A Longitudinal Study of Pediatricians Early in their Careers: PLACES

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What's known on this subject: Pediatrics is at the forefront of demographic changes in medicine, with the majority of young pediatricians who are women. Little attention has been given to the changes an individual pediatrician undergoes.

What this study adds: This article describes the first longitudinal study that will follow pediatricians early in their careers prospectively, examining trends in both professional and personal facets of their lives.

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Contributor's Statement

Mary Pat Frintner: Ms. Frintner helped conceptualize and design the study, coordinated data collection, carried out analyses, interpreted data, drafted and revised the manuscript, and approved the final manuscript as submitted.

William L Cull and Lynn M Olson: Drs. Cull and Olson conceptualized and designed the study, interpreted data, reviewed and revised the manuscript, and approved the final manuscript as submitted.

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ABSTRACT

The American Academy of Pediatrics (AAP) launched the Pediatrician Life and Career Experience Study (PLACES) in 2012, a longitudinal study that tracks the personal and professional experiences of early career pediatricians. We used a multi-pronged approach to develop the study methodology and survey domains and items, including review of existing literature and qualitative research with the target population. We chose to include 2 cohorts of U.S. pediatricians based on residency graduation dates, including 1 group who were several years out of residency: 1) 2002-2004 Residency Graduates Cohort, and a second group who recently graduated from residency at study launch: 2) 2009-2011 Residency Graduates Cohort. Recruitment into PLACES was a two-stage process: 1) random sample recruitment from the target population and completion of an initial intake survey and 2) completion of the first Annual Survey by pediatricians who responded positively to stage 1. Overall, 41.2% of pediatricians randomly selected to participate in PLACES indicated positive interest in the study by completing intake surveys; of this group, 1,804 (93.7%) completed the first Annual Survey and were considered enrolled in PLACES. Participants were more likely to be female, AAP members, and graduates of U.S. medical schools, compared to the target sample; weights were calculated to adjust for these differences. Most PLACES pediatricians are women, married, and have children. Almost one-fourth (23.8%) of the 2002-2004 Cohort are working part-time, and one-third of the 2009-2011 Cohort pediatricians are in fellowship training. Most are working as employees (80.7%). We will survey PLACES pediatricians 2 times a year. PLACES data will allow the AAP to examine career and life choices and transitions experienced by early career pediatricians.

In 2008, the American Academy of Pediatrics (AAP) established the Vision of Pediatrics 2020 Task Force, a group of pediatricians who represented various perspectives including primary, subspecialty, and surgical care, to focus on the future of pediatrics.¹ The Task Force identified eight key trends likely to have an important future influence on both children's health in general and the field of pediatrics in particular over the coming decade. One trend focused on the pediatric workforce and increasing demands for work-life balance.² A conclusion was that a longitudinal study of young pediatricians would afford the opportunity to identify emerging trends in the pediatric workforce and guide the field's response to those trends.²

The AAP has been collecting cross-sectional survey data from pediatricians for over 25 years through the Periodic Survey of Fellows³ and from graduating pediatrics residents for almost 20 years through the Annual Survey of Graduating Residents.⁴ The American Board of Pediatrics (ABP) is an important resource for trends in the pediatric workforce.⁵ These and other cross-sectional data have examined pediatrician work force issues,⁶⁻¹⁸ including satisfaction,¹⁹⁻²² burnout,^{19,21,23-26} and personal characteristics.³ Together these data have contributed to the understanding of who pediatricians are and what their work entails. Important trends over time identified through these cross-sectional analyses include an increase in the proportion of women in pediatrics, an increase in part-time work, a decrease in the number of hours pediatricians work each year, an increase in the proportion working in a group rather than a solo practice setting, and an increase in educational debt among graduating pediatric residents.^{6,17,27-29} In contrast, data suggest that the proportion of minority pediatricians and those choosing jobs in rural areas has remained relatively unchanged over time.⁶ While these cross sectional data are important, multiple questions remain, such as do individuals who work part-time hours early in their careers maintain part-time hours through retirement? How often do young pediatricians change jobs or

shift their specialization within pediatrics? Does satisfaction with careers as physicians, job burnout, and work-life balance change over time?

While cross-sectional survey results can provide multiple snapshots of pediatricians in different groups over time, a longitudinal study where individuals are repeatedly measured over time is the best way to measure change, event occurrence, and factors associated with change.^{30,31} Most surveys are not linked over time at the individual level but such longitudinal data and analysis are essential for understanding pediatrician careers over a lifetime. Multiple years of data from pediatricians will enhance the understanding of career development and allow new and important questions to be answered about workforce issues. Determinants of professional and personal experiences can be examined, including practice decisions regarding work hours and location; career choices, satisfaction, and work-life balance; and, financial and personal health and well-being. Such experiences and decisions might be of value to policy makers, those in the medical education community, and organizations dedicated to the profession.

To date, few specialties in medicine have collected longitudinal data. In the U.S., the Longitudinal Study of Emergency Physicians conducted by the American Board of Emergency Medicine is one such study.³²⁻³⁴ The study collects data from emergency physicians every 5 years about the practice of emergency medicine. An international example is Medicine in Australia: Balancing Employment and Life (MABEL), an Australian national longitudinal survey of physicians.^{35,36} In order to inform Australian health policy, MABEL is designed to track how the individual decisions made by physicians, such as where to work and how many hours to work, influence national health care workforce supply. However, we were unable to identify any similar U.S. longitudinal studies of pediatricians. In many ways, pediatrics is at the

forefront of demographic changes in medicine, for example, with the majority of early career pediatricians now women with young children. Thus, it is especially appropriate and timely to launch a longitudinal study of pediatricians.

The AAP launched the Pediatrician Life and Career Experience Study (PLACES) in 2012 to collect longitudinal data from early career pediatricians each year across their careers, with an initial participant commitment of 5 years. We decided to focus on early career pediatricians so that we could examine the changes and transitions that pediatricians experience in their personal and professional lives as they progress in their careers. We chose 2 cohorts of early career pediatricians so that we could compare pediatricians who just completed training to those who have had time to launch their careers. Many steps are involved in the development and implementation of a national longitudinal study of physicians. In this article, we describe the study design and methodology we used to develop this prospective longitudinal study of U.S. pediatricians. The article includes a detailed analysis of response rate and response bias, and presents personal and work characteristics of pediatricians early in their careers.

METHODS

The AAP formed a PLACES project advisory committee that consists of survey researchers, thought leaders, and pediatricians who are representative of the PLACES target sample (less than 11 years out of residency – referred to as early career pediatricians throughout the paper). The committee worked closely with AAP researchers to develop and launch PLACES and continues to be involved in the study assisting with data interpretation and analysis, providing input on survey development, manuscript development, and facilitating data

dissemination. As described below, many steps went into the development and implementation of PLACES.

Study Design and Content Development

We used a multi-pronged approach to design the study and develop the survey domains and specific survey items, including review of existing, relevant literature and qualitative research with the target population. At each stage, project development was carried out by AAP research staff in consultation with the project advisory committee. Study domains, outlined in Figure 1, reflect many of the topics and trends identified in the AAP Vision of Pediatrics 2020 project.^{1,2,37}

Review of Relevant Literature

We conducted an extensive review of the literature related to physician work characteristics, satisfaction, and work-life balance. Several relevant survey topics and questions were identified and reviewed.^{3,4,22-24,32,36,38-53} Helpful frameworks and survey items were drawn from several studies. For example, the Physician Worklife Survey includes a measure of physician satisfaction with 3 scales measuring job, career, and specialty satisfaction⁵⁴ and has been used and/or adapted in various physician studies.^{46,49,55-57} The Community Tracking Study surveyed physicians in the 1990s and 2000s, and the survey includes a number of questions on physician work characteristics, interactions with patients, and satisfaction.^{52,58} The Clem et al study on female emergency physicians developed a survey that included questions on work schedules, colleagues, and satisfaction.⁴¹

Qualitative Research with Target Population

We conducted focus groups with residents, fellowship trainees, and early career pediatricians to determine the feasibility and acceptability of a longitudinal study and study content. A total of 7 focus groups were conducted between 2009 and 2011, and participants provided input on the study design, recruitment strategies and materials, survey topic areas, and data collection methods. We transcribed focus group discussions, examined the data for themes, and collected valuable information that helped design PLACES.

Focus group participants identified important content areas for surveys and study feasibility issues such as making surveys easy to complete (e.g., online, ability to pause and restart surveys, and email reminders), limiting the time commitment (e.g., 1-2 surveys per year, 15-30 minute time commitment per survey), and feeding back results to participants in a timely way (e.g., to allow them to compare themselves to the group; to let them know their data were valuable). Focus group participants who reviewed draft recruitment materials for PLACES, such as cover letters and project information, highlighted the following points as key to future participants: why the project should be important to them, how much time will be required of them, and what they will receive in return for their participation. We revised all recruitment materials based on feedback from the focus group participants.

Once a complete first year survey was drafted, we conducted cognitive interviews with 16 early career pediatricians to assess how select survey items were being interpreted by respondents. After the survey content was adjusted based on the cognitive interviews, we mailed the survey to 100 early career pediatricians for pilot testing. We further revised the survey format and questions based on 11 pilot responses received. The main study survey (PLACES

Annual Survey Year 1) was 12-pages in length, with an estimated duration of completion of 20 minutes. All questions were either adapted from other physician studies,^{3,4,22-24,32,36,38-54,58} national surveys (e.g., National Health Interview Survey; Panel Study of Income Dynamics),^{38,44,48} and AAP surveys (Periodic Survey; Annual Survey of Graduating Residents),^{3,4} or were new questions refined through the cognitive interview and pilot testing process.

Target Population and Sample Size

We chose to include 2 cohorts of U.S. pediatricians based on residency graduation dates, including one group who were several years out of residency and early in their careers: A) 2002-2004 Residency Graduates Cohort, and a second group who recently graduated from residency at the time of the study launch in 2012: B) 2009-2011 Residency Graduates Cohort. We included 2 cohorts in order to compare pediatricians who had just completed their residency training and those who have had time to launch their careers. We focused on pediatricians less than 11 years out of residency so we would be able to track them early in and across their careers.

To determine study sample size, we conducted power analyses using 2 different examples from the published literature.^{17,46} We focused on the power to detect a 1 point difference on a 5-item satisfaction scale and to detect a 10 point difference in percentages using a dichotomous outcome variable. We also wanted a large enough sample to detect differences within known subgroups of interest, such as general pediatricians, with a goal of 80% statistical power. Based on the power calculations, our target sample size was 600 pediatricians per cohort or 1,200 total pediatricians for the study.

Members of the cohorts were identified using the AAP administrative database (NetForum), which includes all pediatricians in the targeted age range (both AAP members and non-members) who completed a U.S. residency program. The core target population for the 2002-2004 Residency Graduates Cohort included 9,682 pediatricians who completed their residency from a categorical pediatric or pediatric combined training program between the years 2002 and 2004. The core target population for the 2009-2011 Residency Graduates Cohort included 9,916 pediatricians who completed their residency training between the years 2009 and 2011. An additional small group of pediatric surgical and other specialists, who would not have completed a pediatric residency, were identified based on membership in an AAP specialty section and having an age consistent with the cohort residency graduation years. The final target population included 9,880 pediatricians in the 2002-2004 Cohort and 9,942 in the 2009-2011 Cohort.

Recruitment

Recruitment into PLACES was a two-stage process. First, we conducted random sample recruitment from the target population. Second, among pediatricians who responded positively to the random sample recruitment, we sent the first Annual Survey. To be enrolled in the study, participants needed to 1) respond to the initial intake survey and 2) successfully complete the Annual Survey for Year 1. Procedures used in these recruitment stages are described below and summarized in Figure 2.

Stage 1: Random Sample Recruitment

Prior to the random sample recruitment, many efforts were made to increase general awareness of the study among the pediatric community, especially among early career

pediatricians, including the formation of an AAP website and articles and announcements placed in various AAP communication vehicles. Recruitment began by randomly drawing samples of participants from the respective target population for each cohort. To ensure that the recruitment procedure was working properly, the first random samples drawn only included 100 pediatricians per cohort (200 total). A month later, additional samples of 1,695 from the 2002-2004 Cohort and 1,529 pediatricians from the 2009-2011 Cohort were randomly drawn from the target populations, with the restriction that all potential surgical specialists were included due to their small numbers. A postcard was then sent to potential participants prior to the first recruitment mailing to alert them that they would be soon receiving an invitation to participate in the study.

Each of the selected pediatricians was contacted up to 5 times during the invitation phase (December 2, 2011 – April 18, 2012). The initial contact attempt was through the postal service; subsequent contacts included 2 emails and 2 additional mail messages, alternating methods. Each contact included the invitation, project information, and a hardcopy version with reply envelope or online link to the study intake survey (short, 2-page demographic survey). Online versions of the study surveys were administered through Qualtrics Research Suite. Pediatricians were asked to complete the study intake survey if they were interested in becoming part of the PLACES longitudinal study. Upon receipt of their intake survey, pediatricians were sent a personalized thank you note and information about the upcoming PLACES Annual Survey.

It was anticipated from the outset of the study that multiple iterations of recruitment would be necessary to attain the recruitment target numbers. Thus, additional random samples of 700 for the 2002-2004 Cohort and 601 pediatricians for the 2009-2011 Cohort were selected and sent recruitment materials. Slightly more were selected for the 2002-2004 cohort because

response was slightly lower in that cohort. The same recruitment procedures were used for the second group of potential participants.

Stage 2: Annual Survey

Once the overall Stage 1 recruitment targets for the 2 cohorts were achieved, fielding of Annual Survey Year 1 was conducted (May 10, 2012 – August 27, 2012). Within the intake survey, potential participants were asked whether they preferred to complete surveys online or use paper versions. Potential respondents (those who had completed the initial intake survey) received up to 6 contacts requesting their completion of Annual Survey Year 1. In the first survey mailing or emailing, we included a graphic summary of the data collected via the intake survey, to initiate an important component of the project, as identified by the focus groups - regular feedback of study data to participants.

Once their Annual Surveys were completed, pediatricians were considered enrolled in PLACES and were sent a thank you message and a \$20 Amazon gift card, as promised in the study recruitment materials. Gift cards were either mailed through the postal service or emailed through Amazon.com, depending on participant preference. PLACES pediatricians will continue to be sent 2 surveys each year, including the 1) Annual Survey in the spring, nearly identical to the Annual Survey for Year 1 so that trends can be tracked and individual changes can be examined over time, and 2) Check Point Survey (short survey in the fall) to update contact information and ask a small set of targeted questions. A participant newsletter with data from previous surveys is included in the first mailing of each survey. Links to PLACES newsletters can be found at: www2.aap.org/research/places.htm.

Data Management and Analysis

Data collected through mailed, paper surveys were entered into a SPSS statistical data set, and approximately 10% of the data entered were checked by another researcher, with 99.99% accuracy. Data collected online via Qualtrics were downloaded to a SPSS data set and merged with the paper data set. Data checks and data cleaning procedures were used to further ensure data quality.

Study non-response bias was assessed in 2 different ways. First, for a select number of variables (gender, age, AAP membership status, and geographic location) information was available about non-respondents through the AAP administrative database. Respondents were directly compared to the target samples (random samples from target population) for those factors using t-tests or 1-sample proportion tests. Second, data on gender and medical school location were publicly available on the ABP website by residency class. Study respondents were compared to the ABP data for the graduation years corresponding to the PLACES cohorts using 1-sample proportion tests.

We used descriptive statistics to present data on the demographic, training and work characteristics of the PLACES pediatricians and chi-square and ANOVA tests to examine for differences in the data between study cohorts (2002-2004 Cohort and 2009-2011 Cohort). Weights were calculated based on participant and non-participant characteristics as described in the Results section below.

Human Protections

The AAP Institutional Review Board (IRB) approved all research conducted for PLACES, including both the qualitative (e.g., focus groups and cognitive interviews) and

quantitative data collection. The IRB will continue to review the PLACES protocol and new versions of the Annual Survey and Check Point Survey each year. Protecting participant data and keeping it confidential and secure through tight control of data (e.g., storage on password protected computers in password protected files or in locked file cabinets with limited access) is of highest priority in a longitudinal study. To further enhance the protection of participant data, we sought and received a Certificate of Confidentiality for PLACES from the U.S. Department of Health and Human Services Health Resources and Services Administration.

RESULTS

Participation and Non-Response Bias

Overall, 41.2% of those pediatricians randomly selected to participate in PLACES indicated positive interest in the study by completing intake surveys; of this group, 1,804 (93.7%) completed the first Annual Survey and were considered enrolled in PLACES. Further detail on enrollment at each stage, by cohort is provided in Figure 2. The pediatricians who indicated positive interest in PLACES by completing Stage 1 (responded to initial intake survey) but did not complete the Annual Survey (Stage 2) are not considered PLACES participants and will not be sent additional surveys. Most of the pediatricians graduated from residency during the targeted cohort years (2002-2004 and 2009-2011); 8.7% and 6.0%, respectively, were outside the target years but were included because they met secondary inclusion criteria by being within 1 year of the target residency graduation year and/or matching the typical age of the group (37-41 and 30-34 years, respectively).

Weighting of the Sample

Compared to the target populations, study participants were found to be significantly more likely to be female, AAP members, and graduates of U.S. medical schools (see Tables 1 and 2). Two types of weights were calculated and combined:⁵⁹ 1) Non-response weight to adjust for differences between respondents and the target sample for gender and AAP membership status; 2) Post-stratification weight to adjust for differences between medical school location of participants and general information on pediatricians (ABP data).

Characteristics of PLACES Pediatricians

Most PLACES pediatricians reported a preference to complete study surveys online each year (2002-2004 Cohort: 68% and 2009-2011 Cohort: 78%); almost one-third (32%) of the 2002-2004 Cohort and 22% of the 2009-2011 Cohort said they preferred to complete surveys on paper, $p < .001$. Personal, training, and current work characteristics of the 1,804 PLACES pediatricians are presented in Tables 2 and 3 by study cohort, including both unweighted and weighted data.

Personal Characteristics

The majority of PLACES pediatricians in both cohorts are women, married/partnered, and have children. The 2002-2004 Cohort pediatricians are more likely than the 2009-2011 Cohort to be white, married, a parent, and proficient in a language other than English ($p < .05$ for all comparisons). The 2009-2011 Cohort are more likely to be women (70% vs 60%, $p < .001$).

Training Characteristics

As shown in Table 2, several differences in the training characteristics of PLACES pediatricians were found between the 2 cohorts. As pediatricians in the 2009-2011 Cohort have

been out of residency for less time, fewer are board-certified in pediatrics and subspecialties. Approximately one-third of the pediatricians in the 2009-2011 Cohort were still in fellowship training in 2012.

Work Characteristics

Almost one-quarter (24%) of the pediatricians in the 2002-2004 Cohort and 11% of those in the 2009-2011 Cohort are working part-time, $p < .001$ (Figure 3). When pediatricians still in fellowship training are excluded, 17% of pediatricians in the 2009-2011 Cohort are working part-time. While the post-training pediatricians in both cohorts work a mean of 43 hours (excluding time on call when not actively working), pediatricians in the 2009-2011 Cohort who are currently in fellowship training report working a mean of 57 hours in a typical week (Figure 4).

Nearly all PLACES pediatricians provide at least some direct patient care (98% in both cohorts), and mean reported percent of time spent in general pediatric care is about half (2002-2004 Cohort: 54.6% and 2009-2011 Cohort: 50.0%), (Table 3). Most pediatricians are working as employees, including 73% of the 2002-2004 Cohort pediatricians and 88% of those in the 2009-2011 Cohort, $p < .001$.

Lessons Learned

We successfully developed and initiated a national longitudinal study of U.S. early career pediatricians in both general and subspecialty pediatrics. We believe the valuable information that we gather will inform AAP program development and strategic planning and provide for the field of pediatrics an overall understanding of the experiences and expectations of pediatricians early in and across their careers. With longitudinal data, we will be able to examine individual changes over time and learn about career and life choices and transitions, which may be

applicable to other physician specialties. We believe the qualitative research conducted with early career pediatricians to obtain feedback on the study importance, design, and content were extremely valuable and helped inform many key study decisions. We think that making surveys easy to complete (e.g., online and ability to pause and restart surveys), providing reminders to complete surveys, providing the option of online or paper surveys, and keeping the time commitment per year to less than 1 hour were key to the successful initiation of the project. We place great importance on feeding back data to PLACES participants; each time we ask them to complete a new survey, we will continue to share data with participants.

There are limitations to the current study, including that all data are self-reported. Our initial project sign up rate of 41% is lower than typical AAP cross-sectional surveys;⁶⁰ but efforts were made to account for non-response bias via our data weighting procedure. In addition, a 41% sign up rate is similar to or higher than other longitudinal, cohort or panel studies.^{33-35,61,62}

CONCLUSION

This is the first national, longitudinal study that will follow early career pediatricians prospectively examining trends in both professional (work and practice characteristics, career choice, satisfaction, and work-life balance) and personal (health, financial, continuing education, and life changes) facets of their lives. PLACES will provide important data for years to come that will inform the field of pediatrics. The longitudinal data will provide a vehicle to monitor key trends in pediatrics identified by the Vision of Pediatrics Task Force, such as workforce issues and work-life balance, and will allow us to examine career and life choices and transitions experienced by pediatricians, including generalists and subspecialists, across their careers.

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Table 1. Study Non-Response Bias Comparisons: PLACES Pediatricians and Target Sample

	2002-2004 Residency Graduates Cohort				2009-2011 Residency Graduates Cohort		
	PLACES Participants N=901	Target Sample from All U.S. Pediatric Residency Graduates N=2479*	Difference between Participants and Target Sample		PLACES Participants N=903	Target Sample from All U.S. Pediatric Residency Graduates N=2198**	Difference between Participants and Target Sample
Female, % (n)	69.8 (629)	60.3 (1491)	<.001		76.1 (687)	70.8 (1397)***	<.001
AAP Member at Time of Recruitment, % (n)	65.5 (590)	52.2 (1294)	<.001		61.4 (554)	46.8 (1029)	<.001
AAP U.S. Geographic District, % (n)							
I (CT, ME, MA, NH, RI, VT, Uniformed Serv East)	7.4 (67)	7.0 (174)	NS		7.2 (65)	7.5 (164)	NS
II (NY)	7.2 (65)	9.1 (225)	NS		7.2 (65)	10.2 (225)	<.01
III (DE, DC, MD, NJ, PA, WV)	12.9 (116)	11.4 (282)	NS		12.4 (112)	12.7 (278)	NS
IV (KY, NC, SC, TN, VA)	12.7 (114)	10.7 (265)	NS		11.2 (101)	10.3 (226)	NS
V (IN, MI, OH)	8.5 (77)	8.1 (200)	NS		11.5 (104)	9.6 (212)	NS
VI (IL, IA, KS, MN, MO, NE, ND, SD, WI)	11.4 (103)	10.9 (269)	NS		14.3 (129)	12.6 (276)	NS
VII (AR, LA, MS, OK, TX)	9.4 (85)	11.5 (284)	NS		9.9 (89)	11.1 (244)	NS
VIII (AK, AZ, CO, HI, ID, MT, NV, NM, UT, WA, WY, Uniformed Serv West)	11.1 (100)	10.4 (257)	NS		8.4 (76)	8.0 (175)	NS
IX (CA)	10.1 (91)	11.3 (281)	NS		10.3 (93)	10.2 (224)	NS
X (AL, FL GA, PR)	9.2 (83)	9.8 (242)	NS		7.5 (68)	7.9 (173)	NS
Age in Years at Recruitment (mean, min-max)	39, 34-58	39	NS		32, 27-54	32	NS

*Random samples from AAP data files, plus 198 specialty members, minus 16 known ineligible

**Random samples from AAP data files, plus 26 specialty members, minus 32 known ineligible

***Gender field was not complete in the AAP database NetForum for this cohort (e.g., gender was missing for 225 pediatricians; proportions included in the table exclude missing)

NS = Not significant ($p \geq 0.05$)

Table 2. Study Non-Response Bias Comparisons: PLACES Pediatricians and American Board of Pediatrics (ABP) Data

	2002-2004 Residency Graduates Cohort				2009-2011 Residency Graduates Cohort		
	PLACES Participants N=901	ABP Data N=9064	Differences between Participants and ABP Data		PLACES Participants N=903	ABP Data N=9614	Differences between Participants and ABP Data
Female, % (n)	69.8 (629)	65.0 (5894)	<.01		76.1 (687)	71.6 (6884)	<.01
Medical School Location – Outside the US, % (n)	12.2 (110)	21.0 (1905)	<.001		13.7 (124)	23.6 (2271)	<.001

Table 3. Personal and Training Characteristics of PLACES Pediatricians by Study Cohort, Year 1 of Study (2012)

	2002-2004 Residency Graduates Cohort N=901		2009-2011 Residency Graduates Cohort N=903	
	Unweighted %, mean, or median, (n)	Weighted %, mean, or median	Unweighted %, mean, or median, (n)	Weighted %, mean, or median
PERSONAL				
Age in years, mean[†]	40 (901)	40	33 (903)	33
Female, %[†]	69.8 (629)	60.3	76.1 (687)	70.0
Hispanic or Latino, %	8.6 (77)	9.9	7.9 (71)	8.3
Race, %*				
White [†]	74.3 (668)	72.0	70.9 (639)	66.1
Asian	18.1 (163)	20.0	19.3 (174)	23.2
Black or African American	5.7 (51)	5.3	6.4 (58)	6.7
American Indian or Alaska Native	0.9 (8)	0.7	0.6 (5)	0.6
Native Hawaiian or other Pacific Islander	0.4 (4)	0.3	0.6 (5)	0.6
Other	3.4 (31)	4.3	4.8 (43)	5.6
Marital Status, %[†]				
Married, civil union, or living with partner	89.4 (804)	89.1	77.4 (699)	77.6
Never married and not living with partner	8.0 (72)	8.3	19.8 (179)	19.4
Divorced, separated, or widowed	2.6 (23)	2.7	2.8 (25)	3.0
Children, %[†]	84.7 (763)	84.0	50.8 (459)	51.6
Number of children, %[†]				
1	16.4 (124)	16.4	54.3 (248)	54.0
2	50.1 (379)	50.2	33.9 (155)	33.5
3	25.1 (190)	24.4	9.6 (44)	9.9
4 or more	8.4 (64)	9.0	2.2 (10)	2.6

	2002-2004 Residency Graduates Cohort N=901		2009-2011 Residency Graduates Cohort N=903	
	Unweighted %, mean, or median, (n)	Weighted %, mean, or median	Unweighted %, mean, or median, (n)	Weighted %, mean, or median
Proficient in a language other than English, %[†]	39.5 (342)	42.8	34.4 (300)	37.7
TRAINING				
Med School Grad Year, median year[†]	2000 (901)	1999	2006 (900)	2006
Residency Grad Year, median year[†]	2003 (901)	2003	2010 (902)	2010
Type of Residency, %[†]				
Pediatrics	86.5 (773)	85.5	89.0 (793)	88.3
Combined	8.6 (77)	9.9	9.5 (85)	10.4
Other	4.9 (44)	4.6	1.5 (13)	1.4
U.S. Medical School Location, %	87.8 (789)	80.2	86.3 (778)	77.2
U.S. Residency Program Location, %	99.1 (884)	98.9	99.8 (898)	99.6
Board-Certified in Pediatrics, %[†]	91.0 (820)	90.3	87.0 (786)	85.3
Board-Certified in Subspecialty/Surgical Specialty/Other Specialty, %[†]	35.2 (317)	39.5	5.1 (46)	4.9
Board-Eligible in Subspecialty/Surgical Specialty/Other Specialty, or Currently in Fellowship Training Program, %[†]	3.7 (31)	4.5	33.7 (302)	38.7

[†] p< 0.05 for chi-square or ANOVA tests to examine weighted data for differences between study cohorts (2002-2004 Cohort and 2009-2011 Cohort)

*Respondents checked all that apply

Table 4. Work Characteristics of PLACES Pediatricians by Study Cohort, Year 1 (2012)

	2002-2004 Residency Graduates Cohort		2009-2011 Residency Graduates Cohort*	
	N=901		N=903	
	Unweighted	Weighted	Unweighted	Weighted
	%, mean, or median, (n)	%, mean, or median	%, mean, or median, (n)	%, mean, or median
Direct Patient Care, % Yes	98.2 (862)	97.9	98.2 (862)	98.2
Direct and/or Consultative Clinical Care, mean %				
Outpatient general pediatric care [†]	49.6 (855)	46.5	39.3 (870)	36.0
Inpatient general pediatric care [†]	8.7 (855)	8.1	15.9 (870)	14.0
Outpatient pediatric subspecialty/specialty care [†]	16.4 (855)	18.2	12.0 (870)	13.1
Inpatient pediatric subspecialty/specialty care [†]	14.1 (855)	15.5	18.1 (870)	21.5
Other [†]	11.1 (855)	11.7	14.8 (870)	15.5
Employment Status, %[†]				
Employee	73.3 (644)	73.2	88.1 (777)	88.1
Owner or part owner	19.2 (169)	18.8	3.3 (29)	2.8
Independent contractor	4.7 (41)	4.9	2.8 (25)	3.3
Other	2.7 (24)	3.1	5.8 (51)	5.8
Area of Primary Job, %[†]				
Suburban	38.9 (340)	36.0	28.2 (248)	26.0
Urban, not inner city	31.2 (272)	32.4	32.5 (285)	31.8
Urban, inner city	23.7 (207)	25.1	30.1 (264)	33.0
Rural	6.2 (54)	6.5	9.2 (81)	9.1
Work Setting of Primary Job, %[†]				
Medical school or parent university	23.5 (206)	26.5	37.8 (333)	40.0
Pediatric group practice	24.6 (216)	21.8	19.7 (174)	17.6
Multispecialty group practice	12.2 (107)	12.3	6.6 (58)	6.7

Community or non-university hospital or clinic	12.7 (111)	11.6	15.3 (135)	15.2
Solo or two physician practice	10.3 (90)	11.2	4.2 (37)	4.3
Managed care organization	3.9 (34)	3.8	1.9 (17)	1.6
Government hospital or clinic	4.0 (35)	3.3	6.3 (56)	6.8
Other	8.9 (78)	9.5	8.2 (72)	7.8

[†] p< 0.05 for chi-square or ANOVA tests to examine weighted data for differences between study cohorts (2002-2004 Cohort and 2009-2011 Cohort)

* Approximately one-third of the pediatricians in the 2009-2011 Cohort were still in fellowship training in 2012

Figure 1. Study Domains and Survey Content for PLACES

Figure 2. Recruitment of Pediatricians into PLACES

Figure 3. Current Work Status of PLACES Pediatricians in 2012, N=1804

Figure 4. Number of Hours Worked Per Week in a Typical Week in 2012 by PLACES Cohort, N=1693