

## Pediatric Generalists and Subspecialists: Determinants of Career Satisfaction

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**ABSTRACT.** *Objectives.* To evaluate the work life and job satisfaction of pediatric generalists and subspecialists in comparison to each other and to a group of general internists and internal medicine subspecialists.

*Methods.* Data were collected by survey of a national sample of 5704 general pediatricians, subspecialty pediatricians, general internists, internal medicine subspecialists, and family physicians who were selected randomly from the American Medical Association Masterfile using stratified sampling with disproportionate weighting to ensure ethnic diversity and representation of high managed care areas. Surveys were mailed up to 4 times and contained 150 items that reflected 10 facets of physician job satisfaction as well as an assessment of individual and practice demographic information. This study reports data from all groups except for family medicine.

*Results.* The adjusted response rate was 58% for general pediatricians ( $n = 590$ ), 67% for specialty pediatricians ( $n = 345$ ), and 52% ( $n = 1823$ ) for the entire pool. In comparison with general internists, general pediatricians were more likely to be female (44% vs 24%); to work part time (20% vs 12%); to have lower annual income (\$125 679 vs \$143 875); and to report significantly higher levels of job, career, and specialty satisfaction on a 5-point scale (3.81 vs 3.52, 3.80 vs 3.55, and 3.76 vs 3.17 respectively). In comparison with internal medicine subspecialists, pediatric subspecialists were more likely to be female (42% vs 22%); to work in academically affiliated settings (35% vs 17%); to have lower incomes (\$156 284 vs \$192 006); to receive significantly less time for a complete history and physical examination (39 minutes vs 51 minutes); and to report similar levels of job, career, and specialty satisfaction (3.69 vs 3.71, 3.74 vs 3.78, and 3.60 vs 3.47 respectively). Of all 4 physician groups, general pediatricians worked the fewest hours (50/week), spent the greatest percentage of time in the office and the lowest percentage in the hospital (58% and 16%, respectively), saw the lowest percentage of patients with complex medical and complex psychosocial problems (15% and 17%, respec-

tively), and were the least likely to endorse symptoms of burnout or job stress (13% and 18%, respectively). In comparison, pediatric subspecialists worked longer hours (59/week), spent the lowest percentage of time in the office and the greatest percentage of time in the hospital (22% and 44%, respectively), saw a much higher percentage of patients with complex medical and complex psychosocial problems (46% and 25%, respectively), and reported significantly higher levels of burnout and job stress (23% and 26%, respectively).

*Conclusions.* Despite lower incomes, general pediatricians reported the highest levels of satisfaction and the least job stress of all 4 physician groups, whereas pediatric subspecialists reported levels of stress and burnout that raise significant concerns for the workforce of pediatric subspecialists of the future. Initiatives that improve clinical workload, balance inpatient and outpatient hours, and increase personal time of pediatric subspecialists should be considered. *Pediatrics* 2001;108(3). URL: <http://www.pediatrics.org/cgi/content/full/108/3/e40>; *career, pediatrics, satisfaction*.

ABBREVIATION. PWS, Physician Worklife Study.

Throughout the 1990s, efforts to increase the supply of generalist physicians and reduce the number of subspecialist physicians were at the forefront of graduate medical education reform in the United States. The belief that the increasing ratio of subspecialists to generalists has had deleterious effects on cost and quality of medical care and the fear that the country will experience an undesirable surplus of physicians were the primary drivers behind the reform effort.<sup>1-3</sup>

In 1994, despite almost universal acceptance of these beliefs, the Federation of Pediatric Organizations issued a statement on graduate medical education and pediatric workforce that called into question the appropriateness of certain aspects of reform with respect to the field of pediatrics.<sup>4</sup> Pointing to already existing shortages of pediatric subspecialists and predicting an increasing demand as a result of the growing complexity of pediatric illness, the Federation of Pediatric Organizations called for efforts to increase the supply of both pediatric generalists and subspecialists to meet the demands of the future. Buttressing its argument, the organization cited a more than 30-year history in which pediatric residents had chosen careers in primary care over further specialty training at rates of greater than 2:1.

Six years later, the Pediatric Subspecialists of the

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Future Workgroup wrote in their final report to the Future of Pediatric Education II Task Force that shortages of pediatric subspecialists in a number of fields persisted.<sup>5</sup> Noting a serious shortage of pediatrician-investigators, the workgroup stated that “aggressive action must be taken to facilitate recruitment, [and] remove obstruction to academic career tracks.”

Surprisingly, given the intensity of this discussion, very little is known regarding the degree of career satisfaction among pediatric generalists or subspecialists and the implications that this may have for future pediatric workforce numbers. Previous studies of satisfaction within pediatrics focused on individual subspecialties such as pediatric cardiology,<sup>6</sup> neonatology,<sup>7</sup> and pediatric emergency medicine<sup>8</sup> and have given little basis for comparisons across the entire spectrum of pediatrics.

The Physician Worklife Study (PWS) was conducted between 1996 and 1998 in an effort to assess the determinants of physician satisfaction, to assess how these components differ among generalists and subspecialists, and to assess the effects of employment in different types of managed care organizations on physician satisfaction. In this analysis of data from the PWS, we address the career satisfaction of pediatric generalists and subspecialists in comparison with each other and with groups of general internists and internal medicine subspecialists. We examine the determinants of satisfaction and the sources of dissatisfaction as they relate to the potential for physician burnout. Implications for career decisions by individuals as well as the impact on the pediatric workforce of the future are discussed.

## METHODS

### Survey Development

The qualitative and quantitative analyses that led to the development of the survey instrument have been described in detail in previous studies,<sup>9,10</sup> as have specific details regarding dissemination and collection of the national survey.<sup>11</sup> In brief, we performed a formal content analysis of open-ended data from a 1988 national survey of 7000 physicians in large group practices.<sup>12</sup> We merged the results of that analysis with the findings of our own extensive review of the medical literature on physician satisfaction.<sup>13,14</sup> Using a series of focus groups conducted with women, minority, inner-city, and managed care physicians, we completed our model of physician satisfaction that was dependent on 10 hypothesized factors that we termed components of satisfaction (autonomy, relationships with colleagues, relationships with patients, relationships with staff, relationships with the community, personal time, patient care issues, income, administrative support, and resources).

This model was pilot-tested and cross-validated on 888 physicians divided into 2 groups.<sup>10</sup> The first group was used to refine further the survey, and the second cross-validation group was used to confirm the choices made from the first group. The 10 hypothesized factors showed acceptable reliability through factor analysis using oblique rotations. Global measures of job, specialty, and career satisfaction showed excellent reliability.<sup>10,11</sup>

### National Survey

Using the American Medical Association Masterfile, we selected a national sample of physicians in the primary care fields of general pediatrics, general internal medicine, and family medicine as well as physicians in the pediatric and medicine subspecialties. Stratified sampling with disproportionate weighting was used to ensure ethnic diversity and representation of physicians in regions with a high penetration of managed care plans. The sample con-

tained 5704 physicians. Surveys were mailed up to 4 times, and nonrespondents in those groups with the lowest response rates were targeted with telephone follow-up. Endorsements were obtained from national specialty organizations, and cover letters from prominent representatives were included in specified mailings. Application of sampling weights permits generalizability of these results to a relevant national population of approximately 400 000 physicians in the primary care and subspecialty fields surveyed. Minority physicians were defined as those who self-reported as African American, Hispanic (all categories), Native American, Alaskan Native, Asian, or Pacific Islander. Underrepresented minority physicians were defined as only those who self-reported as African American, Hispanic (Puerto Rican or Mexican only), Native American, or Alaskan Native.

### Analysis

This analysis is limited to physicians from the national sample who are practicing in the fields of general and specialty pediatrics and general and specialty internal medicine. The overall survey response rate was determined on the basis of a bad address rate for the American Medical Association Masterfile of 18%. The bad address rate was calculated on a series of telephone calls to 200 nonrespondents. To assess nonresponse bias, we searched for trends between survey variables and the time until the questionnaire was returned. The Spearman correlation coefficients for all 140 items were below 0.10, with the exception of 4 items, suggesting at most a modest impact of late or no response.

We defined part-time practice as fewer than 40 hours per week spent on all components of work activity. Physicians who experienced burnout were defined as those who chose 3 or greater on the following scale: 1) I enjoy my work; I have no symptoms of burnout. 2) Occasionally I am under stress . . . but I don't feel burned out. 3) I am definitely burning out and have . . . symptoms . . . such as physical and emotional exhaustion. 4) The symptoms of burnout that I am experiencing won't go away. . . . 5) I feel completely burned out and often wonder if I can go on. . . . Physicians who experienced significant job stress were defined as those who scored 3 or higher on a 4-item scale that was adapted from Cohen et al.<sup>15</sup> Each item was scored from 1 to 5 and addressed issues of control over important issues in life and confidence in handling personal and professional problems.

In all analyses, whether comparing proportions or means, data were weighted to adjust for differing response rates and sampling probabilities. The software package STATA (Version 5; STATA Corporation, College Station, TX) was used for weighted statistical analysis incorporating weights and strata.

## RESULTS

### Demographics

A total of 2325 physicians completed this survey, resulting in an adjusted response rate of 52%. Excluding family physicians, the total number of respondents was 1823. All following analyses are based on these 1823 respondents.

The mean age of respondents was 47 years; 84% were married, and 85% had children. Minority physicians accounted for 26% of survey respondents, whereas underrepresented minority physicians comprised 5.6%. General and subspecialty pediatricians accounted for 51% of the study population (Table 1). Specialty pediatricians included physicians from the entire spectrum of sub-boards of the American Board of Pediatrics. Neonatologists accounted for 34% of pediatric specialty respondents followed by pediatric hematologists/oncologists (11%), adolescent medicine physicians (6%), pediatric emergency medicine physicians (4%), pediatric pulmonologists (4%), pediatric endocrinologists (4%), and pediatric critical care physicians (3%).

Forty-four percent of general pediatricians were women as compared with 24% of general internists

**TABLE 1.** Demographics and Practice Characteristics

Specialty	Total Respondents	Women	Part Time	Income	Solo or Small Group Practice	Large Specialty or Multispecialty Group	HMO	Academic	Others
General pediatrics	590 (32%)	44%	20%	\$125 679	55%	15%	14%	10%	7%
Pediatric subspecialties	345 (19%)	42%	9%	\$156 284	33%	16%	6%	35%	10%
General internal medicine	451 (25%)	24%	12%	\$143 875	53%	21%	11%	6%	9%
Internal medicine subspecialties	438 (24%)	22%	10%	\$192 006	53%	22%	6%	17%	3%

HMO indicates health maintenance organization.

( $P < .001$ ). General pediatricians reported lower incomes than general internists (\$125 679 vs \$143 875;  $P < .05$ ), and pediatric subspecialists had lower incomes than internal medicine subspecialists (\$156 284 vs \$192 006;  $P < .001$ ). Twenty percent of general pediatricians worked part time, the highest percentage of all physician groups surveyed. Of all physicians, pediatric subspecialists were least likely to work in solo or small group practices and the most likely to work in an academically affiliated setting (Table 1).

#### Hours and Characteristics of Work

Controlling for part-time status, general pediatricians still worked the fewest hours each week and spent almost 60% of their work time in the office seeing patients. By contrast, pediatric subspecialists were tied with internal medicine subspecialists for the highest number of work hours each week and reported the lowest percentage of time spent in the office seeing patients (22%) along with the highest percentage of time spent seeing patients in the hospital (44%). Pediatric subspecialists spent 3.25 times more hours than general pediatricians and 1.6 times more hours than internal medicine subspecialists seeing hospitalized patients (Table 2).

Of all physicians, general pediatricians reported the least amount of time allotted (26 minutes) per patient for a complete history and physical examination. In comparison, general internists were allotted 39 minutes ( $P < .001$ ). Pediatric subspecialists were allotted 12 minutes less than internal medicine subspecialists for a comparable evaluation (51 minutes vs 39 minutes;  $P < .01$ ).

#### Case Mix

Table 3 shows specific patient characteristics for each of the specialty groups. General pediatricians reported the lowest percentage of substance-abusing patients, the lowest percentage of patients with complex medical problems, the lowest percentage of pa-

tients with complex psychosocial problems, and the lowest percentage of "generally frustrating" patients of all physician groups.

In contrast, pediatric subspecialists reported the highest percentage of non-English-speaking patients and the highest percentage of Medicaid patients. Their overall percentages of patients with complex medical or psychosocial problems were similar to those of general internists and less than those of internal medicine subspecialists.

#### Global and Specific Components of Satisfaction

As can be seen in Table 4, general pediatricians reported the highest satisfaction of all physicians for all 3 global satisfaction scales: job, career, and specialty satisfaction. The differences in satisfaction reached statistical significance for all 3 scales measured in comparison with general internists. Pediatric subspecialists reported global satisfaction levels more closely approximating those of the general internists and internal medicine subspecialists. For all groups, levels of satisfaction were not significantly affected by the age of the respondents.

With respect to the specific components of satisfaction, general pediatricians were more satisfied than all other physicians surveyed regarding their relationships with patients and their personal time. Specialty pediatricians reported the highest satisfaction with patient care issues.

In comparison with general internists, general pediatricians were 1.53 times more likely (70% vs 46%) to recommend their specialty to a student seeking advice ( $P < .001$ ), 1.41 times more likely (64% vs 46%) to choose their current specialty if starting over again ( $P < .001$ ), and 0.48 times less likely (11% vs 22%) to say that they would not choose the practice of medicine altogether if starting over again ( $P < .01$ ). In comparison with internal medicine subspecialists, pediatric subspecialists were 1.09 times more likely (59% vs 54%) to recommend their specialty to a student seeking advice ( $P > .05$ ), 1.15 times more

**TABLE 2.** Characteristics of Work: Hours/Week (% of Week Total)

Specialty	In Office Seeing Patients	In Hospital Seeing Patients	Teaching/ Administration	Other Work-Related Activities	Total Hours
General pediatrics	29 (58%)	8 (16%)	6 (12%)	7 (14%)	50 (100%)
Pediatric subspecialties	13 (22%)*	26 (44%)*	11 (19%)*	9 (15%)*	59 (100%)*
General internal medicine	30 (55%)	11 (20%)†	5 (9%)†	9 (16%)*	55 (100%)*
Internal medicine subspecialties	24 (41%)*	16 (27%)*	10 (16%)*	10 (16%)*	59 (100%)*

\*  $P < .001$  compared with general pediatrics.

†  $P < .05$  compared with general pediatrics.

**TABLE 3.** Patient Characteristics by Specialty

Specialty	Non-English-Speaking	Complex Medical Histories	Complex Psychosocial Problems	Generally Frustrating	Substance Abusing	Medicaid
General pediatrics	8%	15%	17%	9%	5%	25%
Pediatric subspecialties	13%*	46%*	25%*	11%	7%‡	33%†
General internal medicine	7%	48%*	32%*	13%†	10%*	11%*
Internal medicine subspecialties	8%	69%*	37%*	14%*	9%*	12%*

\*  $P < .001$  compared with general pediatrics.

†  $P < .01$  compared with general pediatrics.

‡  $P < .05$  compared with general pediatrics.

**TABLE 4.** Degree of Satisfaction: Global and Specific

Specialty	Global Job	Global Career	Global Specialty	Patient Relationships	Community Relationships	Personal Time	Pay	Patient Issues	Relationships With Colleagues
General pediatrics	3.81	3.80	3.76	3.92	3.73	2.96	3.02	3.31	3.72
Pediatric subspecialties	3.69	3.74	3.60	3.75†	3.62	2.66*	3.08	3.45‡	3.77
General internal medicine	3.52*	3.55*	3.17*	3.77‡	3.59	2.84	2.92	3.01*	3.59‡
Internal medicine subspecialties	3.71	3.78	3.47†	3.89	3.70	2.69*	2.97	3.26	3.80

For a complete listing of satisfaction means by specialty, practice setting, and ethnicity, see Linzer et al.<sup>10</sup>

\*  $P < .001$  compared with general pediatrics.

†  $P < .01$  compared with general pediatrics.

‡  $P < .05$  compared with general pediatrics.

likely (65% vs 57%) to choose their current specialty if starting over again ( $P > .05$ ), and 1.13 times more likely (16% vs 14%) to say that they would not choose the practice of medicine altogether if starting over again ( $P > .05$ ).

#### Job Stress, Burnout, and Intent to Leave Practice

General pediatricians reported significantly lower levels of job stress and feelings of impending burnout than pediatric subspecialists, general internists, and internal medicine subspecialists. Burnout among pediatric subspecialists was almost twice the level found in general pediatricians (23% vs 13%;  $P < .01$ ). General pediatricians reported the lowest likelihood of leaving their current job within 2 years and the lowest likelihood of changing their specialty in 5 years, although these differences did not reach statistical significance (Table 5).

### DISCUSSION

In 1993, Chuck et al<sup>16</sup> in the Department of Family Medicine at the University of California, Davis, asked Northern California physicians, "Is being a doctor still fun?" The response was equivocal at best. Ninety-three percent enjoyed their relationships with

their patients, but only 63% characterized their job as "fun." Fifty-five percent believed that they lacked control over their work environment, and 53% believed that they lacked control over the number of hours that they worked. Although 80% of the respondents answered that they were satisfied overall with their jobs, only 44% replied that they would encourage their children to pursue a career in medicine. The authors stated that there were few differences in response between primary care and non-primary care physicians, but the data are not available to assess pediatricians independently.

In our study of 1823 pediatricians and internists, the answer to the question of job satisfaction is dependent on one's field of practice. General pediatricians reported the highest job, career, and specialty satisfaction and reported the lowest levels of job stress, burnout, or plans to change their type of practice of all physicians surveyed; all of this despite that they also reported the lowest annual income. In contrast, pediatric subspecialists were indistinguishable from general and specialty internists on many of these measures and reported job stress and burnout levels that suggest significant concern for future pediatric workforce considerations.

**TABLE 5.** Job Stress, Burnout, and Intent to Leave Practice

Specialty	Job Stress*	Burnout†	Will Leave Current Job in Next 2 Years‡	Will Change Specialty in Next 5 Years‡
General pediatrics	18%	13%	15.7%	2.3%
Pediatric subspecialties	26%§	23%	19.6%	3.7%
General internal medicine	25%	27%¶	16.9%	3.3%
Internal medicine subspecialties	23%	24%	15.9%	4.0%

\* Percentage scoring 3 or greater on the stress scale defined in "Methods."

† Percentage choosing 3 or greater on the burnout scale defined in "Methods."

‡ Percentage choosing moderate or greater likelihood.

§  $P < .05$  compared with general pediatrics.

||  $P < .01$  compared with general pediatrics.

¶  $P < .001$  compared with general pediatrics.

The key to understanding these substantive differences in job satisfaction lies in the data presented. Pediatric subspecialists reported that they care for more than twice as many patients with complex medical and psychosocial problems as do general pediatricians. At the same time, pediatric subspecialists spend more than 3 times the number of hours in the hospital each day than do general pediatricians and work 9 hours more in total each week. Pediatric subspecialists reported spending 24% less time than an internal medicine specialist for a complete history and physical examination, and in the health maintenance organization setting, the allotment was a striking 52% less.<sup>11</sup> These findings correlate with previous studies of neonatologists,<sup>7</sup> pediatric cardiologists,<sup>6</sup> and pediatric emergency medicine physicians,<sup>8</sup> all of which found that excessive clinical workload was a primary source of physician dissatisfaction.

Throughout the decade-long national effort to increase the number of generalist physicians and reduce the number of subspecialists, pediatric leaders raised concerns that a significant shortage of pediatric subspecialists could result.<sup>4,5</sup> In support of these concerns, recent data from the American Board of Pediatrics show that the number of graduates of US pediatric residency programs who choose additional, specialty training has fallen from 33% in 1990 to 23% in 2000.<sup>17</sup> As the number of international medical graduates who obtain US pediatric residency positions declines, there is concern that this trend could, in fact, worsen because international medical graduates historically have been almost twice as likely as US medical graduates to choose additional specialty training at the conclusion of residency.<sup>18</sup>

Given the depth of this decline, efforts must be directed toward improving the job and career satisfaction of pediatric specialist physicians. Clearly, there are areas in which these physicians find significant rewards. Pediatric subspecialists reported significantly greater satisfaction than all physicians in this study regarding patient care issues. Their levels of satisfaction with income and relationships with colleagues were virtually indistinguishable from general pediatricians. Less satisfaction with their personal time and with their long-term relationships with patients may be the factors that outweigh these positives. Increasing the flexibility of work hours, altering the balance of work effort toward a greater percentage of office rather than hospital time, and increasing the time allotted for patient interactions could significantly enhance the careers of pediatric subspecialists. At the least, studies designed to address these questions should be undertaken. For neonatologists and pediatric critical care physicians who, by nature of their subspecialty, have limited or no opportunity for office-based practice, additional efforts to control work hours and limit psychological trauma may be needed.

It is important that the satisfaction of general pediatricians not be overlooked out of concern for their specialist colleagues. Although the source of generalist pediatricians' happiness may in some ways be intrinsic to their personalities, the results of this

study argue that it also is related to the nature of their work. Our data highlight favorable aspects of generalist practice, such as lower complexity of pediatric illness, higher satisfaction with relationships with patients, higher satisfaction with personal time, and a greater likelihood of being able to work part time.

When queried regarding the sources of his satisfaction in general pediatric practice, Morris Wessel, a general pediatrician for 4 decades in New Haven, Connecticut, described the unique nature of the pediatrician's physician-patient relationship. Spanning the gamut of interactions from the first prenatal visit with the parents to caring for the patient from newborn through adolescence and at times coming full circle to care for the newborns of one's own patients, Wessel's description is a compelling endorsement of the profession.<sup>19</sup>

As with any study of emotional status, there are limitations to the interpretation of these data. As anyone who has read even a handful of applications to pediatric residency programs can attest, in comparison with many other physician groups, pediatricians generally have been labeled as happy individuals—upbeat, positive, and enthusiastic about their work. The differences that we report between pediatricians and internists may be simply the result of self-selection and perhaps are innate to the people rather than to the field. If this premise is accepted, however, then our results are all the more concerning for pediatric subspecialists. Having self-selected to this field of happy individuals, pediatric subspecialists have fallen from the wagon. This is particularly concerning given the work of Benson et al,<sup>20</sup> whose study of pediatric residents in academic medical centers in Southern California 15 years ago showed that, at least in this early stage of their careers, the most satisfied residents were those who were most likely to pursue additional subspecialty training.

Our study has the additional limitation of a 52% response rate. Although typical of other physician survey response rates (54%),<sup>21</sup> we would have preferred higher. It is noteworthy, however, that pediatricians had the highest response rates of all physicians surveyed and responded at levels well beyond that generally expected for physician surveys. In addition, our wave analysis of late versus early respondents showed a meaningful correlation of variables with survey times for only 4 of 140 items. It also should be noted that these data were collected from 1996 to 1998. We recommend caution in the interpretation of these data as all fields of medicine have seen considerable change during this time and the results could differ were the study repeated at the current time.

Finally, it is important to note that pediatric subspecialists are presented as a single entity in our results. Although it is reasonable to assume that satisfaction could vary from one subspecialty to another, this study lacks the power to evaluate for potential differences of this type.

Career satisfaction is not uniform in the field of pediatrics. General pediatricians consistently report higher levels of satisfaction and lower levels of job

stress than do pediatric subspecialists. Levels of satisfaction for pediatric subspecialists are in some cases as low as those for general internists, a group whose difficulties with career satisfaction and recruitment have been widely recognized in recent years.<sup>22,23</sup> We believe that there is considerable cause for concern. Coupled with the decade-long decline in the percentage of pediatric residency graduates who choose additional specialty training, these findings have significant implications for the size, composition, and quality of the workforce of pediatric subspecialists of the future. While protecting the satisfaction of general pediatricians, initiatives that allow pediatric subspecialists to reduce their clinical workload, improve the balance of inpatient and outpatient hours, enhance their relationships with patients, and increase personal time deserve serious consideration.

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## **Pediatric Generalists and Subspecialists: Determinants of Career Satisfaction**

Richard Shugerman, Mark Linzer, Kathleen Nelson, Jeffrey Douglas, Roberta Williams, Robert Konrad and for the Career Satisfaction Study Group

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