular Assist Device Implantation

Tufts Medical Center

Justin Precourt, RN, MSN Executive Director Nursing and Patient Care Services; Marvin Konstam, MD, Physician Executive CardioVascular Center; jprecourt@tuftsmedicalcenter.org

PROJECT DESCRIPTION

Introduction: With the increased use of continuous flow Left Ventricular Assist Devices (LVADs) in patients with stage D heart failure, resource utilization including length of stay (LOS) associated with this surgical therapy has become increasingly important to hospitals, third party payers and patients. We evaluated reasons for delayed discharge following LVAD implantation.

Methods: We prospectively monitored consecutive admissions for LVAD implant at our hospital from September 2013 to December 2014 and recorded reasons for delay in discharge over our target LOS of 14 days following surgery. Patients that died prior to discharge were excluded, as well as one patient who received two LVADs during one admission and another patient with ESRD who was dialysis-dependent prior to surgery. Contributing factors to delayed discharge were then categorized. In our population, predominant categories were post-op bleeding (requiring return to the OR), right ventricular (RV) failure (mechanical or inotropic RV support >7 full days), and sub-therapeutic INR (<2.0 on post-op day 14). We also included a nonmedical category for issues surrounding insufficient social support, insurance approval for medication/rehab, and device education/training. Multivariate linear regression modeling was performed to identify determinants of LOS adjusted for baseline characteristics. Model covariates were selected based on clinical relevance and frequency of occurrence in our population.

Results: During the study period, 55 LVAD surgeries met inclusion/exclusion criteria for the analysis. Median age was 58 years (IQR 45-66); 85% male; 36% ischemic etiology; 69% HeartWare HVAD, 31% HeartMate II; 27% underwent LVAD exchange and 62% had LVAD placed as bridge-to-transplantation (BTT). Median LOS post-VAD was 15 days (IQR 13-19); and median ICU LOS post-VAD was 3 days (IQR 2-5). Twenty-five patients (45%) met our post-implant target LOS of ≤ 14 days. Predominant medical reasons for delayed discharge included: RV failure, sub-therapeutic INR, and bleeding requiring OR re-exploration. Nonmedical reasons accounted for 15% of discharge delays. The final linear regression model for LOS prediction contained age, gender, ischemic etiology, LVAD exchange, INR, nonmedical factors and RV failure. Following multivariable adjustment, RV failure (parameter estimate 4.9, p=0.006) was an independent predictor of LOS.

Conclusions: In our experience, median post LVAD LOS was 15 days with 45% of patients being discharged at 14 days or less. The majority of patients had medical reasons for delayed discharge and only 15% of patients had delayed discharge due to nonmedical concerns. Based on our definitions, RV failure following LVAD surgery was found to be an important predictor of post-implant LOS.

OUTCOMES ACHIEVED

- Median post LVAD LOS at our institution during the study period was 15 days with 45% of patients being discharged at 14 days or less

LESSONS LEARNED

- Most patients had medical reasons for delayed discharge and only 15% of patients had delayed discharge due to nonmedical concerns.
- RV failure following LVAD surgery is an independent predictor of post-implant LOS
- There are many opportunities to optimize care delivery improving quality, and overall efficiency of care delivered.

PHYSICIAN PRACTICE INNOVATIONS

1) Brigham and Women's Care Redesign Incubator and Startup Program (BCRISP)

Brigham and Women's Physicians Organization/Brigham and Women's Hospital

Karl Laskowski, MD, MBA, Assistant Medical Director; KLaskowski@partners.org

WINNING ENTRY

PROJECT DESCRIPTION

New value-based payment models require robust clinician engagement in improving clinical outcomes and reducing waste. Provider organizations must seek to engage both primary care and specialty clinicians in delivering high-value, cost-conscious, quality care. This focus requires new ways of thinking for many clinicians, and initially can provoke discomfort for individuals accustomed to ignoring cost when evaluating care pathways and potential treatments. However, any effort to promote value in healthcare necessarily requires the support of frontline clinical staff. Faced with the need to encourage culture change, we created a novel investment platform to catalyze engagement and evalaute and support innovative ideas to improve value in care delivery. We named this program, BCRISP.

We launched BCRISP in the Spring of 2013 with three specific goals:

1) To engage frontline clinicians in promoting value
2) To identify and evaluate novel proposals for care redesign, and
3) To strategically invest in ideas that demonstrated early success

By adapting tools more common to venture capital investing, we hoped to improve quality and clinical care for our patients, while concurrently reducing costs. Our model involved casting a wide net to solicit as many ideas as possible; using staged, small-dollar investments in multiple rounds to concentrate investment where results appeared encouraging; using shark-tank style "pitch sessions" to help publicize proposals and projects across the institution and to evaluate potential investments; and forcing all proposals to calculate and defend clinical and financial ROI projections upfront, and to present plans for sustainability and ongoing support from day 1.

In addition to financial investment in successful pilots, the program provided support through coaching in process improvement methods, assistance with data acquisition and analysis planning, and access and visibility to senior hospital management.

Entering our third cycle of applications, BCRISP has become the standard mechanism for care redesign at our institution and has engaged the majority of our clinical staff in improving value.

OUTCOMES ACHIEVED

- Solicited 109 proposals through 2 cohorts
- Engaged more than 583 clinicians across every clinical department at our institution
- 21 applications involved multi-departmental teams (crossing traditional organizational silos)
- Implemented 16 pilots to date
- Returned over $4.5M in estimated annual Total Medical Expense savings
- Pilots have led to the following:
- Reduced readmissions by 1/3 for complex patients discharged to long term acute care
- Reduced ED revisits from 37% to 17% for uncontrolled diabetics seen in ED
- Spurred use of patient reported outcomes to guide use of specialty medications in rheumatoid arthritis
- Increased vaginal birth after cesarean section (VBAC) rate from 14% to 27% through introduction of novel IT interface
- Reduced need for inpatient management of atrial fibrillation through development and implementation of ED-based clinical pathway
- Reduced inpatient length of stay for patients undergoing spine surgery through introduction of RN-led pre-op "spine class"
- Launched multi-disciplinary Traumatic Brain Injury (TBI) follow-up clinic to improve post-concussion evaluation and treatment.
- Piloted replacement of human in-room patient "sitters" (monitors) with virtual video based monitoring system, reducing expense and leading to improved safety and comfort for patients
- Implemented clinical pathway for safe and efficient antibiotic use in patients with history of penicillin allergy
- Created role of "Clinical Strategist" for patients with suspected lung cancer, reducing time to diagnosis and time to treatment by factor of 3.

LESSONS LEARNED

- Application of Venture Capital-like model to care redesign leads to strategic investment, catalyzes clinician engagement, and yields encouraging clinical and financial results
- Multi-stage funding rounds and requirement for rapid results allows for testing of many proposals and ensures that investment is targeted towards ideas most likely to deliver value.
- Engaging stakeholders early is critical to project success and sustainability, and promotes continued investment in successful pilots

2) Dana-Farber Pathways: Innovation in oncology care delivery

Dana-Farber Cancer Institute

Carole Dalby, RN MBA OCN, Director – Dana-Farber Pathways and Director - Clinical Quality Improvement; Carole_Dalby@dfci.harvard.edu

PROJECT DESCRIPTION

As the complexity and cost of cancer care increases, there is an urgent need to support and track clinical decision-making, reduce unwarranted variation in patient care, and optimize resource utilization.

Through the development of evidence- and consensus-based disease specific dynamic clinical pathways (DCPs), our organization has been able to leverage the extraordinary depth of expertise of our clinicians and access to clinical trials into community-based clinical practice, where the majority of cancer care is delivered. Based on efficacy, toxicity, and cost, pathways define a single preferred treatment for a given cancer diagnosis.

DCPs are integrated care maps that improve quality by reducing variation in clinical decision making based on cancer diagnosis, line of therapy, patient demographics, and treatment site. This consensus driven, evidence-based approach supports the standardization of care, enables knowledge sharing, and permits the systematic management of our cancer patient population across our network of hospital satellites and physician practices. While the system fosters consistency in care delivery, it is also sufficiently flexible to allow clinicians to manage clinical nuances and provide personalized medicine to each patient.

Using an electronic platform, these DCPs provide decision support capability for local and network providers to enhance the predictability and quality of care provided to our patients. After providing disease and patient characteristics, DCPs first recommends all available clinical trials then defines a single preferred treatment for the individual patient. It is not expected for providers to choose the DCP 100% of the time. Selection of an off-pathway regimen within the DCP is warranted related to disease characteristics, comorbidities, and patient choice. If a provider does select to go off-pathway, they must document the reason (e.g. patient preference). The ability to learn from provider practice patterns and recently published literature permits the creation of a nimble and dynamic tool to support clinical care.

Each month, providers and disease programs are provided with data summarizing current usage of the system, variations in patterns of care among individuals as well as at sites of care. Through quarterly review, these data are then reviewed by a panel of experts in conjunction with the pathway. DCPs are revised and updated based on recently published literature, clinical expertise, practice patterns, and provider feedback. DCP structure incorporates the adoption of scientific advancements into practice rapidly, further fostering the academic collaborative nature of this program.

Through the framework of a Plan-Do-Study-Act (PDSA) model, we expect DCPs to enhance patient care, but more importantly to foster educational collaboration, permitting disease centers to manage populations, as well as enhance visibility and access to clinical trials.

OUTCOMES ACHIEVED

- Customized DCPs developed in 8 common cancer types across 4 disease centers
- Implemented in both the academic and community clinical setting
- Cumulative on-pathway rate of 75%, which falls in the expected target range of 70-80%
- DCPs account for 3,769 treatment decisions

LESSONS LEARNED

- Clinicians are willing to use a DCP program, and 87% of network providers deem DCPs to be value added and time saving
- We have seen wide variation in pathways adherence by clinician, location and disease type
- Exploration of practice variation is a potentially powerful tool to engage clinicians in discussion of routine practice

3) Practicing Excellence: Enhancing Provider and Patient Experience in Pursuit of the Quadruple Aim

Highland Healthcare Associates IPA

Carla Destramp, RN, JD, Manager, Quality and Performance Improvement Programs; cdestramp@winhosp.org

PROJECT DESCRIPTION

Goal: Through this initiative, our physician organization seeks to improve the physician's experience in providing patient care to positively impact both the physician's AND the patient's experience of care. We seek to address physician burnout and dissatisfaction, build a stronger sense of community and teamwork, and to share tools to engage patients in their own care. To achieve it, we partnered with Practicing Excellence: The Physician Effectiveness Project (the Project), founded by physicians from Sharp HealthCare in California.

The Project is a web-based, skill-building platform that consists of learning modules, tools, a chat forum, and video-based peer coaching. Many of the modules offer CME credit. The Project is designed to mobilize and engage physicians around patient centered care, team leadership, resource management, and care coordination, all necessary to drive metrics that lead to a high-value health care organization. The Project dovetails nicely into another organizational strategic initiative: achieving/maintaining Patient Centered Medical Home recognition for our 32 independent primary care practices. Most importantly, by caring for the caregiver, we are hopeful that we can return the joy in the practice of medicine to physicians in our organization.

Our Board approved incorporation of the Project as an option in our 2015 physician incentive program. Our literature-based hypothesis was that addressing the caregiver's experience was essential and would translate into improved patient experience (among other things), thus we were not surprised to find that 75% of our physician membership elected to participate.

The Project does not have a turnkey mechanism to measure impact, so significant time was expended to develop a physician centric baseline survey to capture data but also to convey that we were not just interested in patient experience, but genuinely interested in physician sentiment and experience. Central to our organization's culture is respect, and we wanted the survey to convey that value. A threshold to access to the Project was survey completion.

Our medical leadership received recommendations from several internal previous Project participants, on what the initial quarter's incentive-related curriculum should be, following criteria that topics needed to integrate with our mission and strategic priorities. First quarter focus is on the modules and 'try this' activities. The curriculum was shared with participants in early June at Project launch, and an interesting thing happened: physicians viewed not only the required curriculum, but also a very significant number of other modules based on their interests (data below).

An internal organizational project manager (non-physician) provides personalized/ technical support, and serves as Project prompt to identify thought leaders, engage discussion, and cross pollinate ideas into existing performance improvement programming, thus helping to expand the Project direction and normalize leveraging Project related skills. She also serves as a participant sounding board to funnel reactions to leadership who then are positioned to respond as a colleague to fuel momentum, redirect reservations, and, in the Project's term, spread the epidemic. The project manager also receives Project utilization data, and serves as the liaison between our organization, our participants, and the Project.

The Project has been live for three months. Modules have been/ will continue to be utilized in the context of other initiatives; our first community wide Project-related open call will occur next week. Future curriculum and spread to be determined this month. Remeasurement currently planned at 6 months and 1 year.

OUTCOMES ACHIEVED

Recent launch (6/9/15), minimal outcome data

- 75% of our physicians elected to participate in this Project
- 84.6% (55) of eligible Primary Care Physicians
- 72.2% (206) of eligible Specialist physicians
- 41.3% of eligible physicians have accessed the Project as of August 30, 2015
- Current quarter's curriculum completion (a month remains in this quarter)
- 29% of PCPs have completed
- 23.7% of Specialists have completed
- 198 modules beyond the required curriculum have been completed by participants. We consider this a very positive indicator that the Project is addressing the interest and needs of our physicians.

LESSONS LEARNED

- Identifying and leveraging thought leaders is most effective to spread utilization of and engagement in the Project
- Asking questions to elicit understanding is better received than providing answers, and leads to self-discovery/ internalized conclusions.
- We need to engage physicians in the same way we ask them to engage their patients.

4) A Population Health Management Strategy to Improve Quality Outcomes in Primary Care – FINALIST

Massachusetts General Hospital and Massachusetts General Hospital Physician's Organization

Sandra O'Keefe, MPH, Program Director: Chronic Disease Quality Management; smokeefe@partners.org

PROJECT DESCRIPTION

We implemented a new Population Health Management program in its primary care practices in order to improve chronic disease management and delivery of preventive services for over 160,000 primary care patients. Three key strategies enabled the effort's success:

(1) Primary Care defined their own, more clinically relevant quality measures- The organization defined its own, more clinically relevant quality measures for diabetes, hypertension, atherosclerotic cardiovascular disease, and cancer screenings. The first strategy involved moving away from Healthcare and Effectiveness Data and Information Set (HEDIS) measures that had been used in previous pay-for-performance contracts. Primary Care, along with Partners Population Health Management, defined its own, more clinically relevant quality measures for diabetes, hypertension, atherosclerotic cardiovascular disease, and cancer screenings. For example, in place of the HEDIS Hypertension measure, patients met the measure if:

- Their average blood pressure over the past 18 months was well-controlled or they were already on three anti-hypertensive medications.

Performance targets were set at low target of 2% improvement above the previous year's baseline and a high target reflective of the highest observable performance rate for a specific measure. By setting two targets, emphasis was placed on overall quality improvement rather than achievement of an absolute target.

(2) The launch of TopCare 2.0, a patient disease and preventive care management registry: TopCare provides a framework for population management outside of the office visit. TopCare provides a framework for population management outside of the office visit. Patient registries exist for diabetes, hypertension, cardiovascular events and three cancer screening registries (breast, colon, cervical). TopCare served as the data source to measure performance on quality outcomes.

(3) Piloting a team of population health coordinators (PHC), which included population management huddles at 8 primary care practices. These eight practices were assigned a PHC who was embedded in the practice and whose role was to primarily manage TopCare and address all associated administrative tasks. This included appointment scheduling, ordering overdue laboratory testing, and obtaining home blood pressure values. The other remaining eleven primary care practices were provided a part-time quality consultant who provided training and support to existing practice staff in adoption of TopCare; practice staff remained responsible for managing the administrative tasks.

Some of the TopCare features used by the PHCs included:

- Tracking points of contact made to patients such as patient education, appointment reminders and/or assistance with social services. TopCare allowed users to input date of last contact and schedule the next contact date.
- Coordinating care referrals between users. The PHC could refer a patient via TopCare to a diabetes educator who would then accept, reject or forward the referral to another provider.

Extracting data to create lists for discussion with the PCP. The PHC might assemble a list of patients scheduled for visits the following week or a list of patients with uncontrolled diabetes.

OUTCOMES ACHIEVED

- Met low targets for all (9) ambulatory quality measures.
- Increased provider satisfaction on quality outcome management in primary care
- A 5 percentage point improvement on the number of hypertension patients who have had a blood pressure check within the past six months and whose blood pressure is well controlled.
- A 9 percentage point improvement on the number of atherosclerotic cardiovascular disease patients who are either on a high dose statin or have an LDL < 100.
- More than a 5 percentage point improvement on the number of diabetic patients with a hemoglobin A1c < 9.
-
- 90 percent of patients are up to date on their recommended breast and cervical cancer screenings.

LESSONS LEARNED

- An embedded Population Health Coordinator in the primary care practice yields higher performance for quality outcomes.
- Quality measures that make clinical sense and have targets based on improvement result in greater physician and clinical staff engagement.
- An accurate real-time disease population electronic tool is absolutely necessary to manage chronic and preventive care for all primary care patients so that no one falls through the cracks.

5) A Medication Prior Authorization Pilot Program in Primary Care Practices Increases Efficiency and Patient Care Outcomes

New England Quality Care Alliance (NEQCA)

Alison Nogi, NEQCA Director of Communications; anogi@neqca.org

PROJECT DESCRIPTION

A physician network implemented a medication prior authorization (PA) pilot program in January 2015. The purpose of the Medication Prior Authorization Pilot Program is to alleviate physician and practice administrative burden and to improve the quality of care. The program utilizes Certified Pharmacy Technicians (CPhTs), under the direct supervision of a clinical pharmacist, to submit medication PAs on behalf of physicians. The Certified Pharmacy Technician (CPhT) is virtually integrated into the practice workflow. Prior authorization (PA) requests are triaged by practice staff to a Certified Pharmacy Technician (CPhT) via the electronic medical record. The Certified Pharmacy Technician (CPhT) submits the prior authorization (PA) and communicates the outcome to the patient, physician and practice staff. If the prior authorization (PA) is approved the availability of the medication for the patient is communicated. If the prior authorization (PA) is denied the physician is provided recommendations consisting of alternative agents and next steps.

The applicant is an award winning, not for profit, physician network of a Massachusetts hospital. It is comprised of nearly 1,800 physicians located in practices across Eastern Massachusetts, from the Merrimack Valley to Cape Cod.

OUTCOMES ACHIEVED

- Physician acceptance is high at 75%.
- Satisfaction surveys pre/post-implementation indicate that 100% of the physicians/practice staff find the program "useful" or "very useful" and the implementation "smooth" or "very smooth".
- Dedicated practice time for PAs has been reduced, resulting in a 5:1 return on investment.
- On average, 1 CPhT can support 30 physicians and their staff.
- Each physician saves an estimated 40 hours/year and their staff 80+ hours/year.
- There have been 516 PAs submitted, 243 of which were approved, with 206 denied and 67 other.
- Once assigned to a CPhT, 92% of PAs are submitted and 54% of PAs are completely resolved within 24 hours.
- The average time it takes to research and submit a PA is 28 minutes.
- Physicians implement the recommendation 84% of the time.

LESSONS LEARNED

- Physician acceptance of the program is high with satisfaction surveys indicating that physicians/practice staff found the program "useful" or "very useful" and the implementation "smooth" or "very smooth".
- CPhTs are a cost effective resource (5:1 return on investment) for managing the medication PA process allowing for physicians and practice staff to redirect their time to other patient-care activities.
- The program has improved efficiency of the PA process resulting in patients receiving the appropriate mediation sooner.

6) e-Consults in Ambulatory Specialty Care – FINALIST

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization

PROJECT DESCRIPTION

To address the rising rate of specialty referral and continued challenges with specialty access, in 2014, we established the e-Consults program, through which primary care physicians can request direct "doc to doc" consults through a secure electronic referral order platform, for low risk patients for whom a formal consultation may not be necessary. To participate, primary care physicians (PCP) submit a short question to the targeted specialty. The question is routed to the appropriate specialist who reviews the clinical record and provides a written response in 48 hours. The specialist enters the response in the EMR and emails it directly to the PCP. The specialist receives a payment per completed e-Consult reviewed, approximately $75. If the consult is inappropriate for e-Consultation, the specialist requests that the patient is scheduled for an appointment. The PCP is responsible for implementation of e-Consult recommendations.

OUTCOMES ACHIEVED

- 27 active practices across two large ambulatory care sites.
- 2,442 e-Consults have been completed since Jan 1, 2014.
- 1,587 visits avoided. Estimation based on chart review of 100 sample cardiology e-Consults showing that 65% of patients did not have any type of traditional visit within 6 months and a survey of PCPs who would have submitted a referral if the e-consult option had not been available.
- An evaluation of the cardiology e-Consult program found:
- Growth in traditional cardiology consults during the intervention period less than matched specialties without e-consult program (4.5% vs. 10.1%, $p<0.001$)
- E-consult patients were younger than traditional consult patients (55.3 vs. 60.4 years, $p<0.001$)
- Surveys show overwhelming patient and provider support for e-Consults
- Growth: The most recent quarterly volume at the largest site was 88% higher than that of the previous quarter, and 7 times that for the same period in 2014.

LESSONS LEARNED

- e-Consults can replace formal face-to-face consultation in many cases, leading to reduced costs, improved access, and improved provider satisfaction.
- Despite initial concerns regarding patient safety, negative financial impact, and added administrative burden, both PCPs and specialists are satisfied with the ability to respond to patients' needs more rapidly through e-Consults.
- Initial utilization by PCPs was variable –targeted marketing to PCP practices and a small one-time incentive for participation has driven recent increases in activity.

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

Pediatric Physicians' Organization at Children's (Boston Children's Hospital)

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 3 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
- Over 90% of patient safety reporting has originated from practices who have actively participated in the ambulatory risk management learning community

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 actives a shift in the culture of patient safety
- Development of proactive strategies educates and imparts change

8) Care Tracker – FINALIST

Signature Healthcare

Rachel Labas, Media & PR Supervisor; rlabas@signature-healthcare.org

PROJECT DESCRIPTION

The Care Tracker program collates data from multiple sources, including billing claims, Meditech data from hospital/inpatient, the outpatient electronic medical record, and provider data. Using internal logic it presents data based upon age, sex, and disease state to the provider; last done, and next needed, such as pap smears, colonoscopy, and mammograms for cancer screening, as well as last diabetes HBAIC test, urine test, cholesterol, Prostate-specific antigen, and Ophthalmology visit. Key disease states, with diagnostic codes and medication list, are included to bring together a complete snapshot of the patient's health needs. Included in these synopses are wellchild visits for Family Practitioners.

The document is utilized by all primary care providers at all visits – it is printed prior to all patient encounters including physicals, chronic disease management visits, and same day urgent visits. Workflows have been established so that the Medical Assistant/ Nurse reviews the form and highlights for the provider the gaps in care that need to be attended to. The provider then will have discussion with the patient about the gaps and works toward ordering, booking etc., the care that is needed.

OUTCOMES ACHIEVED

To date:

- Every PCP has demonstrated >5% reduction in missing tests on at least 1 of the 6 measures
- 80% of PCPs improved on 4 of 6 measures
- 50% of PCPs improved on 5 of 6 measures
- In some cases, PCPs were able to reduce the percentage in missing tests in their patient panel by >40%.

LESSONS LEARNED

- This approach to population management is well suited to addressing the high prevalence of multiple chronic conditions.
- Although ambulatory locations and hospitals may use different electronic medical records systems, there is a possibility of integrating them to help patients with a comprehensive, preventative care plan.

9) Call Me! Campaign

Winchester Community ACO

Catharine Robertson, Executive Director, Physician Services at Winchester Hospital; crobertson@winhosp.org

PROJECT DESCRIPTION

Many patients who find themselves in a situation experiencing worsening symptoms often don't know if they should call the doctor or go to the hospital.

The "Call Me! Campaign" is exactly as it sounds – we wanted patients to call as soon as they were concerned – at the first sign their condition began to worsen. This helped manage their symptoms before an Emergency Department (ED) visit or hospitalization.

The goal of the Call Me! Campaign is to encourage patients to call their primary care provider's (PCP) office when they start showing early signs and/or symptoms of disease exacerbation. The aim was to decrease ED visits and hospital admissions and increase patient experience. When patients call with their worsening symptoms, we wanted them to be seen that same day. If practices could not schedule same day appointments, a clinical provider directs the patient to the nearest urgent care location or ED, depending on level of risk.

The PCP's and inpatient clinical staff educated patients on how to better identify and manage their worsening symptoms. Part of their education process was to encourage the patients to call the office at the very first sign of an exacerbation. We don't want patients waiting until they are so sick that they need a higher level of care (hospitalization). Preventive care is the way healthcare is headed because of the Affordable Care Act. Patients should receive high-level disease management in an outpatient setting, by PCP or specialist, so they never need the next level of care. The Center for Medicare and Medicaid Services predicts that if patients receive high- level outpatient care unplanned admissions will decrease and the patients' quality of life will increase or be stabilized.

OUTCOMES ACHIEVED

We chose two practices to see how successful this initiative would be. One practice was the pilot the program and a comparable practice was the control practice so we would be able to see what/if any impact this program would have.

In the piloted practice, they saw a 38 percent year-over-year decrease in Emergency Department visits and a 42 percent year-over-year decrease in the number of admissions. Additionally, the Call Me! Campaign had an added opportunity for the piloted practice to increase its patient experience scores. We found that patients who have these high-risk conditions appreciate immediate follow-up and same-day appointments.

LESSONS LEARNED

We learned that when patients call their PCP office, at the first sign of exacerbation, we were able to prevent ED visits. We need to ensure that we had sufficient slots within a day to give same day access to patients in need.

PROVIDING CARE TO SPECIAL POPULATIONS

1) Innovative Clinical Pathways in Lung Cancer

Brigham and Women's Physicians Organization/Brigham and Women's Hospital

Karl Laskowski, MD, MBA, Assistant Medical Director, Brigham and Women's Physicians Organization; klaskowski@partners.org

WINNING ENTRY

PROJECT DESCRIPTION

Diagnostic care for patients referred within our institution for suspicious lung lesions was variable, complicated, and inefficient. Particular demographic groups are at higher risk having a prolonged time from initial presentation to diagnosis, or being "lost to follow up" completely. We created an innovative clinical pathway to improve care for "vulnerable patients" with suspected lung cancer which employed a "clinical strategist" role to 1) ensure diagnostic interventions were most clinically appropriate, 2) improve logistical coordination, and 3) serve as resource and advocate for referred patients. The new pathway greatly simplified and improved patient experience and outcomes, reducing time to diagnosis and treatment by a factor of 5. Patients described the new system as "the most amazing experience that came out of a bad situation." We are now examining how we can expand the pathway to additional patients with suspected lung cancer, and adapt the intervention to other cancers.

OUTCOMES ACHIEVED

- Reduced average time to diagnosis from 175 days to 15 days
- Reduced average time to treatment from 194 days to 31 days
- Reduced average number of physician appointments from 6 to 2
- Reduced average number of diagnostic studies from 6 to 3
- Reduced total medical expense by an estimated $19,000 per patient
- Trend towards earlier disease stage at time of treatment initiation

LESSONS LEARNED

- Clinical strategist role improves care for "vulnerable patients"
- Limited investment leads to significant quality gains and cost reductions
- Significant opportunity to apply similar interventions to other disease groups/conditions

2) Addressing the Opiate Safety Crisis in Vulnerable Veterans

Edith Nourse Rogers Memorial Hospital

Dr. Dan Berlowitz, MD, MPH, Acting Chief of Staff

PROJECT DESCRIPTION

Injectable extended-release formulation of naltrexone—marketed as Vivitrol – is a recent significant addition to substance use disorder (SUD) pharmacotherapy for alcohol and for opiate dependence It is especially helpful due to the lack of abuse potential, the lower rates of adherence to oral meds among this population, and its ability to block the effects of other opioids. Due to the high cost and paucity of supporting data for this formulation in the treatment of opiate dependence with comorbid psychiatric disorders, it is not commonly prescribed. Injectable naltrexone is not on the HOSPITAL formulary and appears to be available only at relatively few SYSTEM sites, and in low quantities. Yet by April 2015, our hospital had the second-highest rate of prescription within SYSTEM.

Success began with meeting with clinic staff, prescribers, pharmacy, and nursing staff to emphasize the extent of the opiate overdose threat to our patients; to evaluate their perceptions of the challenge and possible solutions, and to develop an implementation plan. We then systematized the use of injectable naltrexone by adding a Naltrexone Order Protocol and Naltrexone Clinic, formally training the staff, and opening up naltrexone prescribing to the entire medical staff. We also worked on improving safety by dispensing only through the Clinic for better monitoring and tracking. The templates for Nursing and prescribers were designed to ease the process for non –experienced staff. Although the initiative emphasized the opioid abuse crisis, providers were also encouraged to prescribe the medication for serious alcohol misuse.

Our Hospital also addressed the opioid misuse epidemic as one of the first few HOSPITAL WITHIN SYSTEM in the country to initiate the use of the Naloxone overdose recovery kit. It was launched here through a process of nursing education, hospital wide staff education, demonstration, and implementing patient and family education before dispensing.

OUTCOMES ACHIEVED

- Benefit to patient: Enhanced sobriety and engagement in treatment as well as overdose prevention and reduced relapse rate.
- Benefit to the hospital: Reduced hospitalization costs and improved safety
- Benefit to the Healthcare System: promoting injectable naltrexone use as a best practice to other system facilities through lectures and poster at national meeting 2015).

LESSONS LEARNED

For easier implementation of any new measure :

- Expect, understand, and lower barriers for all involved disciplines
- Education and ongoing support are the best barrier-lowering tactics
- Protocols and prescribing templates contribute to both education and support

3) Inpatient Pediatric Acute Care Coordination Team – FINALIST

Floating Hospital for Children at Tufts Medical Center

Megan Cardoso, MD, Medical Director of Pediatric Medical/Surgical Unit, Division of Pediatric Hospital Medicine; mcardoso@tuftsmedicalcenter.org

PROJECT DESCRIPTION

Children with complex medical conditions have a broad range of medical, social and supportive needs. Although these children represent a small percentage of the general population, they have increased healthcare utilization and represent a disproportionate amount of health care spending. Care coordination is necessary to facilitate essential care delivery and resources that are cost effective, efficient and safe during hospitalizations. Our institution developed an inpatient pediatric acute care coordination team to coordinate inter-professional efforts for patients throughout their acute hospitalization with a goal for transitioning to home. A steering committee with representation from medical and surgical physicians, nursing leadership, case management, social work, clinical documentation, nutrition and child life, developed a strategic plan for implementation and bylaws. Then, starting in June 2015, a 90-day pilot was implemented during which the team reviewed complex patients admitted to the medical/surgical unit. A structured process was developed in order to identify patients, collect pertinent patient information, and review patients.

OUTCOMES ACHIEVED

- The team met 30 times and conducted 72 reviews on 59 patients. An average of 9.8 minutes was spent per patient review. (33-38% of all acute hospital admissions to the unit met criteria of complex patients).
- The team identified increased hospital utilization:
    - The 7-Day Readmission Rate was 21%.
    - 36% of patients had a length of stay ≥ 5 days.
- The team identified 21 total discharge delays. Provider miscommunication, delay in transfer of care to another facility, and medication/formula prior authorizations were the most common reasons.
- The team was able to more accurately document the complexity of patient care by reviewing all chronic and acute diagnoses with specialized clinical documentation experts during each team meeting. This may have been reflected in the average of variance between actual LOS and Expected LOS which improved from 0.21 to 0.01 from June – July 2015. In addition, the added financial impact of patients reviewed is $66,119.70 to date (reflecting 3 patients). A projected return of investment could be $1.1 million dollars per year with an estimate of 50 patients.
- The team identified the most common patient educational needs including: medication/infusion teaching, central line care and wound care.
- Each patient review included an assessment of risk of Hospital Acquired Conditions. The most common risks identified were for readmission and central line associated blood infection. There were no adverse drug events identified during this pilot in this patient population.
- The specialty pharmacist completed medication reconciliation by review of outpatient chart and home pharmacy communication during 30 days of the pilot. 32 medication reconciliations were completed resulting in 35 specific recommendations within the categories of: medication education, dosing optimization, medication monitoring, medication procurement (compounded medications and prior authorizations), and proper allergy/adverse effect documentation.
- Additional care recommendations that came out of the cases reviewed included: further care coordination (i.e. outpatient scheduling), missed inpatient consultation opportunities (i.e. medical co-management for surgical patients), missing health care proxies, and patients who desired smoking cessation counseling.

LESSONS LEARNED

- An inpatient care coordination team meeting using a standardized template has positive impacts on patient safety, length of stay, and financial reimbursement.
- Length of stay improvements were likely secondary to anticipating and coordinating care needs prior to the day of discharge.
- Including clinical documentation professionals added value to these discussions and allowed us to improve documentation which improved appropriate financial reimbursement for this patient population.

4) Strengthening the System of Care for Youth and Families

Heywood Healthcare

Dawn Casavant, Vice President of External Affairs, Heywood Healthcare; Dawn.casavant@heywood.org

PROJECT DESCRIPTION

The School Based Care Coordination Program "SBCC" supports at-risk youth and families in two school districts staffed by 2 FTE School Based Care Coordinators and 3.5 FTE Clinical Social Workers. SBCC is embedded in the school culture and physical environment, and functions as an extension of the school's guidance departments. SBCC provides hands-on care management for at-risk youth and families, onsite clinical counseling services, and referrals to community-based resources including healthcare providers and a host of community-based supports and services.

The SBCC increases access to behavioral health services, improves care coordination, addresses social determinants, and reduces crisis events.

OUTCOMES ACHIEVED

SBCC has been operating since April 2014- August 2015. During this time the following outcomes were realized:

- 297 youth (ages 9 – 18) received on-site Mental Health Counseling, that otherwise likely would not have received any services
- Over 1,200 Counseling Sessions Held
- 262 Families received Community –Based Resource Assistance
- 700 Community-Based Referrals to include referral to Primary Care, insurance enrollment, food, clothing, fuel assistance, parent/grandparent support, domestic violence services, community events, after-school and summer programs for youth

LESSONS LEARNED

- Resource poor school districts are starving for services
- The interconnectedness between schools and healthcare is integral to health outcomes and academic success. There is a great opportunity for collaboration.
- Social Determinants must be addressed

5) Health Care for the Homeless

Mercy Medical Center, Sisters of Providence Health System

Doreen Fadus, MEd, Executive Director, Community Benefit and Health; Doreen.fadus@sphs.com

PROJECT DESCRIPTION

Our Healthcare for the Homeless (HCH) Program addresses the health needs of homeless people in Western Massachusetts, defined as a special vulnerable population by the Health Resources and Services Administration. This program defines homelessness in the broadest terms to assist the greatest number of people in need of care, including those living outside, in shelters, in treatment programs, "doubled up" on someone else's couch, in motels, or otherwise vulnerable to unstable housing. For the past 30 years, this program has grown to address the needs of the homeless with a wraparound approach that provides patients with medical, mental health, and case management assistance. Today, the mobile, 20-member HCH clinical team follows a patient-centered model of health care, providing assessment, intervention, referrals, follow-up, and disease management education. The program delivers services at 23 sites in Hampden, Hampshire and Franklin Counties, and annually serves over 2,500 homeless individuals and families in nearly 13,000 medical encounters. The geographic area of the proposed project encompasses urban, suburban and rural regions, spanning 1,800 square miles.

OUTCOMES ACHIEVED

- A decrease in health care costs and increase in appropriate care by redirecting homeless persons who are high end utilizers of hospital emergency departments to primary care and intensive case management.
- A program increase in women's health screenings that surpassed standard goal requirements for federally funded health centers.
- Research demonstrates that homeless individuals are 4 times more likely to enter the ED and 4 times more likely to be admitted to the hospital. Reaching out to homeless individuals at their place of shelter, residency, and and/or the streets insures reduced hospital and ED admissions.

LESSONS LEARNED

- A low staff to client ratio supports high quality case management and allows for administrative time.
- When clients are educated on the importance of cancer screening, and encouraged by providers, they are empowered to be examined even while living in precarious circumstances.
- The integrated model of care for primary care, mental health services and dental services insures a medical home and continuity of care for a very transient population.

6) Reducing Third and Fourth Degree Obstetrical Trauma (Patient Safety Indicator (PSI) 18 18 and 19) Rates using the AHRQ Quality Improvement Toolkit

Newton-Wellesley Hospital

Bert A. Thurlo-Walsh, RN, MM, CPHQ, Vice President, Quality and Patient Safety; bthurlo@partners.org

PROJECT DESCRIPTION

Reduction of third and fourth degree (3rd and 4th) obstetrical trauma rates (Patient Safety Indicators (PSI) 18 and 19) were reviewed and determined to be the highest rates amongst the other system entities and were above the Agency for Healthcare Research and Quality (AHRQ) national benchmarks. These measures are also associated with Federal programs.

A multi-disciplinary Quality Improvement Taskforce consisting of representation from Clinical and Administrative leadership, Obstetric-Gynecological Physicians and Quality and Patient Safety was formed. The step by step approach designed by the AHRQ toolkit was utilized. This involved the revision of current clinical and documentation practices to align with evidence-based practice; completion of a gap analysis; development of an improvement strategy for change with corresponding implementation plan; ongoing measurement and analysis of results, and the evaluation of the effectiveness of change.

This 300 plus bed community teaching hospital focused on 3rd and 4th degree Obstetrical Trauma (PSI 18 & 19) rates with the intention to: 1. Improve patient outcomes as a higher rate could reflect potential harm; 2. Improve documentation and coding inconsistencies and eliminate the use of "partial" 3rd in physician documentation; and 3. Reduce unnecessary costs associated with PSI 18 & 19.

The healthcare organization's goal was to reduce the Patient Safety Indicator #18 OB Trauma (vaginal delivery with instrument) rate from 17.06% to 13.91% by December 31, 2015, and reduce the Patient Safety Indicator #19 OB Trauma (vaginal delivery without instrument) rate from 2.83% to 2.25% by December 31, 2015.

OUTCOMES ACHIEVED

- Practitioner knowledge of the issues surrounding obstetrical trauma rates was enhanced and included education on accurate documentation and coding nuances.
- Improved documentation related to episiotomies and obstetrical trauma.
- Reduction in PSI-18 and PSI-19 obstetrical trauma rates.

LESSONS LEARNED

- Key stakeholder buy-in must include the unit coordinator staff to ensure old forms are no longer available for use.
- Ongoing monitoring and individual correction is key to success.
- Developing sound processes to reduce artificial noise has helped to drill down data that will be more reflective of actual practice patterns.

7) Integrated Care Management Program (iCMP)- Care Management for Adult and Pediatric High Risk Patients – FINALIST

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization

PROJECT DESCRIPTION

The Integrated Care Management Program (iCMP) is a primary care embedded, longitudinal care management program led by a nurse care manager working collaboratively with the primary care physician (PCP) and care team.

The care team includes nurse care managers, social workers, pharmacists, and community resource specialists and, when appropriate, community health workers.

Key elements of the program include:

- Access to specialized resources including mental health, community resources expertise, pharmacy, palliative care
- Involvement through continuum of care with home visits, telemonitoring, integration with post-acute and specialty services
- Patient self-management with health coaching and shared decision making
- IT enabled systems to improve care coordination leveraging real-time, automatic notification of admissions/discharges and electronic medical record flags identifying iCMP patients
- Data driven analytics to support strategic decision-making and operations
- Intensive, on-going support and training for teams and staff

iCMP focuses on subset of patients who are chronically ill, medically complex and would benefit from a care management intervention. These patients are identified using a proprietary algorithm and clinical review by the primary care physician.

Characteristics of these patients include:

- Multiple medical conditions
- One chronic, severe medical condition
- Mental health, behavioral health, or substance abuse complicating medical condition
- Lack of socioeconomic resources to manage illnesses
- High utilization of services

As of July 2015, 12,000 adult patients and 1,500 pediatric patients are enrolled in the iCMP program.

OUTCOMES ACHIEVED

- Scaled the high risk program to all adult and pediatric primary care physicians across the system
- Identified and reviewed 40,000 patients and actively managing 13,500 patients
- Hired and trained 100 FTE care team members
- Increased communication and collaboration among the inpatient case managers and high risk care managers to improve patient care management post the acute admission
- Improved rates of patient/provider touches after the acute admission
- Reduced total medical expense (TME) trend for a cohort of patients that have been enrolled for the greatest length of time since baseline (See Figure 1)
- Reduced the medical admits per 1000 trend over last 2 years for patients enrolled for the greatest length of time

LESSONS LEARNED

- Allowing primary care physicians and care teams to make the final decision as to which patients should enroll in iCMP is a critical success factor
- Governance of program should include central oversight and guidance, but locally led by each organization in the network.
- Impact on cost and utilization can be seen when the care team engages with patients for at least 18 months and grouping patients enrolled in the program based on length of time in the program is an effective way to look at program impact on cost as well as mitigate the impact of regression to the mean.

8) Pre-Diabetes Pilot

Signature Healthcare

Rachel Labas, Media & PR Supervisor, Signature Healthcare; rlabas@signature-healthcare.org

PROJECT DESCRIPTION

CDC data shows that over 70% of patients with pre-diabetes will develop type 2 diabetes during their lifetime. However, once diagnosed, the window of opportunity to slow the progression of pre-diabetes to type 2 diabetes is only approximately 3-6 years. Patients who lose 5-7% of their body weight and engage in physical activity during this timeframe reduce their risk of developing type 2 diabetes by over 58%.

Given these striking figures, as we standardized our process for pre-diabetes screening, we also worked diligently to develop targeted interventions for newly diagnosed pre-diabetic patients, to reduce their risk of developing type-2 diabetes. At the beginning of FY 14, the applicant's primary care office created a program aimed at reducing the percentage of patients with risk factors for pre-diabetes. This office is part of the hospital's outpatient physician group of 11 practices, [NAME] Medical Group.

OUTCOMES ACHIEVED

In the first year of this project:

- 2,755 patients were screened within the 6,100 patient primary care practice, reducing our "screening defect" rate from 85% to 29%. Of this, 988 patients were diagnosed with pre-diabetes and 49 patients diagnosed with Type 2 diabetes.
- Of the patients diagnosed with pre-diabetes, over 64% lost weight over the course of the year, with 31% losing at least 5% of their body weight.
- The pre-diabetic patient's weight loss generated a corresponding improvement in hemoglobin A1C levels with 72% of pre-diabetic patients Hba1c decreasing over baseline, and 25% of pre-diabetic patients achieving normal Hba1c values.

LESSONS LEARNED

- A multidisciplinary approach (physician, nurse, social work, pharmacy, etc.) is needed to manage patient health.
- Community partners are essential to maintaining the health of our whole community.
- Spending time with each individual patient and understanding their risk factors lends to healthy success.

9) Clustering Appointments by Languages

Tufts Medical Center

Heidi Waitkus, Executive Director of Patient Care Services; HWaitkus@tuftsmedicalcenter.org

PROJECT DESCRIPTION

Because of the unique location of our institution, we have a great demand for Chinese interpreters. Because there are so many requests to book Chinese interpreters and we have only a limited staff to draw from, we realized that the system we were using would not allow us to satisfy the multitude of requests. In order to meet this challenge, our Interpreter Services, working together with many different outpatient clinics and providers, came up with a Clustering strategy to scheduling Chinese and Vietnamese patients. This involved asking clinics to schedule most of their Chinese and Vietnamese patients either in the morning or afternoon, in close proximity to each other. In this way, one or two interpreters could report to a certain clinic during the clustering time and meet the needs of 20-30 patients in a much more efficient manner. The Clustering program has been deemed highly successful by patients, clinics and Interpreter services. Clinics typically utilize the clustering program one to five times a week which has drastically reduced the time that Chinese and Vietnamese patients have to wait between scheduling their appointments and actually seeing their doctors for needed care. After implementing the program, our state Dept. of Public Health learned of its effectiveness and has been recommending it as a best practice for other hospitals.

As a result of this program plus phone interpretations, our total encounters per the year increased noticeably. From FY 2009 to FY 2014, total patient encounters have increased from 57, 058 to 70,396, a 23.4% increase over FY 09

OUTCOMES ACHIEVED

- Patient encounters 70,396 in FY14. Significantly increased the total encounters since we initiated this Clustering program in FY09.
- Decreased interval between scheduling and delivery of medical care.
- Ability for Interpreters to more efficiently use their time by reporting to a clinic during the clustering period and serve more patients.
- Ability for clinics to more efficiently provide services to their non-native speaking patients
- The Clustering programs resulting in greater patient sensitivity and efficiency which impact all the care we do for better patients services.
- Patient satisfaction is being enhanced through improved communication in timely manner between patient, family and health care provider.

LESSONS LEARNED

- Finding win-win solutions for Interpreter Services, clinics and patients ends up providing higher quality medical care
- More efficient services increase favorable perspectives of patients toward hospital staff which contributes to their sense of being well-cared for.
- Even daunting problems can be solved when professionals collaborate for the benefit of enhanced patient care

10) Integrated Specialty Pharmacy Program

UMass Memorial Medical Center Specialty Pharmacy

Brian S. Smith, PharmD, Director, Specialty Pharmacy; Brian.smith4@umassmemorial.org

PROJECT DESCRIPTION

The integrated specialty pharmacy program is an all-encompassing solution for patients with chronic conditions. The program utilizes a staff of specialty trained disease specific experts, first class medication adherence programs and real time data analytics to create a fully integrated care model that reduces hospital readmissions and minimized pharmacological waste. Our expertise and infrastructure allows us to identify patients that require the highest level of care and ensure all of their medical needs are addressed and delivered with Legendary Care™.

OUTCOMES ACHIEVED

- Impressive medication adherence results (all specialties >0.8 PDC)
- 4,150+ patients served
- 99% patient and provider satisfaction
- Secured over $750,000 in financial assistance for patients on our program

LESSONS LEARNED

- The integration of services and support programs as part of the specialty pharmacy program resulted in impressively high patient and provider patient satisfaction. Patient surveys revealed that patients especially appreciated financial assistance, refill monitoring, and convenient delivery and pick-up options.
- The identification of innovative models for improving patient outcomes. The most important of these was the implementation of disease specific patient liaisons staffed in the clinic. These liaisons provided a crucial link between the clinical team and the patient, especially in the outpatient setting. We found that the personal connection developed between the liaison and the patient was crucial in encouraging engagement and improving adherence.
- Physician buy-in and support is critical to the success of an integrated specialty pharmacy model. Patients trust their doctor's opinions and physician endorsement is an important first step towards patient engagement with the program. Educating clinicians on the benefits and ensuring a positive experience for them and their staff should be a priority.

REDUCING HOSPITAL-ACQUIRED CONDITIONS AND READMISSIONS

1) I COUGH

Boston Medical Center

Pamela Rosenkranz, RN, BSN, MEd, Director of Clinical Quality and Patient Safety, Department of Surgery; pamela.rosenkranz@bmc.org

WINNING ENTRY

PROJECT DESCRIPTION

A multidisciplinary team developed a strategy to reduce pulmonary complications based on comprehensive patient and family education and a set of standardized electronic physician orders to specify early postoperative mobilization and pulmonary care in response to National Surgical Quality Improvement Program (NSQIP) data showing that the hospital was a high outlier for all measured postoperative pulmonary complications. Designated by the acronym I COUGH, the program emphasizes Incentive spirometry, Coughing and deep breathing, Oral care (brushing teeth and using mouthwash twice daily), Understanding (patient and family education), Getting out of bed at least 3 times daily, and Head-of-bed elevation. Pain control was another important component, essential to the mobilization goals. Nursing and physician education promoted a culture of mobilization and other I COUGH interventions. I COUGH was implemented for all general surgery and vascular surgery patients at the hospital in August 2010. It was the first and only effort to date to combine the above described interventions into a single, comprehensive protocol designed to mitigate the most common risk factors for non-ventilator hospital-acquired pneumonia and other complications. The simple, low-cost and low-tech program has proven effective in reducing both the incidence of postoperative pulmonary complications and reducing cost of care.

OUTCOMES ACHIEVED

- Decrease in postoperative pneumonia—incidence fell from 2.6% (1569 cases) to 1.6% in the year after I COUGH's implementation (1542 cases; $p = .09$)
- Decrease in unplanned intubations—incidence fell from 2.0% before I COUGH (1569 cases) to 1.2% after (1542 cases; $p = .09$)
- Improved nursing practice
- Prior to implementation, only 19.6% of 250 patients were in chair or walking at the time of audit; afterwards, 69.1% were out of bed ($p < .001$)
- Before I COUGH, only 52.8% of patients had incentive spirometer within reach, while after implementation 77.2% did ($p < .001$)
- Savings of at least $3 million over two years, given that the average pulmonary complications costs between $20,000 and $52,000
- Low cost to implement—only piece of equipment is a $1.50 incentive spirometer

LESSONS LEARNED

1. Patient and family education is key—both must take an active part in the patient's recovery
   - Provide brochures, posters, and informational video in multiple languages
   - Stress importance of interventions for achieving good postoperative outcomes
   - Introduce I COUGH in pre-procedure clinic, reinforce in preoperative holding area, AND instruct again after operation
   - Ensure pain controlled so patient can take deep breaths, cough, and get out of bed to sit in chair and walk through hallway

2. Successful implementation requires staff commitment and engagement
   - Educate across all levels—leadership, physicians, house staff, nurses
   - Articulate to staff expectations for implementation
   - Make it a part of the culture
   - Solicit feedback for what works and what doesn't to adjust the program accordingly

3. Audit practice to ensure compliance and sustained success; visit patients after operation assess whether:
   - They are in bed, sitting in chair or walking at time of visit
   - There is incentive spirometer within reach
   - The head of bed is elevated more than 30 degrees

2) Reducing the Occurrence of Catheter-Associated Urinary Tract Infections (CAUTI) – FINALIST

Emerson Hospital

Georgia Feuer, MPH, Project Manager; gfeuer@emersonhosp.org

PROJECT DESCRIPTION

In early 2010, hospital Board members, Medical Staff and Executive leadership convened to address the goal of accomplishing a breakthrough patient safety aim; one which would target a dramatic reduction in preventable harm events. This quality improvement initiative was assigned a three-year timeframe with a preliminary goal of achieving a 50% reduction in the number of hospital-acquired infections by the end of the first year. A review of our prior quarter's baseline data on hospital-acquired infections revealed that Catheter-Associated Urinary Tract Infections (CAUTI) were responsible for the majority of these preventable events. Hospital wide changes in process, protocols and staff education lead to a steady decline in our quarterly counts. As anticipated, the most significant decline occurred with our Catheter-Associated Urinary Tract Infections (CAUTI), achieving an average 58% reduction in our quarterly counts by the end of the first year and an astounding 75% reduction in our quarterly counts for the remainder of the quality initiative period. Since the culmination of this three-year initiative, the hospital has continued to maintain in excess of a 75% reduction in Catheter-Associated Urinary Tract Infection (CAUTI) counts.

OUTCOMES ACHIEVED

- A 75% reduction in the quarterly count of Catheter-Associated Urinary Tract Infections (CAUTI).
- An overall reduction in the number of device days per patient on all Medical-Surgical units.
- By reducing the number of Catheter-Associated Urinary Tract Infection (CAUTI) episodes, the hospital effectively reduced the length of stay and cost of care for some inpatients.

LESSONS LEARNED

- A series of small changes, implemented over a defined period of time, was most successful in leading to quality improvement.
- The multi-disciplinary approach proved to be the best way to engage the hospital staff and effect lasting change.
- The support of Executive Leadership was a key factor in achieving and sustaining our goals

3) Reducing Ventilator Associated Pneumonia in Trached and Ventilated Children

Franciscan Hospital for Children

Jennifer Fexis, CPHQ, Vice President for Quality and Safety; jfexis@fhfc.org

PROJECT DESCRIPTION

The project's goal was to reduce the incidence of ventilator associated pneumonia in trached and ventilated children. The project team was comprised of members of the medical staff, infection control, registered nurses, nursing assistants, respiratory therapists, and quality. The work of the team was focused on taking the evidence based practice for reducing VAP i.e. the ventilator bundle, which is primarily designed for intubated and ventilated intensive care patients, and modifying it for the special population of trached and ventilated children in a post-acute setting. By identifying and adopting a modified bundle, we were able to reduce the rate of VAP from a baseline of 4.35 per 1000 ventilator days to 0 over 18 months.

OUTCOMES ACHIEVED

- Reduced VAP rate in trached and ventilated children

LESSONS LEARNED

- Providing regular mouth care in children with an oral aversion can be challenging; Swabs may be more effective than tooth brushes in these situations.
- Maintaining head of bed elevation in children may be enhanced by using supportive bolsters.
- Close monitoring of pressure support and increasing as the patient may tolerate may reduce risk for VAP.

4) Reducing Hospital-Acquired Conditions and Readmissions

Hallmark Health System, Inc.

Cheryl Warren, MS, RN CMAC, Chief Clinical Integration Officer; cwarren@hallmarkhealth.org

PROJECT DESCRIPTION

Passage of the federal Affordable Care Act led to creation of the Center for Medicaid and Medicare Services (CMS) Innovation Forum, a fund designed to support multi-year transformation grants nationwide to develop and test innovative approaches to address the cost-containment and quality improvement goals for health care services, particularly in key populations at high risk for costly and preventable services, such as hospitalizations.

This organization has worked to address this challenge through the Community-based Care Transitions Program (CCTP), as part of one of the regional teams awarded CMS funding in the first round. CCTP defines a broad spectrum of interventions and services for elder patients at high risk of hospital re-admission, provided by a partnership between acute care hospitals and community based organizations.

The goal of this program is to reduce readmissions by 20% among patients identified as high risk and to reach a target enrollment of 250 participants per month. To achieve this, the institution created an innovative community based care program. The quality of the program was reinforced when it was funded by the Center for Medicare and Medicaid Services (CMS) Innovation Forum Project. The Community-based Care Transitions Program (CCTP), tests models of care by targeting patients transitions from the inpatient hospital to other care settings in an effort to improve quality of care, reduce readmissions for high risk beneficiaries, and document measurable savings to the Medicare program, specifically a goal set forth by CMS calling for a 20% reduction in the readmission rates among enrollees. This institution is one of the first participants partnering with community-based organizations (CBOs) to provide care transitions services for high risk Medicare patients. Transition facilitators (TF) often referred to as health coaches; work closely with hospital case managers and staff to identify patients as medically complex at discharge. Under the Coleman model, the TF sees the patient in the hospital, establishes rapport, and visits the patient in the home within 48 hours of discharge to coordinate services in the community which were not previously provided. This synergy has led to the positive outcomes of follow up appointments, medication management, and access to medical equipment and devices.

OUTCOMES ACHIEVED

- The program has successfully provided services to more than 2,000 total individuals within the high-risk target group
- Measured progress has been made towards the program goal and the CMS prescribed goal of 20% reduction in hospital readmissions in high risk groups
- This organization is identified as fourth among the 48 CBOs for their 3.74 percentage rate for decreased readmission with a range of 3.47 percentage points to 5.93 percentage points
- Please refer to graphs in results section

LESSONS LEARNED

- The impact of the community based partners must not be underestimated, they work in the community and know what patients need, embrace the CBO staff in your hospital culture, make them part of the team
- Patients need consistency in an ever changing healthcare environment to connect with healthcare providers to become engaged and motivated
- Some of the smallest interventions make all the difference for our patients such as transportation or obtaining prescriptions

5) Readmission Reduction Initiative – FINALIST

Hebrew Senior Life

Tammy Retalic, RN, Chief Nursing Officer; Tammyretalic@hsl.harvard.edu

PROJECT DESCRIPTION

Several years ago, the HOSPITAL GROUP (HG) focused on reducing their readmission rate on the Rehabilitation Service Unit (RSU) at the Boston campus. Initially, the RSU transfer rate was equal to or above the state and national benchmarks. Randi Berkowitz MD, our former RSU medical director and HG was awarded Center For Medicare and Medicaid Innovation (CMMI) grant that incorporated a communication forum called TIPS (Team Improvement Patient Safety) conference and the use of a Palliative care consults as ways to prevent readmission from the RSU.

The TIPS conference was a forum designed to pull together the floor team to discuss acute care transfers. Team members included the usual direct care team as well as the floor coordinator, housekeeping, and in many situations family or community stakeholders such as case managers from other facilities. The rules for a TIPS conference were simple yet sustainable. They could be no longer than 30 minutes and only 5 minutes are set aside to explain the situation. The remaining time was focused with an open discussion of what went wrong and what could we do to improve. The facilitator creates a safe environment for open dialogue with the final intent of the group identifying next steps and tangible takeaways to reduce or eliminate another similar situation.

In addition to the TIPS conference intervention, the clinical team added an "automatic" palliative care consult trigger to any patient who had been hospitalized more than 3 times in a 6 month period. Consults by a multidisciplinary team (trained professionals in palliative care: physician, social worker, chaplain, and clinical nurse specialist) facilitated ample discussion with the patient and families around goals of care and treatment which often resulted in the patient developing clear advance directives that avoided unnecessary hospitalizations. The focused discussion around goals of care often led to a desire for less invasive procedures and more focus on quality of life.

As part of this CMMI grant, a review of radiology, laboratory and pharmacy costs were monitored.. Though there were no changes in radiology costs, there were significant reductions in the laboratory costs (15%) and pharmacy costs (11%) for the patients on this floor.

The two components of TIPS conferences and automatic palliative care consults provided a strong model to support reduced readmissions from our Rehabilitative Service Unit that has continued to be sustained.

OUTCOMES ACHIEVED

The palliative care model and the Team Improvement Patient Safety (TIPS) conference demonstrated that this approach can lower readmissions and achieve the Triple Aim.

- Better Health- lowered readmission rates and less hospitalizations
- Better Care-TIPS conferences engage, staff, patients and families in care redesign
- Lower cost- reduction in potentially unnecessary laboratory and pharmacy costs.

LESSONS LEARNED

- Involving patient, family and community stake holders into TIPS conferences provide a unique learning experience for all involved. The leadership must create an open and safe environment for staff to share and willingness to support recommended action plans.
- The TIPS conference must be simple, quick, and relevant in order to maximize interest and encourage a culture of continuous improvement.
- Proactive palliative care consults provide guided discussions to fully inform patients and families of their options. These in depth discussions often result in the decision to change code status and opt for less invasive treatments.

6) Catheter-Associated Urinary Tract Infection (CAUTI) Prevention and Reduction

Massachusetts General Hospital

Colleen K. Snydeman, PhDc, RN, NE-BC; csnydeman@partners.org

PROJECT DESCRIPTION

With the national focus on decreasing hospital acquired infections (HAIs) and with Catheter Associated Urinary Tract Infections (CAUTI) as the most prevalent of all HAIs, the hospital determined that a focused approach to decreasing CAUTI was vital. A thorough literature review was conducted to identify the best evidence-based practices for CAUTI prevention, and the best practices served as a guide to assess where gaps existed in our ICUs. This review revealed varying degrees (gaps) of adherence to approved indications for catheter use, identification of a plan for catheter removal and compliance with routine urinary catheter care principles. The analysis was used as baseline information as we begin to prioritize our efforts on practice improvement initiatives.

In September of 2012 an interdisciplinary team, the CAUTI workgroup, was developed to address the high CAUTI rates in the intensive care units (ICUs). A wide representation of nurses from the ICUs and the Department of Infection Control participated. Because each additional day of catheter use there is a 3-5% increase in the risk for infection, the workgroup collaborated with physicians to initially develop a list of evidenced-based hospital approved indicators for the use of an indwelling urethral catheter.

The CAUTI workgroup is co-led by the Patient Care Services, Office of Quality and Safety and the Department of Infection Control and has now expanded to include nurses from general care units to help reduce CAUTI in those areas. The workgroup's primary objective is to "identify opportunities for improvements and interventions to aide in decreasing the usage of urinary catheters and CAUTI rates to below the NHSN benchmarks in 50% of the ICUs and on the general care units."

OUTCOMES ACHIEVED

The CAUTI rates at the facility are nationally benchmarked with the Center for Disease Control's (CDC) National Healthcare Safety Network (NHSN). The outcomes achieved includes:

- 50% of ICUs are now below the national NHSN benchmark for CAUTI
- 23 of the general care units (62.16%) outperformed the NHSN benchmark for 5 (five) or more quarters 2013-14
- In Q1of 2015, 27 out of 29 units outperformed the NHSN benchmark for CAUTI
- The ICU CAUTI rate is decreasing steadily, and the rate in general care units has remained stable at a low level.

Data using a Standard Infection Ratio (SIR) also shows reductions in rates to below the national benchmarks (i.e., values less than the benchmark of 1.0):

- Device utilization ratio in the ICUs decreased from 0.91 to 0.78
- Device utilization rates have remained stable in both ICUs and general care units.

LESSONS LEARNED

Top Lessons Learned:

- Tailoring the program allowed for customized selection of interventions that met the unique clinical and practice needs of both the units and the organization
- Bottom up approach to prevent CAUTI through interdisciplinary clinical workgroups is an effective way to achieve reductions.
- Having clinical staff participate from units with the highest and lowest CAUTI rates allowed staff to openly discuss rates, practices, design solutions and motivated change.

7) CLABSI Taskforce- Reduce Central Line Associated Blood Stream Infections in Pediatric Intensive Care Unit

Massachusetts General Hospital for Children

Arlene Kelleher, RN, MS, NE-BE, Nurse Director, Pediatric Intensive Care Unit; Akelleher2@partners.org

PROJECT DESCRIPTION

During the past five years the Pediatric Intensive Care Unit (PICU) has been implementing practices to eliminate central line associated blood stream infections (CLABSI): standardizing a 'Central Line Infection Prevention Check List"; stocking a central line insertion cart with required equipment and supplies; introducing 'Scrub-the-Hub' for 30 seconds with chlorhexidine; giving daily baths with Hibiclens for patients over 2 months of age; application of Biopatch for patients over 2 months of age; daily discussion of continued need for central line; and adhering to hospital policies for dressing changes, IV tubing changes and TPN dedicated line.

While standardizing practice in the PICU, quarterly reports from Infectious Disease showed that we were consistently above the CDC/NHSN Pediatric Medical Surgical Critical Care Pooled Mean from 2010 to the second quarter of 2015. In 2010 there were four infections, in 2011 three infections, in 2012 one infection, in 2013 two infections, in 2014 two infections and for the first two quarters of 2015 one infection. Although the number of infections has steadily decreased, even one infection places us over the acceptable pooled mean.

To reach a goal of zero infections the PICU formed a Central Line Infection Prevention Taskforce in May 2015, with the objective of reeducating the staff in insertion, documentation, maintenance, sustainability and removal of central lines. The campaign began with lectures on how the MGH PICU compared to other PICU's across the country and the consequences CLABSI has on the MGH, followed by weekly educational boards in the staff lounge. The staff was also visited by a representative from Hibiclens, to review daily baths with Chlorhexidine.

Adherence to standard practices is audited on every patient with a central line, using the PICU Central Line Audit Tool. To track our progress a white board hangs at the entrance of the PICU showing the number of days since the last CLASBI and CAUTI infections and with every week free of infections a nurse's name is drawn and they are given a gift card to celebrate our success. PICU Central Line Infection Prevention

OUTCOMES ACHIEVED

- As of this writing our total stand for Central Line "FREE" Blood Stream Infection days in the Pediatric Intensive Care Unit is: (206 days)

LESSONS LEARNED

- Include front line nursing when implementing practice changes by fostering a culture of clinical inquiry
- Include information on the clinical and financial impact of Central Line Associated Blood-Stream Infections during educational sessions with the nursing staff
- Nurse-Physician collaboration in standardization of practice with insertion, maintenance and removal of central line

8) Elimination of Catheter Associated Urinary Tract Infections

North Shore Medical Center

Nicholas Leydon, MBA MPH, Executive Director, Kaizen Promotion Office; nleydon@partners.org

PROJECT DESCRIPTION

Our hospital is dedicated to eliminating Catheter Associated Urinary Tract Infections (CAUTI) and has focused the past year on this goal by using Toyota Production System methods. Through a series of multi-day improvement events driven by frontline staff, our hospital was able to improve process measures (i.e. avoid placing indwelling catheters that do not meet clinical criteria) as well as outcome measures (i.e. the number of patients who experience a CAUTI).

The keys steps to this process included (a) visioning session with key clinical and operations leaders, (b) a five-day improvement event every 90 days focusing on a specific CAUTI issue (c) a weekly 5-minute report to hospital CEO to explain current implementation and barriers (d) monthly report to entire hospital about results.

While this effort was led by senior leaders and staff from the Kaizen Promotion Office, innovation and post-event implementation was carried out by frontline staff, such as nurses, nursing assistants, physicians, and patients.

OUTCOMES ACHIEVED

- Three (3) reported CAUTI in first 8 months of 2015 compared with 13 reported in 2014.
- 100% of indwelling catheters were placed based on stricter, newly- redesigned criteria. The ED identified the broad category of "I&O" as a safety concern; after criteria changes, no patients now receive a Foley for this reason. (Baseline 30%)
- 100% of patients with indwelling catheter received reassessment every 1-2 hours, based on protocol. (Baseline 40%)
- 100% of patients had regularly-documented reason for Foley (Baseline 68%)

LESSONS LEARNED

- Multi-day improvement event, with focused weekly accountability, is structurally helpful for accelerating improvement.
- Involving a multi-disciplinary team is critical in developing new tools or methods.
- Using data to state the problem, as well as the measure of success, is motivating for all operators.

9) Mobile Observation Unit (MOU) – FINALIST

Partners HealthCare Population Health Management

Timothy Ferris, MD, MPH, SVP, Population Health Management, Partners HealthCare, Massachusetts General Hospital, and Massachusetts General Physicians Organization

PROJECT DESCRIPTION

MOU provides home-based urgent care for patients experiencing at-risk medical events believed to be treatable at home with enhanced home care and a high quality alternative to emergency services and hospitalization for patients in the Greater Boston area who would benefit from additional medical treatment and support in the home.

A Nurse Practitioner (NP) deployed to the patient's home conducts a clinical evaluation with diagnostic assessment and initiates a treatment plan. The home is evaluated for safety and barriers to the patient's ability to recover at home. MOU provides high level of care coordination with the patient's primary care providers, other clinicians, and family members.

OUTCOMES ACHIEVED

- Provides patients with home-based alternatives to inpatient/observation care, in order to improve patient experience of care, improve outcomes at lower costs.
- Reduces hospitalizations and use of emergency services.
- Provides intervention within 24 hours with an NP in the home for up to 14 days
- Improves coordination of care and communication among the care team with an NP serving as they key contact.
- Additional benefits include:
    - o Reducing length of stay concerns in the Emergency Department (ED) and Emergency Department Observations (EDOBS)
    - o Providing high quality home-based evaluation, treatment
    - o Establishing continuity with community-based providers

LESSONS LEARNED

NP in the home is able to conduct three important patient care goals during the visit that are critical in managing readmissions.

- Patient Engagement
- Clinical Assessment
- Coordination of Care

10) Homeward Bound

Signature Healthcare

Rachel Labas, Media & PR Supervisor; rlabas@signature-healthcare.org

PROJECT DESCRIPTION

Approximately 28% of the hospital's patients with Congestive Heart Failure (CHF) are readmitted to the hospital within 30 days compared to the national average of 24.7%. Homeward Bound, a grant-initiated program administered through the CHF Team and the Hospital's School of Nursing, was specifically designed to lower the 30-day readmission rate for these high-risk patients through in-home coordinated care. This is accomplished through the use of telehealth monitoring supervised by an RN and home visits by students/faculty designed to promote patient education and screening for complications relative to their diagnoses.

Students enrolled in the Hospital School of Nursing (HSN), as part of their clinical rotation, are mentored by the CHF team to receive education on Congestive Heart Failure, including observation time in the Cardiac Catheterization Lab, and observing stress testing, echocardiograms and other heart related procedures. Under the instruction of nursing preceptors, students make home visits to patients using iPads to observe patient compliance with self-care instructions, log vital signs and medication administration. Patients are monitored for vital signs and weight with results being sent to a telehealth nurse who is part of the CHF team.

OUTCOMES ACHIEVED

- In its first year, Homeward Bound worked with 22 patients, none of whom were re-hospitalized (September 2013-2014).

LESSONS LEARNED

- 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 students are not in a position of power, but rather a position of support, patients immediately connect with them.
- To achieve the goal of reducing the 30-day readmission rates for patients with CHF, an interdisciplinary team is required, with different perspectives and the ability to be high touch – including nursing students, hospital staff and faculty working together to monitor patient's conditions on a daily basis.
- In Homeward Bound, nursing students use the Teach Back method to educate patients about self-care and evaluate patient retention of education on a weekly basis. The teach back method is longer than traditional, brief teaching sessions and allows the nursing students to check in for lapses in recall and understanding, reinforce and tailor messages, and engage in an open dialogue with their patients over time. Education and symptom self-management interventions have been shown to decrease mortality and readmission rates in patients with CHF when delivered by trained personnel.

11) CAUTI Prevention Team

South Shore Hospital

Mark Mahnfeldt, RN, MBA, MSN, Director, Medical/Surgical/Perioperative and Critical Care Services; mark_mahnfeldt@sshosp.org

PROJECT DESCRIPTION

Catheter associated urinary tract infections (CAUTIs) account for 30-40% of our organization's hospital acquired infections each year. In January 2015, we formed a multidisciplinary "CAUTI Prevention Team" comprised of nurses, physicians, infection control, nursing informatics, and information technology professionals to develop and implement evidence-based protocols to decrease the risk and incidence of CAUTI amongst patients.

Utilizing Lean problem-solving principles, the CAUTI Prevention Team reviewed current state data, identified gaps in performance and developed and implemented several countermeasures to improve the way we care for and monitor patients who are susceptible to CAUTIs. Highlights of the Prevention Team's work include:

1. Implemented a urinary catheter clock in March 2015 that populates the bedside nurses' status board, an electronic work list used by our nursing staff. The catheter clock allows nurses to easily identify the length of time a catheter has been in place which has resulted in a significant reduction in urinary catheter days.
2. Initiated a "stop the line" review of all CAUTI events to better understand root cause and identify future prevention strategies.
3. Implemented a nurse driven urinary catheter removal protocol in June 2015.
4. Created a Foley catheter report driven from nursing and provider documentation that auto "pushes" out 7 days a week to clinicians highlighting patients with Foley catheters stratified by unit, attending physician, reason for placement and elapsed time from initial insertion.
5. Hold ongoing daily huddles with local leaders to review all patients with urinary catheters, reason for placement and compliance with the nurse driven protocol.
6. Conduct ongoing CAUTI prevention education and training for multi-disciplinary stakeholders including nursing, radiology, patient transport and inpatient rehabilitation.
7. Conduct ongoing review by attending nurses during bedside rounds on the medical surgical units and clinical coordinators in the ICU.
8. Implemented the use of impregnated infection control Foley catheters in the ICU and ED.

OUTCOMES ACHIEVED

- There has not been a CAUTI in the ICU since April 2015 and there has been more appropriate use of urinary catheters house-wide.
- Aggregate Foley catheter days reduced by 24% from March to July 2015.
- Med/Surg Foley catheters days have decreased by 1570 in January 2015 to 963 in August 2015, a 39% decrease in device days.
- Increased staff awareness and engagement of best practices to reduce the risk of infection for patients who require urinary catheters.

LESSONS LEARNED

- Physician engagement is critical. In order to implement a nurse driven protocol for catheter removal, nursing and physician leadership had to partner together to understand existing gaps in performance and use the best evidence to reduce utilization. Without physician champions, this change would not have been possible.
- Ongoing daily huddles and regular review of patient data keep everyone focused on CAUTI prevention. Huddles serve as a forum where team members can hold one another accountable, ask questions and ensure protocol is being followed. With up-to-date patient data, teams can proactively use data to manage and make more informed decisions about patient care.
- Instituting the "stop the line" approach for CAUTIs created a way to obtain real-time information on system and process failures. By timing out and asking why, we have been able to develop effective CAUTI prevention strategies. "Stop the line" is a tool our organization regularly uses to help us identify root cause of problems.

12) Reducing Readmissions, or How Post-Acute Care Organizations Reduced Transfers Back to Acute Care Hospitals

Spaulding Rehabilitation Network and Partners Healthcare at Home

Mary O'Quinn, CPHQ, Director, Quality & Compliance; moquinn@partners.org

PROJECT DESCRIPTION

Our health care system's unique post-acute care (PAC) continuum of Inpatient Rehabilitation Facilities, Long Term Acute Care Hospitals, Skilled Nursing Facilities and a Home Health Agency created and implemented a strategy deploying a portfolio of tactics which resulted in significant, sustained, 30 day readmission rate reductions to acute care hospitals.

The actions and interventions that were most effective, constructive or innovative include:

The creation of an Acute Transfer (AT) Steering Committee with representative medical staff from not only all of the PAC settings but also the most frequently referring hospitals, to whom patients were at risk to return.

Weekly /bi-weekly interdisciplinary AT work groups at each facility, reviewing each and every acute transfer to identify characteristics and factors contributing to readmission, and making a determination of "preventability." Engagement of rotating medical staff provided just-in-time education and raised awareness.

An AT database of all the reviews permitted trending, determination of preventability, detailed analyses, and actionable findings to reduce readmissions especially those deemed potentially preventable. Data mining from the AT database and other sources led to innumerable, iterative pilots and interventions at both network and entity levels.

Novel cross-continuum collaborative approaches using telemedicine for populations from specialty units such as burns or MICU. Teleconferences and family team meetings with the acute-based intensivist continue while the patient is in the PAC setting, also engaging the patient and family more closely in their care.

A "mobile observation unit" provides same day home visits by an advanced practice clinician for patients with urgent care needs referred from ED, ED OBS units and selected PCP Practices.

Development of an algorithm identifying home health patients at high risk for 5-day readmission, communication of the findings and plan, followed by a standard visit protocol with consistent care givers, as well as tele-monitoring and tele-health for more timely and direct interventions.

Creation of standardized communications with EDs using a templated SBAR hand-off note embedded in the EHR, giving the receiving ED providers key information often lacking in these transfers, including post-acute provider contact numbers. This evidence-based care transitions improvement initiative is informed by Project BOOST as well as review of our own AT database which suggested that suboptimal care transition communication was a potentially modifiable readmission opportunity.

Using INTERACT principles developed in nursing homes, we implemented a SIRS/sepsis early identification and intervention program, at all levels, including unlicensed staff such as CNAs who may be the first to notice a drift in vital signs or patient condition.

Implementation of medical provider-to-provider and RN-to-RN warm handoffs between the sending acute care team and the receiving post-acute care team.

Education of acute care providers as to the clinical capabilities of PAC hospitals and SNFs, so that "really sick patients" will be returned from the ED once an acute clinical dilemma is solved.

OUTCOMES ACHIEVED

- All facilities met the goal of >10% reduction in acute transfers The overall rate for facilities decreased 10% from CY2012 to CY2013 and decreased 3% from CY2013 to CY2014.
- The home health agency met goal of 8% reduction in hospital admissions.
- The process measures to improve the rate of completion of "interdisciplinary review of all readmissions within 30 days" showed compliance at:
    - 80% in 2012,
    - 88% in 2013
    - 93% in 2014.
- In 2014 a new process measure was developed to focus on increasing the completion of ED SBAR Handoff Note for patients sent to an ED, with compliance of:
    - 44% in 2014
    - 67% for CY2015 to date.
- Improvements were achieved with cycles of feedback to the entities and CMO communications to their staff.
- Telemedicine for burn patients in rehabilitation and for post-ICU patients in long term acute care resulted in fewer ambulance trips between facilities and the related costs, less patient dissatisfaction and provider inconvenience as well as fewer ED visits and readmissions.

LESSONS LEARNED

- Development of local learning clinical communities that were supported, guided and held accountable by a central organizing committee of medical and quality leadership from each entity.
- Development of a knowledge database as a foundation for clinical analytics.
- Executive Leadership engagement and commitment to align and facilitate goals being accomplished.

13) T4P (TUFTS for Pneumonia Prevention)/BREATHE

Tufts Medical Center

Renee Leondike NP-C; rleondike@tuftsmedicalcenter.org

PROJECT DESCRIPTION

T4P/BREATHE is an inter-professional project created in response to improving patient outcomes and preventing HAI and readmissions. Our goal is to eliminate pneumonia in our post-operative patients. The objective is to develop an integrated program that starts in the preoperative assessment clinic and continues to the patients discharge from the hospital post-surgery. The program will consist of an early risk assessment that identifies patients that are at high risk for developing post-operative pneumonia, a bundle of interventions for prevention, and finally education to staff and patients.

OUTCOMES ACHIEVED

Initial evaluation of post-operative orthopedic and neurosurgery patients revealed a decrease in pneumonia diagnosis.

LESSONS LEARNED

- Comprehensive inter-professional projects require tremendous collaboration.
- Projects of this magnitude take a year or more to complete.
- There needs to be a constant point person or persons in multiple areas to ensure success of the project

Appendix
ENTRIES BY CAREGIVING ENTITY

Atrius Health

Building a best in class skilled nursing facility network – WINNING ENTRY

Baystate Health

Baystate Breast & Wellness Center Cultural Compass

Baystate Medical Center

Improving Healthcare Value at Baystate Medical Center through Bundled Payments – FINALIST

Beth Israel Deaconess Medical Center

Protecting Respect and Dignity for Hospitalized Patients

Boston Medical Center

I COUGH – WINNING ENTRY

Brigham and Women's Faulkner Hospital

Solving the Challenge of Off Shift Intubations at a Community Hospital

Brigham and Women's Physicians Organization/Brigham and Women's Hospital

- Integrated Patient-Centered Care in Chronic Critical Illness (IP4CI) – FINALIST
- Identify and Intervene with Emergency Department Super-Users – FINALIST
- Brigham and Women's Care Redesign Incubator and Startup Program (BCRISP) – WINNING ENTRY
- Innovative Clinical Pathways in Lung Cancer – WINNING ENTRY

Dana-Farber Cancer Institute

Dana-Farber Pathways: Innovation in Oncology Care Delivery

Edith Nourse Rogers Memorial Hospital

Addressing the Opiate Safety Crisis in Vulnerable Veterans

Emerson Hospital

- Integrated Care Management Program (ICMP)
- Reducing the Occurrence of Catheter-Associated Urinary Tract Infections (CAUTI) – FINALIST

Floating Hospital for Children at Tufts Medical Center

Inpatient Pediatric Acute Care Coordination Team – FINALIST

Franciscan Hospital for Children

Reducing Ventilator Associated Pneumonia in Trached and Ventilated Children

Hallmark Health System, Inc.

Reducing Hospital-Acquired Conditions and Readmissions

Harvard Medical School Center for Primary Care on behalf of: Atrius Health; Beth Israel Deaconess Medical Center; Boston Children's Hospital; Brigham & Women's Hospital; Cambridge Health Alliance; Massachusetts General Hospital; Mount Auburn Hospital

Academic Innovations Collaborative (AIC) – FINALIST

Hebrew SeniorLife

- Bed Alarm Removal Initiative
- Continuous Improvement Program
- Readmission Reduction Initiative – FINALIST

Heywood Healthcare

Strengthening the System of Care for Youth and Families

Highland Healthcare Associates IPA

Practicing Excellence: Enhancing Provider and Patient Experience in Pursuit of the Quadruple Aim

Lawrence General Hospital

Health Leadership Capacity Development – FINALIST

Massachusetts General Hospital

- Catheter-Associated Urinary Tract Infection (CAUTI) Prevention and Reduction
- The Implementation of an Interdisciplinary Patient Tracer Program for Proactive Risk Assessment

Massachusetts General Hospital for Children

CLABSI Taskforce- Reduce Central Line Associated Blood Stream Infections in Pediatric Intensive Care Unit

Massachusetts General Hospital and Massachusetts General Hospital Physician's Organization

A Population Health Management Strategy to Improve Quality Outcomes in Primary Care -- FINALIST

Mercy Medical Center, Sisters of Providence Health System

- Care Connect – WINNING ENTRY
- Health Care for the Homeless

New England Baptist Hospital

- Continuous Improvement Academy (CIA)
- Perioperative Medicine Model of Care

New England Quality Care Alliance (NEQCA)

A Medication Prior Authorization Pilot Program in Primary Care Practices Increases Efficiency and Patient Care Outcomes

Newton-Wellesley Hospital

- The Implementation of the American College of Radiology Accredited (ACR) Lung Cancer Screening Program at a Community-Teaching Hospital
- Reducing Third and Fourth Degree Obstetrical Trauma (Patient Safety Indicator (PSI) 18 18 and 19) Rates using the AHRQ Quality Improvement Toolkit

North Shore Medical Center

- Safe and Timely: Patient Transitions from Emergency Department to Inpatient Unit
- Transformational Journey: Leadership's Role in Change
- Unified Plan of Care: A Plan With and For Our Patients
- Elimination of Catheter Associated Urinary Tract Infections

Partners HealthCare Population Health Management

- Patient Centered Medical Home: Culture Engagement Program
- Skilled Nursing Facility (SNF) Three-Day Waiver Program
- Partners in Care Practice Redesign Workshops / Improving Organizational Efficiencies
- e-Consults in Ambulatory Specialty Care – FINALIST
- Integrated Care Management Program (iCMP)- Care Management for Adult and Pediatric High Risk Patients – FINALIST
- Mobile Observation Unit (MOU) – FINALIST

Pediatric Physicians' Organization at Children's (Boston Children's Hospital)

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

Saint Vincent Hospital

TEMPO: Together Everyone Improves Patient Outcomes -- FINALIST

Signature Healthcare

- Care Tracker – FINALIST
- Homeward Bound
- Pre-Diabetes Pilot

South Shore Hospital

CAUTI Prevention Team

Spaulding Rehabilitation Hospital

Burn Tele-medicine Program

Spaulding Rehabilitation Hospital Cape Cod

Chasing Zero Harms – WINNING ENTRY

Spaulding Rehabilitation Network and Partners Healthcare at Home

Reducing Readmissions, or How Post-Acute Care Organizations Reduced Transfers Back to Acute Care Hospitals

Tufts Medical Center

- Development and Implementation of a Quality Improvement Training Platform: The Quality Improvement Academy
- Understanding Factors Contributing to Increased Length of Stay Following Left Ventricular Assist Device Implantation
- Clustering Appointments by Languages
- T4P (TUFTS for Pneumonia)

UMass Memorial Medical Center Specialty Pharmacy

Integrated Specialty Pharmacy Program

Winchester Community ACO

Call Me! Campaign