Re:imagine: A Report on the UHC Annual Conference 2012


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Re:imagine: A Report on the UHC Annual Conference 2012

UHC Annual Conference Integrates Quality, Safety, Cost Reduction, and Efficiency
Cindy White, RN, MBA1
Vice President, Member Relations and Networking, UHC

More than 1600 UHC members, staff, and supplier partners gathered in Orlando, Florida, for UHC’s second annual member conference, a national showcase for performance improvement ideas in health care. The meeting is distinctive for its atmosphere of high-energy collaboration and idea sharing among the nation’s academic medical centers (AMCs) and their network partners.

Keynote Speakers Address Innovation, Flawless Execution, and Creativity in a Challenging Political Environment

Perhaps no other industry faces the intense challenge of remaking itself in a post-reform era in which health care organizations simultaneously seek transformation and error-free execution. The plenary sessions addressed those issues head-on, with best-selling author Steven Johnson rejecting the concept of innovation as an isolated exercise. He provided examples of how transformative innovation evolved over time, fueled by slow hunches, diverse perspectives, and the adaptation of technology to new uses. These ideas about innovation were contrasted by the thrilling examples of flawless execution shared by former fighter pilots Max Rogers, MD, and Charles Campbell, who advocated for standardized procedures and detailed checklists to reduce errors and improve safety. They encouraged the audience to use “nameless, rankless” debriefs to openly critique performance and drive improvements, a technique used by the famed US Navy Blue Angels after every flight.

AMCs are operating and thriving in a highly charged and fluid political environment. Key policy issues were highlighted during a high-energy debate between former Republican Governor of Mississippi Haley Barbour and Democratic strategist Donna Brazile. They drew sharp distinctions between the role of the federal government in economic progress and health care, offering divergent viewpoints on the impact of the Patient Protection and Affordable Care Act.

Even in a partisan policy environment, AMCs must use creative approaches to improve care, outcomes, and efficiency. Perspectives on how to nurture the creative process were shared by Grammy-nominated musician John Ondrasik, who used his songs to demonstrate how to simplify ideas and take chances.

Members Share Solutions

Through 13 council/member group meetings, 70 rapid-fire sessions, and 60 posters, members from 39 states shared ideas for reducing length of stay, improving mortality, reducing costs, using staff in new and adaptive roles, boosting patient satisfaction, and improving performance in other areas that affect quality and reimbursement. Common themes from these sessions are the power of using data to improve behaviors and the value of using multidisciplinary teams and champions to effect sustainable change. Department-specific “silo” thinking is disappearing and being replaced by integrated, rapid-response teams that understand the continuum of care and how to achieve results. Members also networked with more than 130 supplier partners who generously sponsored this educational conference.

1UHC, Chicago, IL, USA
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Awards Recognize Excellence

On the evening of September 13, 2012, attendees gathered at the Renaissance Orlando at SeaWorld to celebrate accomplishments and applaud the year’s award winners. University of Colorado Hospital was the top winner of the UHC Quality Leadership Award, its second consecutive win. The other 9 winners were Emory University Hospital; The University of Kansas Hospital; University of Utah Health Care; Beaumont Health System (Beaumont Hospital, Royal Oak); Emory University Hospital Midtown; Mayo Clinic–Rochester, MN; NYU Langone Medical Center; The University of Arizona Medical Center; and Denver Health. Duke University Hospital, Medical University of South Carolina, Shands Jacksonville Medical Center, and Cleveland Clinic received UHC’s Rising Star Award for their exemplary improvement in patient safety, mortality, clinical effectiveness, and equity of care.

Recognizing the pivotal role of the supply chain in achieving efficient care, the UHC Supply Chain Performance Excellence Award went to Fletcher Allen Health Care, Denver Health, University of Wisconsin Hospital and Clinics, University of Colorado Hospital, Oregon Health & Science University, and Wake Forest Baptist Health. The UHC Supplier Diversity Leadership Award was won by University of Chicago Medicine, and the inaugural UHC Sustainability Award was presented to University of Virginia Medical Center.

The 2012 conference reflects pacesetting action by AMCs as they partner with UHC to improve performance and transform themselves to meet the health care needs of the communities they serve.

Using Teams and Data to Improve Efficiency

Jacob J. Groenewold, MBA
Senior Vice President, Supply Chain, UHC

Richard P. Lofgren, MD, MPH, FACP
Senior Vice President and Chief Clinical Officer, UHC

Steven J. Meurer, PhD, MBA, MHS
Senior Vice President, Comparative Data and Informatics, UHC

The tendency toward silos in health care is finally showing signs of disappearing. Clinical, operational, and financial decision makers can no longer set disparate goals or operate independently. Health care leaders now understand that to achieve optimal outcomes, they must approach every decision with efficiency and collaboration in mind.

This thinking was emphasized at the UHC Annual Conference 2012 as leaders from the nation’s academic medical centers (AMCs) gathered to share ideas on performance improvement and cost-effectiveness. Attendees acknowledged that achieving meaningfully integrated clinical/cost improvement is not easy. Organizations run into communication roadblocks, and opposition to change dampens progress.

Yet many AMCs have overcome these setbacks and are tasting integration success. University of Colorado Hospital, top winner of the UHC Quality Leadership Award for the second consecutive year, understands the critical importance of building a culture of trust, collaboration, and transparency. The executive team has learned how to effectively coalesce around targets for change, guided by actionable data. For example, Colorado’s risk-adjusted mortality decreased by 20% in the last 2 years. Care teams reduced observed mortality while seeing sicker patients, an amazing accomplishment given that mortality at the beginning of the 2-year period was already low.

The Power of Collaboration

UHC is an alliance of the nation’s leading nonprofit academic medical centers, which are focused on delivering world-class patient care. Based in Chicago, Illinois, UHC fosters collaboration with and among its members through renowned programs and services in comparative data and analytics, performance improvement, supply chain management, strategic research, and public policy. Formed in 1984, UHC’s membership includes the leading nonprofit academic medical centers in the United States.

UHC Mission. To create knowledge, foster collaboration, and promote change to help members succeed.

UHC Vision. To help members attain national leadership in health care by achieving excellence in quality, safety, and cost-effectiveness.

The Maturing Role of Data

AMCs have made vast strides in capturing data and transforming it into usable information. Increasingly sophisticated analytic techniques are helping these organizations answer critical questions. Organizations that succeed in making improvements are no longer stalled while worrying about the data’s accuracy. Rather, clinicians and administrators have realized that even though the data are not perfect, the information is usable. Clinicians have always set a high bar in terms of the data’s validity. However, the incessant cries of “my patients are sicker” and “the data are wrong” are being replaced by “we can do better.” Data are mature enough to not only spotlight improvement opportunities but also provide details that help an AMC’s change agents determine next steps.
During the 70 rapid-fire sessions at the UHC conference, members demonstrated how they wrapped data into action plans to point the way to improved outcomes. For example, Oregon Health & Science University used clinical data and evidence to evaluate initiatives and save more than $200,000. This team worked within a well-developed value analysis structure in which participants could comfortably challenge existing thinking and make decisions based on clinical and cost benefits.

The next generation of leaders is more technology-savvy and data-savvy. They understand the value of finding solutions as integrated teams and using data-rich dashboards to set goals, establish metrics, and drive results. Members partner with UHC to identify and use integrated data to strengthen the value equation. UHC Intelligence brings diverse data tools together to enhance performance improvement; help members integrate physician, hospital, safety, and financial data; and provide easy access to best practices and implementation support to ensure that improvement occurs. This spectrum approach helps engage diverse stakeholders in productive change.

**The Choice of Efficiency Over Scale**

Although members’ use of data has grown increasingly sophisticated, AMCs need to go beyond data analysis and act as true change agents to improve outcomes and related care processes. Multidisciplinary collaboration—very much in evidence at UHC’s annual conference—is a critical step toward sustainable problem solving and broader viewpoints on efficiency.

As health care leaders adapt in a post-reform era, they must guard against choosing opportunistic growth over building a truly efficient system. It is easy for some organizations to focus on growth and acquisition plans while underestimating the need to manage efficiencies and allocate resources appropriately. The long-term winners will be AMCs that understand that future success depends as much (or more) on creating and managing an efficient system as it does on increasing scale.

Efficiency is not a one-dimensional concept in which staff reductions are the only strategy. Demonstrated competency in efficiency building is a prized skill as AMCs collaborate with other organizations to understand and reduce variations in care. Too much focus on bricks and mortar and not enough emphasis on the process of care can sideline an organization. Organizations such as NewYork-Presbyterian Hospital and Duke University Hospital have used UHC tools to substantially reduce high-cost drug utilization while ensuring that quality outcomes remain the same or improve.

**The Impact of Supply Chain**

Supply chain has evolved dramatically over the years and is now a higher priority in decision making. Embracing the idea that you can only be efficient if you are cost-effective, AMCs’ supply chain planning is more intentional and aims for a unified vision.

Fletcher Allen Health Care has a well-developed supply chain/procurement program based on 4 tenets: cost management, enhanced business processes, a unified supply chain organization, and meaningful informatics. Senior leaders support these tenets, which are operationalized through value analysis and an approach that drives collaborative initiatives with departments and/or clinicians. With the help of an efficient planning and implementation process, this collaborative effort has achieved significant cost reductions of more than $3 million in the current fiscal year.

**No Magic Bullet, Just Hard Work**

There is no magic bullet to create a flawlessly performing organization. Innovators within AMCs are progressing in small cycles of accomplishments, knowing they must manage change while staying true to their core business. Fear cannot derail new ideas, and efficiency must trump sporadic growth.

According to famed inventor Thomas Edison, “Opportunity is missed by most people because it is dressed in overalls and looks like work.” As AMCs navigate the post-reform era, their success will be measured through incremental gains that lead to greater efficiency, improved care, and higher satisfaction.

**Slow Hunches and Liquid Networks Are Keys to Innovation**

Steven Johnson
Researcher who investigates how ideas form, best-selling author, social critic, and technologist

Researcher and author Steven Johnson explained that most innovation does not occur in isolation and that “eureka” moments are typically a myth. Instead, game-changing ideas emerge from slow hunches, input from diverse groups called liquid networks, and the application of existing technology to new situations.

**Cholera Riddle Solved Through Hunches and Social Connections**

Johnson became interested in how ideas form during his research into the cholera epidemic in 19th-century London, the world’s largest city at that time. Cholera
posed an immense public health problem, and the medical community thought it was caused by air vapors. Referring to his book *The Ghost Map*, Johnson described how John Snow, a local physician, rejected the miasma theory and served as a “shoe-leather detective,” knocking on doors and constructing a street-by-street map that showed where cholera deaths had occurred. He discerned patterns that focused on a cluster of deaths surrounding a neighborhood well.

Dr. Snow collaborated with Reverend Henry Whitehead, a socially connected vicar who knew neighborhood residents, including those who had fled the epidemic. Together, these men solved the riddle of cholera in what Johnson called a “Victorian CSI episode” that involved slow hunches and the integration of medical and social intelligence. Collaboration and diverse perspectives helped identify the waterborne cause of cholera and led to cleaner water and sewers in London.

Johnson also described how innovative ideas emerge over long incubation periods, such as the gradual evolution of the World Wide Web. The original Web server was located at the European Organization for Nuclear Research, where a young programmer kept track of Web-like data as a hobby. Context is everything, according to Johnson, who explained that the world was not ready for the Web in the 1980s, but it caught fire when graphical browsers became available and the world was clamoring for network-accessible information.

**Technology Adapted to Fit**

Innovators capitalize on the “adjacent possible,” where improvements are made in one system based on borrowed ideas and technology from another. As in chess, there are a finite number of moves that can be made in technology. The microwave oven simply was not possible in 1650; science must use what is available to advance progress.

A French physician invented the neonatal incubator in the late 19th century, an advancement that led to reduced infant mortality around the world. However, neonatal incubators often fell into disuse in Africa because local workers did not know how to repair them. Observing that there were many auto repair workers already available in Africa, a team from Design That Matters figured out how to construct incubators from Toyota auto parts so that local residents already versed in car repair could keep the incubators running. This award-winning innovation demonstrates how designing for context delivers results.

**Liquid Networks Fuel Innovation**

Multidisciplinary groups are fertile ground for ideas. Johnson called these groups liquid networks, a reference to the lively gatherings that occurred in 18th-century coffeehouses. When coffee became the drink of choice over alcohol, coffeehouses emerged as gatherings of polymaths where ideas were debated and interwoven in new ways.

Diversity can augment innovation; different professions spark ideas and open up new ways of thinking as a counterpoint to silo-based decisions. Johannes Gutenberg struggled with a mechanism for his printing press until he watched grape harvesters, who had used a screw press for thousands of years. He adapted the screw press to his movable-type press and started a printing revolution in Europe.

A modern-day example of cross-functional thinking centers on Apple’s entry into retail stores. Instead of following the typical consumer electronics model, this groundbreaking company researched customer service behaviors at high-end hotels. Apple discovered that guests most enjoyed concierge services, a concept that evolved into the popular “genius bar” at Apple stores.

**Customers Are a Rich Source of Ideas**

Johnson described the popular 311 call center in New York City, which allows individuals to obtain and share information in 180 languages. From reporting potholes to broadcasting school closings, this telephonic program is a 2-way process through which city officials learn from consumers, discern patterns, and construct data dashboards pointing to areas for improvement. Johnson related a humorous example from 2004, when Manhattan residents reported a mysterious maple syrup smell that would emerge, vanish, and then reemerge over time. By using consumer-reported data on time and location, the city discovered that the smell was emanating from a New Jersey flavor compound manufacturer using pungent fenugreek seeds. Through a combination of technology and consumer understanding, the maple syrup mystery was solved.

Johnson encouraged attendees to optimize their use of innovative platforms, saying that “chance favors the connected mind” in discovering better ways to do things.

**Flawless Execution in the Cockpit: Lessons for Health Care**

Max Rogers, MD  
Obstetrician/gynecologist and former naval aviator

Charles Campbell  
Director of Afterburner University and retired brigadier general in the US Air Force

Former fighter pilots Max Rogers, MD, and Charles Campbell demonstrated how techniques for flawless execution—whether in a cockpit or in a hospital

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unit—can reduce errors and improve safety. They focused on precise communication and coordinated teamwork as the foundation for operating in rapidly changing and challenging circumstances.

Preparing for Flawless Execution

These presenters from Afterburner, Inc, translated lessons from aviation training to the demands of health care delivery. A dramatic film excerpt showed how multidisciplinary flight crews achieve pitch-perfect teamwork by using verbal and nonverbal communication cues.

Rogers, a board-certified obstetrician/gynecologist and former naval aviator with 1000 hours of flight time, discussed the importance of readying an organization for flawless execution by:

- Embedding the right leaders
- Empowering them to lead
- Equipping them with the right tools

He described how to establish a high-definition goal (or destination) that is achieved through standard operating procedures and focused training. The 6 steps of effective mission planning are the following:

1. Determine mission objective: Make it clear, measurable, and achievable.
2. Identify threats: Include internal/external and controllable/uncontrollable threats.
3. Identify available and required resources: Consider training, specialists, support teams, and technologies.
4. Evaluate lessons learned: Consider experiences from the entire team.
5. Develop a course of action: Specify detailed, accountable action steps to accomplish the mission.
6. Plan for contingencies: Anticipate what could go wrong and how the team should respond.

Borrowing language and techniques used in flight training, Rogers explained that if you lose sight of the objective, you lose the flight, often with disastrous consequences. According to Rogers, one of the biggest shortcomings in health care is inattention to lessons learned; organizations are doomed to repeat the same mistakes because they do not effectively analyze successes and failures.

As an example, Rogers described a near-miss event in his busy practice: the wrong outpatient surgical procedure was assigned to the wrong patient. The error was detected seconds before incisions were made. Rogers maintained that this mix-up could have been avoided with tighter procedures. Yet rather than openly discussing ways to avoid similar mistakes, he was encouraged by his organization to keep quiet and thus missed an opportunity to examine and improve processes.

Stating that luck is never a strategy for a good physician, Rogers advocated meticulous preparation and the use of checklists to improve standardized procedures and safer execution. Using aviation language, he summarized, “Flexibility is the key to airpower. Preparation is the key to flexibility.”

Using “Nameless, Rankless” Debriefs to Improve Performance

Rogers recommended the use of “nameless, rankless” debriefs in which all participants are encouraged to provide feedback to help teams learn from their mistakes. The famed Blue Angels—flying 300 to 400 shows each year—take the time to debrief after every performance to avoid complacency and improve on safe maneuvers. Debrief sessions often take twice as long as the actual flights, but the crew uses them to spot violations of standards and correct mistakes.

To help health care teams achieve their full potential, Rogers proposed using S.T.E.A.L.T.H. debriefs:

- Set the time, place, and duration
- Tone: not who is right, but what is right
- Execution versus objectives
- Analyze execution and root cause analysis
- Lessons learned
- Transfer lessons learned to the team
- High note: celebrate successes

Recognizing the Dangers of Channelized Attention

Flawless execution demands an accountability plan, an execution rhythm of updates and meetings, and the avoidance of task saturation to minimize errors. Campbell, a retired brigadier general and “top gun” instructor for the US Air Force, shared a chilling example of how task saturation can become a silent killer when individuals channel their attention on only 1 task to the detriment of the larger objective.

He described the lead-up activities to the deadly crash of Eastern flight 401 in 1972. Using a video reenactment, Campbell showed how the crew members channeled their attention on a faulty landing light. Because they were overly focused on getting the light to work properly, the crew members did not realize that the autopilot had deactivated and that they were losing altitude until it was too late. As a result, 101 passengers and crew members were killed, all because of channelized attention on a $.20 light bulb.
Applying Zero-Tolerance-for-Error Thinking to Health Care

Preventable errors abound in health care, and many of them can be attributed to breakdowns in communication, collaboration, and teamwork. Just as pilots use highly tuned communication and coordination to successfully execute their missions while reducing risk, health care teams can strengthen performance by openly sharing information and relying on team members’ knowledge to improve results. If you improve communication, you can improve outcomes, according to these experienced aviators.

Outlook on Obamacare

When asked how the Patient Protection and Affordable Care Act (“Obamacare”) differs from a similar program established in Massachusetts in 2006 (“Romneycare”), Barbour said he believed that the federal government does not have the authority to force individuals to buy insurance. According to Barbour, Romneycare was designed for Massachusetts, where only 6% of the population was uninsured, and the states have not yielded “police power” to the federal government to enforce the insurance mandate on a national level. He argued that many of the states already have high-risk pools but complained that “if the federal government doesn’t do it, it doesn’t seem to count.”

Brazile praised Obamacare, declaring that “Romneycare is now Obamacare.” She predicted that many Americans will be upset if the federal law is repealed, including individuals with preexisting conditions, seniors, and children. She looks forward to its full implementation during 2014.

The US Economy

Barbour opened with remarks about the critically different roles of the private sector and the federal government, joking that Republicans want the government to act more like the private sector and Democrats want the reverse. He criticized the progress of the “Obama recovery,” pointing out that per capita income has decreased almost 8% during the last 4 years, from $54,500 to $50,500. Although the recession technically ended in June 2009, household income has dropped since then, and the unemployment rate has stagnated. Barbour insisted that the labor force participation rate (65% of US adults) is historically low because people have simply quit looking for jobs.

Although conceding that the economy needs to be stronger, Brazile praised the resilience of the American people. She pointed out that the United States faces significant headwinds from economic conditions in China and Europe and attacked Congress for “sitting on its hands.” She wondered how Congress defends its low (9%) approval rating and bemoaned the loss of moderates in both parties who found ways to pass legislation. Calling former presidents Ronald Reagan and Bill Clinton optimists, she pointed out their ability to work with moderates on both sides of the aisle.

A Musician’s Insights Into the Creative Process

John Ondrasik
Grammy-nominated singer/songwriter performing under the band name Five for Fighting

Grammy-nominated musician John Ondrasik used his compositions to illustrate ways to spark creativity, even during difficult times. The composer writes and performs deeply personal songs, often with social messages, and
launched a unique Web site (whatkindofworlddoyouwant.com) that raises money for various charities.

**Hard Work Trumps Talent**

Ondrasik first came to national attention with his inspiring “Superman,” a song of healing embraced by the nation after the tragedy of 9/11. This piece was initially rejected by every major record company and radio stations refused to play it, but grieving families responded to the lyrics: “It may sound absurd but don’t be naïve, even heroes have the right to bleed.”

The son of an astrophysicist and a piano teacher, Ondrasik was encouraged to be creative and began playing piano at a young age. Saying that a strong work ethic trumps talent, he explained how he toiled for thousands of hours before achieving commercial success. He works on his music every day and advocates making ideas better by making them simpler. The composer recounted that his wife, Carla, cried when she heard the emotional lyrics to “100 Years,” a touching song that challenged Ondrasik’s artistry and became a major hit: “15 there’s still time for you, 22 I feel her too, 33 you’re on your way, every day’s a new day.”

According to Ondrasik, sometimes inspiration simply falls into your lap. He told the story of how his young daughter Olivia said, “Daddy, I just love you” during a phone conversation. He transformed that sweet thought into a beautiful composition by intentionally listening to life’s moments and capturing the thought in “I Just Love You”: “I’ll never stop being amazed how my 4-year-old girl knows exactly what to say.”

**Creativity Can Be Strengthened**

The composer recommended specific techniques to strengthen the creative process, including having the right work environment. He believes there is a value to distraction and uses hiking to clarify and simplify his thinking. A proponent of “sleeping on it,” he enjoys waking up to the clarity of the morning to proceed with a project. Failure is part of the job, according to this hardworking composer, who writes 100 songs to finally produce 10 or 11 pieces. He maintains that this extra output is part of his creative process, allowing him to explore ideas fully.

Ondrasik challenged the audience to understand the difference between success and significance, contrasting “the number of breaths you take versus how you actually breathe.” He takes stock of different dimensions of his success, including commercial (How is business?), artistic (Am I getting better?), and personal (How can I be a good dad?). This talented musician said, “Take chances, ask questions, trust your gut, and listen to achieve your goals. You are only failing when you are not swinging.”
Congratulations.

UHC is pleased to recognize these leading academic medical centers for their accomplishments in leadership and performance excellence.

University of Colorado Hospital
Emory University Hospital
The University of Kansas Hospital
University of Utah Health Care
Beaumont Health System
(Beaumont Hospital, Royal Oak)
Emory University Hospital Midtown
Mayo Clinic – Rochester, MN
NYU Langone Medical Center
The University of Arizona Medical Center
Denver Health

Fletcher Allen Health Care
Denver Health
University of Wisconsin Hospital and Clinics
University of Colorado Hospital
Oregon Health & Science University
Wake Forest Baptist Health

Duke University Hospital
Medical University of South Carolina
Shands Jacksonville Medical Center
Cleveland Clinic

University of Chicago Medicine

University of Virginia Medical Center
Rapid-Fire Session Abstracts 2012

Managing Access in an Academic Medical Center: A Highly Functional Model for Access Services
Ann Tesmer, OTR, MBA, and Daniel DeBehnke, MD
Froedtert & The Medical College of Wisconsin

Background. Academic medical centers (AMCs) are vulnerable to economically driven transfers. The availability of specialties and subspecialties not present in most community hospitals and federal transfer laws (Emergency Medical Treatment and Active Labor Act) put AMCs in a risky financial situation. Transfers from our major local market competitors were often felt to be economically driven. We also were receiving transfers from other regional facilities that clearly had specialties and subspecialties in much closer facilities. Many of these transfers were across state lines, which resulted in challenges with respect to state-based public payers. We developed aggressive transfer management interventions for both of these markets.

Intervention detail. Our intervention for the local market competitor transfers was multipronged. As we did not have any flexibility in emergency department–originated transfers, we focused on inpatient-to-inpatient transfers. We administratively screened these transfer requests (using medical director and specialty consultation) and administratively denied any transfer that did not require tertiary care. We also instituted an aggressive “take-back agreement” process whereby any accepted transfer required a signed agreement from the transferring facility’s administration stating that they would accept the patient back once tertiary care was completed. For transfer requests that bypassed closer facilities, our intervention was to script staff to identify for the caller a closer facility that had the services requested. The benefit of closer and more rapid treatment was stressed.

Results. Our administrative denial and take-back agreement intervention resulted in a 192% increase in transfer volume from our major market competitor while driving public payer mix from 40.1% to 27.9%. Our aggressive scripting intervention resulted in a 323% decrease in transfers from our major market competitor (across the state line) that historically bypassed local tertiary care facilities for transfers.

Partnering With Skilled Nursing Facilities and Home Health Agencies to Prevent Hospital Readmissions
Omkar P. Kulkarni, MPH, Karla van der Geest, MA, Kelley Hart, LVN, Antoinette Hubenette, MD, Sharon Mass, PhD, and Bruce Samuels, MD
Cedars-Sinai Health System

Background. In 2010, nearly 20% of patients discharged from Cedars-Sinai Medical Center to a skilled nursing facility (SNF) or home with home health services were readmitted within 30 days. These readmissions were caused mostly by inadequate or inconsistent clinical follow-up after hospitalization. These avoidable readmissions resulted in unnecessary expenditures for the health care system and represent an opportunity to improve the quality of patient care across the continuum.

Intervention detail. In July 2011, Cedars-Sinai Health System partnered with 1 SNF and 1 home health agency that each cared for a high proportion of discharged patients. An arrangement with the SNF allowed for a Cedars-Sinai nurse practitioner (NP) to round on patients during their SNF stay. The NP conducted clinical assessments, communicated changes in clinical status to the patient’s physician, and facilitated the timely execution of physician orders. The NP also partnered with the SNF’s director of nursing to proactively identify patients at risk for readmission. The nurses caring for these patients were alerted to be more vigilant to changes in the patients’ clinical condition. Through the course of the intervention, it was observed that NP coverage was required 7 days/week. As staffing was increased to include weekend coverage, the number of weekend readmissions declined.

For patients discharged home with home health, the partner agency agreed to front-load visits. Each patient was contacted, either in person or by phone, at least 7 times during the first 2 weeks following hospital discharge. A home health nurse met the patient in the hospital and then visited the patient at home within 48 hours of discharge. An emphasis was placed on communicating with the patient at least once on weekends. Home health visits were focused on medication reconciliation and adherence to discharge instructions.

Results. The NP intervention resulted in a 56% reduction in 30-day readmissions for the 115 patients discharged to the high-volume SNF (25% vs 11%). Similarly, a 50% reduction in 30-day readmissions was observed among the 180 patients seen by the high-volume home health agency (14% vs 7%). We conclude that these interventions, when implemented through collaboration with partner organizations, can prevent 30-day readmissions.
Interventions to Improve the Coordination of Care and Reduce Readmissions: Discharge Nurse Role and Pharmacist Involvement on a Medicine Pilot Unit

Jane Murray, MBA, Laura Carr, PharmD, and Jessica Smith, RN, MS
Massachusetts General Hospital

Background. As part of the Institute for Healthcare Improvement (IHI) STate Action on Avoidable Rehospitalizations (STAAR) Initiative, Massachusetts General Hospital piloted 2 main interventions aimed at improving care across the continuum and reducing readmissions. The 2 interventions are the introduction of the discharge nurse (D/C RN) role and increasing collaboration with the Pharmacy Department through pharmacist predischARGE visits to patients and making postdischarge phone calls. Intervention detail. The D/C RN role began in 2010 on a general medicine pilot unit and manages high-risk patients defined by specific criteria from admission through discharge. The D/C RN provides education to the patient and caregiver/family throughout the hospital stay and prepares the patient discharge folder that includes follow-up instructions, lab/test appointments, and provider contact information. Aside from providing patient education, the D/C RN is essential to coordinating care with all providers. She is the point person for the care team, facilitates multidisciplinary rounds, and aligns the care team as they prepare for the patient’s transition to the next level of care. The pharmacist and D/C RN work closely together to provide medication reconciliation and identify patients who would benefit from a pharmacist consultation. The pharmacist provides counseling and coordinates dispensing of medication if necessary. The pharmacist also conducts postdischarge calls to patients discharged home or home with services. Results. Readmission rates on the unit with a D/C RN have gone from 21.0% to 15.9% (July 2010 to December 2011). The readmission rate for patients who receive a call from the pharmacist is 12.9%, while patients who do not receive a call are readmitted 17.2% of the time. Pharmacist calls have shown that 52% of patients have a medication-related issue after discharge. Some lessons learned: patients are resuming home medications that should be discontinued or do not mention the use of over-the-counter drugs on admission, patients have difficulty following proper dosing instructions, and errors have been found on high-risk medications including warfarin, insulin, and opioids.

Creating a Centralized Patient Flow Management Center to Improve Operational and Financial Performance

Brian Sweeney, RN, MBA, FACHE, and Megan L. Johnston, MHSA
Thomas Jefferson University Hospital

Background. Thomas Jefferson University Hospitals (TJUH) is a 953-bed academic health system in Philadelphia, Pennsylvania, with approximately 46 000 annual admissions and 100 000 annual emergency department (ED) visits. Like many hospitals, TJUH was challenged with an inefficient patient flow system, which led to increased length of stay, ED diversions, and lost transfers, among other patient flow performance indicators. Inefficient patient flow negatively affects patient care, patient satisfaction, patient safety, and reimbursement. Intervention detail. To address the challenges faced at TJUH, we assembled a group of trained change agents to facilitate a series of meetings focused on identifying barriers to timely admission and discharge. During the course of these meetings, more than 80 barriers were identified, most of which were related to problems with coordination and communication. We opened the Patient Flow Management Center (PFMC) as a means to improve real-time communication, coordination, and patient throughput 24 hours a day, 7 days a week across 3 campuses. The PFMC allows us to better coordinate the admission, discharge, and transfer processes by consolidating multiple departments with a role in patient throughput into 1 centralized location. Key departments located in the PFMC include Bed Management, the Jefferson Transfer Center, Environmental Services (EVS), JeffSTAT (air and ground transport), and Patient Transportation. Case management, nursing, home care, and the diagnostic testing departments are all integrated through the PFMC, helping coordinate daily operations and flow. The PFMC is equipped with state-of-the-art technology that enables staff to see real-time patient flow information at all 3 campuses. This has led to a data-driven performance model so we can easily identify opportunities for improvement and barriers to timely admission and discharge. Staff from the PFMC round on the patient floors using tablet computers equipped with the latest patient flow software. Results. After opening the PFMC, we were able to grow admissions by 8%, reduce ED diversion by 96.8% (from 125 hours per month to 4), reduce ED boarding by 62.6% (from 9127 hours per month to 3413), and decrease dirty bed turnaround time from 116 to 66 minutes.
Preventing Urinary Tract Infection in Rehabilitation Through Effective Nursing-Driven Algorithms

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Background. Patients on our musculoskeletal rehabilitation unit have received anesthesia for joint replacements, spine surgery, or other orthopedic procedures, and with an average age of 75 years or older, they are at risk for bladder retention and subsequent urinary tract infection (UTI). Early identification and management of bladder retention in this population decreases the incidence of non–catheter-associated UTI (according to the Centers for Disease Control and Prevention, UTI is present when the bacterial count reaches 100,000 and if 180-240 mL of urine is retained in the bladder and fever is present), which was evident in a unit-based study conducted in 2011 wherein 58% of the patients were identified to have bladder retention (postvoid residuals [PVRs] were ≥300 mL) during the first 48 hours of admission. Intervention detail. All urethral catheters are now removed on admission and PVRs are measured using a bladder scanner every 4 to 6 hours for 48 hours. For patients with residuals ≥300 mL, a nursing-driven algorithm was developed, directing the clinicians to establish a prompted toileting schedule and intermittent catheterization for situations in which ambulation strategies are ineffective or if the patient is otherwise unable to void. A urology consultation is obtained when bladder retention is identified and continued bladder scanning is performed. Prescribed medications are administered and the patient’s response is monitored and documented. Results. We have reduced the incidence of UTI by approximately 40% over a year, and the current rate of UTI per 1000 patient days dropped from 6.9% to 3.7%. These data indicate that the use of nursing-driven algorithms to assess and prevent UTI in postoperative musculoskeletal rehabilitative patients is a safe and effective method to identify and manage bladder retention and prevent the risk of UTI. However, validation studies are recommended to assess this practice in a larger population of postoperative musculoskeletal patients as well as other patient populations.

Pharmacy Involvement in a Multidisciplinary Readmissions Reduction Pilot Model

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Background. Medication management is an important element of improving transitions of care and reducing preventable readmissions. Pharmacy-provided services have been integrated into The Johns Hopkins Medicine readmission reduction pilot model. Intervention detail. The objective of the medication management intervention bundle is to manage drug therapy appropriately throughout the patient admission, inpatient stay, discharge-planning process, and transition to home. The intervention is focused primarily on the acute care setting with postdischarge interventions to assist patients as they transition to home in the community setting. The acute care service supports coordinated care, with pharmacists helping optimize drug therapy by participating in multidisciplinary rounds, providing patient education, assisting with medication reconciliation, and ensuring that patients have the opportunity to have the appropriate medications for outpatient management in hand on discharge. Postdischarge activities in the community setting include pharmacist follow-up phone calls 48 to 72 hours following discharge and pharmacist-provided medication reconciliation home visits 5 to 7 days following discharge. To analyze the impact of pharmacy services, pilot data are being collected. The data elements include third-party payer cost of outpatient prescription medication regimens, number of patients receiving pharmacy interventions, number and type of interventions made by pharmacists, and HCAHPS scores related to patient knowledge of medications prescribed and side effects of medications. Additionally, the readmission rate on the pilot units is being collected to assess the overall impact of the multidisciplinary care bundle. Key elements of the readmissions reduction pilot include multidisciplinary planning, continuous quality improvement assessments, and revised pharmacy staffing models using pharmacy residents, pharmacy students, and pharmacy technicians. Results. Initial institutional data suggest that the multidisciplinary readmissions reduction pilot unit has the potential to reduce preventable readmissions. Prior to the initiation of the care model from July 2010 to June 2011, the readmission rate on the unit was 13.7%. After initiation of the care model from July 2011 through January 2012, the readmission rate on the unit is 11.7%. Pharmacy-specific data indicate that pharmacist-provided transitions of care services streamline inpatient workflow and provide better continuity of medication management during the patient’s transition to home.
**Major Cost Reductions ($40 Million) and Improved Operational and Clinical Effectiveness Can Be Achieved by Changing the Culture of Accountability at an Academic Medical Center**

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**and Christopher E. Rees, MHA, MBA**

**Medical University of South Carolina (MUSC)**

**Background.** With state reductions in Medicaid and the mandated insurance exchanges of the Accountable Care Act resulting in lower reimbursement, we knew that our future would be grim if we could not find a way to lower the unit cost of care delivery. Using Medicare reimbursement as a goal, our chief executive officer challenged the leadership team to find a way to reduce our expenses by 15% over 3 years. This became known as the 5 and 5 plan (5% the first year and 5% the second). Knowing that previous cost reduction initiatives had limited success, a group from finance, quality, data analytics, and strategic planning collaborated to design a process that would ensure accountability at all levels to achieve our 15% goal. This group’s analysis uncovered 5 critical failure modes: (a) incomplete data/reporting, (b) lack of a standard approach, (c) inadequate collaboration across service lines/support areas, (d) minimal involvement of the medical staff, and (e) poor accountability for outcomes. **Intervention detail.** In the summer of 2010, the MUSC commenced an alteration of improvement and accountability culture by promoting operational and clinical performance at all functional levels within the medical center. We created a new structure that increased accountability by decentralizing improvement efforts and making individual service lines responsible for the quality and performance projects in their areas. This included monthly updates to senior leadership using standard dashboards and reports. **Results.** We have completed more than 200 projects that focused on cost savings with supplies and labor, cost avoidance through improved clinical outcomes, and improved efficiencies through the reduction of waste. These projects have led to a steady decrease in our total expense/case mix index–adjusted discharge net bad debt (wage index adjusted) from a baseline of $9935 in Q2 and Q3 2010 to $9388 in Q3 2011. This amounts to an estimated annual savings of more than $40 million.

**Patient Safety in Ambulatory Care: A REAL Challenge**

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**Thomas Jefferson University**

**Background.** Following the Institute of Medicine (IOM) report *To Err Is Human*, significant progress has been made in the inpatient setting to improve patient safety. Despite the volume and complexity of outpatient care, evidence-based knowledge of patient safety is very limited. **Intervention detail.** To foster a culture of safety in ambulatory care, Jefferson University Physicians, a 600-physician faculty practice plan, implemented a safety assessment across primary care and specialty practices. The Physician Practice Patient Safety Assessment tool, developed by the Medical Group Management Association and the Institute for Safe Medication Practices, was used. The tool allows for quantitative scoring and comparison of the following domains:

- Medication management
- Handoffs and transitions
- Surgery, anesthesia, and invasive procedures
- Personnel qualifications and competencies
- Practice management and culture
- Patient education and communication

The initial baseline assessments were conducted during meetings with the practice staff in 2008-2009. Individual practice feedback was generated and shared with the staff. Educational modules targeting specific topics, such as medication safety and health literacy, also were presented to practice staff. Following the educational interventions, the practices completed the reassessment in 2011. **Results.** The reassessment showed improvements across all survey domains. The greatest increases were demonstrated in the medication management and handoffs and transitions domains (25 and 21 percentage points, respectively). The assessment resulted in a 13 percentage point increase across all domains. Ambulatory patient safety is still in its infancy and much work needs to be done. Conducting an ambulatory safety assessment can initiate a dialogue about patient safety and instill a sense of accountability for safety in both primary care and specialty practices.

**Patient Outcome Evaluation Team: Iterative Use of UHC Data to Improve Outcomes**

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**Atlantic Health**

**Background.** Informed by UHC outcomes data, a multi-disciplinary workgroup identified key issues, designed and implemented process improvements, and measured effectiveness. From 2009 to 2012, observed mortality decreased 19%, and the observed-to-expected mortality ratio decreased by 31%. **Intervention detail.** Rank ordering patient populations by numbers of deaths greater than...
expected identified areas where interventions could have the greatest impact: specifically sepsis, hospital-acquired pneumonia, renal failure, and postoperative stupor and coma. Multidisciplinary groups performed detailed chart reviews on each subgroup, identifying issues and potential solutions. Results: (a) Documentation and coding issues were identified and improved. (b) Patients dying with renal failure actually had multigorgan failure; renal failure was a marker and not a cause of death. (c) Postoperative coma related to critically ill neurosurgical patients transferred into our institution; analysis is ongoing. (d) Sepsis: Our emergency department (ED) sepsis protocol was found to be cumbersome and therefore inconsistently used. Simplification greatly improved compliance. We also added an automated Systemic Inflammatory Response Syndrome alert in the electronic health record. In 2009, deaths among patients with sepsis on admission exceeded the expected number by 21; in 2012 the observed number (annualized January-July data) will be 25 fewer than expected. To address sepsis not diagnosed on admission, we required that Foley catheters be discontinued at 48 hours by default, mandated infectious disease consultations for all postadmission positive blood cultures, and began implementation of a Modified Early Warning System (MEWS). Between 2009 and 2012 (projected), the number of patients with postadmission-diagnosed sepsis decreased from 169 to 112 (34%). This decrease of 57 cases per year with this diagnosis translated to a decline of 13 deaths annually relative to the number expected. (e) Hospital-acquired pneumonia: With increased attention to ventilator bundles, swallow screens in neurologically impaired patients, and earlier tracheostomy, cases decreased from 332 to 222 (33%). (f) MEWS: Initial pilot implementation led to false positives because of persisting abnormal values. Requiring a 20% change in pulse or blood pressure decreased the number of triggering events with no increase in Rapid Response Teams that might have been detected by MEWS (ie, false negatives). During implementation we learned vital signs were being measured only 12-hourly on many units. This was changed to 4-hourly for the first 24 to 48 hours for all ED admissions and intensive care unit transfers. The impact is currently being measured.

**Sterile Products Robotics and Workflow Management Software Systems**

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Brigham and Women’s Hospital

**Background.** The Brigham and Women’s Hospital (BWH) Department of Pharmacy medication-use system initiative is a successful implementation of sterile products robots and intravenous (IV) workflow management software in the medication use process for compounded sterile products. There has been a significant cost savings with the addition of these technologies. **Intervention detail.** BWH has successfully implemented 4 sterile products robots and an IV workflow software system that produce anesthesia syringes, chemotherapy, and patient-specific and batched IV bags and syringes using new innovative technologies. Safety features include bar-code scanning, visual digital product recognition, and gravimetrics (weighing for product accuracy). From an operational standpoint, this project was quantifiable with baseline process and financial data in both waste reduction and financial savings, while objectively quantifying end product accuracy and increased safety metrics. Baseline data of pharmaceutical waste and fiscal expenditure provide evidence for insourcing of previously outsourced products to newly acquired robotic technologies. There is evidence to suggest that this is a long-term sustainable initiative. The data confirming a positive impact also include metrics in quantity and quality of the products produced, leading to reliable operational and financial forecasting. When comparing robotic preparations versus human preparations, the safety measures are as follows: decreased exposure to hazardous substances, bar-coded components and medications, visual digital recognition, and the use of gravimetrics for end product accuracy. **Results.** The primary operational and fiscal study data are as follows:

**Robot #1:**

- FY10: $343 000 (savings year 1), 176 922 syringes
- FY11: $477 000 (savings year 2), 218 480 syringes
- FY12: $462 000 (savings year 3), 241 650 syringes

**Robot #2:**

- FY12 year to date Nov-Jun: $155 000 (savings year 1), 38 620 doses

This initiative resulted in increased inventory management as well as operational efficiency and fiscal responsibility and patient safety. BWH is the first institution to have implemented 3 different sterile products robots and IV workflow management software systems. Aspects of this initiative at other hospitals or health systems can be useful via the use of technology for improving patient safety.

**Physician Engagement in Effective Care Transformation: Creating a Methodology for Improving Utilization and Practice Variation**

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Harborview Medical Center

**Background.** The economics of health care is on every-one’s mind, from patients to the government. Through
partnering with physicians, quality improvement, finance, and hospital operations, Harborview Medical Center (HMC) has developed a physician-focused methodology to identify opportunities to improve quality of care and increase cost efficiency in targeted medical service areas. We describe our methodology to engage physicians in effective care transformation using the spine service as an example. Intervention detail. HMC is a 413-bed county teaching hospital and level 1 trauma and burn center within the University of Washington Medicine Health System. HMC provides $190 million in charity care per year and has relied on a robust process improvement program to meet its budget. Recognizing the need for physician engagement, as well as the increased focus on the efficiency domain portion of the UHC Quality and Accountability Scorecard, we worked to develop a methodology to minimize practice variation and improve efficiency. Our team used UHC’s Clinical Data Base/Resource Manager and existing reports to better understand how our institution performs relative to meaningful comparators. A service-specific customized financial data summary report, including internal cost data by provider, is created and reviewed with physicians in an iterative manner to identify opportunities to improve both quality of care and efficiency in a manner that makes clinical sense. This data-driven review process includes representation from supply chain management, medical service physicians, finance, hospital operations, and quality improvement. Our lessons learned in translating between the clinical and financial realms include the need to use clinically driven comparative organizations based on similar case volumes and types, redefining the UHC service line to clinical condition and disease categories as opposed to simply Medicare Severity Diagnosis-Related Groups, the use of graphical displays instead of spreadsheets, and emphasis on patient care as opposed to numbers. Results. Our multidisciplinary team has developed a collaborative methodology to engage physicians in identifying opportunities to reduce practice variation and increase efficiency through the translation of UHC and internal finance data into clinically actionable, trackable metrics.

Improving OPPE Through Automation

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Background. Health systems require quantitative information to evaluate the performance of licensed independent practitioners; regulatory agencies now expect this quantitative, substantive evaluation every 6 months. Assembling the necessary information may be facilitated through automation. Intervention detail. The objective of this initiative was to use available electronic hospital data to produce provider-specific reports about all licensed independent practitioners on the medical staff (eg, physicians, nurse practitioners, physician assistants, podiatrists, psychologists) to support ongoing provider performance evaluation (OPPE) every 6 months and recredentialing every 2 years. The setting was an academic medical center with a medical staff composed of 2228 physicians, 267 nurse practitioners, 87 physician assistants, 7 podiatrists, 30 psychologists, and 23 other allied medical staff belonging to 19 clinical departments, each with 10 to 712 members. In our methodology, we drew on the UHC Clinical Data Base, augmented with the Carefx application, to generate provider-specific performance information, using Physician Insight and Physician Insight Plus reports. Information includes number of hospital discharges, observed-to-expected average length of stay, observed-to-expected mortality, observed-to-expected costs, performance according to nationally reported process-of-care measures (“core measures”), numbers of hospital-acquired conditions as defined by the Centers for Medicare and Medicaid Services, numbers of cases that qualify as adverse events as defined by the Agency for Healthcare Research and Quality patient safety indicators, and other measures. Comparison with department and external norms (UHC, Association of American Medical Colleges teaching hospitals, U.S. News & World Report Honor Roll hospitals) is also provided. These reports are produced every 6 months for presentation to the department chairs for OPPE and recredentialing. Activities relating to a revised workflow and revision of other related documents were initiated in November 2011. The first distribution of new reports and meetings with clinical leaders took place in April 2012 and covered the July to December 2011 activity period. Results. Thirty percent of our medical staff had sufficient inpatient volume (≥5 discharges per year) to generate a report. One additional staff member was recruited to produce the reports and to help with distribution and explanation to department chairs. Alignment of measures included in the reports with department performance expectations facilitated chair understanding and acceptance. Automated reports derived from available electronic databases can improve the quality of information available for OPPE. More information about outpatient clinical activity and more nuanced information based on patients’ electronic health records will further improve OPPE information.

90 in 90: Building a Program to Change Culture and Raise HCAHPS Performance

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Cleveland Clinic Office of Patient Experience

Background. Hospitals struggle to find an appropriate and effective approach to improving the patient experience
and the resulting HCAHPS scores. Similar to other systems, Cleveland Clinic has been developing and implementing several initiatives over the past 3 years—many geared toward nursing units. Intervention detail. To increase caregivers’ focus on improving the patient experience, Cleveland Clinic piloted a “90 in 90” campaign at its 1300-bed main campus academic medical center. The goal of the campaign was to focus as many resources as possible in an effort to reach the 90th percentile of HCAHPS reporting in 90 days. One set of activities was centered on raising awareness of all caregivers, whether direct care staff or those working in support roles. These activities included kickoff meetings, leadership involvement, and distribution of supporting materials. The second prong of the campaign was created in direct partnership with nursing and focused on assessing clinical units for best practice implementation and providing necessary support. An assessment tool was created and staff were educated on how to perform an objective assessment. The tool contained recommended best practices along with tools that were previously available to the nursing units. Results were shared with nursing unit leaders, and plans for improvement were created at the unit level. The campaign also included assuring caregivers that support for additional initiatives and improvement plans was available, as well as elements of fun, reward, and recognition. Results. Although reaching the 90th percentile in 90 days was a lofty goal, events were well attended and unit consultations were seen as useful resources by nursing managers. Several units reached the 90th percentile on all HCAHPS domains, some of them having started at or below the 50th percentile. The Office of Patient Experience is currently collaborating with local leadership at Cleveland Clinic’s community hospitals to implement the program. Hospitals that have completed the campaign have shown incredible improvement in many domains. Ongoing support includes constant reassessment of units to discover additional opportunities for improvement and celebratory events.

Alignment of Nursing Resources to Maximize Patient Safety and Outcomes While Maintaining Productivity and Staffing Ratios and Honoring a Union Contract

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Background. The Adult Nursing Division was facing a number of challenges: improve outcomes, get back to budget, and develop a transparent staffing model that complies with state staffing ratios and union (California Nurses Association) contract stipulations. To accomplish this, we needed to standardize shift-by-shift staffing decisions and ensure that acuity scores were consistent across units. Intervention detail. To kick off the process, an external assessment was performed to evaluate the relative acuity of each unit, considering patient complexity, benchmarking data, and other factors such as sitter needs and admissions. This assessment was paired with an intensive labor management education effort for our patient care managers as well as the development of a new position control system. Results. The result was a new set of staffing grids that better aligned resources with acuity and provided a group of managers with enhanced financial management skills. The realignment of resources was one of many factors that contributed to our improved outcomes for hospital-acquired pressure ulcers (HAPUs), ventilator-associated pneumonia (VAP), falls, and central line–associated bloodstream infections (CLABSIs). The Adult Nursing Division is meeting its full-time employee (FTE) targets for the first time in 2 years; 7 months into the fiscal year, none of the 22 nursing units have a negative FTE variance greater than 1. Now that staffing decisions are transparent, break coverage is handled consistently, ratio monitoring is 100%, the number of complaints from the nursing union is down, and adult patient outcomes improved significantly in fiscal year 2012: 1.09% HAPU prevalence (16/1472 patients examined); 2.65 falls per 1000 patient-days (337/127 335 patient-days); 1.1 critical care CLABSIs per 1000 line-days (14/13 226 line-days) and 1.5 acute care CLABSIs per 1000 line-days (55/37 449 line-days); and 3.1 VAP cases (critical care only) per 1000 ventilator-days (21/6711 ventilator-days).

To-Go Meds for Decreasing Emergency Department Return Visits

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Background. Emergency department (ED) visits are increasing while more EDs close. Solutions are needed to prevent avoidable return visits and subsequent admissions. Many patients are discharged from the ED with prescriptions they are unable to fill for various reasons. Nonadherence has been shown to increase return visits and hospital admissions. Intervention detail. In an urban academic medical center, a “To-Go Meds” program was created that provided at-risk patients with a free full course of antibiotic therapy on discharge from the ED. Candidates had limited health insurance or were discharged when nearby pharmacies were closed. Targeted conditions were urinary tract infection, cellulitis, and dental infection. Medications dispensed were penicillin, clindamycin, sulfamethoxazole-trimethoprim, and nitrofurantoin. The primary objective was to
determine if providing patients with a complete course of antibiotics for select conditions would decrease the rate of return to the ED within 7 days of the initial visit. One year after the program’s inception, we retrospectively compared patients who received To-Go Meds at discharge with patients who received standard care (a prescription at discharge). Results. A total of 4257 patients were seen in initial ED visits for the included conditions. Comparing the 243 individuals given To-Go Meds with the 4014 who were not given medications, the To-Go Meds group was >50% less likely to return than the comparison group (2.5% vs 5.9%, P = .026). Specifically, the cellulitis subgroup showed a significant reduction in return visits (1.6% vs 6.9%, P = .024). Subsequent admissions also were reduced (0.8% vs 1.7%) but did not reach statistical significance because of the low number of patients admitted. The total direct cost of the 12-month program was $1123. The initiative eliminated 3 key barriers that prevent patients from filling prescriptions: cost, transportation, and pharmacy wait times. The multidisciplinary effort involving nurses, physicians, and pharmacists improved care by providing full-course antimicrobial therapy for conditions that otherwise might have gone untreated, all at no charge to the patient. This program provides one solution for decreasing costly return visits and potential hospital admissions. The medical center has since authorized expansion of the program to include options for conditions including asthma and community-acquired pneumonia.

Reducing Early Elective Delivery by 50% in 1 Year: The Washington State Experience

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Background. Nonmedically indicated elective deliveries prior to 39 weeks’ gestational age have become increasingly common over the past 2 decades. Reducing early elective delivery has been identified as a key quality initiative by multiple national quality organizations including the National Quality Forum, The Joint Commission, The Leapfrog Group, and the Centers for Medicare & Medicaid Services Partnership for Patients initiative. In Washington State, we observed wide variation in hospital rates of early elective delivery ranging from 0% to 37% from the June 2010 Leapfrog survey. Intervention detail. We launched a statewide initiative to reduce early elective delivery through the Washington State Perinatal Collaborative (WSPC) in the fall of 2010. In coordination with the WSPC, the Washington State Medicaid program launched a hospital pay-for-performance quality initiative incentivizing all non–critical access hospitals to meet target rates on 5 quality measures including reduction of early elective delivery (target ≤7%). WSPC recruited and provided hospital support through meetings and webinars focused on improved neonatal outcomes, best practices, Joint Commission data definitions, and data collection methods. Resources were posted on the WSPC Web site including Data Dictionary, Data Collection Tool, March of Dimes ToolKit, and PowerPoint presentations. Hospitals identified clinical staff and quality champions and submitted voluntary baseline data. Hospital data for the Q1-Q3 2011 Medicaid Incentive period were submitted quarterly. Data validation tests were applied and, where indicated, additional hospital support was provided to meet data validation criteria. Results. Forty-three hospitals providing 93.3% (74 169) of 2010 nonmilitary hospital deliveries participated in the initiative and submitted all 3 quarters of valid 2011 data. The state average rate decreased from baseline Q3 2010 of 14.8% to 7.6% for Q1-Q3 2011. Of all deliveries ≥37 weeks’ gestation, the proportion of deliveries 37 to <39 weeks decreased from 27.1% (2010) to 24.9% (2011). Stillborn rates at 37 and 38 weeks and Apgar scores ≤3 were unchanged. The hospital financial incentive combined with a statewide collaborative effort contributed to a high hospital participation level and a >50% reduction in a statewide average rate of early elective delivery within a 1-year time period without evidence of adverse neonatal outcomes.

In-House Rescue Physician Reduces Mortality, LOS, and Cost for Patients Admitted to the ICU Between 6:00 PM and 6:00 AM

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Background. Historically, academic medical centers rely on house staff to provide in-house nocturnal care. We hypothesized that providing a nighttime in-house rescue physician (IRPA) for adult intensive care units (ICUs) would improve quality. Intervention detail. We instituted a program in which an IRPA would respond to personnel from any adult ICU, in-house cardiopulmonary arrest, and call from a Medical Emergency Team nurse. We compared UHC indices for mortality (MI), length of stay (LOS1), and direct cost (DCI) for 12 months before and after intervention. For comparison, we divided the group into day admits (6A-6P) and night admits (6P-6A).
Analysis focused on medical ICU (MICU) admits as >75% of calls were to the MICU. We also focused on emergency department (ED) admits, as a separate quality project for MICU transfers from outside hospitals was implemented concurrently. **Results.** ED to MICU patients: For nighttime admits (348 pre/452 post) measures of MI fell by 0.48, LOSI fell by 0.28, and DCI fell by 0.45 after intervention. Mortality index for daytime admits (283 pre/280 post) rose by 0.08, LOSI fell by 0.15, and DCI fell by 0.23. Actual mortality fell by 7.7% for nighttime admits and rose by 1.6% for daytime admits. Non-ED to MICU patients: For nighttime admits (252 pre/239 post), measures of MI fell by 0.44, LOSI rose by 0.04, and DCI rose by 0.11 after intervention, and for daytime admits (164 pre/162 post), measures of MI fell by 0.28, LOSI fell by 0.15, and DCI rose by 0.01. ICUs other than MICU: For nighttime admits (2066 pre/2245 post), measures of MI fell by 0.19, LOSI fell by 0.16, and DCI fell by 0.06 after intervention, and for daytime admits (2526 pre/2496 post), measures of MI fell by 0.52, LOSI fell by 0.13, and DCI fell by 0.03. Assuming attending coverage only, the program cost $547 500 and realized net savings of $1 003 438 when considering only ED to MICU nighttime admissions and adjusting for percentage saved from ED to MICU daytime admissions over the same time period. The addition of an IRPA improves UHC indices for mortality, length of stay, and cost as well as observed mortality.

**Strategically Aligned for Quality:**
An Innovative Interorganizational Collaborative for Achieving Full Engagement at All Levels at the University of Colorado Hospital and School of Medicine

**Bonnie Adrian, PhD, RN,**
**and Steven P. Ringel, MD**
University of Colorado Hospital

**Background.** How does a large academic medical center tackle widespread, entrenched problems that are impervious to improvement efforts from within the confines of existing “silos”? **Intervention detail.** In early 2011, senior leaders from the University of Colorado Hospital (UCH), the University of Colorado School of Medicine, and University Physicians, Inc, formed a new partnership for Accountability, Clinical Transformation, and Improvement (ACT I). Through the coming together of each organization’s senior leaders and thematic analysis of 200+ stakeholder interviews, ACT I identified 3 strategic priorities for cross-cutting quality improvement projects requiring engagement and alignment of hundreds of individuals, from clerical staff to physicians and everyone in between. This presentation describes one of ACT I’s ambitious initiatives: reversing an entrenched physician culture of noncommunication with outpatient care providers about the care of patients discharged from UCH, a 410-bed and growing academic medical center with more than 2600 discharges a month. ACT I identified and dismantled a host of barriers to the timely preparation and communication of admission notifications and discharge summaries. ACT I fostered physician buy-in, built data extraction capacity for performance accountability report drill-downs for both physicians and support staff, optimized the hospital’s new Epic electronic health record (EHR) in support of enterprise goals for improving physician communication, and developed a new infrastructure for managing and driving physician quality improvement initiatives through the many divisions and services of the medical school. **Results.** In October 2011 at baseline, discharge summaries were routed within 72 hours of discharge for 20% of patients with a primary care physician (PCP) available in the EHR. Following implementation of interventions—including monthly drill-down reporting of provider communication rates and optimization of Epic for automatic routing of discharge summaries to the PCP—discharge summaries were routed within 72 hours of discharge for 77% of patients with a PCP available in July and 80% in August of 2012.

**Maximizing Throughput and Its Impact on Hospital Operations**

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**and Richard Schwarz, MD**
Long Island Jewish Medical Center—North Shore-LIJ Health System

**Background.** With an average daily census near 100% each day, a 56% increase in emergency department (ED) volume, and a decrease in community hospital beds by nearly 1000 beds, Long Island Jewish Hospital (part of the North Shore-LIJ Health System) needed to identify a way to generate additional capacity through performance improvement. Hospital throughput has been correlated with ED length of stay (LOS), ED leave without being evaluated (LWOBE) rates, hospital LOS, and excess days. Secondary correlations also have been identified with quality and infection indicators, patient satisfaction, and staff satisfaction. **Intervention detail.** As part of optimizing throughput, we focused on decreasing excess days and LOS by optimizing our interdisciplinary rounds, which occur at the same time every day and use a standard
checklist; implementing robust utilization committees with dedicated physician and nursing leadership; deploying a patient “pull” system from the ED to the floors for our admitted patients; providing visibility into potential bottlenecks through robust Zone Alerts and specific action plans for each service in the hospital; and establishing a hospital-wide Throughput Committee focused on identifying high-value initiatives. Results. The utilization committees were implemented in 2007 and have resulted in a reduction in overall average LOS from 5.11 to 4.83 days, a reduction of more than 20,000 excess days, and more important, the creation of 56 virtual beds (ie, increased capacity). Optimizing our interdisciplinary rounds has resulted in an increase in average daily discharges by 3.3%, which has driven down our ED LWOBE rates by 33% to an average of 1.6% (because of increased hospital bed availability). The patient “pull” system from the ED to the floors has helped drive down the time from our bed assignment to the bed being occupied on the floor by more than 35%, which translates into approximately 11,000 hours saved annually. Having a robust leadership structure focused on increasing throughput in the hospital not only has helped identify the above opportunities for improvement but also has helped ensure that the results achieved are sustained.

Promoting Patient Safety: Keeping the Pressure Off!

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CWOCN
Robert Wood Johnson University Hospital

Background. In 2008, the cost of pressure ulcer treatment in US health care facilities was estimated at $11 billion. The National Database of Nursing Quality Indicators (NDNQI) and the American Nurses Credentialing Center describe pressure ulcer prevention as nurse-sensitive, largely influenced by the quality of nursing practice. Viewed within the larger context of patient safety, pressure ulcer prevention remains a key quality indicator and subject to continued and heightened federal and regulatory agency scrutiny. Intervention detail. In 2008, the multidisciplinary Pressure Ulcer Committee (PUC) was charged to reduce hospital-acquired pressure ulcers (HAPUs). Over the course of the ensuing 4 years, the PUC set aggressive targets with rigorous protocols. The PUC reviewed the organization protocols, pressure ulcer prevention program, and evidence-based practices to identify areas for improvement. The literature revealed key components to pressure ulcer prevention that included pressure ulcer risk assessment, protocols, and staff education. The forefront of this effort included engaging staff and targeting the NDNQI Pressure Ulcer Training program as an education requirement for registered nurses (RNs). Staff education is also provided peer to peer with a Wound Care Tip of the Month. Each month a staff nurse from the PUC identifies a wound topic of interest, develops the education program, and provides the education on the nursing unit. A monthly prevalence monitoring program—assumed by direct staff—provided a regular check of our progress. These RNs, Performance Improvement Analysts, are resources to their peers, assisting with pressure ulcer staging and identifying specific interventions for patients. The PUC collaborated with Nursing Informatics to create an electronic unit-based risk assessment report tool. This tool, a culled summary of nursing assessment data, provides a daily report of patients at risk for a pressure ulcer, prompting the RN and nursing assistants (NAs) to implement pressure ulcer prevention measures. Furthermore, the NAs use a computerized handoff communication tool featuring task columns, such as turning and repositioning for at-risk patients. Used during assignment planning and hourly rounding, these risk assessment tools have proven essential to ensuring that elements critical to safe patient care received attention. The PUC also focused on wound product standardization. Working with Materials Management, a $2.0 million capital allocation was approved for institutional bed/mattress replacement. Development of a hospital-based Wound Web site allows staff to have easy access to pressure ulcer prevention, treatment, and documentation measures. Results. The efforts of this committee have been instrumental in the dramatic reduction in pressure ulcers. The astounding result was a reduction of the HAPU prevalence rate by 58%, from 5.1% in 2008 to 2.05% in 2011.

Stopping the Revolving Door: Improving Heart Failure Care and Reducing Readmissions

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Background. More than 25% of hospitalized Medicare patients with a heart failure diagnosis are readmitted to the hospital within 30 days of discharge. Ninety percent of these readmissions are unplanned, many potentially avoidable. The most common reason for readmission is recurrent heart failure, although many other conditions lead to rehospitalization including pneumonia and renal failure. Intervention detail. In 2010, John Dempsey Hospital began identifying heart
failure patients for targeted interventions to reduce readmissions. Based on a review of the scientific literature, we incorporated strategic changes throughout the hospital and clinics. We identified a cardiologist to serve as physician champion. We also developed a community team (the “Dream Team”) consisting of home care agencies, skilled nursing facilities, physician offices, an insurance carrier, and other community organizations. This team meets monthly to discuss readmitted patients, seeking gaps in care. Working together with the community has been a great asset in improving care transitions for our heart failure patients. Several specific interventions have contributed to the reduction in heart failure readmissions: (a) All heart failure patients are scheduled for a follow-up appointment with a primary care doctor, cardiologist, or heart failure nurse practitioner within 7 days of discharge. (b) Our outpatient cardiology clinic provides 24-7 access for heart failure patients after discharge. This level of accessibility has directly prevented many readmissions through assistance to patients after discharge. (c) Medication reconciliation occurs within 24 hours of admission and at discharge. (d) Health literate educational materials were chosen by our patients and used in the hospital and after discharge by extended community providers. These materials include heart failure zones and weight charts. (e) Automatic referrals are generated to social work, pharmacy, and a registered dietitian. Results. In 2009, our 30-day all-cause heart failure readmission rate was 27.5%. After the implementation of our program, John Dempsey Hospital’s 30-day heart failure readmission rate decreased to 19.1% as assessed by a statewide registry of hospital admissions (ie, both internal and external readmissions).

**Development, Implementation, and Impact of a Comprehensive, Medical Service–Based Pharmacy Practice Model**

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University of North Carolina Hospitals

**Background.** University of North Carolina Hospitals (UNC) is an 802-bed academic medical center located in Chapel Hill, North Carolina. Until 2007, the departmental pharmacy practice model was a traditional clinical specialist model. In December 2007, the pharmacy department embarked on a transformation of its practice model, desiring the following outcomes: decreased pharmacist turnover; clinical presence on the nursing unit 2 shifts/day, 7 days/week; pharmacist verification of orders for their own patient population; and enhanced communication across the pharmacist groups. **Intervention detail.** Following discussion with the department, the new model would contain 3 workgroups of pharmacists: central pharmacists, a newly formed decentralized (clinical generalist) pharmacy group, and clinical specialists. In addition, clinical coverage would be patient-centered, using assignment by medical service and not geographically by patient care unit. Each pharmacist was responsible for order verification for their patients. This was accomplished by providing wireless tablets to allow for their continual presence on the nursing unit (15 hours/day; 7 days/week). Finally, a standardized electronic tool was created to allow for patient care handoffs across shifts. Results. After 3 years in the new model, multiple benefits have been demonstrated. This includes the pharmacy department taking responsibility for multiple organization patient care goals: Surgical Care Improvement Project compliance and anticoagulation discharge education. In addition, the acute care pharmacists’ turnover rate has decreased by almost 75% (19.4% to 5.4%). The acute care pharmacy drug budget decreased significantly, growing less than a standard drug inflation rate. Finally, the pharmacy practice model allowed for significant growth in the number of trainees over the last 4 years. In summary, placing pharmacists at the bedside in a comprehensive, patient-centered medical service–based pharmacy practice model created an environment that allows pharmacists to engage in patient care. This model has allowed for further demonstration of the value of pharmacists and created the infrastructure to reach future patient care goals.

**“Embedding and Spreading”: Transitions-in-Care at Penn Medicine**

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University of Pennsylvania Health System

Linda May, PhD
CFAR, Inc

**Background.** Transitions-in-Care to reduce readmissions at the University of Pennsylvania Health System is at the point where major initiatives succeed or fail—Can we ramp it up across the health system? Will the changes stick? Penn has developed an integrated framework of Transitions tools and interventions by mobilizing existing projects, organizational infrastructures, and research studies—and aligning the moving parts. This embeds Transitions in the work...
of the organization, takes advantage of “other people’s energies,” and creates change that is much more likely to stick. This is our moon shot. The ambitious goal of Penn Medicine’s Blueprint for Quality is to eliminate preventable deaths and preventable 30-day readmissions by July 1, 2014. Transitions-in-Care is essential to this goal. Intervention detail. We are focusing on strategies we believe will make the biggest difference. To give just 1 example, about half of our heart failure admissions come through the emergency departments (EDs), so we have developed interventions to help ED physicians know if heart failure patients need to be admitted, or if they would be more appropriately placed in the observation unit or with home care. We work to connect those patients with the support they need to stay out of the hospital. For an initiative to spread, people need to know what to do differently, every day, at ground level. At the front line, every hospital unit has a physician leader, nurse leader, and quality project manager, who work with discharge planners, unit-based pharmacists, and home care to manage quality on the unit. Each of those hospital units has Transitions targets for specific interventions in risk stratification, interdisciplinary rounding, patient and family education, and discharge communication. Results. Penn is beginning to see results in reduced readmissions, more referrals to postacute services, and safer handoffs. And the most striking outcome has been stronger, more genuine collaboration across interdisciplinary and geographic lines.

Blurring the Lines: Using UHC to Align Physician and Hospital Strategy
Michael Wagner, MD, and Brian Collins, BS
Tufts Medical Center

Background. Our strategic objective is to “blur the lines” between hospital and physician performance on the road to becoming an Accountable Care Organization (ACO) by bringing publicly reported outcome, process, and patient experience measures together with “Ongoing Professional Practice Evaluation” (OPPE). Joint Commission standards require that OPPE information be factored into the decision to maintain existing privilege(s), revise existing privilege(s), or revoke an existing privilege prior to or at the time of renewal (MS 08.01.03). The criteria used in the OPPE may include review of operative and other clinical procedures performed and their outcomes; requests for tests and procedures; length-of-stay patterns; and morbidity and mortality (M&M) data. Prior to use of the UHC patient safety indicators, department leaders conducted retrospective chart review, evaluation of core measures data, departmental performance improvement data, M&M activities, direct observation, and subjective evaluations of performance to assess provider performance during the credentialing renewal cycle. Clinical leaders expressed strong interest in receiving data specific to an individual’s performance related to length of stay, mortality, admissions, discharges, numbers of procedures performed as well as a comparison between the provider being evaluated and his/her peers. Intervention detail. In response to this request for objective, provider-specific performance data, Tufts Medical Center has used the UHC database and Physician Insight to provide physician profiles that capture key criteria and provide a comparison to other providers in similar practice. The chief medical officer has delegated shared responsibility for this project to the medical staff office and the manager of decision support. Results. In the 2 quarters following the first distribution of patient experience data at the physician level, every question in the physician composite is scoring higher than at any time over the previous 3 years. The overall physician composite score is more than 2 standard deviations higher over this same time period. Select patient safety indicators are down by 10% to 20%, and 30-day all-cause readmissions are down by 10%.

Reducing Onboarding Time of Midlevel and Allied Providers Through the Utilization of Six Sigma Lean Methodology and Tools
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Background. The process of onboarding health care providers involves several complex and challenging tasks. It often includes several forms the applicant needs to complete and return, a standard employment background check performed by Human Resources (HR), a clinical background check performed by Credentialing, and approvals by department chairs and several committees. Delays in this process can result in losing potentially great candidates, and ultimately cause delays in providing essential health care to patients. Addressing the onboarding process also closely aligned with meeting our health system’s strategic goals of quality, employee investment, market growth, and patient experience. Intervention detail. After a 3-day Kaizen event and utilization of Six Sigma Lean methodology and tools, we
recognized and identified communication inefficiencies between the departments and much variation in the process.

**Results.** As a result, we developed 4 simple but useful strategies to significantly decrease onboarding time. (a) Increase communication between the HR and Credentialing departments. A duplication of effort by these departments often exists, requiring the applicant to complete the same information more than once. Develop a process to identify what information is needed by both departments, which department will request the information, and how these departments can easily share the information. Implementation of this will decrease costs, decrease frustration for the applicant, help streamline the process, and enhance productivity. (b) Develop a process for following up with applicants for outstanding forms. This is often thought to be “out of our control.” Pick an acceptable length of time to allow the applicant to fill out the application and develop an alert system to remind you to follow up with the candidate for the outstanding information. (c) HR needs to schedule an employee health appointment for the provider as quickly as possible. This will avoid delays in the credentialing process and allow for integral pieces of the process to be completed simultaneously. (d) Standardize the credentialing process. There is often great variation in the methods specialists use to credential files. Determine best practices and standardize the process for all. Implementation of these improvement strategies has reduced our onboarding time from an average of 92 days to 58 days.

**Ventilator-Associated Pneumonia: Sustaining the Gain—A Success Story**

**Georgia F. Jackson, BSN, RN, MPH, and Monica Maher, BA, RN, CIC**

*Emory University Hospital Midtown*

**Background.** The goal of our project is to maintain the sustained reduction in our ventilator-associated pneumonia (VAP) incidence rate and explore the latest evidence-based practices, including new and creative approaches to drive our sustained rates even lower. Several studies investigating the effect of VAP on cost reported increased costs were dependent on length of stay with a range of approximately $10 000 to $40 000. **Intervention detail.** The Institute for Healthcare Improvement Ventilator Bundle includes a set of practices proven to reduce the incidence of VAP. Elimination of VAP has become the gold standard for health care providers who care for patients on mechanical ventilation. A multidisciplinary VAP Reduction Team was established to validate the bundle compliance and identify the greatest areas of opportunity. Rigorous data collection of ventilator bundle compliance metrics was done for every patient on mechanical ventilation every 12 hours for a 6-month period. Tests of change were implemented for each area identified. Real-time notification of VAP cases by the Infection Prevention and Control Practitioner was initiated to provide the frontline staff with the opportunity to use the root cause analysis process to evaluate concurrent issues that may have contributed to the health care–acquired infection. The team undertook a creative strategy referenced in the literature as being a “right thing to do” to achieve excellent patient outcomes. Frontline staff engagement has proven to be the most valuable and successful component of our project. **Results.** VAP rates decreased from 5.1 in FY 2007 to a rate of 0.43 in FY 2012. Sustained rates of less than 2.0 have been maintained for the last 4 years, with a 30% decrease in the last year. All 4 intensive care units have achieved a 95% or greater compliance with the VAP bundle by working through identified areas of opportunity.

**The Global Safety Score: Measuring Adverse Events Through Electronic Surveillance**

**Allison Sabel, MD, PhD, MPH, Carolyn Valdez, MS, Bud Brown, BS, Kendra Moldenhauer, RN, BSN, Jennifer Chou, MD, and Thomas D. MacKenzie, MD, MSPH**

*Denver Health*

**Background.** Traditional efforts to detect adverse events (AEs) in hospitalized patients depend on voluntary reporting and opportunistic case finding. Because fewer than 20% of AEs are voluntarily reported, the Institute for Healthcare Improvement developed the Global Trigger Tool (GTT) to identify events. Adoption of the GTT is limited by the requirement for manual medical record reviews. As health systems adopt electronic health records, manual medical record review may be replaced by surveillance of electronic data systems for events with a high likelihood of harm. **Intervention detail.** We created the Global Safety Score (GSS) not only to detect individual AEs but also to represent an aggregate measure of harm that is independent of voluntary reporting. We grouped 32 triggering events into 8 “clusters” of AEs. Data are updated nightly for all inpatients, and triggering events are categorized as patient safety flags (determined daily) or patient safety codes (determined when the record has been coded for billing). E-mail notifications are sent daily to supervising physicians to apprise them of events. Aggregate reports trended over time and grouped by nursing unit, service, or provider also are available electronically. The principal goals of GSS are to enhance identification of potentially preventable AEs and to engage clinical staff in efforts to reduce their incidence.
Results. In the first month of experience with the GSS, there were 285 inpatient AEs reported through our voluntary reporting mechanism and 314 inpatient AEs identified by the GSS. Only 33 of the GSS events (11%) were identified by both systems, suggesting that it measures a new domain of AEs. Clinicians identify high value in the immediate notification of readmissions and in notifications about coded patient safety indicators. Opportunities for tool improvement identified by clinicians include attribution of patients to responsible physicians and e-mail notification of events already known to the team. Hospital leadership tracks the number of hospital discharges without a triggered GSS event as an important marker of hospital safety that is independent of voluntary event reporting. If our efforts in preventing AEs are successful, we expect to see higher safety scores across all dimensions of the GSS.

Attacking Patient Flow From All Angles: Combining Multiple Strategies in a Single Implementation

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Thomas Jefferson University Hospital

Background. Emergency departments (EDs) across the United States have experienced increased patient volumes and high levels of boarding and crowding. Several strategies have been described, including immediate bedding, bedside triage, bedside registration, use of vertical space, and attending-in-triage. ED and hospital leadership must choose whether to implement such changes one at a time (piecemeal) or all at once. We describe the results of a combined approach, first piloting changes in piecemeal fashion, then introducing these strategies all at once, in a single permanent implementation.

Intervention detail. We conducted a series of pilots introducing each of these steps on a temporary basis. These pilots yielded data and built support. Then we introduced all these measures together permanently in a single step. Our objectives were to improve patient flow to reduce ambulance diversion, walkouts, time to provider, and length of stay for discharged patients in a large urban academic medical center ED. Implementation in a single step was facilitated by (a) selling the problem, (b) clear goals and metrics, (c) a core multidisciplinary “flow” group, (d) anticipating problems before implementation using multiple planning tools, (e) multiple audiences and lines of communication, (f) constant feedback. We used data from the electronic medical record to compare results from the preceding 1-year period to the 1-year period after implementation. The all-at-once implementation occurred on July 1, 2011. We report on the period from July 1, 2011, to June 30, 2012, and compare with the previous financial year.

Results. Ambulance diversion decreased from 63 to 9 hours ($P < .0005$), walkouts decreased from 5.6% to 3.5% ($P < .0005$), median time to provider dropped from 65 to 35 minutes ($P < .0005$), and median discharged length of stay dropped from 267 to 238 minutes ($P < .0005$). Increased admissions and ED visits yielded a return on investment of $14 million in incremental revenue. This successful strategy combined an initial piecemeal approach (pilots) with an all-at-once final implementation.

Additional Rapid-Fire Sessions 2012

RxPectations Enhances Communication
Russell Smith, PharmD, BCPS
University of Toledo Medical Center

Cost Savings and Better Clinical Outcomes: Achieving Both
Karen Chmiel, RN, MS, ANP-C, CWOCN, LNC, Michael Demasi, RN, BSN, MS, and Susan Guschel, RN, MS, CWOCN, ANP-C
Stony Brook University Hospital

Learning From Every Death: The Power of Blending Stories With Statistics
Jeanne Huddleston, MD, MS, and Paula Santrach, MD
Mayo Clinic

A Quality Improvement Approach to Improving Sepsis Mortality
Jeffrey Anderson
Perelman School of Medicine at the University of Pennsylvania
Neil Fishman, MD
University of Pennsylvania Health System

Where Diversity Stands Today: Challenges and Success Factors
Victoria Rich, PhD, RN, FAAN
University of Pennsylvania Health System
Oliver Tomlin III
Witt/Kieffer

Fully Centralize and Automate Your Hospital’s Inventory: A Multidisciplinary Approach to Drive House-wide Cost Reduction While Giving Time Back to Patient Care
Karen Anderson, RN, MSN, MBA, CNOR, NEA-BC, and Brian Stepien
Northwestern Memorial Hospital

Improving Patient Access by Leveraging Health System Resources (Outpatient Clinics, ED Follow-Up, and Robust Referral Systems)
Thomas Hei, MD, FAAFP, and Jennifer Herrman, MBA
University of Washington Medical Center
Connecting Data to Effect Change: Road Map to Performance Improvement
Amanda Spielman
Memorial Hermann

Better Than the Sum of Its Parts: Clinical Strategy in the Reform Era
David Ansell, MD, MPH, and Raj Behal, MD, MPH
Rush University Medical Center

Improving Contracting and Accounts Payable Through Transactional Process Improvement
Michael Carey
University of Chicago Medicine

Improving Value for Patients With Diabetes: A System Approach to Improving Planned Care and Decreasing Unplanned Care
Stephanie Peditto
Johns Hopkins Medicine/Armstrong Institute for Patient Safety and Quality

Structural Effectiveness: Two Institutions Cooperate
Giuseppe Colasurdo, MD
The University of Texas Medical School at Houston
Craig Cordola
Memorial Hermann-Texas Medical Center

Bundled Payment Approach to Total Joint Replacement
Paul Lofrumento and Jeanne Shirshac
UMass Memorial Medical Center

Recipe for Success: Reconstructing a Total Joint Replacement Surgery Program by Integrating Six Sigma Methodology and Metrics, Multidisciplinary Collaboration and Accountability, and a Strategic Focus on the Patient Experience
Darcy Abbott, RN, MS, CEN, Gary Ferguson, MD, John Froehlich, MD, MBA, and Leigh Hubbard, BSN, RN
The Miriam Hospital Total Joint Center Lifespan

Using Near-Miss Analysis to Prevent Wrong-Site Surgery
Joseph Bosco, MD, and Lorraine Hutzler, BA
NYU Hospital for Joint Diseases

Developing Ambulatory Quality and Safety Reports Using EPIC EHR for Multiple Audiences: Meaningful Use, PQRS, Commercial Health Plans, Professional Societies, Providers, and Senior Managers
Joy Pao, Diana Patterson, MPH, and Ning Tang, MD
UCSF Medical Center

Defining Quality Metrics and Optimization Strategies for a Comprehensive Discharge Medication Reconciliation Program
Erika Smith, PharmD, BCPS, and Anne Szulczewski, PharmD
Froedtert Hospital

Clinical Input for Value Analysis: Partnering With Supply Chain Management for Organizational Success
Amy McCowan, MEd, BSN, RN, and Scot Zernick
Penn State Hershey Medical Center

Antimicrobial Stewardship: Improving Quality While Reducing Cost
John Lynch, MD, MPH
Harborview Medical Center

Rupali Jain, PharmD, BCPS, AAHIVE
University of Washington Medical Center

Improving Discharge Transitions Through Timely Follow-up Care and Building Primary Care Relationships
Christine Schaeffer-Pettigrew, MD, FACP
Northwestern Memorial Physicians Group
Lydia Splan
Northwestern Memorial Hospital

To Bundle or Not: Interprofessional Quality Improvement Interventions to Reduce Hospital-Acquired Infections in the Neonatal Intensive Care Unit
Teresa Hulett, RN, BSN
University of Colorado Hospital

Getting Them on the Bus Through an Integrated Approach to Performance Improvement
Frank Briggs, PharmD, MPH, and Nancy Vest, BSIE, MBA
West Virginia University Hospitals, Inc

Optimizing Medication Use and Outcomes in Kidney Transplant Patients
Nicole Pilch, PharmD, MSCR, BCPS
Medical University of South Carolina

Supply Chain Process Consolidation in the OR and Procedural Areas
Michael Hopkins and Jonathan Stegner
University of Chicago Medicine

Using Information Technology and Standardized Processes to Improve the Medication Use Process at a Large Quaternary Care Academic Hospital
Rehana Jamali, PharmD, and Emily Kao, RPh, MS
North Shore University Hospital

Creating a Long-Term Successful Hip/Knee Strategy in an Academic Medical Center
Brent Jehle
UHC
Paul Reister
University of Kentucky Hospital

Multidimensional Operational Initiatives Improve Emergency Department Throughput: Engaging and Leveraging Shareholders
Bret Nicks, MD, MHA, and Theresa Trivette, RN, MSN
Wake Forest Baptist Medical Center

Just Because You Build It, Does It Mean They’ll Come? Creating a Successful Multidisciplinary Ambulatory Care Center
Cynthia Peterson, MBA
Brigham and Women’s Hospital/Mass General Health Care Center
SpendLINK + PPI + LEAN + UHC Consultants = $ Savings
Philip Pettigrew
Denver Health

Standardization of Nursing Hours Improves Financial Performance
Lisa McClane, RN, BSN, MSN, and Matthew Pospisil, BS, MS
The Nebraska Medical Center

“Eyes on Sepsis”: How a Focused Approach Improved Patient Care and the Bottom Line
Vicki LoPachin, MD, FACP, and Andrea Restifo, RN, MPA
North Shore University Hospital

Engaging Community Physicians for Cost and Quality Performance Improvement
Brian Harte, MD, FACP
Cleveland Clinic Health System

Pharmacist Delivery of Patient Care: Improving Outcomes, Quality, and Cost
Cyndy Clegg, BS Pharm, MHA, FASHP
Harborview Medical Center

Leveraging UHC for the Service Line Cost Management Initiatives at Cleveland Clinic Health System
Robert Lorenz, MD, MBA
Cleveland Clinic Health System

Successful Reduction of Heart Failure Readmissions Through Multidisciplinary Collaboration
Diane Collins, RN, MS, MSN
Yale-New Haven Hospital

Implementing a Systems Thinking Strategy: The Million-Dollar Answer
Margaret Pearce, RN, MBA, PhD, and Teri Olson, MS
University of Utah Health Care

Health System Anticoagulation Stewardship: A Multidisciplinary Approach
Anne Rose, PharmD, and Philip Trapskin, PharmD, BCPS
University of Wisconsin Hospital and Clinics

Reducing Central Line–Associated Bloodstream Infections: A Hospital-wide Effort That Saved Lives and Revenue
John Wagner, MA, RN, BC
University of Iowa Hospitals and Clinics

Data, Data, Data: Get It, Know It, Use It, Make It Count
Scott Croonquist, RN, MSN, NEA-BC, and Lorna Facteau, RN, DNSc
University of Virginia Health System

Protect Your Stent: An Interdisciplinary Guideline for the Periprocedural Management of Antiplatelet Therapy in Patients With Intravascular Stents
Danielle Blais, PharmD, BCPS
The Ohio State University Medical Center

Developing Performance Metrics for a Clinical Documentation Program: Expanding the Focus From Finance to Quality
Ellen Robinson and Ammeliese Schleyer, MD, MHA, FHM
Harborview Medical Center

Bringing on the Faculty! Streamlining the Appointment, Credentialing, and Enrollment Processes
Sashidhar Guduri, MS, and Deb Komorowski
University of Michigan Medical School

Posters 2012
Managing Emergency Department Workplace Violence
University of Michigan Health System

Library of Non–Print-Based Patient Education Materials
University of Washington Medical Center

Leading With Quality: Our Transparent Web Site
Upstate Medical University

The Triad of Patient Care Excellence: Acuity, Accuracy, and Approval—Improving Quality Outcomes, Patient Safety, and Patient and Nurse Satisfaction Through the Implementation of an Acuity Tool
Denver Health

Nursing Peer Review: Nurse-Driven Just Culture in Action
Denver Health

Building Joint Commission Continuous Readiness in Partnership With Nursing Students: “Teach It, See It, Do It”
University of Arkansas for Medical Sciences (UAMS) Medical Center

Proactive RN Rounding Within a Redesigned Rapid Response Team
Thomas Jefferson University Hospital

Greenville Hospital System University Medical Center (GHSUMC) and the Greenville County Detention Center (GCDC) Form a Partnership to Improve Patient Care, Decrease Emergency Department Visits, Decrease Hospital Admissions, and Decrease Costs Incurred by Both Agencies
Greenville Hospital System University Medical Center

“Every Line Every Day”: CLABSI Reduction Outside of the Intensive Care Setting
Highland Hospital

Pharmacist-Managed Hospital-to-Home Program for Heart Failure Patients
UC San Diego Health System

Celebrating Success and Accomplishments in the Prevention and Management of Pressure Ulcers in the Critically Ill
SUNY Downstate Medical Center
Nursing-Initiated Management of Infusional Unfractionated Heparin in the Acute Care Setting Results in Improved Outcomes Compared to Traditional Physician-Driven Protocols
University of Virginia Health System (University of Virginia Medical Center)

Transitional Care Programs Reduce Hospital Readmissions
Virginia Commonwealth University School of Medicine

Managing Capacity by Improving and Sustaining Safe Patient Flow Through a Multidisciplinary Approach Among the Medical Intensive Care Unit, Emergency Department, and Inpatient Floors at Yale-New Haven Hospital
Yale-New Haven Hospital

Structure and Content of Communication Enabling Successful Implementation of Evidence-Based Practices in a Pediatric Intensive Care Unit (PICU)
Georgia Health Sciences University

Using Lean Principles to Meet Patient Care Needs While Reducing Rental Expense: A Partnership Between Nursing and Materials Management
Highland Hospital

Uncover the Hidden Leader Academy in Your Organization
University of Utah Hospitals and Clinics

Reducing Supply Wastage in Patient Rooms: Keeping the Medical-Surgical Units Clean and Safe!
Wishard Health Services

Increasing Surgical Case Volume While Maintaining Level Surgical Scheduling
The Cleveland Clinic Foundation

New Evidence-Based Practices Aimed at Driving Down Blood Culture Contaminations
Memorial Hermann-Texas Medical Center

Reducing Radiation Exposure of Neonates
SUNY Downstate Medical Center

The Educational and Organizational Impact of a Longitudinal Quality Improvement Curriculum
Stanford Hospital & Clinics

Got Supplies? Get LEAN!
University of North Carolina Hospitals

Reengineering the Health System Policy and Procedure Management Process: Oregon’s Experience
Oregon Health & Science University

Striving for Zero IV Pump Errors: A Unique Approach
Lehigh Valley Health Network

A Physical Therapist–Driven ICU Early Mobilization Program Results in Quality Improvement
UCSF Medical Center

Hypothermia Blankets in Fever Control: An Ice-Age Practice?
Northwestern Memorial Hospital

Effective Workforce Planning and Management Through Productivity Systems
The Cleveland Clinic Foundation

Use of Dashboard Metrics Coupled With a Governance Model to Drive Continual Improvement in Performance of a Comprehensive Total Joint Replacement Center
The Miriam Hospital

Telepharmacy: Using Technology for Remote Site Verification of Chemotherapy Ordering and IV Admixing
Yale-New Haven Hospital

Identifying “Waste” in the ICU
Memorial Hermann-Texas Medical Center

Teaching Patient Safety to Medical Students: Lessons Learned in the Development, Implementation, and Evaluation of a Required UME Course
Baylor College of Medicine

Reducing Urinary Catheter Utilization and CAUTIs at the Mayo Clinic
Mayo Clinic

Preventing Hospital-Acquired Pressure Ulcers During the Perioperative Experience
University of Texas Medical Branch (UTMB Health)

Implementing a Safety Coach Program
Virginia Commonwealth University Health System

University of Utah Nursing Units Reduce Supply Cost and Boost Revenues Using Effective Financial Reports
University of Utah Hospitals and Clinics

A Multidisciplinary Antimicrobial Stewardship Program to Improve Antimicrobial Utilization: The UCLA Experience
UCLA Health System (Ronald Reagan UCLA Medical Center)

Linen Management Strategies for Savings, Efficiency, and Sustainability
UC Davis Medical Center

“Fridays Before Five”: A Weekly Patient Safety Day
University of VA Medical Center

The Staff Advocacy Team (SAT): Promoting Safety and Preventing Workplace Violence
Truman Medical Center Hospital Hill

Streamlining the STAT Medication Process: An Interdisciplinary Quality Improvement Project
Johns Hopkins University

The Effect of Follow-up Appointments on 30-Day Readmission Rates in COPD
Mayo Clinic

Nurses as Masters of Change and Quality: Listen to the Voices at the Point-of-Care Delivery
Highland Hospital

Using a Critical Care Outcome Dashboard to Drive Operational/Process Efficiencies and Improve Patient Care
UC San Diego Health System
Reducing Medication Verbal Orders in the ICU
Northwestern Memorial Hospital

The Decrease in CLABSI Rates and the Association With Prompt Removal of Unnecessary Central Lines
Georgia Health Sciences Medical Center

A Fresh Look at Restraint Use in the MICU
University of Texas Medical Branch (UTMB Health)

Integrating Ambulatory Care Teams: Medical Assistant Academy at Brigham and Women’s Hospital
Brigham and Women’s Hospital

Implementation of a New Health Care Infrastructure:
University of Michigan C.S. Mott Children’s and Von Voigtlander Women’s Hospital

Milk Room: An Evolution of Our Formula and Breast Milk Preparation Delivery Model
University of Michigan C.S. Mott Children’s and Von Voigtlander Women’s Hospital

Ordering Supplies for Unit Success
Truman Medical Center Hospital Hill

Implementing a Mobility Team With Neuroscience Patients in an Acute Hospital Setting: A Pilot Program
Barnes-Jewish Hospital

Implementation of the Progressive Upward Mobility Protocol Plus (PUMP Plus) in Adult Neuro Intensive Care Unit Patients
Shands at the University of Florida

Clinical Quality Awards: A Collaboration Between CME, the Quality Office, and a Liability Insurer
Shands at the University of Florida

Pharmacy-Supported Medication History Program
University of Missouri Health Care

Improving Front-Line Staff Engagement and Reducing HAPU Through a Staff Champion Model
Rhode Island Hospital

Multidisciplinary Creation of a Medical Observation Unit in a Safety Net Hospital
Denver Health Medical Center

Engaging GME Trainees in the Development of Innovative Quality and Patient Care Programs
University of Virginia Health System

Medication Error Detection by Hospitalized Patients
Shands at the University of Florida

The Journey to Zero Ventilator-Associated Pneumonias: Prevention Strategies, Bundled Care, Daily Monitoring, Unit Focus, Outcome Reporting, and Administrative Encouragement
Shands at the University of Florida

Nursing Advisory Committee: Linking Supply Chain and Nursing
The Cleveland Clinic Foundation