

Pediatric Training in Family Medicine Residency Programs

Howard K. Rabinowitz, MD, and Arturo R. Hervada, MD
Philadelphia, Pennsylvania

A survey was performed to obtain information regarding various aspects of pediatric training in family medicine residency programs. A questionnaire was sent to the program directors of all 236 family medicine residency programs which had graduated residents by July 1978. Eighty-two percent returned the questionnaire.

The mean duration of child health care training in the three-year residency was 9.0 months. This included 3.4 pediatric equivalent months in the ambulatory family practice center and 5.6 months on pediatric rotations in several other areas. Forty-six percent of programs have one or more full-time, board certified pediatricians on the family medicine staff.

Respondents believed that family physicians should be competent to provide total care for normal newborns (93 percent), general inpatient care (79 percent), and general ambulatory care (99 percent). Pediatric training in family medicine residency programs, which constitutes 25 percent of curriculum time, is accomplished by utilizing the family practice center as well as pediatric rotations. Significant variations exist among programs, however, and the quality of training needs to be evaluated.

Family medicine residency programs have greatly expanded since their inception in 1969. Currently, over 6,000 physicians are being trained in over 360 approved family medicine residency programs. The health care of children is one of the primary training objectives of these three-year residency programs.¹

While the rotating internship that previously prepared physicians for general practice consisted of two months of pediatric training, the Residency Assistance Program, jointly sponsored by the

American Academy of Family Physicians, the American Board of Family Practice, the Society of Teachers of Family Medicine, and the Family Health Foundation of America, now recommends that five months of the teaching rotations in a family practice residency be in pediatrics and, in addition, that 18 to 20 percent of patients in the family practice center (FPC, the ambulatory family practice setting) be children.²

In England, where general practitioners take primary care of the majority of children, there exists considerable information regarding the training of physicians in child health care.³⁻⁵ In the United States, however, little objective information is available regarding pediatric training in family medicine residency programs. Because it is of prime importance that the increasing number of

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Table 1. Mean Duration of Pediatric Training on Pediatric Rotations (Outside Family Practice Center)

Rotation	Duration (months)
Inpatient	3.9
Normal Newborn Nursery	1.0
Intensive Care Nursery	0.6
General and Subspecialty Inpatient	2.3
Outpatient	1.7
General Outpatient	1.5
Subspecialty Outpatient	0.2
Total	5.6

family physicians be competent in child health care, and in order to help plan and evaluate child health care training for family physicians, a survey was performed to obtain information regarding various aspects of pediatric training in current family medicine residency programs. While there are numerous parameters which are important in this area, this paper represents a descriptive analysis of the duration, types of rotation, and program attitudes regarding the child health care component of current residency programs.

Methods

On May 1, 1978, a questionnaire was sent to the program directors of all 236 approved US family medicine residency programs which had begun during or before 1975, and would, therefore, have graduated at least one group of residents by July 1978. It was requested that the questionnaire be completed by either the director of the residency program or by the physician primarily responsible for pediatric training in the program. Data requested in the questionnaire included general information about the residency program and its resources (eg, patient population, faculty), the duration of pediatric training in the residency program (on rotations both within and outside of the family practice center), and the attitudes of the respondents regarding the optimal level of competency of family medicine residents in various aspects of child health care.

Data regarding the type of program structure (eg, university, community based) and the location of the residency were obtained through the American Academy of Family Physicians list of Ap-

proved Graduate Residency Training Programs in Family Practice. A second letter was sent four weeks later to all those programs which had failed to respond to the original mailing. Results were tabulated after transferring data from the questionnaire to computer storage. Range and inconsistency checks were carried out. Descriptive statistics were computed using the Statistical Analysis System,⁶ and employing the chi-square or t test. Data were analyzed individually by region of the country, program type, and the presence or absence of a board certified pediatrician on the full-time family medicine staff.

In those instances when two or more rotations were noted to be combined (eg, one month combining general inpatient and normal newborn), the time was equally divided between each rotation (eg, one half-month general inpatient and one half-month normal newborn). Data indicating that residents spent a longitudinal block of time in the family practice center was converted into a yearly block of time (eg, one half-day per week per year was converted to 1.2 months per year).

The duration of pediatric training on pediatric rotations was calculated by adding the duration of individual inpatient and outpatient rotations. The duration of pediatric training in the family practice center was calculated by multiplying the total number of months which residents spent in the family practice center during their three-year residency by the percentage of FPC patients under 21 years of age. The total duration of pediatric training was then a summation of the duration of pediatric training on pediatric rotations plus the duration of pediatric training in the family practice center.

Results

Overall, 194 of the 236 programs returned the questionnaire, for a response rate of 82 percent. Seventy percent (166) responded after the first mailing, with an additional 12 percent (28) returning the second questionnaire.

The average number of family medicine residents in all three years was 20.4, with a mean of 7.3 residents in the first year, 6.9 in the second year, and 6.2 in the third year. The mean estimated percent of pediatric patients (less than 21 years of age) in the family practice center was 33 percent, with 20 percent between the ages of 0 and 14 years, and 13 percent between the ages of 15 and 20 years. Forty-six percent of the family practice residency programs had a full-time board certified pediatrician on the family medicine staff, and 94 percent had a pediatrician as the physician primarily responsible for pediatric training.

The mean duration of pediatric training on pediatric rotations (ie, outside of the family practice center) throughout the three-year residency program was 5.6 months, with the distribution of rotations shown in Table 1.

The mean number of months that family medicine residents spent in the family practice center during their 36-month residency was 10.5 months, with an average of 1.6 months in the first year, 3.6 months in the second year, and 5.3 months in the third year. The mean duration of pediatric training in the ambulatory family practice center (the total months spent in the center multiplied by the percent of FPC patients less than 21 years of age) was 3.4 months. The total mean duration of child health care training in the three-year residency program was therefore 9.0 months (ie, 5.6 months on pediatric rotations and 3.4 equivalent months in the family practice center). Variation (range) among programs was significant with 95 percent of the training programs having a total duration of child health care training between 5.2 and 13.6 months.

In addition, 90 percent of family medicine residency programs offered additional pediatric electives, and 89 percent required residents to take night-call during their pediatric rotations. In 53 percent of the programs, family medicine residents shared their responsibilities with pediatric house officers.

Respondents were asked their opinion regarding the optimal level of competency of family

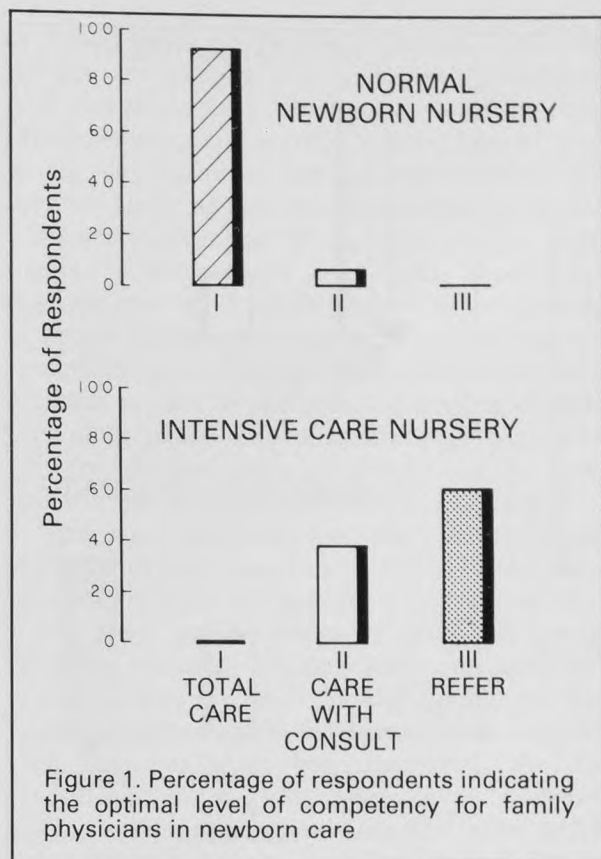


Figure 1. Percentage of respondents indicating the optimal level of competency for family physicians in newborn care

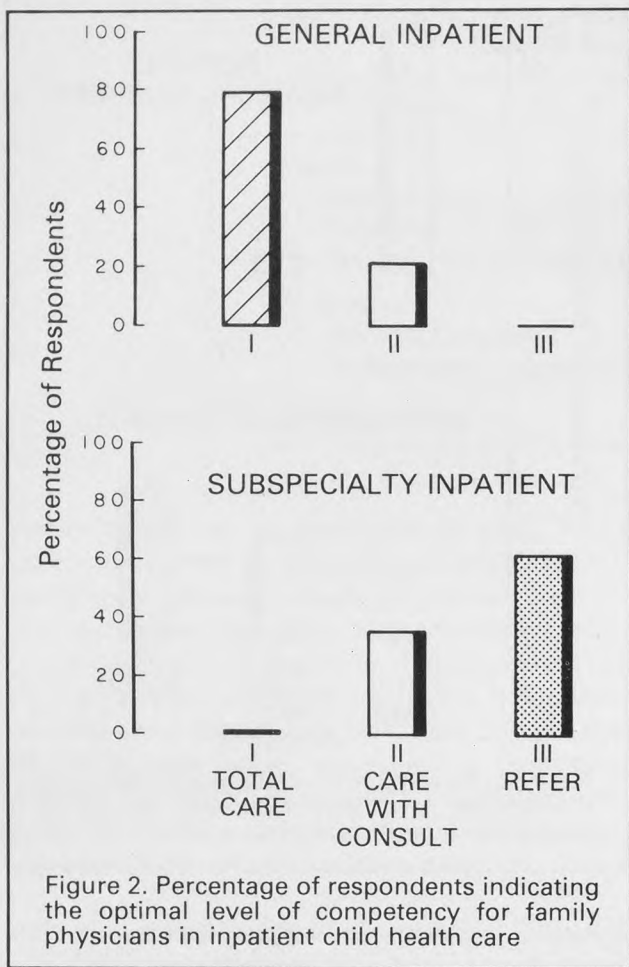
medicine residents in various aspects of child health care according to the following key:

Level I—In most instances is able to provide *total care* (without consultation).

Level II—In most instances *consultation* needed at some point, but primary care able to be provided.

Level III—In most instances problem(s) recognized and/or emergency treatment given but primary care unable to be provided; therefore, *referred* or transferred.

As seen in Figure 1, 93 percent of the respondents indicated that family physicians should be competent to provide total care (Level I) to infants in the normal newborn nursery (eg, breast feeding, jaundice), while 60 percent believe that infants in the Intensive Care Nursery (eg, Respiratory Distress syndrome) should routinely be referred (Level III), and 38 percent felt that consultation (Level II) would be needed. Seventy-nine percent of the respondents believed family physicians to be competent in the total care (Level I) of general inpatient problems (eg, gastroenteritis, pneumonia); however, 62 percent indicated that more

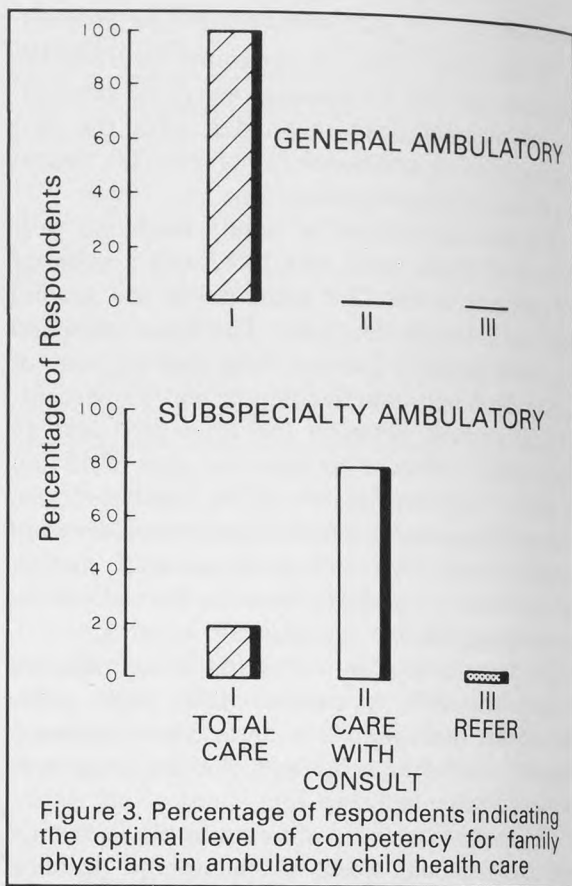


serious subspecialty inpatient problems (eg, leukemia, cystic fibrosis) should be referred (Level III), and 35 percent believed that consultation (Level II) would be necessary (Figure 2). Finally, almost all of the respondents thought that family physicians could provide complete care (Level I) for general ambulatory problems (eg, well child care, otitis media), while 78 percent believed that more specialized ambulatory problems (eg, diabetes, the allergic child) needed consultation (Level II) (Figure 3).

Sixty-eight percent of the respondents indicated that written goals and/or objectives for the family medicine resident in pediatrics had been developed, and 37 percent of these enclosed a requested copy.

Significant correlations were found in the following areas:

1. More university based programs shared night call with pediatric house officers ($P < 0.001$).
2. Fewer midwestern programs had a board certified pediatrician on their full-time family medi-



cine staff than programs in other areas ($P < 0.05$).

3. Non-university based programs spent greater time in total pediatric training, primarily because of the greater time spent in general inpatient pediatric rotations ($P < 0.001$).

No correlations were found between:

1. The presence of a board certified pediatrician on the full-time family medicine staff and the total duration of pediatric training,
2. The duration of required surgical training (mean = 2.9 months) in the family medicine residency and the total duration of pediatric training,
3. The duration of pediatric training in the family practice center and the duration of training on pediatric rotations, or
4. The respondents' attitudes regarding the optimal level of competency for various pediatric rotations and the actual duration of training in their own programs.

Discussion

A recent report from the Task Force on Pediatric Education recommended that a minimum of six months of family medicine residency training be

required under the supervision of the pediatric department and that the family medicine faculty include pediatricians as well as family physicians.² In England, a recent national study recommended that the training of those family physicians who care for children be increased in duration to 1½ years of a 4-year program.⁴

In this study it was found that the family practice experience in child health care in ambulatory family practice centers (half of which have a full-time pediatrician) is a significant experience which constitutes an average of 3.4 months of pediatric training time. The total duration of pediatric training in the 36-month family medicine residency, 9.0 months, constitutes 25 percent of curriculum time. The majority of this experience occurs in the areas of normal newborn, general inpatient, and general outpatient care, which correlates with the respondents' attitudes that family physicians should be competent to provide total care in these areas.

The data on the duration of pediatric training deal only with specific pediatric rotations and pediatric patients in the family practice center. In addition, there are varying pediatric experiences during other rotations and electives in the family medicine curriculum (eg, otolaryngology, orthopedics, gynecology, and emergency room) which have not been measured.

While variation among programs was significant, most programs complied with or exceeded the recommended guidelines of the Residency Assistance Program.² Ten percent of the programs had fewer than 20 percent of patients under 21 years of age in the family practice center, and 30 percent of the programs had fewer than five months of pediatric training on pediatric rotations.

The authors have not addressed the controversy of who should provide care for children in the United States—pediatricians vs family physicians—because it has become an issue biased by philosophy rather than based on fact and training. The most recent data, however, from the 1975 National Ambulatory Medical Care Survey, show that family physicians and general practitioners receive 38 percent of office visits of children and young adults, with pediatricians receiving 29 percent of office visits from those patients.⁷ The 1978 Task Force Survey of Mothers conducted by the Task Force on Pediatric Education, showed that 68 percent of mothers indicated that they are currently using the services of a general practitioner

or family physician for their children, while 52 percent are using a pediatrician.² (Percentages total greater than 100 percent since some mothers utilize pediatricians for some of their children, and family physicians or general practitioners for others.) These figures indicate that family physicians and general practitioners are seeing a large number of children and youth in the country today, and with the dramatic increase in the number of family physicians now being trained, it seems reasonable to assume that family physicians will continue to care for a significant number of children in the future. Educating family physicians to care for children needs the cooperation of both pediatricians and family physicians.

This paper has focused on the descriptive parameters involved in current residency programs, ie, duration, type of rotation, and program attitudes. Many equally important issues in family medicine residency training have not been addressed, however, such as the quality of the pediatric component in family medicine residencies. This has never been measured, nor, as Hoekelman states, are there any conclusive studies to show that pediatricians do a better job in delivering primary care to children than do family physicians.⁸ Future attention needs to be directed toward the quality of child health care delivered, and the quality of training of family medicine residents in child health care, to determine if the type and quantity of pediatric training which has been described is adequate.

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