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Opinion

# A description of pharmacy experiential education in the emergency department

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**Abstract**

With the expansion of pharmacy clinical services in emergency departments nationwide comes a growing opportunity for experiential education in this setting. This article discusses the introduction of pharmacy residents and students into the emergency department at Northwestern Memorial Hospital (NMH) in Chicago, Illinois. We address the challenges faced with the implementation of experiential education, the specific roles of the trainees to extend clinical pharmacy services in the department, the pharmacist precepting model employed at NMH, and the creation of structured rotational experiences. Alignment with educational and experiential requirements is highlighted throughout.


*Keywords:* Experiential education; Emergency department; Pharmacy resident; Rotation

Emergency medicine pharmacy is an expanding practice area throughout the United States. As reported by an American Society of Health-System Pharmacists (ASHP) 2012 National Survey, the presence of pharmacists in the emergency department (ED) has increased from 10.9% of hospitals to 14.9% in 2011 and 2012, respectively. Of the responding hospitals with 600+ beds, 66% reported that they provide pharmacist drug therapy management services in the ED.[1] As highlighted by the ASHP, emergency medicine clinical pharmacists (EMPs) have many essential roles including optimization of medication use through interaction with the ED team, medication order review, drug therapy monitoring including high-risk medications, participation in high-risk procedures including resuscitation, medication procurement and preparation, and provision of drug information.[2] The development of EMP positions nationwide is also providing an emerging experiential opportunity for pharmacy students and residents. The ED is a unique learning environment in that it often requires clinicians to assess and treat patients without having extensive clinical histories readily available. It also exposes trainees to a broad spectrum of patients from critical to ambulatory. We view the goals of a rotation in the emergency department to include familiarizing oneself with the role of the EMP and actively improving patient care and safety by performing the roles described above, as appropriate to the individual's level of education.

While there is ample literature to support the value of the EMP position,[3–6] little has been published on the integration of pharmacy trainees in the ED. As reported in a 2008 dual ASHP and American Association of Colleges of Pharmacy (AACP) survey, schools/colleges of pharmacy nationwide face difficulty in their ability to find practice sites for their experiential students. This is due in part to the reported "serious concern" of health-systems and hospital practitioners about the capacity to accommodate increases in

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student experiential education needs. While there are multiple reasons for this concern, it may be somewhat alleviated if health-systems envision experiential education as beneficial not only to the students and residents but also to patient care and the institution. In this survey, only 34% of respondents viewed the ability of students to expand the scope of patient care services as a contributing factor in their decision to provide advanced education at their practice site.[7] At Northwestern Memorial Hospital (NMH), our pharmacy department's educational goal is to fully engage students and residents into patient care activities. In addition to providing valuable learning experiences, our aim is to utilize trainees as pharmacist "extenders" and take advantage of their ability to augment pharmacy services.

During the 2011 Pharmacy Practice Model Summit, an event centered on the development of the Pharmacy Practice Model Initiative (PPMI), the advisory committee provided a recommendation that practitioners develop a plan to "allocate pharmacy student time to drug therapy management services."[8] NMH is committed to such initiatives. We have been able to integrate an increasing number of students and residents into our practice site in part by considering these ideas when striving to expand the influence of pharmacy throughout the institution. This is a vision that may benefit schools/colleges of pharmacy as well: promoting the value of pharmacy trainees, while seeking to expand their experiential sites for students and broadening postgraduate residency opportunities in their geographic area.

## Emergency medicine pharmacy at Northwestern Memorial Hospital

NMH is an 894-bed academic medical center located in Chicago, Illinois. There are over 82,000 ED visits annually in a 50-bed, two-story department. The EMP position was created in September 2010, partially funded through a partnership with Midwestern University, Chicago College of Pharmacy (MWU-CCP). This position was expanded from 1.0 full-time equivalent (FTE) to 2.4 FTEs in September 2012, supported in part through an additional co-funded position with Rosalind Franklin University of Medicine and Science, College of Pharmacy (RFUMS). These two colleges currently provide 1.6 FTEs, with the remaining 0.8 FTE funded by the hospital. The faculty members spend 70–80% of their time working as a pharmacist in the ED and the rest of the time fulfilling teaching responsibilities at their respective colleges. To allow for consistent coverage, a third non-faculty pharmacist works part-time in the ED, and two additional inpatient pharmacists are trained to cover the few shifts per month not filled by the three primary EMPs. The current hours of clinical pharmacist coverage in the ED are 7:00 AM to 11:00 PM on weekdays, consisting of two 8.5-hour shifts and a single 7:30 AM to 4:00 PM shift on weekends. In line with the ASHP practice recommendations,[2] the EMP is physically present in the department during these hours and is also available via mobile phones and pagers. Primary responsibilities of the position include bedside participation in cardiac arrests, traumas, intubations, and stroke codes; patient chart review and prospective order verification of all antimicrobial, anticoagulant, antiarrhythmic, and other high-risk medications as defined in hospital policy; provision of drug information and therapeutic consults from the medical and nursing staff; in-services and protocol updates; participation in interdisciplinary committees; and provision of patient education, counseling, and medication histories upon request. In our high-volume ED, the clinical pharmacist is often balancing several of these activities at one time. The addition of pharmacy residents and students to the ED has aided in the development of a practical and operational practice model that has allowed for expansion of the pharmacy services provided in our department, as aligned with the objectives of the PPMI.

Over a three-year period through May 2014, 12 third-year introductory pharmacy practice experience (IPPE) students, 28 fourth-year advanced pharmacy practice experience (APPE) students, 18 postgraduate year one (PGY1) students, and four critical care postgraduate year two (CC PGY2) pharmacy trainees have completed rotations in the department. Student IPPE rotations are condensed 40-hour experiences and APPE rotations are six-week electives through MWU-CCP and RFUMS. Resident rotations at NMH are monthlong elective experiences. With increased demand for student and resident rotation sites, we anticipate up to eight IPPE, 24 APPE, 11 PGY1, and two CC PGY2 trainees to rotate through our department in the next academic year alone. This increase in the number of experiential rotations will require significant logistical planning but also presents us with an opportunity to further develop our ED pharmacy services.

## Challenges to development of experiential education at our practice site

The development of these educational experiences has not come without challenges. The logistics of coordinating and evaluating a large number of trainees is burdensome. While all clinical pharmacists working in a shift in the ED have the same degree of precepting responsibility of the students and residents, we have found it simplest to assign the formal written and verbal evaluations to a single primary preceptor. The primary preceptor receives weekly updates from the other pharmacists on the progress of the trainees, and all preceptors' experiences are taken into account during the evaluation process. The resident(s) is also expected to contribute to the assessment of the students. In a smaller practice setting, this can be managed verbally or via e-mail, whereas larger services may find it valuable to create a shared electronic document to track trainee progress. Furthermore, it is communicated to the incoming students and residents that they will be working with