Organization
Holy Cross Hospital

Solution Title
Implementation of comprehensive pharmacy services in a community teaching hospital emergency department

Program/Project Description, including Goals
Holy Cross Hospital Emergency Center is a 55-bed emergency department that sees approximately 90,000 patients per year. The department treats a wide range of patient populations and includes separate pediatric and geriatric patient rooms. The Holy Cross Hospital pharmacy department utilizes a decentralized model, with pharmacists covering all major areas of the hospital (critical care units, medical/surgical units, oncology, NICU/mother-baby). Until August 2014, the emergency department was excluded from this decentralized model.

The high-risk environment in emergency departments throughout the nation has historically been associated with disproportionate medication error and adverse drug event rates. Risk management identified the emergency department as a high risk environment, and worked with pharmacy leadership to begin collecting adverse event data. Baseline data collected at Holy Cross Hospital showed reported adverse event types that included Pyxis stocking, medication delays (including antibiotics), wrong drug, wrong dose, and general prescribing errors.

Goal
Risk management and the pharmacy department recognized an opportunity to improve patient safety and reduce medication-related events in the high-risk, fast-paced setting of the emergency department. The goals of the ED pharmacist initiative were to reduce potential and actual medication errors and adverse drug events, and to provide comprehensive pharmacy services to the emergency department.

Process
A needs assessment was conducted to determine the best strategy for implementation of an emergency department pharmacist position. A needs assessment survey was developed and distributed to staff. Results of the needs assessment were shared with senior leadership, including physicians, nursing, pharmacy, and human resources. The pharmacy department approved the necessary FTEs and funding was secured for the position. A scope of practice was developed in accordance with the results of the needs assessment and the department services on other units in the hospital. Candidates were interviewed, hired, and the position was officially staffed in late August 2014.

Solution
A dedicated decentralized pharmacist position was created to provide comprehensive pharmacy services in the emergency department. Pharmacist services include adult and pediatric code response, code STEMI/stroke team response, drug information consults, prospective medication order review, and other clinical consults. Using the scope of practice as a guide, the two dedicated ED pharmacists collaborated to determine a generalized workflow and identify areas of need within the department. Initial areas of focus included Pyxis medication inventory,
prospective order review of high-risk medications and pediatric dosing double checks, and medication expediting. Service expansion has included presence in all adult and pediatric codes, medication consults, patient counseling, and complicated medication reconciliation.

Measurable Outcomes
Pharmacists are expected to document all clinical interventions performed in the emergency department. From implementation to the end of September 2015, the two dedicated ED pharmacists have documented over 6000 interventions (see Figure 1 and Table 1), which correlates with a total estimated cost savings of over $850,000.

Results from the original needs assessment survey demonstrated a need for pharmacy services in the emergency department.

- "Do you feel that there is value to having a pharmacist in the emergency department?"
  - 82.1% of respondents answered "yes"
  - 16.1% unsure
- "How do you expect the current ED staff to benefit from adding a pharmacist?"
  - 92.5% responded "preventing and/or reducing potential medication errors"

The original needs assessment survey was re-distributed in June 2015 in order to compare the results of the survey to the baseline responses.

- "Do you feel that there is value to having a pharmacist in the emergency department?"
  - Increase from 82.1% “Yes” to 100% "Yes"
- "As a clinical team member, are you aware of the pharmacist's potential role on the team?"
  - Increase from 76.4% to 91.4% of respondents aware of the role of an ED pharmacist
- 100% of respondents indicated preventing/reducing potential medication errors as a benefit
- Codes and resuscitation support recognized as an area of benefit
- Other comments included:
  - I would like a pharmacist to be in the ED 24/7! The benefits to patient safety are great.
  - It was one of the best change in practice our ER has done.
  - Best new innovation in the dept. They are great to work with, very helpful
  - I have used the ED pharmacist multiple times: great resource
  - Having an RPh in the ED has been the best addition to our workflow and process in a long time. Their services are invaluable.
  - Expand the coverage to assist the physicians with medication dosage/codes/etc.
  - Pharmacist is needed all three shifts

Awareness of pharmacy services and presence in the emergency room has significantly increased since implementation. ED pharmacists are recognized for preventing potential medication errors
and participation in the management of medical emergencies, including code response.

**Sustainability**
The two emergency department pharmacists currently provide coverage seven days per week for ten hours each day. All interventions and cost savings are tracked and presented quarterly at the Pharmacy and Therapeutics Committee meeting to monitor progress. Respondents from the latest needs assessment survey indicated a strong need for a pharmacist on all three shifts and expansion of services. Peak times not currently covered by the ED pharmacist allow for the possibility of expanding hours of coverage in the future to provide continuity of care in the emergency department.

**Role of Collaboration and Leadership**
In order to implement the ED pharmacist role, a large amount of teamwork and collaboration was necessary. Pharmacy residents (now full-time ED pharmacists) were involved in collecting background data, developing presentations for senior leadership, creating the scope of practice, and promoting awareness of the position to nursing, physicians, and pharmacy staff. The position was successfully approved as a result of collaboration between pharmacy, nursing, physicians, risk management, and human resources. All parties were engaged and determined to implement this position to improve patient safety in a high risk environment. Pharmacists in the emergency room collaborate with physicians and nursing staff on a daily basis to optimize patient care and have been incorporated into the interdisciplinary team.

**Innovation**
Implementation of a decentralized emergency department pharmacist service provides specialized services to a high risk area of the hospital that previously did not have a pharmacy presence. ED pharmacists have been able to develop customized tools and resources for nursing staff, provide educational services (in-services, tPA training resources, and medication administration resources) department-wide.

**Related Tools and Resources**

**Figure 1: ED Pharmacist Interventions - Implementation to September 2015**

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Table 1: Number of ED Pharmacist Interventions per Month

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