Improving Pharmacy and Nursing Collaboration: Implementation of a Senior Pharmacy Technician Program

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Disclosure
The presenters for this continuing pharmacy education activity report no relevant financial relationships.

Learning Objectives
- Describe the role of a senior pharmacy technician.
- Discuss potential opportunities for improving aspects of the medication use process by increasing pharmacy and nursing collaboration.
- Explain the potential benefit of implementing unit-based technician services on pharmacy and nursing communication.

Self-Assessment Questions
True or False:
1. A senior pharmacy technician is not qualified to serve as a liaison between pharmacy and nursing.
2. The following aspects of the medication use process can be improved by implementation of a senior pharmacy technician program: missing medications, medication administration record issues, resolution of automation discrepancies.
3. Targeting focus on identifying, resolving and communicating issues with the medication use process can improve pharmacy and nursing relationships.

Practice Setting
- Western Psychiatric Institute and Clinic (WPIC) of UPMC Presbyterian Shadyside is a 300-bed acute psychiatric hospital. WPIC provides a comprehensive range of behavioral health services for individuals, including children, adolescents, adults and seniors.
- WPIC Pharmacy Department
  - 1 director, 2 managers
  - 6 staff pharmacists, 2 clinical pharmacists
  - 4 full-time technicians
  - 2 senior pharmacy technicians
  - 7 pharmacy student interns

WPIC Pharmacy
- Annual Drug expense: $2.36 M
- Pharmacist order entry via Cerner PharmNet
- 15,000 medication orders entered per month
- CERNER-generated medication administration record (MAR)
- Medication distribution - centralized 24 hour cart fill
  - Robot-Rx® - fills 80%
- Automated dispensing cabinets
  - AcuDose-Rx® - 20 small mains on units, 1 large main NSA
- NarcStation™
Problem Identified

- Inefficient communication between nursing staff and pharmacy is a barrier to ideal patient care
- Introduction of a CERNER-generated MAR exposed differences in interpretation of medication orders
- System and operational problems result in an inefficient medication use process and preventable medication errors
- Collaborative effort needed to identify, communicate, and resolve issues related to the medication use process
- Initial quality improvement project focused on:
  - Missing medications
  - Medication delivery
  - Automation

Senior Pharmacy Technician Pilot

- In an attempt to improve the medication use process and enhance communication between pharmacy and nursing, pharmacy leadership piloted a Senior Pharmacy Technician (SPT) program on one unit for 3 months
- A high-performing pharmacy technician was identified as an internal candidate and promoted
- While SPTs existed throughout our health system, SPT responsibilities were tailored to meet the specific needs of our institution

SPT Responsibilities

- Serve as a liaison between pharmacy and nursing to increase effective communication
- Act as a front-line resource for staff nurses
- Decrease medication delivery turn-around time
- Work to enhance pharmacy workflow and efficiency through ongoing process improvement and real-time communication and feedback

Pilot Program

- The role of the SPT was introduced and discussed at the Pharmacy and Nursing Committee meeting
- The SPT worked closely with the Nurse Clinical Manager (NCM) on the pilot unit, meeting weekly to identify and resolve issues with the medication use process
- A standardized process was developed for investigating and resolving medication errors including missing medications and medication administration record (MAR) communication issues

SPT Responsibilities

- Support automated med-station discrepancy resolution and troubleshooting
- Investigate and reduce missing medication volume by:
  - Performing root cause analyses to identify source of error (pharmacy, nursing, robot, systems/other)
  - Working with nursing and pharmacy to propose solutions
- Address medication administration record (MAR) communications and improve MAR utilization

Pilot Program

- Increased pharmacy presence on the unit
  - The SPT interacted directly with the floor nursing staff and provided in-services and automation support
  - The SPT educated nursing staff on pharmacy workflow and operations in the context of issues identified
- Communication loop created
  - Information learned from weekly SPT-NCM meetings was communicated to the appropriate individuals and issues identified were discussed at pharmacy and nursing committee meetings
Results

- Communication between pharmacy and nursing was improved over the three month pilot.
- The new service was well-received by both pharmacy staff and nursing and resulted in a marked reduction in missing medications.
- Over the course of the 3 month pilot, the volume of missing medications categorized as being due to "nursing" and "systems/other" decreased by 33%.

Missing Medications by Type

November 2010-January 2011

Trends-Missing Medications by Type

Pharmacy Testimonial

- "If the pilot program is any indication, the senior pharmacy technician initiative at WPIC will provide a unique and beneficial channel between pharmacy and nursing that otherwise would not exist. Through ongoing monitoring of missing medication and MAR communication data, in conjunction with weekly meetings with the NCM and input from nursing staff, we have begun to explore the definitive root causes of pharmacy and nursing issues. The feedback provided by this pilot program has already enabled nurses, pharmacists, technicians, and prescribers to take positive corrective actions in their daily work which, taken together, will yield a more streamlined and efficient system for all involved, including our patients. The senior tech also acts as a liaison of sorts, an additional resource for prescribers and nurses with pharmacy-related questions, by assuring that the most pressing issues get communicated and resolved quickly. This new approach to pharmacy/nursing relations has a huge upside which we are only now beginning to discover."

- Joshua Mulkey, CPhT, Senior Pharmacy Technician

Nursing Testimonial

- "Working with Josh for the senior pharmacy technician pilot program has been an enlightening experience. It has promoted the inpatient team and pharmacy to pool our resources in analyzing all aspects involved in the hospital's medication process. First, we have been able to look more closely at physician’s orders and where teaching can promote further clarity and less medication errors. We have also investigated medication errors more thoroughly in that we can break them down with input from inpatient team and pharmacy at the same time rather than both sides looking at them independently. I believe this has lead to us identifying specifically where an error started, which may not have happened without both of us doing it together. The quick identification of the origin of medication errors is especially beneficial because we can implement changes to positively affect patient care immediately and reduce overall medication errors more timely. Since starting the program, the day to day communication between inpatient and pharmacy has been greatly improved. The increased collaboration has also lead to one of our RNs observing in pharmacy, giving the unit's nursing staff more insight into the pharmacy processes and how we can work together more efficiently and effectively. Overall, I couldn't be more pleased with the experience I have had working with Josh for this pilot program."

- Brian Helt, RN, Nurse Clinical Manager

Benefits of a SPT program

- Increased constructive communication and improved relationships between pharmacy and nursing.
- Improved the medication use process and reduced missing medications through focused attention and root cause analysis.
- Increased staff comfort and efficiency with automation and reduced turnaround time for discrepancy resolution.
- Provided a forum for discussion of concerns regarding pharmacy services and increased nursing staff understanding of pharmacy operations and workflow.
Lessons Learned

- Creation of a technician career ladder not only provides a professional development opportunity for staff, but can significantly improve pharmacy services
- Key to get nursing buy-in from the start by promoting the benefits of the SPT program
  - Presented results of SPT pilot to pharmacy & nursing staff
  - Developed in-service to introduce program to new units
- Support from administration was needed to create additional SPT positions and expand the program

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Next Steps

- Two additional full-time SPT positions created and SPT Program expanded to all units
- Additional responsibilities identified
  - Development of standardized procedures and re-training for technicians
  - Maintenance and optimization of AcuDose-Rx®
  - Full responsibility for crash cart checks and ongoing maintenance of crash cart refill trays
  - Daily maintenance of medication rooms on units
  - Investigation of pharmacist order entry errors with real-time feedback