Greetings from the chief nursing officer

Dear friends and colleagues,

The mission of Hallmark Health System is to provide the highest quality health care to our patients and families in a community based setting. Our success is evident in the outcomes we have achieved some of which are highlighted in this Nursing Annual Report.

In the single-most quoted nurse sensitive outcome, “patient falls” our results are among the best in the country. We have initiated bedside handoff for patients admitted from our Emergency Department, which is a national leading practice and as a result of many nurse-driven initiatives, we have seen improvements in many clinical outcomes as well as in the patient experience.

The professionalism and commitment of this nursing staff has led the way in providing safe, high quality patient care. We have more than 180 nurses certified in their specialty and more than 160 are enrolled in school. We have so much to be proud of. As we face the challenges of the changing health care landscape, there is nothing more important than the contribution of professional nurses.

I am extremely appreciative and grateful to every member of the Hallmark Health System nursing team for doing such an outstanding job for the benefit of our patients, families and communities.

Please enjoy the 2012 Nursing Annual Report.

Warm regards,

Nancy W. Gaden, MS, RN, NEA-BC
System Vice President, Patient Care Services
Chief Nursing Officer

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System Vice President, Patient Care Services
Chief Nursing Officer
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Hallmark Health System (HHS), which includes Lawrence Memorial Hospital of Medford and Melrose-Wakefield Hospital, has implemented a new patient-centered transfer process for patients admitted to the hospital through the Emergency Departments (ED). The process, the first of its kind at any hospital north of Boston, enhances the patient experience with a focus on safety, quality and timeliness of transfer.

Over the past year, a multi-disciplinary team has been working to enhance the efficiency and quality of emergency care, reduce wait times and increase patient and family satisfaction. Inpatient nurses now go to the ED to receive reports on newly admitted patients. This transfer of care takes place at the patient’s bedside in the ED and includes the patient, family member, the ED care team, (which includes a physician or physician assistant as well as a nurse) and the inpatient nurse assigned to the patient. This bedside report allows the patient and/or their family to become familiar with the working diagnosis, initial treatment plan and allows them an opportunity to alert the care team to additional information that may be beneficial to the process. Once this transfer of care is completed, the inpatient nurse accompanies the patient to their room.

This enhancement to the patient experience is the latest in a series of process improvements taking place. The ED have successfully reduced the overall length of stay for patients by utilizing methods such as bringing patients right to an open bed when it is available, providing bedside registration and utilizing technology to alert staff to the status of a needed intervention.

“The passion for patient and family-centered care embedded within the culture at HHS drove the entire clinical team to look at each other’s work flow,” said Deborah Cronin-Waelde, RN, MSN, NEA-BC, ONC, system director of emergency services at HHS. “In doing so, our teams of nurses and physicians determined that meeting at the patient’s bedside, face-to-face with the clinical care team, the patient and their loved-ones, would enhance the quality and safety of their care and overall experience with us. We believe our patient transfer system will be a best practice model for hospitals throughout Massachusetts.” This feeling was confirmed by The Joint Commission Surveyors in December 2012.
Ethics Advisory Committee

Hallmark Health System (HHS) is strongly committed to supporting providers, patients and families as they struggle with ethical decisions and moral dilemmas associated with their care and treatment. HHS has an Ethics Advisory Committee (EAC) that works closely with providers and families to identify and carefully consider treatment decisions and weigh options for care. In addition to helping providers address individual cases, the EAC is also committed to educating and training providers in the skills required to examine and discuss difficult care issues and resolve them in an ethically sound way. The three main functions of the EAC are: education, policy review and consultations.

Education
In cooperation with hospital administration, its various departments and divisions, medical/nursing and allied health professional staff, the committee provides formal educational in clinical ethics. Depending on the availability of resources, the committee develops or assists others to develop lectures, seminars, workshops, courses, rounds, in-service programs and clinical ethics. The aim of these educational efforts is to provide participants with access to the language, concepts, principles and body of knowledge about ethics that they need in order to address the complex ethical dimensions of contemporary hospital practice. In addition, the committee members are available for ethics consults in real time to help caregivers sort out complex issues and assist in identifying if ethical issues exist.

Policies
The EAC plays an integral role in developing and reviewing policies and guidelines that touch on ethical concerns and also makes recommendations to administration regarding policy development. When needed, the EAC proposes and drafts policies on issues they have encountered in the hospital that would benefit from clear guidelines. Five policies pertaining to ethics can be found in Policy Manager under: Organization, Medical Staff Policy on Withholding and Withdrawing Treatment, Life Sustaining Treatment, Ethics Decision Tree, and Access to the Ethics Advisory Committee.

Consultations
An ethics consult can be requested by any member of the hospital community, including a member of the care team, the patient or the family. Consult services are available 24 hours a day and are arranged through the EAC chair. In most cases, the consult is conducted by a small team from the EAC, which meets separately with the staff caring for the patient and the patient and/or family. The team then meets on its own to analyze the situation and develop advice and recommendations. The consult is documented in the patient’s medical record and a copy is provided to the family. The entire EAC may become involved in an ethics consultation if the ethical question is particularly complex, the clinicians or family request participation by the full committee or the consult team is divided or in doubt about what to advise.

For more information, please contact the co-chairs of the Ethics Advisory Committee, Anthony J. Alley or Martha Quigley.
Current nursing directors

Deb Cronin-Waelde, MSN, RN, ONC
System Director Emergency Services

Kellie Smith, BSN, RN, NE-BC
Director Cardiovascular, Intensive Care Unit, Medical 3

Anthony Alley, BSN, RN, NE-BC
Director Center for Orthopedics and Sports Medicine, Medical 4 and Surgical Cummings 5

Karen Costigan, BSN, RN, NE-BC
Director Medical 5

Michael Frazer, BSN, MS, RN, CRRN
Director Medical 6

Donna Harvey, MSN, RN, CNOR
System Director Surgical Services and Endoscopy

Lisa Duffy, MSN, RN, CNS
Interim Director West 2, West 3, LICU

Dauren Nowell, BSN, RN-BC
Director South 1 and West 1

Elisa Scher, MSN, RN
System Director Hematology and Oncology Center

Carol Downes, MSN, RN, NCC
Director Maternal-Newborn Services
Hallmark Health System’s commitment to nurse education

In October 2010, the Robert Wood Johnson Foundation and the Institute of Medicine jointly released *The Future of Nursing: Leading Change, Advancing Health*, calling for increasing the percentage of nurses holding the bachelor of science in nursing (BSN) degree or higher to 80 percent. Hallmark Health System (HHS) is fortunate as the Lawrence Memorial / Regis College School of Nursing is part of the system allowing for seamless educational progression to foster a nurse workforce that is better educated and more ready to take on new roles as care providers and leaders in health care. HHS has also implemented significant incentives to spur this progression in order to achieve the ‘80 by 20’ goal. Nancy W. Gaden, MS, RN, NEA-BC, system vice president for patient care services and chief nursing officer, believes that more education means better patient outcomes. To ensure a better educated workforce, HHS has instituted a policy requiring new hires prepared at the associate degree level to enroll in a BSN program within one year of hire.

An initial assessment of educational preparedness of the HHS nursing workforce completed in 2010 is depicted in Figure 1 and demonstrates 34 percent of nurses were educated with a BSN or higher. A goal was established to increase the percentage of BSN or higher prepared nurses by 5 percent from the initial assessment of 34 percent to 39 percent BSN or higher prepared nurses for the two year period ending in 2012.

![Figure 1 - Education preparedness of all nurses 2010](image)
As demonstrated in Figure 2, in 2011, nurses with a BSN or higher increased to 43 percent.

Figure 2 – Educational preparedness of all nurses 2011

As demonstrated in Figure 3, in 2012, nurses with a BSN or higher increased to 45 percent.

Figure 3 – Educational Preparedness of All Nurses 2012

As the trend shows, from 2010 to 2012, the total number of diploma nurses decreased, associate degree nurses increased as a result of clarification of the ‘unknown’ and the number of BSN or higher prepared nurses increased from 34 percent to 45 percent.

As shown in Figure 4, the percent of BSN or higher prepared nurses increased from 34 percent in 2010 to 45 percent in 2012, exceeding the goal of increasing the percent of HHS nurses with a BSN or higher by 9 percent. In addition, the formal policy of preferentially hiring nurses with a Bachelor of Science Degree in Nursing or requiring the ASN graduate to enroll within one year of hire, the percent of HHS nurses with a BSN will continue to increase over the next several years.
The second educational goal based on the evidence for improved patient outcomes established for the nursing department is to increase the percent of nurses enrolled in BSN or MSN programs by 5 percent within two years. As a result of the structure, process and support systems put in place, the percentage of nurses enrolled in formal education far exceeded the goal with an increase of 178 percent as demonstrated in Figure 5.
<table>
<thead>
<tr>
<th>Goal</th>
<th>Outcome</th>
<th>Achieved</th>
<th>Not achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieve 5 percent increase of HHS nurses with a BSN or higher.</td>
<td>Exceeded goal with an increase from 34 percent in 2010 to 45 percent in 2012.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Achieve 5 percent increase in HHS nurses enrollment in formal education (BSN or higher).</td>
<td>Exceeded goal with 55 nurses enrolled in 2010 to 153 in 2012.</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
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**Dedicated Education Unit (DEU)**

Hallmark Health System and Lawrence Memorial/Regis College Nursing Program collaborated on an exciting new pilot project that was implemented at Lawrence Memorial Hospital of Medford on West 2 in January 2012; the Dedicated Education Unit (DEU).

The purpose of the DEU is to develop an optimum learning environment for nursing students using the collaborative efforts of direct care nurses, leadership and faculty to provide an environment that supports continued professional growth of both students and nursing staff. In this model, the staff nurse, as a clinical expert, is the primary teacher of the student in a role defined as a clinical teacher. After orientation to the role and preparation in the classroom through professional development workshops, clinical teachers oversee one to two students in practice on the unit. Also present on the unit is a faculty member from Lawrence Memorial/Regis College Nursing Program. The faculty member works with staff and clinical teachers alike in implementing the knowledge, attitude and skills of the curriculum. Nursing students coming to the unit are chosen for this rotation based on their interest and performance in their academic program.

Theresa Johnson, BSN, RN-BC and Beth Campbell, MS, RN along with other leaders from both practice and academia led the implementation of the project. Nurses from West 2 who were interested in being considered for a role as a clinical teacher had to submit their curriculum vitae and obtain a copy of transcripts from their BSN program. The DEU concept is exciting in that it allows the seasoned nurse to utilize his/her skills as a practitioner to develop the knowledge base of the next generation of nurses. In addition, the students become more active members of the unit team and in truth the “it takes a village” concept is put to the test as other staff participate at the clinical teacher’s direction to provide opportunity for learning other skills and observations. After successful implementation and evaluation of the pilot program, a second unit will be selected for program replication.
Hallmark Health System in partnership with state and federal agencies embarks on research study on soy protein

In July 2012, Hallmark Health System (HHS) in conjunction with UMass Boston, UMass Medical School, Tufts University Cardiovascular Nutrition Laboratory, Iowa State University Dept. of Food Science and Human Nutrition embarked on a research study on soy protein and isoflavone supplementation for improved glucose metabolism and lipid profiles in pregnant women at high risk for gestational diabetes mellitus (GDM).

It has been determined through evidence from animal studies, human observational studies and some randomized controlled trials (RCTs) that soy protein and isoflavones have beneficial effects on lipid and glucose metabolism. Additionally, soy isoflavones can diffuse across the placenta, enter fetal circulation and potentially reduce the susceptibility to cardiometabolic disorders in adulthood. Given the high prevalence of GDM and its serious health consequences for women, their children and likely health benefits of soy protein and isoflavones on a panel of metabolic parameters, the role of maternal supplementation of soy protein and isoflavones for prevention of GDM and/or minimization of GDM severity in mothers and for improving health indicators in their offspring merits investigation. The objectives of this study are to:

1. Demonstrate the feasibility of randomizing pregnant women at high risk for GDM to a 25-week period of soy protein and isoflavone supplementation with serial assessment of glucose and lipid profile measures.
2. Assess the adherence of participants to their assigned treatment by monitoring serum isoflavones levels, assessing self-reported consumption of the supplements and counting unused supplements. We will also obtain feedback from participants on approaches to improve compliance in a future trial.
3. Examine the effect of soy protein and isoflavones on glucose metabolism and lipid levels among pregnant women at high risk for GDM and on child’s weight and height at birth and six weeks of life.
4. Examine the association between isoflavones levels in maternal serum samples and umbilical cord serum samples.

This study will be a randomized, placebo-controlled trial. Forty pregnant women at high risk for GDM will be recruited from the obstetrics services at HHS and randomized to receive supplement bars either containing 25 grams of milk protein or 25 grams of soy protein with 75 mg isoflavones, from the 16th gestational week to birth. To measure participants’ compliance with the treatment, we will use three methods: (1) monthly telephone interview about adherence to the supplement-taking regimen; (2) counting the remaining bars; and (3) serum isoflavone concentrations. To evaluate the effects of soy supplementation on GDM, we will collect blood samples to measure glucose, insulin, HbA1c, and lipids (triglycerides, total cholesterol, high-density lipoprotein cholesterol and low-density lipoprotein cholesterol). We will also measure weight and body composition of participating pregnant women and their respective children’s weight, length and body composition.

Data collection will be ongoing until Spring 2014 when close-out and analysis will begin, ending officially in June 2014.
Hallmark Health System nurses pioneer new role for nurses in antimicrobial stewardship

Antimicrobial stewardship is an interdisciplinary approach to the optimal use of antibiotics to improve clinical outcomes, driven by the awareness of the worldwide crisis in antibiotic resistance and the negative consequences of imprudent antibiotic use. In this time of widespread and increasing antibiotic resistance, antimicrobial stewardship is an important strategy for delivering safe and effective care to patients with infections. Currently, antimicrobial stewardship programs have been made up of infectious disease specialists, pharmacists, microbiologists and infection control preventionists. Although proponents of antimicrobial stewardship all stress the value of this coordinated approach, surprisingly, a role for nurses and for their potential contributions to antimicrobial stewardship has not been defined in this collaborative model. Nurses are acknowledged to be the center of communication for coordinated patient care and safety and can play a valuable role in achieving the goals of successful antimicrobial stewardship. Yet to fully realize these benefits, the nursing profession must be educated about the basic precepts of antimicrobial stewardship and nurses need to be recognized for the potential contributions they can bring to this critical segment of patient quality care and safety.

Research conducted in 2012 at Hallmark Health System (HHS) has pioneered just such recognition of nurses’ important role. Thirty-two nurses and ten nurse educators met for a four-hour continuing education program and research study to define the role of nursing in the ideal and appropriate use of antibiotics. The purpose of this study was to gather data on nurses’ understanding of antimicrobial stewardship. In this study, nurse educators identified the areas where nurses are already practicing stewardship activities and areas where nurses could benefit from more education. Additionally, several areas where nurses could bring additional skills to the antimicrobial stewardship model were explored. Those skills and the basic educational content necessary to enhance that nursing role were further defined.

Research into nursing contributions to antimicrobial stewardship is new to the medical literature and further research and training of nurses and their possible contributions to antimicrobial stewardship continues here at HHS. In the last 14 years, nurses have polled highest as the most ethical and trustworthy in all professions in the public’s opinion. The nurse is the patient’s bedside advocate, the health care provider who spends the greatest amount of time in direct contact with the patient during an in-patient hospitalization. As nurses better understand, embrace and practice good antimicrobial stewardship activities, their patients and families can only benefit from their bedside innovations and their teaching of evidence-based, safe antibiotic practice.

Update from the Academy of Medical-Surgical Nursing Chapter 123 Greater Boston

The Academy of Medical-Surgical Nurses (AMSN) is the only national professional nursing specialty organization dedicated to adult health/ medical-surgical nurses. Their mission is to promote excellence in adult health and the vision is to be recognized as the world-wide leader for medical-surgical nursing practice. The organization was formed in 1990 and by the following year had a membership of 1,723. The AMSN membership is nearly nine thousand! AMSN has more than 50 local chapters throughout the continental United States helping members to connect with other nurses who share their compassion and commitment.

AMSN also offers a quarterly educational series with CEs [look for Save the Date emails]. For more information on joining your local chapter, please contact Anthony Alley at aalley@hallmarkhealth.org.
Advances in technology and an aging population have contributed to an increasing demand for critical care services. The Leapfrog Group identified 24/7 intensivist staffing as one of its safety standards for the ICU. It was estimated that more than 50,000 deaths could be avoided if this best practice was implemented in United States hospitals (Gorman, 2011). Due to a severe shortage in intensivist physicians many hospitals have found that it is impossible to provide the recommended level of intensivist coverage. Only 30 percent of ICU’s in the US are able to adhere to The Leapfrog Group recommendations (Goran, 2012). The use of telemedicine is one approach to expand access to high quality critical care by intensivists. The tele-ICU, also referred to as the e-ICU (trademark of Philips –Visicu, Baltimore, MD, USA) or virtual ICU is a solution for addressing safety and quality improvement.

Interdisciplinary collaboration is evident in the transition and adoption of an e-ICU

In 2010, Nancy Gaden, MS, RN, NEA-BC, chief nursing officer and Kellie Smith, BSN, RN, NE-BC, director, MICU at Melrose-Wakefield Hospital (MWH) began to note an increase in the use of e-ICU in the literature. ICU telemedicine involves, nurses, physician assistants, nurse practitioners, pharmacists and intensivists located at a remote command center providing care to patients in multiple ICU’s via computers and telecommunication technology. The command center is equipped with a workstation that has multiple monitors displaying real-time patient vital signs, a complete EMR, a clinical support decision tool, a radiographic image viewer and a teleconferencing two-way video system for every patient room. The intensivists can conduct virtual rounds, communicate with onsite care givers and be alerted to important patient conditions automatically via software monitored clinical alerts. The benefit of this advanced technology for community hospitals is access to an intensivist team that would otherwise be difficult to recruit. Tele-ICU allows the patient to remain in the community, while receiving specialty oversight from nurses and physicians. The tele-ICU provides a second set of eyes as a safety net. The use of telemedicine in the ICU assists in bridging the gap of an intensivist led team.

The research suggested that for non-teaching hospitals without twenty-four hour intensive coverage, a relationship with a vendor to provide e-ICU coverage improved patient outcomes. Smith and Gaden requested a meeting with the chief operating officer and chief medical officer to begin the process of considering implementation of an e-ICU. A three-month work plan was developed by Smith to gather all of the information necessary to make a go/no go recommendation by the end of the calendar year. Several levels of analysis were part of the plan, including: medical record review of both inpatient and ED patient transfers with the medical director of the Emergency Department, assessment of interventions on the night shift and current MICU length of stay, morbidity and MD coverage data. The chief medical officer and Smith began regular rounding in the MICU to capture medical support issues in real time. In September 2010, vendors were identified who worked with the Finance Department to develop impact modeling based on Hallmark Health System (HHS) data. Smith, Gaden, the chief operating officer and chief medical officer went on a site visit to an e-ICU monitoring center in western Massachusetts. Smith also worked with the director of respiratory therapy on a community comparison.
In January 2011, Smith prepared a presentation for the MWH Medical Staff president. With her support, it was modified and presented to the MWH Medical Executive Committee at the February meeting for approval. In March 2011, Gaden presented the proposal to the Executive Team, the Board Quality and Risk Management Committee and the Board of Trustees. The project was approved in March 2011. In April a plan for vendor selection was made and a multi-disciplinary team of staff nurses, respiratory therapy and physicians toured the command center in western Massachusetts. In June, a final vendor decision was made and Smith began to organize hospital based teams to implement the e-ICU at MWH in February 2012.

The partnership between the e-ICU and the bedside team has resulted in improved compliance with ventilator bundles, sepsis bundles, deep vein thrombosis, prophylaxis and ventilator associates pneumonia, glycemic control, peptic ulcer prophylaxis, decrease in ventilator days, reduction in pressure ulcers and decline in cardio-respiratory arrests in the ICU.

The vigilance to evidence based practice and “eyes on” of the tele-ICU staff in collaboration with the bedside staff directly enhances patient safety and improves the quality of care. Telemedicine ICU technology has demonstrated a significant positive effect on patient outcomes. The telemedicine team adds value to patients and the bedside staff as effective and collaborative relationships are built and nurtured.

**Quiet time in the ICU**

The Lawrence Memorial Hospital (LMH) Intensive Care Unit (ICU) nursing team piloted a protocol for Quiet Time in the ICU, which began on Dec. 5, 2011 and continued through March 2012. After piloting this change in practice, the process and the outcomes were evaluated and a policy for Quiet Time was formulated. This protocol based on the Neuroscience Center Protocol at Duke University Medical Center was adapted with permission.

The process of reviewing best evidence related to sleep as essential to promote healing was generated by the Hallmark Health System (HHS) Health Sciences Librarian, Terri Niland and Maureen Beirne Streff, EdD, MS, PMHCNS, BC, the nurse scientist, based on the observations of Ann Marie Odierna, RN, staff nurse, while visiting her uncle in an ICU in another city. He was recovering from lung surgery when she experienced the healing environment created by Quiet Time in that ICU.

Odierna shared her experience with her nursing colleagues as they met during the ICU journal club. The journal club utilizes, with permission, The Iowa Model of Evidence-Based Practice to Promote Quality Care and is consistent with the HHS Professional Practice Model. The journal club, which consists of direct care nurses and the clinical practice leader, decided to examine this practice change. The outcomes in the ICU PICOT question include: potential for increase of sleep during quiet time because of reduction of noise and light, decreased length of stay and increased patient satisfaction.

A binder is maintained on the unit where all of the journal articles that were reviewed, as well as the results of critical analysis can be examined. It also includes the adapted protocol for the ICU, the explanation letter for patients and families and the communication process generated to all the departments to enhance the piloting of this protocol. It also contains the tables used to record patient demographic data including age, sex and diagnosis as well as the nurse observation checklist utilized during the quiet time hours of 2 to 4 p.m. each day.
Catheter Associated Urinary Tract Infections (CAUTI)

Purpose and background
Urinary tract infections are the number one hospital acquired infection with 80 percent caused by indwelling urinary catheters. Catheter associated urinary tract infections (CAUTI) cause discomfort to the patient, prolonged hospital stay and increased cost and mortality as well as decreased reimbursement from the Centers for Medicare and Medicaid (CMS). Other associated poor outcomes related to urinary catheters include bacteremia, sepsis, cystitis, pyelonephritis, prostatitis, urethral strictures, mechanical trauma and death. CAUTI may cause detrimental complications to the elderly patient. Thus, an interdisciplinary nurse-led CAUTI taskforce was formed to address the incidence of hospital-acquired urinary tract infections and adopt best evidence based practice. CAUTI can be eliminated if health care providers adopt and adhere to evidence-based guidelines that address decreasing indwelling urinary catheter days through expeditious removal of the catheter.

Method and approach
The CAUTI taskforce initiated in 2011, researched this issue, completed a thorough review of the literature and contacted colleagues at Paoli Hospital in Pennsylvania. The taskforce examined the literature and Hallmark Health System (HHS) data and found that the following interventions are the foundation of a nurse-driven protocol;

• Avoid unnecessary urinary catheters
• Maintain aseptic technique during insertion
• Maintain urinary catheter based on recommended guidelines
• Conduct daily review for necessity of urinary catheter with prompt removal

Implementing this new knowledge, a nurse-driven protocol for indwelling urinary catheters removal would impact the duration of urinary catheters in patients thus decrease the potential of CAUTI. Data suggests that for every day a urinary catheter is in place the risk of CAUTI increases by 5 percent.

Nancy W. Gaden, MS, RN, NEA-BC presented the proposal for a nurse-driven protocol for removal of urinary catheters to the Medical Council on January 5, 2012. She asked that they vote to support a nurse-driven indwelling urinary catheter removal protocol based on best evidenced-based practices. Medical Council voted to approve the protocol.
Pre-intervention data
The taskforce embraced the concept that decreasing urinary catheter device days will result in a decrease in CAUTI. The taskforce began by examining available HHS data. It was found that in 2011, the urinary catheter utilization rate was 0.22 at Melrose-Wakefield Hospital (MWH) and 0.24 at Lawrence Memorial Hospital of Medford (LMH).

Although multiple strategies had already been implemented to eliminate CAUTIs within the hospitals, it was determined that a more focused, planned and evidence based approach was required. In 2011, the interdisciplinary taskforce was formed. During the first and second meeting of the taskforce, Diane Hanley, MS, RN-BC, EJD associate chief nursing officer defined the role, purpose and aim of the taskforce and educated the membership on the system and practice issues identified. The taskforce reviewed current CAUTI literature, the new CDC guidelines, as well as the Joint Commission’s National Patient Safety Goal. Lisa Streeter, BSN, RN, clinical educator, took the lead in identifying an evidence-based protocol for indwelling urinary catheters removal. Streeter contacted Paoli Hospital in Pennsylvania and discussed the evidence-based protocol they had successfully implemented. As a result of the literature review and consultation with Paoli Hospital, the nurse-driven protocol was developed, approved and implemented in 2012.

Membership
Nurse leaders and staff from the Infection Control Dept. and Quality Dept. partnered with Hanley to develop and implement a nurse-driven protocol and a program of education and competency validation of bedside nursing staff to decrease infections related to indwelling urinary catheters.

| Diane Hanley, MS, RN-BC, EJD | Associate Chief Nursing Officer | Nursing Dept., HHS |
| Denise Wilson, MSN, RN | Quality Analyst | Quality Dept., HHS |
| Kathy Charbonnier, BSN, RN, CCRN | System Director | Quality Dept., HHS |
| Elaine Boerger, RN, CIC | Infection Control Coordinator | Infection Control, HHS |
| Sue Rowland, RN, COHN, CIC | Director, Infection Control and Employee Health | Infection Control, HHS |
| Debra Wright, BSN, RN | Manager, Risk Management | Risk Management, HHS |
| Donna Harvey, MSN, RN, CNOR | System Director, Surgical Services | HHS |
| Kellie Smith, BSN, RN, NE-BC | Director, MICU and Medical 3 | MWH |
| Irene Frankel, RN | Vascular Access Nurse | HHS |
| Judy Moffatt, RN | Vascular Access Nurse | HHS |
| Kathy Taylor, BSN, RN | Informatics Specialist | HHS |
Outcomes and results
Integrating evidence-based practice information, the taskforce developed a nurse-driven protocol for urinary catheter removal with the goal of decreasing urinary catheter utilization. This two-part protocol consists of a daily checklist and urinary catheter removal algorithm to assist nurses in identifying appropriate situations to remove the urinary catheter. The daily checklist is completed by the patient’s nurse during electronic shift surveillance documentation. Nurses then refer to the indwelling urinary catheter removal diagram to support their assessment of removing the catheter or leaving it in place. This nurse-driven protocol is designed to mandate the continuous reassessment for the need of the indwelling urinary catheter. Implementation of the nurse-driven protocol was completed in collaboration with the Nurse Informatics Council (NIC), the Staff Development Department, Nursing Leadership and physician colleagues. In December 2011, a mandatory online module in NetLearning was implemented as the primary educational activity. Other methods to support this initiative included identifying RN unit champions as well as educators and clinical leaders to act as resources and to ensure that this protocol was effectively put into practice.

The CAUTI taskforce and the Nursing Staff Development Dept. translated new knowledge regarding the nurse-driven protocol into nursing practice and as a result have affected patient outcomes. The taskforce established a goal to decrease urinary catheter utilization by 10 percent. Successful implementation and utilization of the nurse-driven protocol for indwelling urinary catheters removal was measured by comparing the urinary catheter utilization prior to intervention (Nurse Driven Protocol) to post intervention. The benchmark chosen was from the National Healthcare Safety Network (NHSN), part of the CDC, which established a 0.19 mean benchmark for urinary catheter utilization. This is a mean of nationally reported data of the number of urinary catheter-days over number of patient-days. Following the January 2012 implementation of the nurse-driven protocol, a 45 percent decrease in urinary catheter days was achieved by December 2012. Figures 1 and 2 demonstrate the remarkable decline in the utilization rate of urinary catheters at both LMH and MWH.

Figure 1 - Urinary catheter utilization at LMH

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre-Intervention</th>
<th>Post-Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMH Urinary Catheter Utilization</td>
<td>0.24</td>
<td>0.13</td>
</tr>
<tr>
<td>NHSN Benchmark</td>
<td>0.19</td>
<td>0.19</td>
</tr>
</tbody>
</table>
Of note, HHS received the HAI Watchdog award for this work. Sponsored by Kimberly-Clark Health Care, the HAI Watchdog awards were created to recognize the efforts of dedicated health care professionals helping to prevent healthcare-associated infections (HAIs). “It’s a great honor to see our work to prevent HAIs recognized by an industry leader like Kimberly-Clark Health Care. We will use our grant to further our ongoing commitment to quality care, infection prevention and education,” said Hanley. “We’re proud to share our best practices as well as learn from other members of the HAI Watchdog community to maintain and even boost our infection prevention and HAI awareness efforts. We will continue to seek out ways to maintain the highest levels of infection control to protect our patients and the community and we hope this recognition drives others in the health care community to do the same.” The goal was to decrease urinary catheter utilization by 10 percent at both LMH and MWH. As a result, the utilization rate of urinary catheters for both LMH and MWH decreased by 45 percent exceeding the goal.
Pharmacy-led multi-disciplinary team to address Naloxone usage

Purpose and background
Nurses at all practice levels throughout Hallmark Health System (HHS) serve as members of departmental committees, councils and taskforces. Membership is designed to represent a variety of practice roles in order to enhance the quality of decision-making. In addition to the departmental committees and councils, nurses at the unit level participate in committees to identify opportunities for improvements, research and study evidence and implement changes in practice that enhance patient care at the bedside. This decentralized management structure encourages and facilitates decision making at the local level and supports the shared governance model empowering nurses to initiate changes that directly benefit patients.

The Medication Safety Committee, an interdisciplinary system-wide organizational decision-making group, chaired by Barbara Marullo, BSN, RN, quality specialist, meets monthly and reports through the Pharmacy and Therapeutics Committee (P&T) and to the Board of Trustees. One mechanism that proves helpful in identifying opportunities for improvement comes from risk management data provided through RMPro patient safety reports. The Medication Safety Committee reviewed these reports and identified a consistent theme in the utilization of Narcan, a reversal agent to treat inpatients experiencing an adverse drug reaction. In addition, the HHS Pharmacy Department has the ability to run “Trigger” reports on utilization of medications that are high risk and which may indicate an opportunity for improvement. It was confirmed through these pharmacy reports that one of the medications whose rate of utilization was steadily increasing was indeed Narcan. This finding led to a question of whether the current practices and policies around the usage of opioids followed evidenced-based, best practices for optimal patient outcomes.

Method and approach

Pre-intervention data
The Medication Safety Committee performed a preliminary review of reported adverse drug-related events requiring intervention and Narcan administration in calendar year 2010. The results of that pre-intervention review are summarized in Figure 1.

Figure 1- Pre-intervention data
With the exception of Quarter 1, the number of adverse drug events requiring Narcan was occurring at an average rate of 13 per quarter. It was recommended that further, focused investigation of a potential issue be undertaken.

In January 2011, a nursing-led interdisciplinary subgroup of the Medication Safety Committee was formed to specifically investigate Narcan usage. The subgroup initiated their charge with a review of the processes for acquisition of Narcan at the bedside. In order to obtain Narcan for administration, nurses at HHS are required to request an “override” in the Pyxis medication administration system. The override function is reserved for emergency situations and those circumstances in which to wait for pharmacy review may pose significant threat or harm to the patient. Nurses at HHS are also required to document, in a patient safety report, any adverse, unanticipated event. The committee uncovered that the usage of Narcan did not always result in the entering of a Patient Safety Report when administered for an adverse, unanticipated event.

Next the subgroup performed a literature review targeting recommendations and best practices in opioid dosing and administration. The subgroup reviewed internal policies and guidelines related to opioid usage and Narcan utilization. In an effort to establish a benchmark, a survey of neighboring hospitals was also completed to ascertain practices and policies in like institutions in regards to the same including their auditing practices.

The committee determined that the use of Narcan indicated a “near miss” event and wanted to investigate each instance of administration for opportunities to increase the safety and quality of care provided to patients. The subgroup focused on dosing recommendations and guidelines and pain management education and set a goal to decrease the use of Narcan by 50 percent.

The Narcan subgroup utilized LEAN strategies and problem solving tools that force simplicity and quick communication and assures that the work can be realistically completed within its determined time constraint. LEAN strategies assist in documentation and demonstration of successful change and motivates the team to do further problem solving.

Subgroup investigation findings:
- Interviews with direct care nurses revealed that the Narcan orders were classed as PRN orders in the medication order set and when Narcan was administered, the nurses were simply following physician’s orders.
- The subgroup confirmed the validity of data on the utilization reports as indicative of true events. Through chart audits it was confirmed that “a Pyxis pull” of Narcan in fact did result in administration of the medication.
- The subgroup attempted to establish a benchmark and identify how HHS compared with other hospitals in Narcan administration. Survey findings revealed that HHS was similar to other hospitals in Narcan usage. The subgroup felt that there still remained an opportunity for improvement.
- The subgroup reviewed the PCA order set. PCA order sets from other hospitals were collected and compared to the HHS order sets. Opportunities for improvement identified.
- The literature review for best practices related to opioid utilization and Narcan administration led the subgroup to consider the best practices around pain management initiatives, education of staff and compliance with the Institute for Safe Medication Practices (ISMP).
Further analysis of internal data identified two distinct patient populations at risk for opioid over-sedation requiring intervention and Narcan administration: the Bariatric population located primarily on West 2 and the opioid naïve elderly population spread throughout HHS inpatient units. As a result, the subgroup charged the Staff Development Department with developing and educating direct care nurses in pain medication administration, management and patient monitoring. A series of computer-based education modules were launched in 2012.

**Narcan sub-group members**
Membership includes nurses, pharmacists, clinical nurse specialists, risk managers and physicians.

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Nicole Clark, RPh</td>
<td>Pharmacist</td>
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<tr>
<td>Lisa Duffy, MSN, RN</td>
<td>Clinical Nurse Specialist</td>
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<td>Anthony Alley, BSN, RN, NE-BC</td>
<td>Director, Medical 4</td>
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<td>Lisa Streeter, MSN, RN</td>
<td>Staff Development Educator</td>
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<td>Deb Cronin-Waelde, MSN, RN, OCN</td>
<td>System Director, Emergency Services</td>
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<tr>
<td>Mary Previte, RN</td>
<td>Direct Care Nurse, MWH PACU</td>
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<tr>
<td>Diane Hanley, MS, RN-BC, EJD</td>
<td>ACNO, Professional Practice, Education and Quality</td>
</tr>
<tr>
<td>William Connelly, BSN, RN</td>
<td>Direct Care Nurse, LMH PACU</td>
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<tr>
<td>Donna Harvey, MSN, RN, CNOR</td>
<td>System Director, Surgical Services</td>
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<tr>
<td>Barbara Marullo, BSN, RN</td>
<td>Quality Department</td>
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<td>Jody Rodrigues, BSN, RN</td>
<td>Quality Department</td>
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<tr>
<td>Diane Wood, MD</td>
<td>Anesthesia</td>
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<td>Magdy Bishay, MD</td>
<td>Anesthesia</td>
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<td>Song Song, MD</td>
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<td>Gerry Healey Dame, RRT</td>
<td>Director, Respiratory Therapy</td>
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<tr>
<td>Deb Wright, BSN, RN</td>
<td>Risk Management</td>
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Measurement and outcomes

1. The subgroup reviewed all HHS policies and revised them based upon literature review of evidence-based, best practices and ISMP guidelines. The revised policies and procedures were reviewed with nursing staff including the requirement that a safety report be initiated for all adverse drug events.

2. The pharmacy instituted the practice of matching Narcan pulls to a safety report as a cross check for documenting and investigating adverse drug events.

3. The PCA order form was redesigned using ISMP guidelines and approved by the Pharmacy and Therapeutics Committees and the Nursing Practice and Quality Council. The order form now addresses Narcan administration for elderly, opioid dependent and naive patients and is weight-based. The revised form allows for ISMP guidelines to be on-hand as a reference for prescribers.

4. The use of capnography monitoring post-operative day one was deemed as required through policy.

5. An online learning program addressing pain control was produced by the focus group for all nursing staff and is now included as part of annual competency day. The annual ‘Pain Day’ offered in November 2012, focused on staff education in pain management and control.

6. The dosing options available for electronic physician order entry were limited.

7. The Pre-Admission Testing process was revised to require that all patients are screened for sleep apnea. The Respiratory Department is notified of any patient that screens out as positive for sleep apnea and/or has a history of sleep apnea. The Respiratory Department makes direct contact with those patients who use C-Pap or Bi-Pap at home to have them bring their equipment to the hospital for their post-operative stay. The Respiratory Department assesses all other patients for initiation of C-Pap or Bi-Pap post-operatively.

8. The Narcan focus group was decreased to six members to continue the monitoring of any ongoing Narcan events and report quarterly to Medication Safety.

Since the implementation of these actions beginning in early 2011 (as designated by blue arrow), the reported number of adverse drug events, at the conclusion of Quarter 4 2012, from both component entities, requiring Narcan administration has decreased by 77 percent, as demonstrated in Figure 2, exceeding the goal (green bar) set by the subgroup. Pre-implementation data is noted as Q1-4 2010.

Figure 2 – Pre-intervention and post intervention data

(Lower is better)
## Table 1 – Pre and Post intervention Narcan administration events by campus

<table>
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<tr>
<th></th>
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<th>Post- intervention incidents</th>
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The HHS goal was to decrease the use of Narcan across the HHS inpatient units by 50 percent, a goal of 6.50 incidents. As of Quarter 4 2012 – Narcan usage decreased by 77 percent, a goal of 6.50 incidents. With an actual mean of 6.38 incidents.
New graduate nurse residency program
Program focus: labor, delivery, recovery, post-partum (LDRP), Special Care Nursery

Introduction/overview
The preparation of a new graduate registered nurse for transition into the workforce and practice environment is receiving much focus in health care today. New graduates enter the workforce with varied exposure to the health care environment. The ability to provide the new nurse with an experience that is effective in developing the skills and critical decision-making capacity must be balanced with the resources, both fiscal and human, that are effective but yet affordable.

The Hallmark Health System (HHS) Department of Patient Services is seeking to proactively address this issue, especially as it relates to ensuring adequate complements of staff trained in specialty areas. Such training would not have always been accessible for direct entry by the new graduate. The reality is however that the availability of acute care positions open for new graduates are dwindling leaving many working in non-licensed capacities.

At HHS we created a new graduate residency program aimed at the development of a flexible workforce for specialty areas of practice. This residency program offers a combination of classroom education and clinical practice in sufficient quantity to afford the new nurse the opportunity to study theory and pathophysiology and then to convert this learning into practice in the clinical setting.

Purposeful recruitment of the right candidates for acceptance to a new graduate residency program along with the dedication of staff in support of the new graduate are essential components in ensuring the success of such a program and retention of the graduate nurse residents. Recognizing that adults learn differently, program components are individualized to assist residents in achieving the competencies required for practice in the focused specialty area.

Focus
Staffing of the Maternal-Newborn Services cluster (Mother/Baby, Special Care Nursery and Labor/Delivery) presents challenges based upon the unpredictable nature of the volume and the distinct skill set required of staff in each of the individual cluster members. Our vision is for the creation of a flexible workforce addressing both the volume and competency issues. Like in many nursing practice specialties, new graduates are rarely considered for entry-level positions in maternal and child health cluster units and departments. The Residency Program provides this opportunity to a distinct group of new graduates who demonstrate the enthusiasm and commitment to train for practice in maternal non-stress testing and evaluation, labor, delivery, recovery, post-partum, normal nursery and care of the neonate with narcotic abstinence syndrome (NAS). The HHS in turn commits to providing a comprehensive and intensive nurse residency program to new graduates with confidence in the practice and critical decisions making skills for transition into the role of a competent caregiver.
Program offering and structure

The program is offered over a one year period commencing on Jan. 7, 2013 with general hospital orientation. General hospital orientation will be followed by general nursing orientation, orientation to information systems and Maternal Child Health Department specific orientation. In addition program participants are expected to complete all basic, mandatory competencies provided through NetLearning and through direct observation by staff development instructors.

The program consists of three teaching/learning method phases: the faculty model, the preceptor model and the resource nurse model. The model is fluid allowing for nurse residents to move in, through and out of the teaching/learning phases based upon their achievements in the distinct Maternal Child Cluster Departments and Units.

The faculty model allows program candidates to work side-by-side with the staff development instructor in direct observation of care delivery, to participate in just-in-time teaching moments and to assist in provision of basic care to patients while rotating through the Maternal Child Department Cluster and Units. Clinical experiences are enhanced by classroom teaching where program participants come to fully understand the evidence behind practice and the use of the synergy model to enhance care delivery.

During the preceptor model phase, program participants are scheduled along with a preceptor as they continue to rotate through the Maternal Child Department Cluster and Units. The preceptor communicates frequently with the staff development instructor on the progress of the program participant in achieving the competences required in each of the Cluster Units. The staff development instructor, along with the preceptor, as appropriate, regularly meet with the program participant in coaching and mentoring sessions in order to ensure the participant’s continued commitment and progress and also to make any individual learning adjustments to ensure the candidates continued progress in the residency program.

Nurse residents in the resource nurse model phase of the program may assume patient assignment and be counted in staffing matrix on cluster units where they have met all competencies and demonstrate confidence in their skills. During this phase residents are assigned a resource nurse who will continue to mentor and coach the nurse resident. During this phase, nurse residents may move into regular positions as available on a unit within the Maternal-Newborn Services Department. During this phase, the staff development instructor continues to be directly involved with the program participant in meeting the goals of the program until completion.

Program participant scheduling

Candidates are scheduled for five eight-hour shifts per week. Typically, one day per week will be reserved for classroom learning, three days will be spent in the clinical setting with the fifth day reserved for goal directed learning opportunities. These goal directed learning opportunities will include attendance at New Graduate Council meetings and specialty programs (telemetry, fetal monitoring program, neonatal resuscitation program (NRP) and STABLE (sugar, temperature, airway, blood pressure, lab work and emotional support) as offered through the Hallmark Health System (HHS) Center for Professional Development. Graduate nurse residents will also be scheduled to shadow the lactation nurses. HHS is thrilled to introduce the first cohort of Maternal-Newborn Services nurse residents.