Relationships Between Program Size, Training Experience, and Career Intentions: Pediatrics Resident Reports From 2010 to 2014

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ABSTRACT

OBJECTIVE: To determine the relationship between pediatric residency program size and resident demographic characteristics, career intentions, and training experiences.

METHODS: Annual national random samples of 1000 graduating pediatrics residents were surveyed between 2010 and 2014. Response years were pooled for analysis, and trends in resident demographic characteristics, career intentions and job search, and training experiences were compared across program class size: small (<10 residents per class), medium (10–19 residents per class), and large (≥20 residents per class).

RESULTS: Overall response rate was 61% (3038 of 5000). Primary care goals at the end of residency varied according to program size: 45.9% for small programs, 43.4% for medium programs, and 35.1% for large programs. Reports of excellent or very good preparation for subspecialty fellowship and hospitalist positions increased across program size, whereas primary care preparation reports decreased. Only half of the residents in large programs who enter primary care believe they are prepared and less than half in small programs who accept subspecialty fellowship positions believe they are prepared for these new positions. Residents in medium and large programs report being most prepared for hospitalist work.

CONCLUSIONS: Notable numbers of residents in small programs pursue subspecialties and notable numbers in large programs enter primary care. However, residents believe they are less prepared for primary care as program size increases and less prepared for subspecialty training as program size decreases. These findings suggest that the training experiences of some residents do not optimally align with their future practice.

KEYWORDS: career intentions; program size; residents; training experiences; workforce

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WHAT'S NEW

Career plans and training experiences for graduating pediatrics residents varied according to program size. Although potential strengths were identified for different sized programs, training experiences and career intentions reported by many residents across all program sizes were not well aligned.

AS THE NUMBER of medical school graduates who enter US residency training in pediatrics increases[1] so does the need to understand the characteristics, career intentions, and training experiences of these residents. Literature over the past decade and a half on residents in pediatrics training show trends such as increasing resident debt,[2–4] an increased presence of women,[3,5] fluctuations in international medical graduates,[3,4] a decreased interest in general pediatrics,[3] and changes in residency training experiences for multiple other variables.[3,6,7] Furthermore, recent work on the preparation of residency graduates for the work they will be doing after training suggests a knowledge and skill gap.[8–11]

Program size is considered to be an important predictor in studies on residents and training programs.[2,12–16] For example, residents in larger programs are more likely to have higher educational debt[2] and subspecialty career goals.[2,13] Although there is limited knowledge about the association between some resident characteristics and career intentions, the extent to which program size is related to training experiences and most resident characteristics is limited and largely unknown for pediatrics.

In this article, we present data on residency program size, resident characteristics, career intentions and job search, and residency training experiences, from 5 years of the American Academy of Pediatrics (AAP) Annual Survey of Graduating Residents. Analyzing variation in training and career goals among pediatrics residents in programs of different sizes provides useful information for consideration by program and institutional leaders, who seek to provide the best possible training experience for

their residents, as well as prospective residents, who seek to find the best possible training experience for themselves.

METHODS

We analyzed data from 5 years of the AAP Annual Survey of Graduating Residents, 2010 to 2014. The survey was fielded each year to a random, national sample of 1000 graduating pediatrics residents during and after their last months of training (May to August). Residents were randomly selected from an AAP database that includes residents from all US programs (mean yearly sampling frame of 2778 residents), excluding those from combined training programs. Surveys were mailed and e-mailed each year, alternating methods, up to 8 times.

This study compared responses according to residency program size for questions presented each survey year that focused on: 1) resident characteristics, 2) career intentions, 3) job search experiences, and 4) residency training experiences.

PROGRAM SIZE

We asked residents about their residency class size. Responses were categorized into small (<10 residents per class), medium (10–19 residents), and large (≥20 residents) programs, similar to previous publications.[12,17]

RESIDENT CHARACTERISTICS

We asked about demographic characteristics and educational debt. Residents were asked to include college, medical school, and if married or partnered, spouse or partner educational debt. For all variables expressed in dollars, adjustments for inflation were performed using the yearly Consumer Price Index to convert all values to 2014 dollars.

RESIDENCY TRAINING

We asked residents how well their residency prepared them for various professional activities using 5-level scales. Responses were dichotomized: very good or excellent and good, fair, or poor. Residents assessed their preparation for 3 career paths (primary care practice, pediatric fellowship training, hospitalist practice) as well as specific areas of pediatric practice. Residents were also asked about their training sites, mentorship, and whether they would choose a pediatrics residency again.

CAREER INTENTIONS

We asked residents about career plans at the start of residency ("At the time you first entered residency, did you plan to practice primary care?") and at the end of residency ("Please describe your future clinical practice goal."). They responded "yes, no, or uncertain" for the former and "primary care practice, both primary and subspecialty practice, subspecialty practice, hospitalist, or not entering clinical practice" for the latter.

POSTRESIDENCY JOB AND SEARCH

We also asked residents about jobs they applied for and the position they accepted, including type (general pediatric practice, chief resident, fellowship, hospitalist, other, no job), location, and work hours. Residents reported on the importance of several factors in the selection of a future job (dichotomized: essential or very important and somewhat important or unimportant) and on whether they had difficulty in their job search (dichotomized: moderate or considerable and no or some) using 4-level scales.

ANALYSES

Data on gender, age, and program size of nonrespondents were available in AAP databases from which the samples were drawn. We used chi-square and t tests to compare gender, age, and program size (categorized according to class size, as described previously) of the respondents with those of nonrespondents to assess potential response bias.

To examine whether residents made a career intention change during residency, we used data on career goal at the start of residency and career goal at the end of residency to create a new variable: career change. For example, if residents planned to practice primary care at the start as well as at the end of residency, we coded them as "no" for career change. If they changed from one practice type to any other type (including not entering clinical practice), they were coded as "yes" for career change. Finally, if residents were uncertain about their plans at the start of residency, they were considered to have a career intention change if they indicated a practice goal at the end of training.

Linear association chi-square tests and linear regression analyses were used to examine for trends in resident characteristics, training, career intentions, career change, and job search experiences across program class sizes (small, medium, large). We present data on job search separately for residents who applied for only general pediatrics and hospitalist positions and for those who applied only for subspecialty fellowship positions because it is known that experiences vary between these job types.[3] Multivariable logistic models were used to examine the independent association of program group size (1 = small, 2 = medium, 3 = large) with all variables of interest while controlling for demographic characteristics (survey year, gender, race, age, medical school location, marital status, have children, and have educational debt). Adjusted odds ratios (aORs), parameter estimates, and 95% confidence intervals (CIs) are presented to indicate the magnitude of the independent associations.

The number of cases in each statistical analysis varied slightly because of missing values for specific questions. Surveys for this study were approved by the AAP Institutional Review Board.

RESULTS

Response rates varied from a low of 57.0% in 2010 to a high of 63.4% in 2012; the combined response rate was 62.0% (3052 of 5000). Residents from 198 different residency programs responded to the survey across the 5-year period, which represents nearly all of the programs currently listed on the American Medical Association's