

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

Summary of Survey Findings:
Pediatric Ophthalmology

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
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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 ophthalmology.

Methodology

This report is based on responses that were generated from two questionnaires, which were fielded simultaneously: a standard questionnaire (the *Workforce Survey for Child Health Care*) and an ophthalmology questionnaire (the *Pediatric Ophthalmology Survey*). (Copies of both surveys are included in an appendix to this report.)

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 Ophthalmology Survey was developed by a volunteer from the Pediatric Ophthalmology Section, Walter Fierson, MD, along with the Section's chairperson, Harold Koller, MD. This questionnaire was mailed to ophthalmologists along with the standard questionnaire.

Mailing lists were compiled of ophthalmologists to whom the surveys would be mailed. Included in the sample were all 90 members of the AAP's Section on Pediatric Ophthalmology (Section), the 577 US ophthalmologists who belong to the American Association for Pediatric Ophthalmology and Strabismus (AAPOS), and a random sample of 499 US general ophthalmologists who belong to the American Academy of Ophthalmology (AAO).

Five mailings of the survey went out between November 1997 and March 1998 to a total of 1,070 physicians (there was some overlap on the mailing lists). Each mailing contained the standard questionnaire and the pediatric ophthalmology questionnaire, a cover letter emphasizing the importance of the survey, and a return envelope. Because some potential respondents turned out to be retired or did not treat children, the sample was reduced to 1,023 and therefore the response rate was 61.7% (631 out of 1,023). Physicians most likely to respond belonged to both the Section and the AAPOS (82.4%), and to the AAPOS only (72.2%). Least likely to respond were general ophthalmologists who belonged to the AAO (42.1%).

For purposes of statistical analysis, the respondents were divided into two categories: the 425 (67.4%) who belonged to either the Section or AAPOS ("pediatric ophthalmologists"), and the 206 (32.6%) who did not belong to either of these organizations ("general ophthalmologists").

Acknowledgments

THE FUTURE OF PEDIATRIC EDUCATION II (FOPE II) Project acknowledges the participation of all who facilitated the development and implementation of the Pediatric Ophthalmology 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. Of particular note are Walter Fierson, MD, a volunteer from the AAP Ophthalmology Section, and Harold Koller, MD, section chairperson, who wrote the questions for the ophthalmology 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 48 years of age and planned to fully retire from the practice of medicine at age 64. Pediatric ophthalmologists were younger than general ophthalmologists; 47 compared to 50. Seventy seven percent (77%) of the respondents were male and 23% were female; however, over one-quarter of pediatric ophthalmologists are female (26.2%) compared to 15.2% of general ophthalmologists. In terms of ethnicity, 89% were White/Non-Hispanic, 4% were Asian/Pacific Islanders, 3% were White/Hispanic, 1% were African American, and less than 1% classified themselves as Native Americans or Alaskan Natives. The remaining 2% of the respondents classified themselves as “other.”

Ninety three percent (93%) of the respondents were graduates of U.S. medical schools, 2% were graduates of Canadian medical schools, and 4% were graduates of medical schools in other countries. General ophthalmologists were slightly more likely to be graduates of schools in other countries (7.6% versus 2.7%). 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. Over eight out of ten of the respondents listed ophthalmology as one of their specialties and over one half listed pediatric ophthalmology. Of those who listed ophthalmology as one of their specialties, 93% indicated they were board certified in that specialty.

Table 1. Residency Training and Board Certification of Survey Respondents

| Specialty | Number (Mean) | Percent of Total | Percent Board Certified (%) | Residency Completion Year (%) |
|-------------------------|------------------|---------------------|--------------------------------------|--|
| General pediatrics | 15 | 2.4 | 66.7 | 1980 |
| Ophthalmology | 537 | 85.1 | 93.3 | 1983 |
| Pediatric ophthalmology | 361 | 57.2 | -- | 1987 |
| Adult strabismus | 7 | 1.1 | -- | 1987 |
| Other | 65 | 10.3 | 26.2 | -- |

Among pediatric ophthalmologists (those who belong to the AAP's Section on Pediatric Ophthalmology or to the American Association for Pediatric Ophthalmology and Strabismus), 84% listed pediatric ophthalmology as one of their specialties; and four percent had trained in general pediatrics. Among general ophthalmologists (those who do not belong to either the Section or AAPOS), only 3% listed pediatric ophthalmology as one of their specialties.

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, over 40% indicated their main practice setting was a specialty group and 30% indicated their main practice setting was solo practice. Pediatric ophthalmologists were more likely than general ophthalmologists to say they practiced in a medical school setting (21% versus 3%), while general ophthalmologists were more likely than pediatric ophthalmologists to say their main practice site was solo practice (39% versus 25%) or a specialty group (47% versus 39%).

Table 2. Main

| Practice Site Main Site | % of Respondents (%) |
|----------------------------------|-------------------------|
| Specialty group | 41.5 |
| Solo practice | 29.8 |
| Medical school | 14.9 |
| Multispecialty group | 7.4 |
| HMO | 2.2 |
| Community hospital | 1.3 |
| Pediatric group | 1.0 |
| Uniformed health services clinic | 0.3 |

Other

1.5

When asked to describe the area in which their primary practice site is located, 39% indicated that it is an urban--not inner city--area; 34%, suburban; 19%, urban--inner city; and 8%, rural.

Pediatric ophthalmologists were more likely to indicate that their main practice setting is in an urban setting (both urban settings combined, 62% versus 51%), while general ophthalmologists were more likely to say that their main practice setting is in a rural area (16% versus 4%). Pediatric ophthalmologists and general ophthalmologists were equally likely to say that their practice is located in a suburban area.

Time Spent in Professional Activities

Table 3 depicts the average percentage of time spent by ophthalmologists in various professional activities. On average, 84% of the total time spent by ophthalmologists in professional activities is devoted to direct patient care. General ophthalmologists reported spending more time than pediatric ophthalmologists in direct patient care (91% versus 80%), while pediatric ophthalmologists reported spending more time in teaching, clinical research, and basic science research.

On average, the respondents said they typically work 55 hours per week. Pediatric ophthalmologists reported working an average of 56 hours per week, while general ophthalmologists reported working an average of 52 hours per week.

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

| Professional Activity | Percentage of Time (%) |
|--------------------------------|-------------------------------|
| Direct patient care | 83.8 |
| Administration | 5.9 |
| Teaching | 5.6 |
| Clinical research | 2.0 |
| Basic science research | 0.4 |
| Health services research | 0.1 |
| Resident or fellow in training | 0.1 |
| Other, non-direct patient care | 0.3 |

Seventy five percent (75%) of the respondents indicated that they spend *some* of their direct patient care time in a pediatric surgical subspecialty (pediatric ophthalmology); 24% said they spend some time in a pediatric medical subspecialty (pediatric ophthalmology); 63% said they spend some time in another specialty (ophthalmology); and 4% said they spend some time in primary care pediatrics. On average, the respondents reported spending 52% of their time in a pediatric surgical subspecialty (pediatric ophthalmology); 11%, in a

pediatric medical subspecialty (pediatric ophthalmology); and 37% in another specialty (ophthalmology).

Among pediatric ophthalmologists, 92% said they spend some time in a pediatric surgical subspecialty (pediatric ophthalmology). Those pediatric ophthalmologists who spend some time in this field, on average, reported devoting three-fourths of their total direct patient care time to this specialty. Thirty-six percent of general ophthalmologists spend time in a pediatric surgical subspecialty (pediatric ophthalmology), spending 13% of their direct patient care time in the field.

Referrals

Ninety seven percent (97%) of the respondents (100% of pediatric ophthalmologists and 91% of general ophthalmologists) reported that they receive referrals for pediatric patients. Table 4 displays the source of these referrals, by specialty.

Table 4. Source of Referrals of Pediatric Patients to Ophthalmologists

| Source of Referrals | Percentage (%) |
|---|-----------------------|
| Pediatric generalists | 95.2 |
| Family physicians | 90.4 |
| Pediatric medical/surgical subspecialists | 67.1 |
| Pediatric nurse practitioners | 49.9 |
| Physician assistants | 37.9 |
| General internists | 35.9 |
| Adult medicine subspecialists | 29.2 |
| Obstetricians/gynecologists | 11.7 |
| Others | 25.4 |

The two biggest sources of referrals of pediatric patients to ophthalmologists are pediatric generalists and family physicians. Among the respondents who said they receive referrals for pediatric patients, over 90% said they receive referrals from each of these sources. Pediatric medical/surgical subspecialists represent another significant source of referrals, with just over two thirds of the respondents saying they receive pediatric referrals from such physicians.

Pediatric ophthalmologists were more likely than general ophthalmologists to report that they receive referrals from pediatric generalists, adult medicine subspecialists, pediatric medical/surgical subspecialists, pediatric nurse practitioners, and physician assistants.

Ophthalmologists also were asked to report whether they receive referrals from urgent care centers, community agencies, and school districts. Sixty five percent (65%) of the

respondents reported that they receive referrals from urgent care centers, 68% said they receive referrals from community agencies, and 81% indicated that they receive referrals from school districts. Pediatric ophthalmologists were more likely than general ophthalmologists to report that they receive referrals from community agencies (77% versus 48%) and school districts (84% versus 73%).

Only 14% of the respondents said that their pediatric referrals come exclusively from within their own practice or managed care network. Twenty four percent (24%) of general ophthalmologists indicated that their pediatric referrals are restricted in this manner, compared to only 10% of pediatric ophthalmologists.

Just over one half (51%) of the respondents said that neither the volume nor the complexity of the pediatric referrals they have received in the last twelve months has changed compared to previously, while 49% said that either the volume, the complexity, or both have changed. Pediatric ophthalmologists were more likely than general ophthalmologists (57% versus 31%) to say that they have experienced a change.

Among those ophthalmologists who have experienced a change in the volume *or* complexity of pediatric referrals, 57% indicated that they have seen an increase in the volume of referrals, 25% said there has been a decrease in the volume of referrals, and 42% said there has been an increase in the complexity of referrals and nine percent reported a decrease in complexity. Eighteen percent (18%) said they have experienced no change in the volume of referrals and 49% said they have experienced no change in the complexity of the cases referred to them. Pediatric ophthalmologists were more likely than general ophthalmologists (60% versus 46%) to say that they have experienced an increase in the volume of referrals, while general ophthalmologists were more likely than pediatric ophthalmologists (39% versus 21%) to say that they have seen a decrease in the volume of referrals.

Ophthalmologists 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). Forty nine percent (49%) attributed this change to an increased likelihood of general pediatricians and other generalists to treat less complex subspecialty patients. Fifty percent (50%) of the respondents pointed to increased competition from other pediatric subspecialists. Thirty four percent of respondents reported an increase in referrals from adult subspecialists as a possible cause (pediatric ophthalmologists more so than general ophthalmologists, 50% versus 31%).

Need for Additional Training

Despite whatever changes are taking place in health care, the respondents to this survey generally did not feel that the changes have resulted in a need for additional training on their part. Eighty two percent (82%) of the respondents indicated that the changes in health care have not necessitated additional training in primary care, and 77% said that the changes have not necessitated additional training in their subspecialty. Fifteen percent (15%) of the respondents indicated a need for a “little” additional training in primary care and 22% expressed a need for a little additional training in their subspecialty. General ophthalmologists were more likely than pediatric ophthalmologists to say that they needed a little additional training in their subspecialty (27% versus 20%). Only two percent of the respondents indicated a need for “much more” training in primary care and only one percent indicated a need for much more training in their subspecialty.

Competition

Eighty percent (80%) of the respondents said they face competition for pediatric subspecialty services in their geographical area (89% of pediatric ophthalmologists and 61% of general ophthalmologists). The major source of competition, which was mentioned by 78% of the respondents, was other pediatric subspecialists. The other primary source of competition identified by the respondents was other physicians trained in adult medicine in the same subspecialty (cited by 39% of respondents). (See Table 5.) General ophthalmologists were more likely than pediatric ophthalmologists to say they face competition from general pediatricians (21% versus 6%), family physicians (17% versus 5%) and urgent care centers (11% versus 4%), while pediatric ophthalmologists were more likely than general ophthalmologists to say that they face competition from other pediatric subspecialists (82% versus 65%).

Table 5. Perceived Source of Competition for Pediatric Subspecialty Services

| Source of Competition | Percentage of ophthalmologists* (%) |
|---|--|
| Other pediatric subspecialists | 77.5 |
| Physicians trained in adult medicine in my subspecialty | 39.2 |
| Non-physician medical personnel (<i>eg</i> , advanced practice nurses, chiropractors) | 18.1 |
| General pediatricians | 9.9 |
| Family physicians | 8.2 |
| Related health professionals (<i>eg</i> , psychologists, nutritionists) | 7.8 |
| Urgent care centers | 5.8 |
| Other | 13.4 |

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

Although fourth fifths of the respondents indicated that they face competition for pediatric subspecialty services in their geographical area, less than one third of these respondents (32%) have modified their practice as a result of competition (35% of pediatric ophthalmologists and 20% of general ophthalmologists).

For those ophthalmologists who have modified their practices, over one half have increased office hours, while 40% have increased the number and/or responsibilities of their support staff and 36% have increased the number of physicians in their practice (see Table 6).

General ophthalmologists were more likely than pediatric ophthalmologists to say they have increased the number of advanced practice nurses they employ (16% versus 4%) and have increased the number of physicians in their practice (48% versus 33%), as a result of competition.

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 | Increased | Decreased | No Change |
|---------------|------------------------------------|------------------|------------------|
| (%) | | (%) | (%) |
| | Office hours | 52.9 | 4.5 |
| | | 42.6 | |
| | Fees | 10.3 | 16.8 |
| | | 72.9 | |
| staff | Number/responsibilities of support | | |
| | | 40.0 | 12.9 |
| | | | 47.1 |
| | Number of advanced practice nurses | | |
| 5.8 | | 2.6 | 91.6 |
| | Number of physicians for practice | | |
| | | 35.5 | 1.9 |
| | | | 62.6 |
| activities | Amount of research/administrative | | |
| | | 12.9 | 22.6 |
| | | | 64.5 |

Workforce

Eighty five percent (85%) of the respondents said they did not anticipate that their communities would need additional pediatric subspecialists in the next 3-5 years, 91% indicated there would not be a need for more pediatric subspecialists in their discipline, and 92% felt there would not be a need for additional pediatric 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, 69% of the respondents said “no,” 11% said “yes,” and 20% said they were unsure. Pediatric ophthalmologists were more likely than general ophthalmologists (14% versus 4%) to say that they or their employer would be hiring additional, non-replacement pediatric subspecialists in the next few years.

Income

Ophthalmologists rely on a variety of payment sources for their income, but traditional fee for service arrangements are the most common (see Table 7). Approximately three fourths of ophthalmologists receive some income from fee for service payment, while less than one half receive income from capitated arrangements and one fourth or less receive income from salaries.

Table 7. Sources of Income for Ophthalmologists

| Source of Income | Percentage With Income from Each Source (%) |
|-----------------------------------|--|
| Traditional fee for service | 73.9 |
| Discounted fee for service | 75.0 |
| Prepaid, capitated, nonsalaried | 42.5 |
| Prepaid, capitated, salaried | 29.4 |
| Salary | 21.0 |
| Salary with performance incentive | 25.3 |

Table 8 provides information on the percentage of ophthalmologists’ income that comes from various sources. For those ophthalmologists who said they receive some income from traditional fee-for-service payment arrangements, most indicated that these payment arrangements account for 33% or less of their total income. Similarly, among those ophthalmologists who said they receive some income from prepaid, capitated arrangements--salaried or nonsalaried--the vast majority said that these payment arrangements account for 33% or less of their total income. For those ophthalmologists who indicated that they receive some income from salaries--or salaries with performance-based incentives--most said such sources account for either a substantial (67-100%) or a minor (33% or less) portion of their total income; less than 5% of the respondents who have some salary-based income said that this source of income accounts for 34-66% 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 | 54.9 | 22.9 | 13.1 | 9.1 |
| Discounted fee for service | 36.6 | 38.0 | 16.7 | 8.7 |
| Prepaid, capitated nonsalaried | 74.1 | 12.7 | 1.6 | 11.6 |
| Prepaid, capitated, salaried | 69.6 | 7.7 | 9.5 | 13.1 |
| Salary | 45.0 | 2.5 | 35.0 | 17.5 |
| Salary with incentive | 33.1 | 4.7 | 44.6 | 17.6 |

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), over three fourths of the respondents (77%) answered affirmatively.

Pediatric Ophthalmology Survey

Practice Characteristics

On average, the respondents indicated that 59% of their practice is oriented towards pediatric ophthalmology (*i.e.*, patients younger than 18 years old). Pediatric ophthalmologists on average said that 81% of their practice was pediatric-oriented, compared to only 12% for general ophthalmologists. The respondents reported seeing an average of 65 pediatric patients per week (an average of 89 for pediatric ophthalmologists and 15 for general ophthalmologists).

The respondents indicated that the community or area from which they draw most of their patients has an average of 5.3 pediatric ophthalmologists and 22.9 general ophthalmologists. Pediatric ophthalmologists reported that their market had an average of 6.5 pediatric ophthalmologists and 26.8 general ophthalmologists, while general ophthalmologists reported that their market had an average of 2.5 pediatric ophthalmologists and 15.7 general ophthalmologists.

Forty six percent (46%) of the respondents reported that their pediatric practice is remaining stable, 42% said it is expanding, and only 12% said it is decreasing. There were significant differences, however, between pediatric and general ophthalmologists on this question. Over one half of pediatric ophthalmologists (52%) said that their pediatric practice is expanding, compared to only 20% of general ophthalmologists, and only 38% of pediatric ophthalmologists said their practice is remaining stable, compared to 63% of general ophthalmologists.

Ophthalmologists who said that their pediatric practices were decreasing were asked to indicate how they anticipate their careers will change in the next 1-3 years, as a result. Over one-third (36%) said that they did not foresee any changes. Again there were significant differences between general ophthalmologists and pediatric ophthalmologists on this point. Only 12% of pediatric ophthalmologists said they did not anticipate any career changes, compared to 65% of general ophthalmologists.

Among those who said their pediatric practices were decreasing, 33% said they would practice more adult ophthalmology. Pediatric ophthalmologists were more likely to anticipate this change than general ophthalmologists (44% versus 21%). Twenty percent said they would retire within the next 1-5 years, 17% said they would work fewer hours, and 8% said they would increase their administrative and/or teaching activities. Pediatric ophthalmologists were much more likely to be planning on reducing their work hours (29% versus 3%).

Impact of Managed Care

For the majority of the respondents, managed care has had no impact on the number of pediatric ophthalmologic surgical procedures they perform; for approximately one fourth of the respondents, managed care has resulted in a decreased number of pediatric surgical procedures; and for one tenth of the respondents, managed care has actually resulted in an increased number of procedures (see Table 10). Pediatric ophthalmologists were more likely to say that managed care has resulted in an increase in the number of pediatric surgical procedures they perform, while general ophthalmologists were more likely to say that there is little or no managed care in their community.

Table 10. Impact of Managed Care on Number of Pediatric Surgical Procedures

| Change in Number of Surgical Procedures | Percentage of Respondents (%) |
|--|--------------------------------------|
| Increased | 10.3 |
| Decreased | 26.0 |
| Stayed the Same | 57.0 |
| No or very little managed care in my community | 6.6 |

Workforce Issues

Respondents were asked whether their employer will be hiring additional pediatric ophthalmologists, optometrists, or orthoptists within the next few (3-5) years. Twelve percent (12%) of the respondents (4% of general ophthalmologists and 16% of pediatric ophthalmologists) said their employer would be hiring pediatric ophthalmologists; 15% said their employer would be hiring additional optometrists; and 12% (2% of general ophthalmologists and 17% of pediatric ophthalmologists) said their employer would be hiring additional orthoptists.

Twenty three percent (23%) of the respondents (7% of general ophthalmologists and 31% of pediatric ophthalmologists) said that they employ an orthoptist to provide pediatric care in their practice. Of those who said they do not currently employ an orthoptist to provide pediatric care in their practice, 13% said they would like to employ one (3% of general ophthalmologists and 19% of pediatric ophthalmologists). An additional 18% would like to hire an orthoptist, but there were not enough in the area to hire (27% of pediatric ophthalmologists and 2% of general ophthalmologists).

Eighteen percent (18%) of the respondents said they employ an optometrist to provide pediatric care in their practice. Of those who employ an optometrist to provide pediatric care, over one half (52%) said the optometrist treats patients independently for more than refractive care; 37% said the optometrist performs only refractions; and 22% said the optometrist screens all pediatric patients.

Twenty eight percent (28%) of the respondents (12% of general ophthalmologists and 36% of pediatric ophthalmologists) said they refer pediatric patients to outside optometrists. Of those who make such referrals, 79% said they refer pediatric patients to outside optometrists for contact lens fitting and care; 24%, for refractions; 20%, for vision training; 7%, for post-surgical care; and 8% for other reasons.

When asked to estimate the proportion of pediatric eye care that is provided in their community by various eye care providers, the respondents said that 43% of pediatric eye care is provided by pediatric ophthalmologists; 26%, by general ophthalmologists; 31%, by optometrists; and less than 1% by other providers. Pediatric ophthalmologists, on average, estimated that a greater proportion of pediatric eye care in their community is provided by pediatric ophthalmologists (51% versus 26%), while general ophthalmologists tended to provide higher estimates for the proportion of pediatric eye care provided by general ophthalmologists (37% versus 21%) and optometrists (36% versus 28%).

Overall, 60% of the respondents (68% of general ophthalmologists and 57% of pediatric ophthalmologists) said they dispense glasses and/or contact lenses for pediatric patients within their office. Those who indicated that they dispense glasses and/or contact lenses were asked what percentage of their total practice income comes from dispensing to children. The range of responses was from 0-30% of practice income, with an average of just over 6%. Two-thirds of the respondents said that the percentage of their practice income attributable to dispensing to children was 5% or less.

Vision Screenings and “Vision Training”

Vision screenings by schools and pediatricians were the most commonly cited methods for performing vision screenings for children in respondents’ communities. Ninety five percent (95%) of the respondents said that schools perform vision screenings for children in their communities; 86%, pediatricians; 63%, optometrists; 58%, health fairs; and 12%, others.

With respect to school screenings, 88% of the respondents said that the school nurse performs the screenings in their community; 46%, aides; 37%, optometrists; 18%, outside, non-optometric contractors; and 10%, others. Pediatric ophthalmologists were more likely to report that optometrists and non-optometric contractors performed vision screening in schools in their community.

Eighty five percent (85%) of the respondents said that “Vision Training” treatment for learning disabilities is practiced in their communities (94% of pediatric ophthalmologists versus 67% of general ophthalmologists). Where such training is provided, 92% of the respondents said it is provided by optometrists, 5% said it is provided by behavioral/developmental optometrists, and 3% either did not know who provided such training or said it is provided by other providers. Fifteen percent (15%) of the respondents said that “Vision Training” is covered by insurance plans in their community, 31% said it is not covered, and 54% said they did not know if it is covered.

Surgical Data

On average, the respondents estimated that almost one half (47%) of their pediatric ophthalmology surgery is performed at outpatient hospital facilities; 20% at freestanding surgicenters; 18% at children’s hospitals; 11% at inpatient hospital facilities; 3% in physicians’ offices; and 1% at other sites. Pediatric ophthalmologists were five times as likely to perform surgery in children’s hospitals (24% versus 5%).

Twenty two percent (22%) of the respondents said they perform office sedation for pediatric patients. Pediatric ophthalmologists were three times as likely as general ophthalmologists to say that they perform office sedation for pediatric patients. For those ophthalmologists who perform office sedation for pediatric patients, the most commonly used drug is Choral Hydrate. Ninety percent (90%) of the respondents who perform office sedation said they use Choral Hydrate; 14%, Midazolam; 4%, short-acting barbiturates; and 2%, other anesthetics.

Table 9 presents data on the most common surgical procedures performed by ophthalmologists for pediatric patients. Among in-office procedures, nasolacrimal duct probing and chalazion are the most common. Roughly one half of the respondents said they perform these procedures on pediatric patients, while one fourth said they perform other lid lesion removal. General ophthalmologists were more likely than pediatric ophthalmologists to say that they provide chalazion (64% versus 42%), while pediatric ophthalmologists were more likely than general ophthalmologists to say they provide botulinum injections (16% versus 1%).

Table 9. Most Common Surgical Procedures Performed on Pediatric Patients

| Surgical Procedure | Percentage of Respondents Who Perform Each Procedure (%) |
|---|---|
| <i>In-Office Surgeries</i> | |
| Nasolacrimal duct probing | 54.4 |
| Chalazion | 49.0 |
| Other lid lesion removal | 25.5 |
| Botulinum injection of extraocular muscle | 11.3 |
| <i>Operating Room Surgeries</i> | |
| Strabismus surgery | 87.8 |
| Pediatric cataract surgery | 51.5 |
| Eyelid (ptosis) surgery | 37.4 |
| Pediatric glaucoma | 26.3 |
| Other procedures | 23.1 |

Strabismus surgery is by far the most common operating room surgery performed by ophthalmologists on pediatric patients. Nearly 90% of the respondents said they perform this operating room procedure, compared to just over 50% who perform pediatric cataract surgery, 37% who perform eyelid (ptosis) surgery, and 26% who perform surgery for pediatric glaucoma.

Pediatric ophthalmologists were more likely than general ophthalmologists to say that they perform each of these operating room surgeries for pediatric patients: ninety six percent (96%) of pediatric ophthalmologists said they perform strabismus surgery, compared to 71% of general ophthalmologists; 68% of pediatric ophthalmologists said they perform pediatric cataract surgery, compared to 17% of general ophthalmologists; 46% of pediatric ophthalmologists said they perform eyelid surgery, compared to 20% of general ophthalmologists; 36% of pediatric ophthalmologists said they perform pediatric glaucoma surgery, compared to 7% of general ophthalmologists, and 29% of pediatric ophthalmologists said they performed other surgeries for pediatric patients, compared to 11% of general ophthalmologists.

Respondents who said they perform strabismus surgery estimated that an average of 76% of those surgeries were for horizontal muscles; 14%, obliques; and 10%, vertical muscles. They also estimated that 80% of those surgeries were initial and 20% were reoperations.

There were significant differences, however, between general ophthalmologists and pediatric ophthalmologists on this question. General ophthalmologists estimated that 92% of their strabismus surgeries were for horizontal muscles, 5% for obliques, and 3% for vertical muscles, while pediatric ophthalmologists estimated that 70% of their strabismus surgeries were for horizontal muscles, 17% for obliques, and 13% for vertical muscles. Also, while general ophthalmologists estimated that 92% of their strabismus surgeries were initial operations and 8% reoperations, pediatric ophthalmologists estimated that 76% were initial operations and 24% reoperations.

Summary

Ophthalmologists estimate that 43% of pediatric eye care in their community is provided by pediatric ophthalmologists; 30% is provided by optometrists, and 26% is provided by general ophthalmologists.

Pediatric ophthalmologists see an average of 89 pediatric patients a week, and general ophthalmologists see an average of 15 pediatric patients a week.

The two biggest sources of referrals of pediatric patients to ophthalmologists are pediatric generalists and family physicians.

Sixty five percent of the respondents reported that they receive referrals from urgent care centers, 68% said they receive referrals from community agencies, and 81% indicated that they receive referrals from school districts.

Among ophthalmologists who have experienced a change in the volume or complexity of pediatric referrals, 57% have seen an increase in the volume of referrals; 25%, a decrease in the volume of referrals; and 42%, an increase in the complexity of referrals.

Pediatric ophthalmologists are more likely to have experienced an increase, and general ophthalmologists a decrease, in the volume of referrals.

Despite whatever changes are taking place in health care, the respondents to this survey generally did not feel that the changes have resulted in a need for additional training on their part--either in primary care or in ophthalmology.

General ophthalmologists are more likely to face competition for pediatric subspecialty services from general pediatricians, family physicians, and urgent care centers, while pediatric ophthalmologists are more likely to face competition from other pediatric subspecialists.

Only one third of ophthalmologists who say they face competition for pediatric subspecialty services have modified their practice as a result of competition. For those who have made changes, over one half have increased office hours.

The overwhelming majority of ophthalmologists do not anticipate that their communities will need additional pediatric subspecialists in the next several years or that there will be a need for more pediatric subspecialists in ophthalmology.

Traditional fee for service is the most common payment arrangement among ophthalmologists. Three fourths of ophthalmologists receive some income from fee for service payment, while less than one half receive income from capitated arrangements and one fourth or less receive income from salaries.

For the majority of ophthalmologists, managed care has had no impact on the number of pediatric ophthalmologic surgical procedures they perform; for approximately 25%, however, managed care has resulted in a decreased number of pediatric surgical procedures and for 10%, managed care has resulted in an increased number of procedures.

Twenty three percent of the ophthalmologists surveyed employ an orthoptist to provide pediatric care in their practice, while 18% employ an optometrist and nearly 30% refer pediatric patients to outside optometrists.

Sixty percent of the respondents dispense glasses and/or contact lenses for pediatric patients, but for two-thirds of these respondents the percentage of their practice income attributable to dispensing to children is 5% or less.

Vision screenings for children are most commonly performed by schools and pediatricians.

“Vision Training” as a treatment for learning disabilities is practiced in over 80% of the respondents’ communities and is almost always provided by optometrists.

Almost one half of all pediatric ophthalmology surgery is performed at outpatient hospital facilities and 20% at freestanding surgicenters.

Twenty two percent of the survey respondents perform office sedation for pediatric patients. Pediatric ophthalmologists were three times as likely as general ophthalmologists to say that they perform office sedation for pediatric patients.

Among in-office procedures, nasolacrimal duct probing and chalazion are the most common. Roughly one half of the respondents said they perform these procedures on pediatric patients. Strabismus surgery is by far the most common operating room surgery performed by ophthalmologists on pediatric patients. Nearly 90% of the respondents said they perform this operating room procedure.