

**The Future of Pediatric Education II**  
***A Project of the Pediatric Community***

**Summary of Survey Findings:**  
***Pediatric Dermatology***

**Sponsoring Organizations:**

**American Academy of Pediatrics**  
**American Board of Pediatrics Foundation**  
**American Medical School Pediatric**  
**Department Chairmen**  
**Center for the Future of Children of The**  
**David and Lucile Packard Foundation**  
**Project #MCJ379381 from the Maternal**  
**and Child Health Bureau**

## **Introduction**

The FUTURE OF PEDIATRIC EDUCATION II (FOPE II) Project is a 3 year, grant- funded initiative launched by the pediatric community in May 1996. As part of this project, key leaders in the pediatric community are addressing the future supply and training of pediatricians and the provision of pediatric care into the next millennium. They are continuing the work begun with a 1978 report entitled: "The Future of Pediatric Education."

The new report, scheduled for completion in 1999, will contain recommendations that will shape the lifelong learning process of pediatricians. Looking beyond the pediatric workforce and training of pediatricians, the recommendations encompassed in the 1999 report will also address the role and pediatric training of nonpediatricians, the financing of graduate medical education, and primary care and subspecialty issues.

The FOPE II Project consists of a 17-member Task Force that has ultimate responsibility for the development of the final report. Operating under the auspices of the Task Force are five, topic-specific workgroups:

- Pediatric Workforce Workgroup
- Pediatric Generalists of the Future Workgroup
- Pediatric Subspecialists of the Future Workgroup
- Financing GME Workgroup
- Education of the Pediatrician Workgroup

Each workgroup will provide an in-depth analysis of key issues under their purview. The workgroups are charged with generating a report that will, to the extent possible, include data-driven conclusions and recommendations for the optimal provision of pediatric care to all infants, children, adolescents, and young adults.

An important component of the FOPE II Project has been the gathering of insights, information, and data that will inform the deliberations of the workgroups and the Task Force. A number of venues are being used both to provide and solicit information. One opportunity is the Survey of the American Academy of Pediatrics (AAP) Medical and Surgical Subspecialty Sections. Seventeen AAP medical and surgical subspecialty sections have chosen to participate in this survey process. Several additional sections have provided the data and information that they acquired from independent survey initiatives.

The Survey of AAP Medical and Surgical Subspecialty Sections solicits information about career, education, and practice issues, as well as demographic information. The surveys have been sent to members of the AAP Section, as well as members of the appropriate subspecialty organizations, as identified by the Section. This report summarizes the findings from the surveys of physicians in pediatric dermatology.

### **Methodology**

This report is based on responses that were generated from two questionnaires: a standard questionnaire (the Workforce Survey for Child Health Care) and a pediatric dermatology questionnaire (the Pediatric Dermatology Survey). The Workforce Survey for Child Health Care was developed by the FOPE II Task force and was designed to be applicable to most pediatric surgical and medical specialists.

The Pediatric Dermatology Survey was developed by the chairperson of the Section on Dermatology, Moise L. Levy, MD. This questionnaire, which was mailed to dermatologists along with the standard questionnaire, included questions concerning the proportion of patients of different age groups, common diagnostic categories of patients, an evaluation of the type of referrals for pediatric dermatology patients, distribution of pediatric dermatology procedures performed, an evaluation of pediatric dermatology training, and the effects of managed care on dermatology practice.

The surveys were mailed to a sample consisting of all 71 members of the AAP's Section on Dermatology (Section) and the 377 US physicians who belong to the Society of Pediatric Dermatology (SPD). Five mailings of the survey went out between March and June of 1998 to a total of 401 physicians (there was some overlap in membership between the Section and the SPD).

Each mailing contained the standard questionnaire and the Pediatric Dermatology Survey, a cover letter emphasizing the importance of the survey, and a return envelope. The survey had an effective sample size of 348 and a response rate of 67.5% (235 out of 348). Physicians most likely to respond belonged to both the Section and the SPD (72.3%). Least likely to respond were those physicians who belonged only to the Section (50.0%).

For purposes of statistical analysis, the respondents were divided into two groups: the 138 physicians who reported that 50% or more of their dermatology patients were younger than age 18 (who, for purposes of this report, are referred to as "pediatric dermatologists") and the 97 physicians who reported that less than 50% of their dermatology patients were younger than age 18 (referred to in this report as "adult dermatologists").

**Acknowledgments**

THE FUTURE OF PEDIATRIC EDUCATION II (FOPE II) Project acknowledges the participation of all who facilitated the development and implementation of the Pediatric Dermatology Workforce Survey for Child Health Care and this report on the survey findings. The FOPE II Project Task Force and Workgroup members provided the overall framework for the surveys of pediatric medical and surgical subspecialists and those non-pediatrician physicians who provide pediatric care. The Project is grateful to the members and staff of the American Academy of Pediatrics (AAP). Of particular note is Moise L. Levy, MD, AAP Section on Dermatology chairperson, who wrote the questions for the dermatology questionnaire.

Sarah E. Brotherton, PhD, and Judy Karacic of the AAP Department of Research worked diligently on construction of the survey instrument, fielding the survey, and analysis of the results. Thomas M. Gorey, JD, of Policy Planning Associates, wrote the final report. Angela Lipinski, AAP Department of Education, handled all aspects of the production and distribution of this report. The FOPE II Project extends grateful thanks to the many individuals who took time from their busy schedules to complete and return the survey. The participation of these respondents has informed the deliberations of THE FUTURE OF PEDIATRIC EDUCATION II Project.

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**Workforce Survey for Child Health Care**

Demographics of Respondents

On average, the respondents were 47 years of age and said they planned to fully retire from the practice of medicine at age 65. Fifty one percent (51%) of the respondents were female and 49% were male. In terms of ethnicity, 86% were White/Non-Hispanic, 5% were White/Hispanic, 4% were Asian/Pacific Islanders, 2% were African American, and 3% identified themselves as belonging to other racial or ethnic groups.

Ninety three percent (93%) of the respondents were graduates of U.S. medical schools, 2% were graduates of Canadian medical schools, and 5% were graduates of medical schools in other countries. The respondents' average year of graduation from medical school was 1977.

Specialty, Residency Training, and Board Certification

The survey instrument asked respondents to list the specialties and subspecialties in which they have been trained, to specify the year they completed residency training, and to indicate for each specialty/subspecialty listed whether they are board certified. Respondents could list up to three specialties/subspecialties.

Table 1 below presents a summary of the specialty, residency training, and board certification information on those who responded to the survey. All of the respondents listed dermatology as one of the specialties in which they had been trained, while 46% also listed general pediatrics. Overall, approximately 80% of the respondents trained in these two specialties said they are board certified. However, 91% of adult dermatologists said they are board certified in dermatology compared to 73% of pediatric dermatologists. Eighty three percent of pediatric dermatologists said they are board certified in general pediatrics compared to 70% of adult dermatologists.

**Table 1. Residency Training and Board Certification of Survey Respondents**

| <b>Specialty</b>   | <b>Number</b> | <b>Percent of Total</b> | <b>Percent Board Certified</b> | <b>Residency Completion Year</b> |
|--------------------|---------------|-------------------------|--------------------------------|----------------------------------|
|                    | <b>(Mean)</b> | <b>(#)</b>              | <b>(%)</b>                     | <b>(%)</b>                       |
| General pediatrics | 108           | 46.0                    | 78.7                           | 1983                             |
| Dermatology        | 235           | 100.0                   | 80.0                           | 1985                             |
| Internal Medicine  | 11            | 4.7                     | 63.6                           | 1982                             |

Other 33 14.0 NA NA

Main Practice Site

Respondents were asked to specify their main employment site; that is, the setting in which they spend the most time. Table 2 provides a breakdown of responses for this question. For the respondents overall, nearly one-third indicated that their main practice setting was at a medical school, while just over one fourth said they are in solo practice.

Adult dermatologists were much more likely than pediatric dermatologists to say that they are in solo practice or that they practice in a specialty or multispecialty group, while pediatric dermatologists were much more likely to say that their main practice site is a medical school.

**Table 2. Main Practice Site**

| Main Site                 | Pediatric Dermatologists (%) | Adult Dermatologists (%) | All Dermatologists (%) |
|---------------------------|------------------------------|--------------------------|------------------------|
| Medical school            | 43.8                         | 15.6                     | 32.3                   |
| Solo practice             | 20.0                         | 35.6                     | 26.4                   |
| Specialty group           | 15.4                         | 24.4                     | 19.1                   |
| Multispecialty group      | 6.9                          | 12.2                     | 9.1                    |
| HMO                       | 5.4                          | 7.8                      | 6.4                    |
| Pediatric group           | 3.1                          | 1.1                      | 2.3                    |
| Community hospital        | 2.3                          | 1.1                      | 1.8                    |
| Community health center   | 0                            | 1.1                      | 0.5                    |
| Uniformed health services | 0.8                          | 0                        | 0.5                    |
| Other                     | 2.3                          | 1.1                      | 1.8                    |

When asked to describe the area in which their primary practice site is located, 37% of the respondents indicated that it is an urban area (but not inner city), 37% said it is a suburban area, 20% described it as urban-inner city, and 6% characterized it as rural.

*Time Spent in Professional Activities*

On average, dermatologists spend 51 hours per week in professional activities. Table 3 depicts the average percentage of time spent by dermatologists in various professional activities.

**Table 3. Average Percent of Time per Week in Professional Activities**

| <b>Main Site</b>               | <b>Pediatric<br/>Dermatologists<br/>(%)</b> | <b>Adult<br/>Dermatologists<br/>(%)</b> | <b>All<br/>Dermatologists<br/>(%)</b> |
|--------------------------------|---|---|---------------------------------------|
| Residency/fellowship           | 0.3   | 0                                       | 0.1                                   |
| Direct patient care            | 72.0  | 86.1                                    | 77.8                                  |
| Administration                 | 7.1   | 4.1                                     | 5.9                                   |
| Teaching                       | 11.0  | 6.6                                     | 9.2                                   |
| Clinical research              | 3.6   | 1.4                                     | 2.7                                   |
| Basic science research         | 2.0   | 0.1                                     | 1.2                                   |
| Health services research       | 0.8   | 0.1                                     | 0.5                                   |
| Other, non-direct patient care | 3.4   | 1.5                                     | 2.6                                   |

On average, slightly over 3/4 (78%) of the total time spent by dermatologists in professional activities is devoted to direct patient care. Teaching (9%) and administration (6%) account for the next most significant portions of time spent by dermatologists on professional activities.

There are significant differences in how pediatric dermatologists and adult dermatologists allocate their professional time, which are primarily attributable to the fact that pediatric dermatologists are far more likely than adult dermatologists to practice in an academic environment. For example, on average, adult dermatologists spend 86% of their time in direct patient care activities compared to 72% for pediatric dermatologists. On the other hand, pediatric dermatologists spend 7% of their time on administration compared to 4% for adult dermatologists; 11% on teaching compared to 7% for adult dermatologists; and 4% in clinical research compared to 1% for adult dermatologists.

### *Referrals*

Virtually all (98%) dermatologists receive referrals for pediatric patients. Table 4 displays the source of these referrals, by specialty. The three biggest sources of referrals of pediatric patients to dermatologists are pediatric generalists, family physicians, and pediatric medical and surgical subspecialists. Ninety five percent (95%) of the dermatologists surveyed indicated that they receive pediatric referrals from general pediatricians; 89%, from family physicians; and 62% from pediatric medical and surgical subspecialists. Nearly one half of the respondents said they receive pediatric referrals from pediatric nurse practitioners.

**Table 4. Source of Referrals of Pediatric Patients to Dermatologists**

| Source of Referrals                       | Percentage |
|---|------------|
| Pediatric generalists                     | 95.1%      |
| Family physicians                         | 88.9%      |
| Pediatric medical/surgical subspecialists | 62.4%      |
| Pediatric nurse practitioners             | 48.2%      |
| Physician assistants                      | 44.2%      |
| General internists                        | 42.9%      |
| Adult medicine subspecialists             | 36.7%      |
| Obstetricians/gynecologists               | 32.7%      |
| Others                                    | 10.2%      |

Pediatric dermatologists were more likely to report that they receive referrals from pediatric medical and surgical subspecialists (78% of pediatric dermatologists compared to 42% of adult dermatologists) and from pediatric nurse practitioners (55% of pediatric dermatologists compared to 40% of adult dermatologists).

Dermatologists also were asked to report whether they receive referrals from urgent care centers, community agencies, and school districts. Fifty eight percent (58%) of the respondents indicated that they receive referrals from urgent care centers, 45% said they receive referrals from community agencies, and 34% said they receive referrals from schools. Pediatric dermatologists were more likely than adult dermatologists to say that they receive referrals from community agencies (52% of pediatric dermatologists compared to 35% of adult dermatologists). Twenty nine percent (29%) of the respondents (38% of adult dermatologists and 22% of pediatric dermatologists) said they receive no referrals from urgent care centers, community agencies, or school districts.

Twenty one percent (21%) of the respondents (29% of adult dermatologists and 15% of pediatric dermatologists) said that their pediatric referrals come exclusively from within their own practice or managed care network, while 68% said that some of their referrals come from sources outside of their network. Eleven percent (11%) of the respondents said they were not in a network.

Among those respondents who reported that they receive referrals, 60% (71% of pediatric dermatologists and 46% of adult dermatologists) said that either the volume, the complexity (or both) of the pediatric referrals they have received in the last twelve months has changed compared to previously, while 40% said that neither the volume nor the complexity has changed.

Among those dermatologists who have experienced a change in the volume *or* complexity of pediatric referrals, 51% indicated that they have seen an increase in the volume of referrals (61% of pediatric dermatologists and 32% of adult dermatologists), 29% said there has been a decrease in the volume of referrals (43% of adult dermatologists and 21% of pediatric dermatologists), 54% said there has been an increase in the complexity of referrals, and 7% said there has been a decrease in the complexity of referrals. Twenty one percent (21%) said they have experienced no change in the volume of referrals and 39% said they have experienced no change in the complexity of the cases referred to them.

Respondents who indicated that they have experienced a change in the volume or complexity of pediatric referrals in the last twelve months were asked to describe the factors to which this change could be attributed (more than one factor could be specified).

Of the respondents who have experienced an *increase* in the volume of referrals, over two thirds (68%) attributed it to an increased likelihood of general pediatricians and other generalists to handle less complex cases, 59% attributed the change to a decreased likelihood of general pediatricians and other generalists to treat more complex cases, and almost one half (48%) cited increased referrals from adult subspecialists. Of those who have seen a *decrease* in the volume of referrals, 90% attributed it to an increased likelihood of generalists to handle less complex cases, 53% attributed the change to an increased likelihood of generalists to treat more complex cases, 38% cited increased competition with other pediatric subspecialists, and 37% cited decreased referrals from adult subspecialists.

Of those respondents who have experienced an increase in the complexity of the cases referred to them, 85% attributed it to an increased likelihood of general pediatricians and other generalists to treat less complex subspecialty patients, 40% attributed it to a decreased likelihood of generalists to treat more complex patients, 32% attributed it to increased referrals from adult subspecialists, and 19% linked it to an increase in the incidence or severity of illness in their community.

### Need for Additional Training

In spite of whatever changes are taking place in health care, a majority of the respondents do not feel that recent changes have resulted in a need for additional training on their part. Eighty six percent (86%) of the respondents indicated that changes in health care have not necessitated additional training in primary care, and 78% said the changes have not necessitated additional training in their subspecialty. Thirteen percent (13%) of the respondents indicated a need for a “little” additional training in primary care and 21% expressed a need for a little additional training in their subspecialty. Only 1% of the

respondents indicated a need for “much more” training in primary care or in their subspecialty.

Competition

Sixty four percent (64%) of the respondents said they face competition for pediatric subspecialty services in their geographical area. Among those who said they face competition, the major source of competition--mentioned by nearly two thirds of the respondents--was general pediatricians. (See Table 5.) Other significant sources of competition--mentioned by over one half of the respondents--were family physicians, other pediatric subspecialists, and “physicians trained in adult medicine in my subspecialty” (*i.e.*, adult dermatologists).

**Table 5. Perceived Source of Competition for Pediatric Subspecialty Services**

| <b>Source of Competition</b>  | <b>Percentage of Dermatologists*<br/>(%)</b> |
|---|--|
| General pediatricians   | 65.7   |
| Family physicians   | 57.3   |
| Other pediatric subspecialists  | 52.4   |
| Physicians trained in adult<br>medicine in my subspecialty                                | 52.4   |
| Non-physician medical personnel<br>( <i>eg</i> , advanced practice nurses, chiropractors) | 19.6   |
| Urgent care centers   | 17.5   |
| Related health professionals<br>( <i>eg</i> , psychologists, nutritionists)               | 4.2  |
| Other   | 4.9  |

\* Percent of respondents who said they face competition from any source

While overall, only 18% of the respondents said they face competition from urgent care centers, adult dermatologists were more than twice as likely as pediatric dermatologists (25% versus 12%) to identify urgent care centers as a source of competition.

Of those respondents who said they face competition for pediatric subspecialty services in their geographic area, less than one fourth (24%) have modified their practice as a result of such competition. Among those who have modified their practices, 56% have increased their office hours, 41% have increased the number and/or responsibilities of support staff, and 27% have increased the number of physicians in their practice (see Table 6).

When asked whether, during the last twelve months, their practice had been sold to or merged with another practice or health care organization, only 8% responded affirmatively.

**Table 6. Practice Modifications as a Result of Competition**

| Change<br>(%) | Increased                                    | Decreased<br>(%) | No Change<br>(%) |
|---------------|--|------------------|------------------|
|               | Office hours                                 | 55.9             | 2.9              |
|               | 41.2   |                  |                  |
|               | Number/responsibilities of support<br>staff  | 41.2             | 5.9              |
|               | Number of physicians for practice            | 26.5             | 5.9              |
|               | Number of advanced practice nurses           | 20.6             | --               |
|               | Amount of research/administrative activities | 14.7             | 14.7             |
|               | Fees   | 14.7             | 8.8              |
|               |  |                  | 76.5             |

Workforce

Only thirty percent of the respondents (36% of pediatric dermatologists and 22% of adult dermatologists) said they anticipated their communities would need additional pediatric subspecialists in the next 3-5 years. Twenty five percent (25%) of the respondents (31% of pediatric dermatologists and 15% of adult dermatologists) said there would be a need for more pediatric subspecialists in their discipline and 8% felt there would be a need for additional subspecialists in other pediatric subspecialties. When asked whether they or their employer would be hiring additional, non-replacement pediatric subspecialists in their field in the next 3-5 years, 12% of the respondents said “yes,” 58% said “no,” and 30% said they were unsure. Seventeen percent (17%) of pediatric dermatologists said they or their employer would be hiring additional, non-replacement pediatric subspecialists in their field, compared to 5% of adult dermatologists.

Income

Dermatologists rely on a variety of payment sources for their income, but fee for service arrangements are the most common (see Table 7). Over one half of the respondents receive some income from fee for service payment, while roughly one fourth to one third receive some income from salaries and capitation. Pediatric dermatologists are more likely to receive some income through straight salaries, while adult dermatologists are more likely to receive some income from discounted fee for service payment.

**Table 7. Sources of Income for Dermatologists**

| Source of Income                  | Percentage With Income<br>from Each Source<br>(%) |
|-----------------------------------|---|
| Traditional fee for service       | 58.9  |
| Discounted fee for service        | 58.5  |
| Salary                            | 31.7  |
| Salary with performance incentive | 28.6  |
| Prepaid, capitated, nonsalaried   | 34.4  |
| Prepaid, capitated, salaried      | 26.8  |

Table 8 provides information on the percentage of pediatric dermatologists' income that comes from various sources. Excluding those who said they did not know the breakdown of their total income by source, a majority of the respondents who said they receive some income from traditional fee-for-service payment or capitation indicated that this source accounts for one third or less of their total income. Most of those who said they receive some income from discounted fee-for-service said that this source accounts for two thirds or less of their total income. For those who indicated that they receive some income from salaries--or salaries with performance-based incentives--most said this source accounts for two thirds or more of their total income.

**Table 8. Percent of Income by Source**

| Income Source                  | 0-33% | 34-66% | 67-100% | Don't Know |
|--------------------------------|-------|--------|---------|------------|
| Traditional fee for service    | 56.5  | 29.0   | 7.3     | 7.3        |
| Discounted fee for service     | 37.9  | 38.7   | 16.1    | 7.3        |
| Salary                         | 34.4  | 12.5   | 46.9    | 6.3        |
| Salary with incentive          | 26.2  | 6.6    | 57.4    | 9.8        |
| Prepaid, capitated nonsalaried | 68.9  | 16.2   | 1.4     | 13.5       |
| Prepaid, capitated, salaried   | 55.2  | 10.3   | 20.7    | 13.8       |

Finally, when asked whether they have used telemedicine, fax machines or other forms of information technology as part of a consultation with another practitioner because of lack of ready access to appropriate subspecialists (*eg*, in a rural area), 74% answered affirmatively.

**Pediatric Dermatology Survey**

Practice Characteristics

Among all respondents, the age group that comprises the largest percentage of dermatologists' patients are adults, 18 years of age and older. (See Table 9.) As might be expected, however, there are significant differences between pediatric dermatologists and adult dermatologists. While 80% of pediatric dermatologists' patients are under 18 years of age, 73% of adult dermatologists' patients are 18 years of age or older.

**Table 9. Age Distribution of Dermatology Patients**

| <b>Age</b>  | <b>Pediatric<br/>Dermatologists<br/>(%)</b> | <b>Adult<br/>Dermatologists<br/>(%)</b> | <b>All<br/>Dermatologists<br/>(%)</b> |
|-------------|---|---|---------------------------------------|
| 0-4 years   | 30.6  | 5.5                                     | 20.4                                  |
| 5-9 years   | 22.5  | 6.3                                     | 15.9                                  |
| 10-17 years | 27.4  | 15.6                                    | 22.6                                  |
| 18+ years   | 19.5  | 72.7                                    | 41.1                                  |

Of all procedures performed for pediatric patients by dermatologists, cryotherapy is the most common, accounting for over one third of all pediatric procedures. (See Table 10.) Punch biopsies, acne surgery, and routine skin biopsies are the next most common, accounting for roughly one third of all pediatric procedures. On average, punch biopsies account for a greater percentage of pediatric procedures performed by pediatric dermatologists, while cryotherapy and acne surgery account for a greater percentage of adult dermatologists' procedures.

**Table 10. Category and Percentage of Pediatric Patient Procedures**

| <b>Procedure</b>                   | <b>Percentage (%)</b> |
|------------------------------------|-----------------------|
| Cryotherapy                        | 36.8                  |
| Punch biopsies                     | 13.0                  |
| Acne surgery                       | 11.3                  |
| Routine skin biopsies              | 10.7                  |
| Intralesional injections           | 6.5                   |
| Laser                              | 5.4                   |
| Excision of tumors                 | 5.4                   |
| Incisional biopsies                | 3.8                   |
| Incision and drainage of abscesses | 1.5                   |
| Other                              | 5.5                   |

Respondents were asked to categorize their pediatric patients by primary diagnosis and then indicate, by diagnosis, whether their patient mix has changed in the past two years. As Table 11 demonstrates, acne and atopic dermatitis account for one half of all pediatric dermatology patients, while bacterial/viral skin infections, pigmented lesions, and tinea capitis account for another one fourth of pediatric dermatology patients. Atopic dermatitis, tinea capitis, and tinea corporis/pedis account for a greater percentage of the pediatric patients of pediatric dermatologists, while pigmented lesions and acne make up a greater proportion of the pediatric patients of adult dermatologists. Approximately one fourth or more of the respondents said they have seen an increase in atopic dermatitis, pigmented lesions, and tinea capitis among their pediatric patients over the past two years.

On average the respondents said they admitted 1.2 pediatric dermatology patients to the hospital in the past 12 months. (Approximately three fourths of the respondents said they admitted no pediatric dermatology patients in the past 12 months.)

**Table 11. Primary Diagnoses of Pediatric Dermatology Patients**

| Diagnosis                       | Percentage<br>of Patients<br>(%) | <u>Increased    Decreased    No Change</u> |      |      |
|---------------------------------|----------------------------------|--|------|------|
|                                 |                                  |  |      |      |
| Acne                            | 26.2                             | 17.3                                       | 13.3 | 69.4 |
| Atopic dermatitis               | 24.0                             | 26.2                                       | 7.6  | 66.3 |
| Bacterial/viral skin infections | 9.7                              | 10.4                                       | 8.6  | 81.0 |
| Pigmented lesions               | 9.1                              | 29.4                                       | 2.5  | 68.1 |
| Tinea capitis                   | 6.5                              | 23.8                                       | 15.2 | 61.0 |
| Vascular lesions                | 6.0                              | 15.3                                       | 9.6  | 75.2 |
| Infestations                    | 4.2                              | 9.5  | 10.2 | 80.3 |
| Tinea corporis/pedis            | 3.6                              | 8.3  | 7.0  | 84.7 |
| Benign tumors                   | 3.5                              | 6.9  | 1.4  | 91.7 |
| Psoriasis                       | 3.2                              | 4.5  | 4.5  | 91.0 |
| Onychomycosis                   | 1.6                              | 13.9                                       | 4.9  | 81.3 |
| Other                           | 2.5                              | 5.6  | 5.6  | 88.7 |

Referrals

Ninety five percent of the respondents said they receive pediatric dermatology referrals from other physicians. Respondents who receive referrals estimated that, on average, 36% of the pediatric dermatologic referrals they have received in the past twelve months involved an incorrect initial diagnosis or therapy. Forty percent (40%) of the respondents said that one half or more of the referrals they have received in the past year had an incorrect initial diagnosis or therapy.

Eighty five percent (85%) of the respondents who receive referrals (91% of pediatric dermatologists and 78% of adult dermatologists) said that in the past 12 months they have received inappropriate pediatric dermatology referrals (*i.e.*, referrals they should have received earlier in the course of the disease) from general pediatricians, general dermatologists, or general/family physicians.

Those who said they have received inappropriate referrals were asked to provide possible explanations. (See Table 12.) Among those who said they receive referrals from general pediatricians (95% of all respondents), 85% said insufficient expertise in pediatric dermatology was a reason for inappropriate referrals and 55% blamed poor guidelines from managed care plans. Among those who said they receive referrals from general dermatologists (80% of all respondents), 52% said insufficient expertise in pediatric dermatology was a reason for inappropriate referrals and 27% blamed poor guidelines from

managed care plans. Among those who said they receive referrals from general and family physicians (94% of all respondents), 83% said insufficient expertise in pediatric dermatology was a reason for inappropriate referrals and 53% blamed poor guidelines from managed care plans. Pediatric dermatologists were more likely to blame capitated care for inappropriate referrals in the case of general pediatricians than were adult dermatologists (39% vs. 23%). In addition, pediatric dermatologists were twice as likely as adult dermatologists to attribute inappropriate referrals for general dermatologists to insufficient expertise in pediatric dermatology (63% vs. 30%) to capitated care (25% vs. 10%).

**Table 12. Perceived Reasons for Inappropriate Pediatric Dermatology Referrals**

| <b>Possible Reasons for Inappropriate Referrals</b> | <b>Source of Referral</b>     |  |   |
|---|-------------------------------|--|---|
|   | <b>From Pediatricians (%)</b> | <b>From General Dermatologists (%)</b> | <b>From General/Family Physicians (%)</b> |
| Insufficient expertise in pediatric dermatology     | 85.1                          | 51.7                                   | 83.3                                      |
| Poor referral guidelines from managed care plans    | 55.4                          | 26.5                                   | 53.4                                      |
| Capitated care                                      | 32.6                          | 19.7                                   | 29.3                                      |
| Parental demands                                    | 33.7                          | 21.8                                   | 25.9                                      |
| Other   | 4.6                           | 3.4                                    | 2.9                                       |

Residency Training/Medical Education

Respondents who trained in a pediatric residency on average said out of 33 months for their residency program, approximately two months were devoted to pediatric dermatology. Respondents who trained in a dermatology residency on average said that approximately six months were devoted to pediatric dermatology.

**Table 13. Thoroughness of Residency Training in Dermatology**

| <b>Area (%)</b>                                | <b>Needed Less</b> | <b>Right More (%)</b> | <b>Needed Amount (%)</b> |
|--|--------------------|-----------------------|--------------------------|
|  |                    | 50.0                  | 4.2                      |
| Procedures/surgical training (including laser) | 62.9               | 37.1                  | 0                        |
| Child development                              | 34.6               | 63.9                  | 1.6                      |
| Interacting with children and parents          | 29.0               | 69.9                  | 1.0                      |
| Managed care/insurance issues                  | 68.9               | 29.5                  | 1.6                      |

Those who trained in a dermatology residency (95% of the respondents) were asked to evaluate the thoroughness of their training in a number of different areas (see Table 13). Roughly two thirds of the respondents said their program should have included more training in managed care/insurance issues and procedures/surgical training (including lasers). Nearly one half of the respondents said their training program should have devoted more attention to administration.

Twelve percent of the respondents indicated that they completed a fellowship in pediatric dermatology. Of those who completed a fellowship, the average length of the fellowship was roughly one year. (One half had 12 month fellowships; 19% had fellowships that were longer than 12 months, and 31% had fellowships that were less than 12 months.)

Nearly three fourths (74%) of all respondents said they are affiliated with a medical school (82% of pediatric dermatologists and 62% of adult dermatologists). Of those who are affiliated with a medical school, 39% said pediatric dermatology is part of the core education for medical students at their institution.

### Managed Care

On average, 59% of the respondents' pediatric dermatology patients have capitated or managed care health insurance. Respondents were asked how various aspects of their practice have been affected by their involvement with capitation or managed care. As Table 14 illustrates, 74% of the respondents said that managed care has made it difficult or more difficult to secure timely referrals from primary care physicians; 70%, that managed care has made it difficult or more difficult to secure timely authorization of required health services, such as hospitalization, surgery (laser, biopsies), and dermatopathology; 60%, that managed care has made it difficult or more difficult to refer to ancillary services (*e.g.*, physical therapy, psychology, psychiatry); and 37% that managed care has made it difficult or more difficult to secure timely referrals from general dermatologists.

**Table 14. Impact of Capitation and Managed Care on Dermatology Practice**

| <b>Impact</b>  | <b>More Difficult</b> | <b>Difficult</b> | <b>Not Affected</b> | <b>Easy</b> | <b>Much Easier</b> |
|--|-----------------------|------------------|---------------------|-------------|--------------------|
| Securing timely referrals from primary care physicians | 55.8                  | 18.0             | 23.5                | 1.4         | 1.4                |
| Securing timely referrals from general dermatologists  | 29.0                  | 8.0              | 61.0                | 1.5         | 0.5                |
| Ability to refer to ancillary services                 | 44.5                  | 15.3             | 38.8                | 1.0         | 0.5                |
| Timely authorization of required health services       | 48.6                  | 21.5             | 28.5                | 0.9         | 0.5                |

### Summary

Adult dermatologists are much more likely to be in solo practice or in a specialty or multispecialty group, while pediatric dermatologists are much more likely to practice in a medical school setting.

The two biggest sources of referrals of pediatric patients to dermatologists are pediatric generalists and family physicians; roughly 90% of dermatologists surveyed receive referrals from these sources.

Among dermatologists who have experienced a change in the volume or complexity of pediatric referrals, over one half have seen an increase in the volume and complexity of referrals. The biggest reason for this change is an increased likelihood of generalists to treat less complex subspecialty patients.

A clear majority of dermatologists do not feel that recent changes in health care have necessitated additional training on their part--either in primary care or in their subspecialty.

Nearly two thirds of dermatologists feel they face competition for pediatric subspecialty services in their geographical area, with the major perceived source of competition being general pediatricians. However, of those who believe they face competition, less than one fourth have modified their practice as a result.

One quarter of dermatologists anticipate that their communities will need additional pediatric dermatologists in the next 3-5 years.

Dermatologists rely on a variety of payment sources for their income, but fee for service arrangements are the most common.

Of all procedures performed for pediatric patients by dermatologists, cryotherapy is the most common, accounting for over one third of all pediatric procedures. Punch biopsies, acne surgery, and routine skin biopsies are the next most common, accounting for roughly one third of all pediatric procedures.

Acne and atopic dermatitis account for one half of all pediatric dermatology patient diagnoses, while bacterial/viral skin infections, pigmented lesions, and tinea capitis account for another one fourth of pediatric dermatology patients.

Approximately one fourth or more of the dermatologists surveyed have seen an increase in atopic dermatitis, pigmented lesions, and tinea corporis/pedis among their pediatric patients over the past two years.

Dermatologists who receive patient referrals estimate that, on average, over one third of the pediatric dermatologic referrals they have received in the past twelve months involved an incorrect initial diagnosis or therapy.

More than eight out of ten dermatologists who receive referrals feel that in the past 12 months they have received inappropriate pediatric dermatology referrals from general pediatricians, general dermatologists, or general/family physicians. Insufficient expertise in pediatric dermatology and poor guidelines from managed care plans are the major reasons suggested for inappropriate referrals.

Roughly two thirds of those who have trained in a dermatology residency believe their program should have included more training in managed care/insurance issues and in procedures/surgery, including lasers.

At least seven out of ten dermatologists surveyed believe that managed care has made it difficult or more difficult to secure timely referrals from primary care physicians and to secure timely authorization of required health services, such as hospitalization, surgery (laser, biopsies), and dermatopathology.