**Organization:** Anne Arundel Medical Center

**Solution Title:** Managing the Complexity of Medication Reconciliation

**Program/Project Description, including Goals:**

Medication Reconciliation was adopted as a National Patient Safety Goal in 2005. Our Organization, like many others across the country, has struggled with the complexities of reconciliation medication on admission and discharge. In 2007 Anne Arundel Medical Center (AAMC) implemented an all-electronic documentation system, EPIC. Although many thought this may be the solution to improve compliance with reconciliation, the system changed created new challenges and compliance with reconciliation plummeted. As a result medical and nurses staff were retrained and compliance improved slightly but continued to remain below goal.

In September 2011 the Medication Reconciliation committee developed a pilot program placing a pharmacy technician in the Emergency Department. The role of the pharmacy technician was to interview patients identified for admission and collect their home medication lists. The program was successful as measured by fewer IVENTS (interventions by the pharmacy due to ordering errors), fewer edits to the home medication list by the admitting physician, and increased physician and nurse satisfaction related to the reconciliation process. Although the pilot was successful it did not immediately gain fiscal support. Despite efforts to improve compliance aggregate data from FY12 revealed an organizational medication reconciliation rate of 91%. Recognizing approximately 50,000 medications each year were going un-reconciled the Board of Trustees adopted medication reconciliation as a Quality Aim in July of 2012. In August of 2012 the medication reconciliation committee requested the help of the process improvement team to conduct a rapid improvement event (RIE). Goal was to dissect the process, identify gaps and create solutions to improve reconciliation. As a result multiple solutions were identified and implemented to improve admission and discharge.

Although improved over FY13 reconciliation rate did not reach the goal of 100%. The team was challenged with finding additional solutions. Knowing the safety risk to the patient was at discharge, quality aim champions requested the support of the Mitchel Schwartz M.D. Chief Medical Officer and the
Board of Trustees for the decision to place a hard-stop on printing of discharge instructions. Hard-stop was implemented in August of 2013; discharge reconciliation rate has been maintained at 99% through FY14. Records of patients discharged without 100% reconciliation are reviewed monthly; remaining 1% consists of discharges to a tertiary facility.

Process:
A solutions approach was used as through LEAN methodology (RIE) and committee teamwork.

Solutions:

- Creating standard work -standard operating procedure was developed to admission and discharge
- Fiscal support for pharmacy tech in ED (still working on improving their efficiency)
- Hard Stop for printing discharge instructions
- Implementation of Rxhub
- Pharmacist on units to assist with admission reconciliation during daily multidisciplinary rounds (new solution in 2014 to improve admission reconciliation)
- Development of weekly electronic reports to monitor 100% of admission and discharge reconciliation
- Development of daily electronic report to continuously monitor admission reconciliation
- Development of a hyperlink pulling medications from the discharge instructions into the transfer summary for patients discharged to sub-acute facilities
- Monthly follow-up with practitioners falling short of 100% reconciliation with transfer to tertiary facilities
Measurable Outcomes: Achieved and maintained 99% discharge reconciliation over a one year period. Primary focus at the present is to improve admission reconciliation.

Sustainability:
One of the most important actions implemented to ensure sustainability was the hard-stop for printing discharge instructions.

Role of Collaboration and Leadership:
The improvement of medication reconciliation at AAMC involved leadership engagement. The executive leadership made medication reconciliation an organization priority promoting the initiative at the many different committees with responsibility for patient safety. Progress on both implementation of safety measures and overall results was monitored at the high level committees.

All levels of leadership had a shared vision and goal to reduce patient harm by ensuring medications were reconciled. The successful development and implementation of this plan involved all levels of the organizational quality structure - Board of Trustees, Board Quality and Patient Safety Committee, Executive Quality Council, Medical Executive Committee, Nursing Quality Council, Medicine Services Quality Council, Surgical Services Quality Council, Maternal Child Health Quality Council, Center for Healthcare Improvement, Quality and Patient Safety Department, Department Leaders, and healthcare staff.
Demonstration of Leadership Support

Executive leadership has made medication reconciliation a strategic aim. Their support is demonstrated by the following:

- Put resources into the training and implementation changes to the organizational policy and standard operating procedures. Ongoing investment of resources is evident in the ongoing work of the medication reconciliation team.

- Approve and provide resources for electronic medical record build for changes to the computer screens and medication selection lists.

- Provide and compensate nurses for annual mandatory medication reconciliation process training through Skills Day and through a HealthStream module.

- Provide data analytics resource to monitor and measure process measures (compliance with medication reconciliation).
**Innovation:** Evidence of innovation can be demonstrated in the use of the EMR to facilitate the changes in both medical and nursing practices that were required. Though the tools built were specific to AAMC’s demonstrated needs and existing EMR, they are similar to the needs and tools of all health systems.

The use of pharmacy personnel, both pharmacists and technician, in the medication reconciliation process have been identified in the literature. AAMC has incorporated their expertise through a team based approach to improve medication reconciliation; daily multidisciplinary rounds on the inpatient units and team collaboration in the emergency department during the admission process.

The solutions implemented are easily adaptable to other institutions.

**Related Tools and Resources**

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