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A New Horizon: Emergency Department Pharmacy Practice

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With an estimated 3.8 million preventable adverse events each year, the emergency department (ED) has the highest rate of preventable adverse drug events (ADEs) of all hospital areas. In fact, the rate of medication errors resulting in harm to ED patients is more than double that of inpatients.[1] Despite this striking data, emergency departments are among the least likely of all hospital settings to have a dedicated clinical pharmacist on the patient care team. In 2008, a mere 9.3 percent of hospitals had a formal policy requiring pharmacist review of ED medications before administration, and even fewer (6.8 percent) had decentralized pharmacists in the department.[2]

A variety of factors contribute to the error-prone nature of the emergency department. Although recent years have seen an increase in ED visits overall, the number of EDs in the United States has declined, leading to overcrowding.[3] Additionally, providers must contend with a wide range of diseases and medications – usually with minimal to no patient history – in an often chaotic environment, treating multiple patients simultaneously. These items, combined with the fast pace and intense pressure of the ED, form a recipe for error. That risk is further compounded by the lack of pharmacist review.

Introduction of clinical pharmacy services to intensive care units and internal medicine teams has reduced preventable ADEs by a substantial 66 percent and 78 percent, respectively.[4] Pharmacists have the potential to similarly decrease ADEs and improve patient outcomes in the emergency department by a variety of means. These include traditional roles, such as involvement in resuscitation teams and management of drug inventory, along with more novel methods, such as provision of specialized clinical and ambulatory care services.[4]

The pharmacist's double-check is especially vital to ED staff in the context of codes, cardiac alerts and traumas, in which critical decisions are made with limited time. Pharmacists have been members of resuscitation teams since the 1970s.[4] In addition to formal pharmacy education and post-graduate residencies, additional training in Advanced Cardiac Life Support, Pediatric Advanced Life Support, Hazmat Life Support, and others prepare the pharmacist to function effectively as part of resuscitation and critical care teams. The emergency pharmacist (EPh) anticipates, suggests, and prepares appropriate medications and doses for these critical patients. This allows for other staff to attend to tasks such as blood draws and intravenous line placement. The pharmacist also may assist with ventilation and cardiopulmonary resuscitation as needed.[5]

Consultation services are another valuable contribution the EPh makes to the patient care team. The EPh can recommend appropriate therapy for patients with renal or hepatic impairment, provide toxicology information for overdoses and poisonings, guide appropriate antibiotic selection, and participate in medical rounds. They promote adherence to National Quality Indicators and encourage the use of evidence-based medicine.[4] The physical presence of the pharmacist on the unit encourages communication, collaboration and trust between providers, allowing for optimal utilization of consultation services.[5]

Emergency departments with established EPh programs have reported promising results. In addition to cost savings, a perception of increased quality of care and medication safety among physicians and nurses has been described.[1] Following implementation of clinical pharmacy services in one ED, a survey showed that 96 percent of the ED staff felt that the EPh was an integral part of the team, 85 percent felt the EPh should double-check all high-risk meds, and 99 percent of the staff felt the EPh improves the quality of care, including 100 percent of ED physicians.[6] In 2009, 6.8 percent of EDs report having an emergency pharmacist on staff, an increase from 3.4 percent two years previously.[2] Hospitals are headed in the right direction, but substantial room for improvement remains. With the support of organizations, including the American Society of Health-System Pharmacists, the Institute of Medicine, and the Agency for Healthcare Research and Quality, incorporation of emergency pharmacists into ED teams is bound to continue.[4,6] Emergency pharmacists may reduce overall hospital costs, avoid medication errors, and improve patient outcomes.

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