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Short communication

Advanced pharmacy practice experiences for pharmacy students in emergency department settings

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Abstract

Purpose: Pharmacy practice in the emergency department (ED) has grown dramatically over the past decade; however, it is not clear if the growth has provided opportunities for pharmacy students through clinical rotations. The purpose of this investigation was to determine the percentage of schools/colleges of pharmacy that offer an advanced pharmacy practice rotation experience. Secondary objectives included the longevity, how the rotation is classified, and the extent to which these rotations are offered by full-time faculty of the school/college.

Methods: The survey was sent to experiential education coordinators at 130 schools/colleges in the United States and Puerto Rico. Participants could opt in to a drawing for one of eight gift cards. Data were entered into an electronic spreadsheet, and descriptive and inferential statistics were calculated as appropriate.

Results: Overall, 58 valid surveys were returned (44.6%). Most schools/colleges of pharmacy offered this type of rotation (86.2%). The respondents represented 6402 graduates annually, offering 586 (9.2% graduates) rotations for 5.4 ± 5.3 years (mean ± standard deviation). The location for ED rotations were community hospitals (60.3%), academic/university (54.4%), Veterans Affairs/governmental (10.3%), pediatric (6.9%), or other (6.9%). Respondents could check more than one category, so percentages sum to greater than 100%.

Conclusions: The majority of schools/colleges of pharmacy offer a rotation in the ED; however, less than 10% of graduates will be exposed to this type of educational opportunity. Students are most likely to have their APPE rotation in community hospitals.

Keywords: Emergency medicine; APPE; ED; Rotation

Introduction

Pharmacy practice in the emergency department (ED) has grown dramatically over the past decade. In 2006, 3.4% of hospitals had a pharmacist regularly assigned to the emergency department; by 2008, this number had doubled to 6.4%.[1] By 2012, 14.9% of hospitals indicated they routinely assigned pharmacists to a majority of patients in the emergency department.[2] Likewise, post-graduate year 2 programs in emergency medicine continue to grow. In 2014, there were 20 programs participating in the match, offering a total of 24 positions.[3] In contrast, there were five programs offering a total of six positions in 2009.[4] A search of the biomedical and pharmacy education literature failed to identify any information on the opportunities for student pharmacists to complete an advanced pharmacy practice experience (APPE) in an emergency department setting. The purpose of this investigation was to characterize current ED APPE opportunities in the United States. The primary objective was to determine what percentage of schools/colleges of pharmacy routinely offer a rotation experience in

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the emergency department. Other objectives of interest included the following: the length of time the rotation has been offered, quantify the number of emergency medicine faculty who offer APPE rotations for students, as well as to characterize the length of rotation, type of facility, and how the APPE is classified (required versus elective). A third objective was to stratify the primary objective based on type of institution, size of graduating class, or longevity of the school/college.

Methods

The survey instrument was developed with questions that could be answered by the person in charge of experiential education (or designee) at each school/college. There were four main sections of the survey. The first section collected information about the respondent and affiliation including his/her willingness to be included in the drawing. This information was only used for drawing purposes and to ensure duplicate records were not included. The second section of the survey included demographic variables about the school/college of pharmacy. These included type of institution (public, private, and other), educational delivery (accelerated, traditional, 0 + 6, or other), size of graduation class, year of first graduation, number of APPEs required or elective, and length of time for each APPE. After respondents were asked if they offered an APPE in emergency medicine, they were redirected to a fourth section based on their response. If the response was no, then they were asked about potential barriers to implementation. If there was an ED APPE offered, additional questions were asked about longevity of the offering, number of students completing the APPE annually, types of institutions where these rotations are offered, and if faculty members offered the rotations. The survey was disseminated using an electronic survey tool (www.SurveyMonkey.com) and was sent as a link embedded in an e-mail message using the blind copy functionality to maintain anonymity across respondents. The population of interest was all schools/colleges of pharmacy in the United States and Puerto Rico. Therefore, the Accreditation Council for Pharmacy Education website was used to identify all schools/colleges of pharmacy in the United States and Puerto Rico that were fully accredited, have candidate status, or have pre-candidate status.[5] Schools/colleges of pharmacy with branch campuses operating under a single accreditation were requested to submit one survey that represented all campuses. Schools/colleges of pharmacy websites were used to identify the director or Dean of Experiential Education.

To maximize response rate, two elements were incorporated into the survey. First, it was designed to be brief, taking no more than 15 minutes. Second, respondents could be randomly drawn to receive one of eight gift cards valued at $50 each. One drawing per week was offered, where two respondents were selected from all completed surveys. The website random.org was used to randomize strings of data (i.e., name of the schools/college of pharmacy) to select the recipient of each gift card. Each participant could opt out of the drawing if desired by selecting that option within the survey. The third element incorporated to increase response was reminder e-mails. There were six reminders sent. One was sent each week after the drawing. This e-mail also indicated the winners who were selected and information that they would receive a separate e-mail from the principal investigator as well as the gift card in the mail within two weeks. During the last week, the survey was open, two additional reminder e-mails were sent. The last reminder e-mail was flagged as high priority.

Data were exported from SurveyMonkey.com in a format that could be analyzed using SPSS. Data were then analyzed using SPSS 19.0 (SPSS, Inc.) using descriptive and inferential statistics. Chi-square was used to test if there was a difference between stratified groups (class size, longevity, and type) and offering an APPE in emergency medicine. The α level was set at 0.05 for all analyses. The Institutional Review Board at Western New England University approved this study before the initiation of the investigation.

Results

There were 130 schools/colleges of pharmacy that met the criteria for inclusion. The survey was active for 30 days, starting April 15, 2014. A total of 69 responses were recorded in the electronic survey tool (53%); however, ten of these represented empty records and one was a duplicate. After excluding these records, there were 58 responses, representing an effective response rate of 44.6%.

The 58 respondents represented 6402 graduates per year and provided a total of 586 APPE rotations in emergency medicine. The mean ± standard deviation (SD) for the class size was 110 ± 53.6. The respondents represented 34 states. The broad geographic distribution was as follows: the South 36.2%, the Northeast 25.9%, the Midwest 20.7%, and the West 17.2%. The majority of respondents were from private institutions (59.3%). Further characteristics of respondents are shown in Table 1. One institution was a private school of pharmacy within a public university setting.

Emergency medicine is an APPE opportunity offered by most schools/colleges of pharmacy (86.2%). It was classified as an elective rotation by 71.2% of respondents. The length of each rotation was a median of five weeks (four to eight weeks). On average, it has been offered for 5.4 ± 5.3 years (mean ± SD). The distribution of locations where these rotations take place is community hospitals (60.3%), academic/university (54.4%), Veterans Affairs/governmental (10.3%), pediatric (6.9%), or other (6.9%). Respondents could check more than one category, so percentages sum to greater than 100%.

While the majority of those offering a rotation in emergency settings did not have a faculty member dedicated