Summary of Pharmacy Issues in Critical Access Hospitals

Technical Assistance and Services Center (TASC)

Medication errors injure more than 1.5 million people annually, and cost more than $3.5 billion dollars in additional hospital costs, according to the Institute of Medicine. In a recent study where 14,041 medication administrations were directly observed:

- 1,271 medication administration errors were discovered; and,
- 133 of the errors had the potential to cause serious or life-threatening harm and were considered serious or life-threatening potential adverse drug events.
- Adverse drug events (ADEs) manifest in a number of ways, ranging from mild allergic reactions to anaphylaxis or even death.
- Ten ADEs resulted from the 133 serious and life-threatening potential ADEs; and,
- Six resulted in significant, three in serious, and one life threatening injury. Half of the ADEs were caused by dosage or monitoring errors for anti-hypertensives.
- At hospitals where 6 million doses are administered per year, about 4,000 preventable ADEs would be attributable to medication administration errors annually. (Abhivyakti, 2012)

In light of this information, rural hospitals need to implement medication safety practices, with particular focus on pharmacist staffing. Currently, many small rural hospitals have limited hours of an on-site pharmacist and, “the amount of pharmacist staffing is significantly and positively related to patient volume, case mix, JCAHO accreditation, and financial status” (Upper Midwest Rural Health Research Center, 2005).

“Hospitals with pharmacists on-site more than five hours per week are more likely to have adopted safe medication practices” (RUPRI Center for Rural Health Policy Analysis, 2008). Several studies have shown that limited pharmacist capacity in small rural hospitals adversely affect the contributions pharmacists made to medication safety. This leads to “reduction in the amount of time available to provide clinical pharmacy services and an increase in pharmacy-related medication errors” (Casey, 2010). Limited access to pharmacists also leads to prescribing errors, unauthorized drug errors as well as improper dose errors (Casey, 2010).

As of 2008, only one out of five small rural hospitals had knowledge-based processes in place that can consistently achieve the following:

1. A pharmacist reviews orders within 24 hours;
2. A double check of transcription to the medication administration record before obtaining the initial dose of a drug;
3. An independent double check of the selected medication within the pharmacy or medication room prior to administration; and,
4. Verification by the nurse at the bedside using an unopened unit dose and the medication administration record (RUPRI Center for Rural Health Policy Analysis, 2008).

Resource availability greatly influences the prevalence of knowledge-based safe medication practices in hospitals. “Hospitals that lack a ... pharmacist were least likely to implement an independent double check between the prescribing of a medication by a physician and the administration of that medication by a nurse” (RUPRI Center for Rural Health Policy Analysis, 2008). The RUPRI study also noted that hospitals without on-site pharmacy support were least likely to have pharmacists participating in formulary management, drug utilization review, medication error reporting and quality improvement initiatives.

Reasons for not employing a full-time pharmacist:

1. Lack of patient volume to support full time pharmacist
2. Limited financial resources
3. Shortage of pharmacists
4. Stakeholders disagree concerning need for pharmacy support (RUPRI Center for Rural Health Policy Analysis, 2008).

Through the use of comprehensive information systems and automation, the medication processes of ordering, transcribing, dispensing and administering medication for patients can be improved. According to HIMSS Analytics Database, 59.55% of critical access hospitals (CAHs) have implemented computerized provider order entry (CPOE) as of July, 2012 (HIMSS Analytics Database, 2012). This has been a dramatic jump of over 560% since it was measured in 2010. While the utilization of technology can assist in medication management, which leads to improved patient safety, it is important to note that many medication safety practices, such as read-back policy for verbal orders or implementation of double-checks, are based on knowledge and not on technology (RUPRI Center for Rural Health Policy Analysis, 2008).

Remote medication order processing has also been utilized as a way for small rural hospitals with limited pharmacy coverage to obtain additional pharmacist resources (Casey, 2010). An off-site pharmacist can review medication orders and assist with formulary management. Remote medication order processing or remote pharmacy practices must include the following to be successful:

1. Review of actual written order (e-copy or facsimile) for verification of accuracy of electronic order entry and other issues such as appropriate usage, dosing, potential interactions, etc.
2. Reconciliation of medications upon admission, transfer and discharge;
3. Access to patient clinical and lab information; and,

States also need to address a number of policy issues in regards to remote medication order processing adoption. These issues include: physical location of the pharmacist providing services; the minimum amount of time a pharmacist must be onsite at a hospital; the roles of pharmacists, and technicians and nurses in medication distribution (Casey, 2010).

Conclusion

Adverse drug events (ADEs) continue to be a problem and constituted 34% of measured hospital acquired conditions (HACs) in 2010. The goal for a 40% reduction of preventable HACs would require 285,000 fewer ADEs in 2013 and this will require greater pharmacist intervention (Moore, 2012). Research from the Flex Monitoring Team concluded that small rural hospitals have limited hours of on site pharmacist coverage including 31 hospitals where a pharmacist spent two hours or less on site per week (Casey, 2010). There are many steps that hospitals can take in order to support improvement in this area including networking with other facilities to soften the cost burden and utilizing remote medication order processing. Inclusion of the pharmacist review measure in the Medicare Beneficiary Quality Improvement Project (MBQIP) is a necessary step to focus on this issue and start making marked improvements.

Works Cited


HIMSS Analytics Database. (2012). CPOE Installations by Type of Hospital. Retrieved August 1, 2012
