Retiring From Pediatric Emergency Medicine Too Soon? A Survey to Discover the Reasons and Start a Conversation About Solutions

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Objective: Pediatric emergency medicine is a subspecialty known for high acuity, high stress, and variable scheduling that may be difficult to maintain as one gets older. This survey sought to gain information on the reasons or plans for early retirement in pediatric emergency medicine and offer ways to address these concerns to improve longevity in the field.

Methods: A cross-sectional survey was sent via email to board-certified pediatric emergency medicine physicians who were older than 50 years to assess preretirement and postretirement considerations. Results were collected from October 3, 2019, through March 15, 2020.

Results: Pediatric emergency medicine physicians who find it more difficult to perform simple procedures are 3.02 (1.23–7.36) times more likely to retire before the age of 66 years. In addition, women were significantly more likely to report an intention to retire before the age of 66 years versus men (50% vs 31%, P = 0.022).

Discussion: The topic of retirement in a field that requires a wide range of procedural skills as well as constantly evolving technology is important. Understanding when and why physicians choose to retire may identify strategies to make it possible for pediatric emergency medicine physicians to prolong their careers. This may involve changes in work hours, a shift in responsibilities to a greater educational or mentor role, and/or providing opportunities to maintain skills.

Conclusions: Perceived basic procedure skills deterioration significantly increased the risk for early retirement. In addition, women were significantly more likely to express intention to retire before the age of 66 years. Further research should be directed toward obtaining more detailed information to develop strategies to retain pediatric emergency medicine physicians in a capacity that benefits the physician, their institution, and their patients.

Key Words: retirement, skills, stress

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Pediatric emergency medicine is a pediatric subspecialty with its origins beginning in the 1980s. After this, the first board certification examination was offered in 1992. As of 2021, the number of American Board of Pediatrics diplomates in this field has grown to 2681.1 As a relatively young field in medicine, some of the first group of pediatric emergency medicine physicians have recently retired or are reaching retirement age. There are sparse data regarding physicians’ planning for retirement and reasons for retiring from pediatric emergency medicine. In a subspecialty, which requires an extensive time investment in training and a daily practice involving high-acytity and high-stress clinical situations, understanding factors that influence transition out of clinical work and early retirement is important to understand. One of the first articles addressing the retirement of pediatric emergency medicine physicians was published by Ros et al in 2009. Their study found that senior physicians surveyed continued to carry a significant clinical workload and were concerned about longevity. As pediatric emergency medicine was a relatively new field at that time, Ros et al2 did not address any of the complexities surrounding the decision to retire.

Pediatric emergency medicine has evolved since the entry point for more senior physicians. Point-of-care ultrasound, electronic health records, changing disease patterns, as well as new ones, new technologies, and medical advancements have profoundly impacted our field. Over time, emergency department census has increased and acuity of diseases have also become more complex. All these factors create a far different environment than since the inception of pediatric emergency medicine. Physician skills evolve over time, learning new medical protocols and adapting to the new technologies.

The goal of this current study was to explore these complexities during the years approaching retirement and, for those who have retired, the factors involved in their decisions. Understanding the barriers that prevent pediatric emergency medicine physicians from continuing clinical work may help provide opportunities to help the next generation maximize their productive years in clinical practice. In addition, this information may help smooth the transition to retirement that would ultimately benefit the physician and their institutions.

METHODS

Study Design

This study implemented a cross-sectional survey developed to assess pediatric emergency medicine physicians’ plans for retirement. The survey design and content were adapted from multiple validated published surveys.3,4 It was exempted from review by the UT Southwestern Medical School Institutional Review Board because of the anonymous nature of the data. Informed consent was obtained on the first page of the survey.

Study Setting and Population

An introductory message along with a link to an online invitation-only survey was emailed to all members of the American Academy of Pediatrics Section on Emergency Medicine who were board certified in Pediatric Emergency Medicine and older than 50 years in October of 2019. A follow-up reminder email was sent 3 months later to
those who did not respond initially. Data were collected from October 3, 2019 through March 15, 2020.

Survey Instrument

The survey was developed and data collection was completed using Qualtrics (Provo, Utah). The survey consisted of 88 items focusing on the topics of (1) demographics and family structure; (2) general health; (3) education; (4) career and retirement; (5) working status; (6) skills assessment; (7) questions for those who are currently retired; and (8) feelings about retirement (current, 1-year post, 3 years post). Survey items were generally multiple choices or multiple selection, with some open-ended questions to provide additional context.

Survey Items

Pediatric emergency medicine physicians (primary exposure) reported sociodemographic characteristics including: age (continuous); year of residency (continuous); year of fellowship (continuous); sex (male/female); race/ethnicity (Black or African American, Hispanic, Latino or of Spanish origin, East Indian, Native Hawaiian or Pacific Islander, Middle Eastern or North African, American Indian or Alaskan Native, Chinese, Japanese, Korean, or others); marital status (single, married, widowed, divorced, or separated); personal relationship length (≤10 years, 11–20 years, or >20 years); number of children (0, 1, 2, or ≥3); self-reported health status (far below/below average, average, or far above/above average); spouse education (<bachelor's degree, bachelor's degree, master's degree, or professional and/or doctorate degree); spouse employment status (yes/no); spouse work status (full-time, part-time, or contract); and frequency of spending time with family (never, daily, few times per week, weekly, or monthly). The main outcome was defined as age of intended retirement (≤60, 61–65, 66–70, and ≥71 years of age).

Survey items were categorized into retirement-related beliefs as well as employment-, personal-, performance-, and stress-related factors.

Statistical Analysis

Means and standard deviations for continuous predictor variables and counts and percentages for categorical predictor variables described demographic characteristics of pediatric emergency medicine physicians in the total sample. Univariate \( \chi^2 \) analyses assessed the difference in skill assessment and retirement beliefs between male and female pediatric emergency medicine physicians. We also used \( \chi^2 \) to assess the relationship between current clinical skills, performance, and stress among the 4 levels of intended age of retirement. Last, 3 multinomial regression models were used to assess the direct relationship between performance influences of early retirement (model 1), while controlling for statistically significant demographic characteristics (model 2), and statistically significant confounders (model 3).

The following survey items were condensed into fewer response categories for analytical purposes due to sample size considerations: (1) performance condensed into 3 categories: no change, slightly more difficult, and significantly more difficult by combining the significantly more difficult and unable to manage categories because of low cell counts for the significantly more difficult options; (2) health status was condensed into 3 categories: far above/above average, average, and far below/below average; (3) retirement view was condensed into 3 categories: positive, neutral, and negative by combining the responses associated with positive and negative into their respective categories; and (4) to create the outcome variable groups in the multinomial regression, age for intended retirement was categorized into early (≤65 years), standard (66–70 years), and late (≥71 years). Statistical analysis was conducted using STATA version 16.1 (College Station, Tex).

RESULTS

The final analytical sample consisted of 152 pediatric emergency medicine physicians (30% response rate). The mean age of respondents was 59 years (SD, 6.04); mean year of residency was 1990 (SD, 7.15); mean year of fellowship was 1996 (SD, 5.02; Table 1). Women were significantly more likely to report an intention to retire before the age of 66 years versus men (50% vs 31%, \( P = 0.022 \); Table 2). Men were more likely than women to report an intention to retire at age 70 years or greater versus women (22% vs 13%, \( P = 0.022 \)). A majority had a positive perception of retirement when asked preretirement. Comments associated with this perception included “more time with family” and “more time to travel and pursue hobbies” (Table 2).

Regarding work adjustments before retirement, Table 2 also shows that a majority of the participants did have a change in their duties. Many had a reduction in their clinical hours and some an increase in administrative obligations.

A majority of the sample reported no change over the past 5 years in managing complex cases (62%), incorporating new modalities (54%), dexterity (62%), or performance (69%). Conversely, a total of 46% of the sample reported that stress either made their jobs slightly more or significantly more difficult than 5 years ago. Emotional exhaustion was reported to make their jobs either slightly more difficult (40%) or significantly more difficult (16%) (see Table, Supplemental Digital Content Table 1, http://links.lww.com/PEC/A896, pediatric emergency physician skills assessment now versus 5 years ago by sex). When clinical skills, performance, and stress were stratified by intended age of retirement, those who opted for a later age of intended retirement (≥70 years) were significantly more likely to see no change in performance (\( P = 0.048 \)).

In Supplemental Digital Content Table 2, http://links.lww.com/PEC/A897, association between demographic and other descriptive variables and age of intended retirement, pediatric emergency medicine physicians, it can be seen that those who reported earlier mean first year of residency (1987) were more likely to report later retirement (age >71 years), versus those who reported they intended to retire at ages 66 to 71 years (1990, SD, 6.17), at ages 61 to 65 (1992; SD, 4.19) and at age 60 years or less (1996; SD, 3.53).

PEM physicians who reported an intention to retire before the age of 60 years reported a positive view of retirement, whereas only 42% reported the same positive view among those who reported the intention to retire at age 71 years or greater (\( P = 0.001 \)); in fact, 25% of this group had a negative view of retirement. (see Table, Supplemental Digital Content Table 3, http://links.lww.com/PEC/A898, pediatric emergency medicine physicians, association between employment and personal factors and intended age of retirement among pediatric emergency medicine physicians).

Pediatric emergency medicine physicians who reported that their performance had become slightly more difficult (33%) or significantly more difficult (22%) were more likely to report intention to retire at or less than the age of 66 years (\( P = 0.048 \); See Table, Supplemental Digital Content Table 4, http://links.lww.com/PEC/A899, association between current clinical skills, performance and stress and intended age of retirement among pediatric emergency medicine physicians). Logistical regression analyses showed that pediatric emergency medicine physicians who find it more difficult to perform simple procedures are 3.02 times more likely to report retiring early relative to standard retirement times. Likewise, pediatric emergency medicine physicians are also at a significantly higher odds of retiring early when performance became more difficult relative to standard retirement age when holding sex (odds ratio = 4.09 [1.50–11.00]).
and all other covariates constant (OR = 3.98 [1.47–10.78]; see Table, Supplemental Digital Content Table 5, http://links.lww.com/PEC/A900, odds of intention to retire at 66–70 and performance difficulty with age).

Pediatric emergency medicine is a relatively new specialty, and as a result, few respondents were retired at the time of this survey. Only 6 physicians who responded to the survey had retired and only one had been retired for more than 5 years. Their main reasons for retiring included the pace of the emergency department, burnout, wanting to spend time with family, and medical issues. Three of the respondents mentioned the use of the electronic medical record as a reason for retiring.

DISCUSSION

This survey is the largest retirement survey in pediatric emergency medicine, and it helps to identify factors associated with retirement. The goal of our survey was to develop an understanding about retirement trends in pediatric emergency medicine physicians and the associated reasons. A key finding in this survey includes the perceived ability for the physicians surveyed to recognize that when their procedural skills diminish, they are more likely to retire before the age of 66 years. In fact, those physicians were three times more likely to retire before the age of 66 years. Another finding was that stress and emotional exhaustion made the pediatric emergency medicine physician's job more difficult than 5 years ago. Finally, our results show that women intended to retire earlier than men.

There are many articles and reports, particularly in the field of surgery, that address the need to have a standardized practice for assessing physicians for clinical competence.5–7 This is due to the fact that there are clear data that show a decline in manual dexterity and visuospatial accuracy with age.8 Although limited in numbers in our survey, physicians seem to recognize that these changes will happen and are willing to adjust their practice accordingly. This consideration is limited by the survey nature of this study, however. Moving forward, it would be valuable to obtain more data about these perceived changes so that there is understanding and acceptance by PEM physicians that duties could be adjusted with age. This could help decrease attrition rates of physicians who have the greatest number of years of knowledge and experience. Conversely, one could prioritize teaching new technologies to more senior physicians so that they remain relevant in the clinical setting. This could include ultrasound or other newer advances.

Another finding in this survey involved stress. Among the aggregate of pediatric emergency medicine physicians sampled, 46% reported that stress made their jobs more difficult than 5 years ago. In addition, 56% of providers expressed that emotional exhaustion made their jobs more difficult to perform. Among 117

| TABLE 1. Descriptive Characteristics of Convenience Sample of Pediatric Emergency Medicine Physicians, United States 2019–2020 (N = 152) |
|---------------------------------------------------------------|
| **n (%)** |
| Age, mean ± SD, y | 59 ± 6.04 |
| Since residency, mean ± SD, y | 30 ± 7.15 |
| Since fellowship, mean ± SD, y | 24 ± 5.02 |
| Sex | 83 (55) |
| Male | 69 (45) |
| Female | 0 (0) |
| Race/ethnicity | 124 (82) |
| White, non-Hispanic | 4 (3) |
| Black, non-Hispanic | 7 (5) |
| Hispanic | 8 (5) |
| Other | 8 (5) |
| Asian | 1 (1) |
| Missing | 1 (1) |
| Marital status | 10 (7) |
| Single | 130 (86) |
| Married | 0 (0) |
| Widowed | 8 (5) |
| Divorced | 2 (1) |
| Separated | 2 (1) |
| Missing | 12 (8) |
| Personal relationship length, y | 14 (9) |
| ≤10 | 21 (14) |
| 11–20 | 105 (69) |
| >20 | 12 (8) |
| No. children | 20 (13) |
| 0 | 13 (9) |
| 1 | 58 (38) |
| 2 | 55 (36) |
| ≥3 | 6 (4) |
| Missing/NA | 3 (2) |
| Self-reported health status | 26 (17) |
| Far below/below average | 115 (76) |
| Average | 5 (5) |
| Far above/above average | 6 (4) |
| Spouse education | 28 (18) |
| <Bachelor’s degree | 31 (20) |
| Bachelor’s degree | 72 (48) |
| Master’s degree | 15 (10) |
| Professional and/or doctorate | 5 (5) |
| Missing/NA | 35 (23) |
| Spouse employed | 35 (23) |
| Yes | 35 (23) |
| No | 24 (16) |
| Missing/NA | 1 (1) |
| Spouse work status | 26 (17) |
| Full-time | 59 (39) |
| Part-time | 9 (6) |
| Contract | 8 (5) |
| Missing/NA | 33 (22) |
| Frequency of spending time with family | 9 (6) |
| Never | 25 (17) |
| Daily | 52 (34) |
| Few days a week | 8 (5) |
| Weekends | 2 (1) |
| Monthly | 1 (1) |
| Missing/NA | 1 (1) |

NA indicates not available.
TABLE 2. Pediatric Emergency Medicine Physician Retirement-Related Beliefs and Behaviors Based on Sex

|                          | Total, n (%) | Male, n (%) | Female, n (%) | P*  |
|--------------------------|--------------|-------------|---------------|-----|
| Retirement age, y         |              |             |               |     |
| ≤ 60                     | 12 (9)       | 2 (3)       | 10 (17)       | 0.022 |
| 61–65                    | 40 (30)      | 20 (28)     | 20 (33)       |     |
| 66–70                    | 56 (42)      | 34 (47)     | 22 (37)       |     |
| ≥ 71                     | 24 (18)      | 16 (22)     | 8 (13)        |     |
| Current employment status|              |             |               | 0.042 |
| Full-time                | 119 (84)     | 67 (88)     | 52 (79)       |     |
| Part-time                | 16 (11)      | 4 (5)       | 12 (18)       |     |
| Retired                  | 7 (5)        | 5 (7)       | 2 (3)         |     |
| Personal view of retirement|           |             |               | 0.505 |
| Negative                 | 15 (10)      | 8 (10)      | 7 (10)        |     |
| Neutral                  | 23 (16)      | 15 (19)     | 8 (12)        |     |
| Positive                 | 108 (74)     | 56 (70)     | 52 (78)       |     |
| Work adjustments before retirement |       |             |               | 0.817 |
| No reduction             | 8 (6)        | 4 (6)       | 4 (7)         |     |
| Clinical reduction       | 24 (19)      | 10 (14)     | 14 (23)       |     |
| Reduced clinical, increased admin | 20 (16)     | 10 (14)     | 10 (17)       |     |
| Reduce clinical, no change in admin | 42 (33)      | 26 (38)     | 16 (27)       |     |
| No change                | 17 (13)      | 10 (14)     | 7 (12)        |     |
| No plans                 | 9 (7)        | 5 (7)       | 4 (7)         |     |
| Financial stability      |              |             |               | 0.272 |
| Yes                      | 101 (75)     | 54 (74)     | 47 (76)       |     |
| No                       | 9 (7)        | 3 (4)       | 6 (10)        |     |
| Not sure                 | 25 (18)      | 16 (22)     | 9 (14)        |     |
| Working for financial stability |           |             |               | 0.097 |
| Yes                      | 42 (34)      | 17 (23)     | 25 (39)       |     |
| No                       | 83 (66)      | 48 (65)     | 35 (54)       |     |
| Not sure                 | 13 (9)       | 9 (12)      | 4 (6)         |     |
| Think about retirement, frequency |       |             |               | 0.681 |
| Rarely                   | 22 (24)      | 13 (28)     | 9 (20)        |     |
| Occasionally             | 22 (24)      | 11 (23)     | 11 (24)       |     |
| All the time             | 48 (52)      | 23 (49)     | 25 (56)       |     |

*Test for differences in retirement-related beliefs based on sex.

respondents to this question, 66 selected slightly more or significantly more increased emotional exhaustion from work. Associated with this is the amount of time needed to recover between shifts being longer. All of these factors are associated with burnout. This term was initially introduced in 1974 by Freudenberger to describe a state of mental and physical exhaustion with one’s life. In addition, in an article by Gorelick et al, based on a survey, this term was initially introduced in 1974 by Freudenberger and later by Freudenberger et al, to describe a state of mental and physical exhaustion with one’s life. This term was initially introduced in 1974 by Freudenberger.

In addition, in our survey, women were more likely to intend to retire by 66 years of age and men were more likely to intend to retire at 70 years of age (Table 2). This observation has been noted in other surveys. Studies have noted that women have higher burnout scores and have higher work/family conflicts. Other studies have noted that this risk of attrition is highest with midcareer physicians who often have other nonclinical and family obligations. These obligations also tend to prevent women from actively pursuing leadership positions as well. This risk of attrition ultimately also applies to anyone who may have similar work/family conflicts. Examples of this include being a primary caregiver for an elderly parent or a single parent with limited child care options available on short notice.

Finally, for all 3 of the risk areas for attrition discussed previously, it is important to find ways to create a smoother transition toward retirement or help during complex times in the physician’s life. Schloss et al calculated the cost of replacing faculty in terms of lost clinical income, recruitment, and hiring costs. They included all faculty who were greater than 50% time. Their results showed the highest turnover in assistant professors. When this was extrapolated to all 14 clinical departments over a 5-year period, this cost was more than $45 million. This did not include lost research revenue and funding. Although this study has a very high rate of junior faculty turnover, it is equally important to create a framework to retain senior faculty members. Cain et al recognized the need for a framework to address the retirement process. They concluded that unplanned or poorly planned retirement leads to a disruption of research, education, clinical programs, and projects. In addition, with the abolition of the mandatory retirement age, many faculty members have little to no guidance about how and when to retire. A system of preretirement, retirement, and postretirement planning would be a valuable tool in pediatric emergency medicine. This type of framework would help plan forward for the individual, their institution, and the patients, as these physicians possess a wealth of information and bedside skills accumulated over many years that are valuable to the next generation of pediatric emergency medicine physicians. Further studies will be important to obtain more detailed data to understand what can be done to address the barriers to the continuation of practice as pediatric emergency medicine physicians.

CONCLUSIONS

Our survey identified several areas, which may contribute to retirement of pediatric emergency medicine physicians. These include perceived difficulty in performing procedures, stress, and female sex. Moving forward, it would be valuable to have an approach with 2 possible paths. One, make it a priority to create opportunities for more senior physicians to maintain skills and become comfortable with relatively new technology. This would allow for those with the most knowledge in the field to remain relevant in the clinical setting. For this to occur, other factors that are leading to stress need to be addressed. This would include adjustment of work hours and perhaps decreasing the burden of electronic health records with scribe availability. The second option...
would be to transition some of the physicians into partial or complete academic or mentorship positions.

LIMITATIONS
Survey data collection was limited to those who received the email and were willing to participate. As such, this is not necessarily an accurate representation of all pediatric emergency medicine physicians older 50 years of age planning for retirement or who have retired. In addition, we used the American Academy of Pediatrics professional society list of members to contact our participants. This may not include all pediatric emergency medicine physicians and pediatric emergency medicine–trained physicians who had left the clinical practice of pediatric emergency medicine may not have been included. Finally, as with any survey tool, there is room for interpretation of questions, and in some cases, respondents left some questions unanswered.

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