PEDIATRIC WORKFORCE: A LOOK AT PEDIATRIC HEMATOLOGY-ONCOLOGY DATA FROM THE AMERICAN BOARD OF PEDIATRICS

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This report, which is part of a series discussing workforce trends for general pediatrics and related subspecialty areas, highlights the American Board of Pediatrics (ABP) workforce data for pediatric hematology-oncology. Readers are encouraged to read the initial report in the series as it provides information regarding general pediatrics and summary information about other ABP subspecialties.[1] In 1974, pediatric hematology-oncology became the second ABP subboard to offer a certification examination, with the first examination yielding 283 board-certified pediatric hematologists-oncologists. Today, almost 1900 pediatricians have been certified as pediatric hematologists-oncologists by the ABP. The focus of this report is to provide a snapshot of the current ABP workforce data for this subspecialty. The full ABP workforce data are available on the ABP Web site at www.abp.org.

METHODS

The ABP uses three primary methods to collect and maintain data about workforce numbers: tracking of residents and fellows, examination application surveys, and continual maintenance of the ABP master database as individuals become certified. Tracking for first-year fellows began in 1995. By 1997-1998, all subspecialty fellows in all training levels were tracked. In 2005, the ABP contacted all, but one, accredited pediatric hematology-oncology training programs in the US (n=60), Puerto Rico (n=1) and Canada (n=6) to obtain tracking information. The one accredited program that was not included was accredited after the tracking material was distributed. All, but one, of the programs contacted returned their tracking information.

RESULTS

Pediatric Hematology-Oncology Fellow Tracking

Table I provides the number of fellows in training since the 1997-1998 academic year with a breakdown by gender and medical school. The number of fellows enrolled in pediatric hematology-oncology has steadily increased 53.6% since 1997. In addition, the total percentage of American Medical School Graduates (AMG) fellows and women in pediatric hematology-oncology has increased since 1997. The peak proportion of women *entering* pediatric hematology-oncology training was in 2003-2004, while the peak proportion of AMGs was in 2002-2003.

The Figure illustrates the number of fellows in training at each level. Since 1997-1998, the average drop rate from training year 1 to training year 3 is 12.1%. The drop rate may be attributed to many factors such as personal leave, visa restrictions, and ABP-approved abbreviated training pathways. In addition, those who have completed fellowship training in Canada only need two years of training to be certified by the Royal College of Physicians and Surgeons of Canada. These various factors make it difficult to ascertain whether the drop rate is a true reflection of those actually leaving the subspecialty.

Pediatric Hematology-Oncology Career Data

The ABP has two primary opportunities to gather information regarding career interest in pediatric hematology-oncology: a survey given to all first-time applicants for the general pediatrics certification examination and a survey given to all first-time applicants for the pediatric hematology-oncology certification examination. The following section highlights results from both the 2005 general pediatrics application and the 2004 pediatric hematology-oncology application (no pediatric hematology-oncology examination was given in 2005).

Of the 2994 first-time candidates applying for the general pediatrics certification examination in 2005, 866 (29%) indicated an interest in one of the subspecialty areas in which the ABP awards or jointly awards certificates. Hematology-oncology was selected by 12.6% of these 866 applicants. Currently, pediatric hematology-oncology is the second most-selected pediatric subspecialty, just behind neonatal-perinatal medicine; it has consistently been in the top five choices over the past ten years.

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Table I. Number of Pediatric Hematology-Oncology Fellows since 1997

Year	Total	Female	Male	AMG	IMG
1997-1998	237	48.1%	51.9%	64.6%	35.4%
1998-1999	230	50.4%	49.6%	67.0%	33.0%
1999-2000	252	54.0%	46.0%	65.9%	34.1%
2000-2001	267	51.7%	48.3%	69.3%	30.7%
2001-2002	274	50.4%	49.6%	68.6%	31.4%
2002-2003	301	51.2%	48.8%	72.8%	27.2%
2003-2004	330	55.2%	44.8%	69.7%	30.3%
2004-2005	356	57.6%	42.4%	70.8%	29.2%
2005-2006	364	58.5%	41.5%	72.0%	28.0%

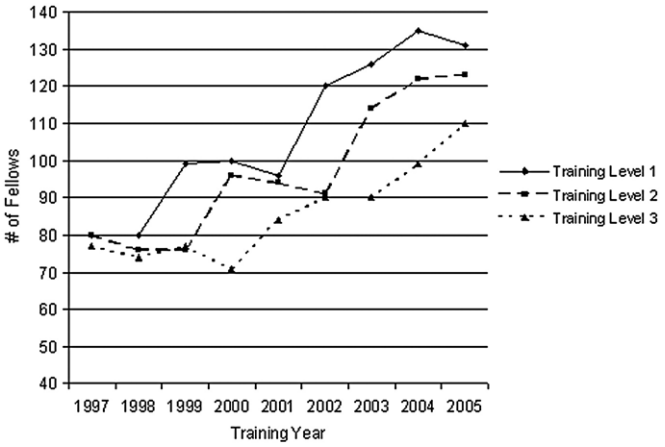

Figure. Number of pediatric hematology-oncology fellows in training at each training level.

The pediatric hematology-oncology certifying examination is given every two years. In 2004, there were 144 first-time applicants for the pediatric hematology-oncology certification examination. Of these applicants, 53% were men and 78% were AMGs. Of these applicants, approximately 72% plan to practice exclusively in pediatric hematology-oncology in an academic setting. An additional 10% plan to practice exclusively in pediatric hematology-oncology, but in a private practice or combined private practice and academic setting. The next examination is scheduled for November 2006.

Certified Diplomates

As a pediatric subspecialty, pediatric hematology-oncology is currently the second largest discipline with approximately 1900 certified practitioners. Neonatal-perinatal medicine continues to be the largest discipline. The mean age of certified pediatric hematologists-oncologists is 51.9 years, with almost 90% in the range of 31 to 65 years of age.

The ratio of current ABP-certified pediatric hematologists-oncologists to children younger than 18 years of age in each of the 50 states and the District of Columbia is shown in Table II (available at www.jpeds.com). The population of children listed in the table is based on the US Census Bureau Population Estimates and includes all children under the age of 18.[2] These numbers are based on a list of pediatric hematologists-oncologists with known addresses in one of the 50 states or the District of Columbia. Pediatric hematologists-oncologists older than the average retirement age of 65 years were excluded. Based on these adjustments, the total number of certified pediatric hematologists-oncologists categorized in Table II is 1420.

A certified pediatric hematologist-oncologist practices in all but two states (Alaska and Wyoming). The majority of states have a pediatric hematologist-oncologist-to-child ratio between one and three pediatric hematologists-oncologists per 100,000 children. States with a ratio of less than one include Alaska, Wyoming, Kansas, Montana, Nevada, Idaho, Mississippi, and Oklahoma. The District of Columbia has the largest ratio (15.5), followed by Maryland (4.9) and Massachusetts (4.3).

The 60 pediatric hematology-oncology training programs are distributed across 25 states and the District of Columbia, as noted by the asterisk in Table II. The number in parentheses denotes the number of training programs in the state.

DISCUSSION

Although many studies have projected physician workforce needs, it was not until the Future of Pediatric Education II (FOPE II) task force report that a recent and detailed study focused exclusively on pediatrics, both at the generalist and subspecialty level.[3,4]

In 2005, the total number of pediatric hematologists-oncologists in training (training years 1-3) increased by 2.2% from the previous year. This number has been steadily increasing since the beginning of tracking. However, in 2005, there was a drop from 135 entering training to 131, a slight decrease of less than 3%. This decrease was the first since 2001-2002. The growing proportion of women selecting hematology-oncology supports the claim of increased involvement of women in pediatric subspecialties.[5]

The data in Table II indicate the pediatric hematologist-oncologist-to-child ratio. However, the data do not indicate who is working full-time or part-time. General pediatrics research has shown an increasing trend toward part-time work.[6,7] There are no current data to indicate that this is the case in pediatric hematology-oncology, but further research is needed. While it is important to have an adequate number of physicians, where these physicians practice is just as critical in determining if appropriate care is available to all children.

As Stoddard et al note, the FOPE II study provides the supply-side perspective.[4] The ABP data in this report provide the same perspective. These data are useful not only to those studying workforce trends, but also to medical students and pediatric residents making career decisions. However, these data do not address or gauge the need for medical services.

Although workforce studies are not new, attention to workforce issues for pediatric subspecialties is relatively new. It is important that workforce research continues, from both the supply and demand perspective. Only then can we be sure that the goal of providing all children with access to high-quality care be met.

References available at www.jpeds.com.