Incorporating prehospital care into emergency medicine residency training

Emergency medicine (EM) is a rapidly growing subspecialty of pharmacy. EM pharmacists are involved with a wide range of patients, including those being checked for minor ailments, those with sepsis requiring resuscitation and antibiotic therapy, and those with multiple traumas requiring massive transfusions. The combination of a fast-paced environment with the various levels of care required makes the emergency department a prime environment for medication errors. Across the United States, EM pharmacists are developing services to ensure optimal and safe patient care in the emergency department. As the need for EM specialty–trained pharmacists grows, the number of new postgraduate year 2 (PGY2) pharmacy EM residency programs is increasing.

Currently, the curricula of pharmacy EM residencies consist of rotations in the emergency department and other core and elective rotations in intensive care, toxicology, and other areas to fit each resident’s goals. While some residency programs may offer opportunities to complete occasional EM services (EMS) “ride alongs,” few offer formalized rotations in the prehospital care setting. We describe a prehospital care rotation for a PGY2 EM pharmacy resident at Detroit Receiving Hospital with Detroit emergency services providers.

The EM pharmacy resident completes a monthlong rotation with the Detroit EMS paramedics and EM technicians (EMTs). During 12-hour shifts, the resident works closely with EMS to assess chief complaints and treat patients utilizing EMS diagnostic algorithms. As expected, the needs of transported patients vary widely and can include asthma exacerbations, cardiac arrests requiring advanced cardiac life support, and trauma requiring advanced trauma life support. The resident’s role during each transport is to assess the patient, obtain an accurate medication history, identify possible drug-related adverse events contributing to the patient’s chief complaint, and assist with providing emergent care.

Pharmacy residents are accustomed to being highly utilized by physicians and nurses to answer questions, but the audience is significantly different on the EMS rotation. While evaluating a patient’s medications, the resident educates the patient, paramedic, and EMT on drugs’ indications for use and adverse effects. Many patients have little knowledge about both their medications and diseases or that their chief complaint may be related to a medication. When not actively transporting patients, the resident provides the EMS personnel with more in-depth information about medications, including brand and generic names, mechanisms of action, adverse effects, monitoring parameters, maximum doses, and contraindications for medications included in the prehospital protocols. As part of the rotation, the resident also works with the Wayne State University EMS physician fellow to build an educational tool for new EMTs as well as provide any drug-related updates for current personnel.

Another rotation goal is to enhance the resident’s understanding of the EMS role in transitions of care. Information provided by EMS personnel is often the most reliable and vital to assist with determining the treatment path at the hospital (e.g., chief complaint, environment in which the patient was found, pertinent facts from bystanders), especially with patients with very acute care needs. Because a medication history is frequently an important factor in the treatment plan, the resident assists with patient

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handoff with the receiving hospital to ensure an accurate history during transitions of care.

This rotation is not limited to ride alongs with EMS personnel; the resident is expected to actively participate in meetings of the Detroit East Medical Control Authority (DEMCA). This multidisciplinary council reviews all EMS protocols and discusses methods for improving prehospital patient care. As a pharmacy representative, the resident is to ensure that the recommendations and decisions are appropriate and feasible from the pharmacy’s perspective. The experience with DEMCA allows the resident to see the multifaceted approach to prehospital patient care.

In summary, the prehospital experience as an EM pharmacy resident is of great value. Ride alongs give an opportunity for one-on-one education on drug-related topics to paramedics, EMTs, and patients and expose residents to the challenges faced by prehospital healthcare providers. The insight gained during this residency provides a distinct advantage to EM pharmacists and may help to expand the role of EM pharmacists in the future.


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