The concept of medication reconciliation is not new to healthcare, however it became a priority for healthcare systems with the inception of The Joint Commission’s NPSG #8 in 2005. Well before The Joint Commission’s NPSG, our LifeBridge Health made known its commitment to medication safety from prescription to administration. A multiyear comprehensive strategic plan included additional technologies such as computerized physician order entry (CPOE), Acudose Dispensing Cabinets, TUG robots for medication delivery, and McKesson robotics in the Pharmacy for processing orders. Our healthcare system adopted CPOE in 2005 to eliminate errors typically related to handwritten orders, and to decrease the time from order placement to Pharmacy notification. With CPOE now available on both campuses, key leaders from Sinai Hospital and Northwest Hospital met to develop a process, which addressed medication reconciliation across the continuum of care.

In the early stages of the project, the initial team’s vision was to incorporate medication reconciliation into the electronic documentation system; however, at the time our documentation system’s functionality did not support what the project team envisioned for our organization. Hence, the initial project team developed a paper-based medication reconciliation process. Fast-forward to Fall 2007: Software upgrades provided new functionality to support an electronic medication reconciliation process. This new functionality included streamlined data entry for home medications and an enhanced process for medication reconciliation at admission, transfer and discharge. Thus a rebirth and commitment of the Medication Reconciliation Leadership Team to move from a paper-based system to an electronic system.

LifeBridge Health’s leadership was committed to bringing this project to fruition hence the establishment of an Oversight Committee. This multidisciplinary Oversight Committee includes executive leaders from both Hospitals: Medical Staff, Nursing, Pharmacy, Performance Improvement/Patient Safety, Operations Engineering, and Information Systems. This Committee is responsible for ensuring project completion, and for providing guidance and support to the Medication Reconciliation Leadership Team.
The Medication Reconciliation Leadership Team is a multidisciplinary group responsible for assessing and operationalizing electronically documented medication reconciliation. LifeBridge Health’s Director of Pharmacy and Northwest Hospital’s Director of Patient Safety lead a core group which includes representation from the Medical Staff, Medication Safety, Operations Engineering, Information Systems, E-Learning, and Advanced Practice Nurses.

Once it was agreed to proceed with the electronic medication reconciliation documentation, the Medication Reconciliation Leadership Team was charged with developing a workflow, which accounted for differing practices by each service line and hospital. From the beginning, our organization’s philosophy has been that medication history is initiated by the RN upon patient entry, and actual reconciliation of this list belongs in the hands of the physician overseeing the patient’s care. In addition to workflow development, the Team was responsible for operationalizing the process across all physician services, and for developing an auditing strategy that takes into account process and quality.

**SOLUTION:**

**Workflow Development:**
The scope of the project was limited to the admission, transfer and discharge of inpatients to minimize variability in practice patterns. Operations Engineering coordinated and facilitated weekly one-hour meetings with members of the Project Team with the addition of Physicians, Residents, and Physician Assistants. The workflows identified by the previous project team were used as a starting point. In addition, as barriers were identified additional subgroups met to develop solutions to be presented to the Project Team. As the first pilot progressed the project’s scope was modified to encompass an electronic house-wide departure process. This process is a “one-stop shop” and includes links for electronic medication reconciliation, electronic prescription writing and electronic discharge instructions.

**Rollout Strategy:**
The pilot phase included Hospitalists, Intensivists, and Physician Assistants on both campuses, and Medicine Residents at Sinai Hospital. The Project Team provided support and coaching during the pilot phase. The original big bang system-wide rollout strategy was revised as a result of the lessons learned during the pilot phase. Instead a readiness assessment of each clinical service evaluated such areas as high-medium-low CPOE utilization; interest expressed in the project to date, and available risk management data. This information was used to group each clinical service into five groups or cycles to be phased-in over twelve to fourteen months. Each cycle consists of a three-week planning phase followed by a six-week deployment and transition phase. Clinical service champions are imperative to validate process flow, provide communication between the Project Team and the service, and reinforce process expectations.

**Education Strategy:**
Education sessions are coordinated and conducted by the E-Learning Department. Provider education is comprised of a two-hour didactic session with hands-on application during the
session. In addition, providers are considered live-users once they attend an education session. On-line tutorials and resources are available on LifeBridge Health’s intranet site as well. As it is estimated the learning curve for providers is ten to twelve transactions, the most important resource has been dedicated medication reconciliation coaches. These coaches are easily identified by their blue vest, and are available to providers via Vocera and unit rounding. Each coach maintains a log of the caller’s name, problem and resolution to allow for trending by the E-Learning and IS Departments.
Audit Strategy:
The Project Team developed an audit strategy that encompasses both quality and process measures. Each hospital’s Department of Nursing is committed to validating compliance with the medication history, as it is the foundational component to the completion of medication reconciliation. In addition, each hospital’s Department of Performance Improvement is committed to validating the quality of the components for the transfer and discharge medication reconciliation process. These audits require a manual review of the medical record thus a sample size of fifty records from Sinai Hospital and twenty-five records from Northwest Hospital. The sample size was determined based on the number of admissions at each facility, and will be used to measure individual hospital and system-wide performance. From a process standpoint, measurement includes the number of electronic medication reconciliation transactions and electronically printed prescriptions.

OUTCOMES:
The Medication Reconciliation/House wide Depart Project is an on-going project for our organization. While the Leadership Team continues to work through barriers, the anticipated completion of the inpatient phase is the summer of 2010 with additional phases to include the outpatient departments and ambulatory services. In addition, various clinical services have expressed interest in customizing the electronic discharge instructions so we expect a team will be formed to manage this process as well.

With the implementation of the second cycle, electronic medication reconciliation activity and prescription printing has increased at both Sinai Hospital and Northwest Hospital. The average number of medications electronically reconciled each week at LifeBridge Health is now over 12,000 with the majority of these transactions occurring at discharge. In addition, the average number of electronically printed prescriptions each week at LifeBridge Health is 850. At least 50% of all Sinai discharges have electronically documented discharge medication reconciliation. Northwest Hospital continues with consistent results from the pilot providers, and the Project Team anticipates an increase with the third cycle rollout in February 2010.

Thus far, the Oversight Committee and Leadership Team is pleased with the progress of such a large-scale project. The feedback from providers has varied based on the complexity of the patient’s medications regime and the provider’s comfort level with CPOE. While the project has not evolved far enough to measure differences in patient satisfaction, providers report patients prefer the electronic discharge instructions to handwritten instructions. In addition, it is clear the addition of dedicated medication reconciliation coaches contributed to the early adoption of this new process by key members of the medical staff.