The Contribution of Childhood and Medical School Location to the Career Paths of Graduating Pediatrics Residents

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ABSTRACT

OBJECTIVE: To compare job search experience and postresidency position of pediatric residents on the basis of childhood location (United States or international) and medical school location (American medical graduates [AMG] or international medical graduate [IMG]).

METHODS: Annual national random samples of 1000 graduating pediatric residents from 2009 to 2013 were surveyed. Multivariable analyses, controlling for resident and program characteristics, compared job search experiences and postresidency positions among 4 groups categorized by childhood and medical school location: US-AMG, US-IMG, international-AMG, and international-IMG.

RESULTS: A total of 3027 graduating residents (61.1%) responded: 75.2% US-AMG, 15.8% international-IMG, 6.3% US-IMG, and 2.7% international-AMG. The 4 groups varied by demographics (age, race, gender, marital status, children, bi- or multilingual family), educational debt, residency program region and size, and Spanish proficiency ($P < .01$). The US-AMG were least likely to have a bi- or multilingual family (25.7%) or be proficient in Spanish (15.0%). One-third (34.5%) accepted fellowship positions. International-IMG and US-IMG were more likely than US-AMG to choose fellowship positions (adjusted odds ratio [aOR], 2.04; 95% confidence interval [CI], 1.52–2.74; aOR, 1.77; 95% CI, 1.25–2.52, respectively). Among residents who applied for general pediatric or hospitalist positions, 23.1% reported moderate to considerable difficulty in their job search, and 44.1% accepted positions in underserved areas. International-IMG and US-IMG were more likely than US-AMG to report job search difficulty (aOR, 2.49; 95% CI, 1.55–3.98; aOR, 1.78; 95% CI, 1.04–3.06, respectively), and international-IMG were more likely to accept positions in underserved areas (aOR, 1.68; 95% CI, 1.07–2.63).

CONCLUSIONS: Multiple factors are involved in pediatrician's career choices. When childhood location is considered with medical school location, there were differences between groups in demographics, job search difficulty, and career intentions.

KEYWORDS: career choice; international medical school graduates; job search; pediatrics; residents

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WHAT'S NEW

Characterization of graduating pediatrics residents into 4 subgroups on the basis of US or international childhood and medical school locations showed differences in job preferences, job search difficulty, and short-term career choices, with implications for the pediatric workforce.

PEDIATRIC RESIDENTS' CHOICES to go into primary or specialty care affect the distribution of the pediatric workforce and access to pediatric care. Choosing a medical career is a complex process for any individual, and multiple factors play into the decision. These factors include personal identity, specialty characteristics, training process, and the characteristics of practice.[1–4]

In a recent Japanese study,[5] personal qualities accelerated orientations toward family medicine. Childhood experiences play a role in identity development[6–9] and may influence future career choices.[10] A rural childhood location was found to be a predictor of rural internship and subsequent rural pharmacy practice.[3] In a Norwegian study, Wesnes et al[11] connected a physician's place of graduation and career choice to be a general practitioner. Other studies relate medical school location to career specialization.[12–14]

However, an individual's childhood may have been spent in a different location from where he or she went to medical school. International medical school graduates (IMG) received training in international medical schools but may have spent their childhood in the United States. American medical graduates (AMG) include students who spent their childhood in other countries.[15]

The influence of childhood location on the career choices of pediatricians is unknown. We are not aware of any reports, other than Annual Survey of Graduating Residents data,[16] that describe the childhood location of residents. This study explores the associations between childhood

and medical school locations of a national sample of graduating pediatrics residents and their postresidency positions and job search experiences.

METHODS

We analyzed data from 5 years of the American Academy of Pediatrics (AAP) Annual Survey of Graduating Residents. The survey was fielded to national random samples of 1000 pediatric residents each year in 2009 to 2013 during and after their last months of training. The residents were randomly selected from an AAP database that includes residents from all programs. Residents from dual degree programs, such as med/peds programs, were not included. Residents were contacted up to 4 times by mail and up to 4 times by e-mail. This study focused on questions that were common across all 5 surveys, including 1) resident characteristics, 2) important factors in the selection of a postresidency position, and 3) job search experiences, including position at graduation. Surveys for this study were approved by the AAP institutional review board.

SURVEY CONTENT

RESIDENT CHARACTERISTICS, AND CHILDHOOD AND MEDICAL SCHOOL LOCATION

We asked residents questions about demographics, medical school location, educational debt (including spouse debt, if married), and residency program class size. We obtained residency program location for the residents from the AAP database and categorized location by US region.

We created 4 groups on the basis of residents' responses to the following 2 questions on childhood and medical school location: 1) Please describe the area in which you grew up (spent most of your childhood, ages 0–18 years) (dichotomized: United States or out of United States); and 2) What is the location of your medical school? (dichotomized: United States or international). Analyses focused on the 4 groups: 1) international-IMG (international childhood location, international medical school), 2) US-IMG (US childhood location, international medical school), 3) international-AMG (international childhood location, US medical school), and 4) US-AMG (US childhood location, US medical school).

FACTORS IMPORTANT IN SELECTING POSTRESIDENCY POSITION

We asked residents about the importance of 8 factors in their selection of a future position after training (geographic location, family considerations, job security, control over working hours, future colleagues, income, teaching opportunities, and research opportunities); response options as follows: essential, very important, somewhat important, or unimportant.

POSTRESIDENCY POSITION AND JOB SEARCH EXPERIENCES

We asked residents questions about their postresidency position search, including the following: 1) type of position they accepted (general pediatric practice, hospitalist, chief resident, pediatric subspecialty fellowship, other, or no job), 2) difficulty they experienced in searching for a position (no or some difficulty vs moderate or considerable difficulty), 3) whether spouse career plans or family situation limited their selection (yes or no), 4) location (out of the United States; urban–inner city; urban–not inner city; suburban; small city/town; or rural), and 5) whether the position was part time (yes or no).

ANALYSES

Data on gender and age were available in the AAP database from which the sample was drawn. We used chi-square and *t* tests to compare gender and age of the respondents to those of nonrespondents to assess potential response bias.

We pooled responses from the 5 survey years. We used chi-square tests to examine the relationship between resident characteristics and the 4 childhood and medical school location groups, and linear association chi-square test to examine whether the proportion of IMG and childhood location changed across survey years. We also used chi-square tests to examine relationships between the 4 groups and important factors in future position, postresidency position, and job search experiences. Because residents accepting chief resident and fellowship training positions have different job search experiences, we limited analyses that focus on job search experiences to residents applying for general pediatric practice and/or hospitalist positions.

We used multivariable logistic regression to compare differences (if found in the bivariate results) for postresidency position and the job search experience outcomes among the 4 groups while controlling for resident and program characteristics, including survey year, age ($<$31 years or $\geq$31 years), gender (male or female), minority (yes [Hispanic; black or African American; American Indian or Alaska Native] or no [white, non-Hispanic; Asian; other]), marital category (unmarried, married to a nonphysician, or married to a physician), have children (yes or no), educational debt ($<$\$51,000, \$51,000–162,499, or $\geq$\$162,500), and program size ($<$10, 10–19, or $\geq$20 residents per class). Age, educational debt, and program size were categorized in a manner similar to prior research.[13,17] Many of these resident and program characteristics have been linked to differences in career intentions.[13] The number of cases in each analysis varied slightly because of missing values for specific questions.

RESULTS

Adjusted response rates to the survey varied from a low of 57.3% in 2010 to a high of 64.0% in 2012; the combined rate was 61.1% (n = 3027). For all survey years combined, significant differences were found between respondents and nonrespondents for gender (percentage female, 74.3% vs 71.0%, $P < .05$) but not age (mean years, 31.5 vs 31.1, $P = .40$). Three-fourths of the respondents completed a paper version of the survey, and one-fourth completed an online version. We analyzed data for respondents who answered the questions on childhood location and medical school location, excluding residents who