

## BRIEF REPORT

# Attrition Rates of Pediatric Emergency Medicine Fellowship Graduates

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**Objectives:** To identify the percentage of alumni of one Pediatric Emergency Medicine (PEM) fellowship program who consider themselves to still practice in the field.

**Methods:** A brief survey (5 questions) was sent to all physicians who began the PEM fellowship program at the University of Alabama at Birmingham between the years 1986 and 2006. Survey included demographics, length of time out of fellowship, present work location, and whether the respondent considered themselves to be in the field of pediatric emergency medicine.

**Results:** Forty-three physicians were identified as beginning fellowship between 1986 and 2006. One physician was excluded as she was deceased. Forty (95%) of the 42 individuals graduated from a PEM fellowship program. Analyzing the 39 responding PEM graduates, 29 (74%) consider themselves practicing pediatric emergency medicine. Six (60%) of those not considered practicing in PEM ( $n = 10$ ) are women. Four of these 10 individuals are still in academic medicine. Overall attrition rate for this cohort of PEM fellowship-trained physicians is 25.6% (95% confidence interval, 13.0–42.1).

**Conclusion:** Overall attrition rates of fellowship-trained PEM physicians seems to mirror that of adult trained counterparts.

**Key Words:** pediatric emergency medicine, fellowship, attrition rates

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The subspecialty of pediatric emergency medicine (PEM) has developed substantially over the past 2 decades, but compared to adult emergency medicine (EM) counterparts, this is still a relatively young field. The first PEM fellowships began in 1981, and PEM subspecialty Board certification began in 1992.<sup>1</sup> Little is known about the longevity of practice in the field of PEM, but in adult emergency medicine, the attrition rate has been reported up to 25% in 10 years.<sup>2</sup> The purpose of this study was to identify the percentage of the alumni of one PEM fellowship program who considered themselves still practicing in the field of PEM. This would then allow for calculation of attrition rates within this subspecialty.

This is the first study to look specifically at attrition rates in PEM fellowship-trained physicians. Baseline data and com-

parison of rates to adult emergency medicine counterparts may give insight into further areas for research.

## METHODS

All physicians who began the PEM fellowship at the University of Alabama at Birmingham between the years 1986 and 2006 were identified. This PEM fellowship program began in 1986. The last class of graduates to finish before the start of the study began their training in July of 2006. An electronic survey was sent to identified individuals in August 2009. For those with no e-mail address or returned initial email, a letter was mailed to the most recent address on file. Repeat e-mails or letters were mailed over a 3-month period to nonresponders. Follow-up phone calls were placed to continued nonresponders during the period from October 2009 to April 2010.

A brief survey (5 questions) was developed that included demographics, length of time out of fellowship, present work type location, and whether the respondent considered himself or herself to be in the field of PEM. Data were entered into a computerized database. Data analysis was done using the statistical tools available in the database software (True Epistat Version 5.0, T.L. Gustafson, Epistat Services, Richardson, Texas, June 1994). This study had approval of the Institutional Review Board at the University of Alabama–Birmingham.

## RESULTS

Forty-three physicians were identified as beginning fellowship between 1986 and 2006. One physician was excluded (deceased). There were 42 possible study participants. Twenty of 42 responded to the initial survey. An additional 21 were contacted via repeat e-mail, letter, or phone. By April 2010, 41 (97.6 %) of the 42 possible physicians had been contacted. One individual was lost to follow-up, but their basic demographic information was able to be reviewed.

Forty (95%) of 42 individuals graduated from a PEM fellowship program. Thirty-nine graduated from this program and one graduated from a separate accredited program. Of the 40 PEM graduates, 23 (57.5%) are men. Both noncompleters were women. Breakdown of sex and number of years since completion of training is shown in Table 1.

Analyzing the 39 responding PEM graduates, 29 (74%) consider themselves practicing PEM. Four of these individuals are section chiefs or division directors and 2 are PEM fellowship directors or codirectors. One of the nongraduates also considered herself to be practicing in the field but was not included in further analysis.

Among the 10 individuals who do not consider themselves practicing in PEM, 6 (60%) are women. Of the 10 individuals, 4 are still in academic medicine, in fields including: anesthesiology, toxicology, simulation, and research. For the remaining 6 PEM graduates, 3 are in private practice pediatrics and 3 are not presently working. The overall attrition rate for this cohort of PEM fellowship-trained physicians is 25.6% (95% confidence

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**TABLE 1.** Sex and Attrition Rate Since Completion of Training (n = 40)

Years Since Graduation	Total Male (# Not in PEM Practice)	Total Female (# Not in PEM Practice)	Attrition Rate (%)
0–5	7 (0)	7 (2)	14.2
6–10	5 (0)	3 (2)	25
11–15	6 (2)	4 (1)	30
16–20	5 (2)	3 (1)	37.5

interval [CI], 13.0–42.1). Attrition rate by years out of fellowship can be found in Table 1.

## DISCUSSION

Our study yields an overall attrition rate of 25.6%, which is comparable to prior reports in the adult EM literature of up to 25% in 10 years.<sup>2</sup> Although it is not possible to show cause-and-effect relation with the small numbers of graduates for each grouping, our study did show a trend of a rising attrition rate based on number of years out of fellowship with a maximum attrition rate of 37.5%.

Emergency medicine has existed much longer than PEM. The first university emergency medicine residency arose in the University of Cincinnati in 1970, and the American Board of Emergency Medicine administered their first board examination in 1980. In contrast, the first PEM fellowships began in 1981, and the first board examination was in 1992. Limited amounts are known about career longevity of practitioners in either field. In the adult emergency arena, a 1992 survey of 858 EM residency graduates from 1978 through 1982 reported a 15.1% attrition rate after 10 years of practice.<sup>3</sup> In another EM study from 1996, a cross-sectional survey between 1992 and 1995 reported a projected attrition rate of 7.5% over 5 years and 25% over 10 years. In the PEM literature, a 2001 study reported an observed projected attrition rate (plans to practice PEM in 5 years based on survey questions) of 15% over 5 years.<sup>4</sup> A 2009 survey of PEM physicians focusing on career longevity showed that 15% of responding physicians had retired from clinical practice of PEM. They did not report attrition rate and cautioned on interpretation of their data as it may only represent a selected portion of PEM physicians (25.2% response rate on survey).<sup>5</sup> Although our study was a limited survey, it focused specifically on PEM fellowship-trained physicians and had an excellent response rate. Our overall attrition rate of 25.6% is much higher than any prior study that reported attrition rates in PEM physicians.

We made no attempt to define the complex factors involved with career longevity and potential causes of attrition. These factors include shift work, overnight shifts, dissatisfaction with career, emotional exhaustion, and high anxiety caused by concern for bad outcomes.<sup>2,6,7</sup> Other studies have noted that despite emo-

tional exhaustion, most of the respondents were satisfied with the career of emergency medicine.<sup>7</sup> In addition, one self-reported questionnaire focusing on burnout noted that age and years of practice were not significant predictors of burnout.<sup>2</sup> In contrast, our data, although small and limited, did show a rising attrition rate with years out of fellowship training. Future studies will be needed to further evaluate and define factors contributing to the PEM practice attrition in this cohort of individuals.

## LIMITATIONS

The primary limitation of this survey is that the data are only from the alumni of one PEM fellowship program. This program is a large fellowship program and has been in existence within 5 years of the inception of PEM fellowship programs. Therefore, we believe this information would likely be generalizable to all PEM fellowship programs and thus be representative to the national pool of these physicians. But to confirm this, a survey of all PEM graduates needs to be undertaken.

An additional limitation is that we made no attempt to define the complex factors involved with career longevity and the potential causes of attrition. Despite the fact that our limited results show a trend toward escalating attrition rates with time out of PEM fellowship training, we cannot confirm if this is a causal relationship.

## CONCLUSIONS

In summary, the results of our survey indicate that the overall attrition rate of fellowship-trained PEM physicians seems to mirror that of our adult trained counterparts. There may be a trend toward escalating attrition with the number of years out of training, but further studies will need to be undertaken to assess this relationship.

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