

## Too many pedodontists? If so, what then?

Lawrence Meskin, DDS, PhD  
Gestur B. Davidson, PhD  
Paul O. Walker, DDS, MSD

### Abstract

*Numerous anecdotal reports have indicated that potential excesses in pedodontic manpower may exist. Utilizing data obtained from a nationwide questionnaire survey of pedodontists (N=223), this report offers additional information relating to the validity of these impressions. Existing data derived from present pedodontic graduate program reports were utilized to initiate a series of manpower projections. These projections indicate a near doubling of the present number of pedodontists by the year 2000. The percent of children projected to be utilizing pedodontic services at that time does not demonstrate a similar increase. Based on these projections, models that employ both reduction of pedodontic graduate program class size as well as the impact of institutional advertising were tested. The results indicate that these actions, if desired, would be effective in maintaining the 1980 pedodontist to patient ratio.*

There appears to be a growing consensus among dental policy leaders in the United States that the present rate at which we are graduating students from our dental schools will eventually lead to an excess of dental manpower. This view is supported by a recent government report that estimates a slight surplus of dentists by 1990.<sup>1</sup> There are those, however, who believe this excess will be experienced before that time.<sup>2</sup> Indeed, many of them believe there is an oversupply of dental manpower at the present time and have requested specific actions to slow new practitioner input into the dental marketplace. They have had, however, only anecdotal evidence upon which to base their arguments. Reports of dentists who "are not busy enough" or "are having difficulty in finding a practice location" represent the views of an unknown number of professionals. What is necessary to carry out sophisticated policy decision-making is objective information derived from a sizable group of dental professionals.

Similar concerns for potential excesses in pedodontic manpower have also been voiced. Unfortunately

however, they too have been based on random comments of practitioners and have had little inferential worth.

### Materials and Methods

In order to assemble pertinent information that would reflect on the validity of the issue of too many pedodontists, a questionnaire was distributed to a number of full-time practicing pedodontists in nine geographic locations. Completed questionnaires were received from 223 full-time practicing pedodontists. A detailed description of the characteristics of these respondents has been issued in a companion report.<sup>3</sup> That report includes a description of their pedodontic practice characteristics, an assessment of "busyness," and two satisfaction indexes related to the practice of pedodontics. This commentary is directed specifically to an analysis and discussion of those questionnaire responses that related directly to the pedodontic manpower issue.

### Results and Discussion

*"For the area in which you practice, would you say the number of pedodontists providing service is too great, about right or too few?"* This question, the first in a series regarding availability of pedodontic services, elicited a strong consensus. Thirty-four percent of the respondents indicated that the capacity to supply pedodontic services in their area was too great, approximately two-thirds stated capacity was about right, and less than one percent — just two individuals — indicated there were too few pedodontists providing service in the area of their practice. Many written comments regarding the excess of pedodontic practitioners were noted in questionnaires. Examples of the more representative statements follow:

"It appears to me that less and less general dentists are referring patients to a pedodontist. My area of practice is becoming super saturated with general dentists and they are holding on to every patient possible in order to survive."

... North Carolina

"My practice was 80% dentist referral ten years ago (1970). They came from older dentists whose practices were so full they chose not to treat children. Presently, our practice is 20% dentist referral."

. . . California

"Difficult — Too many graduates."

. . . California

"As a specialty, it is dead unless combined with orthodontics."

. . . Wisconsin

"It's not going to be what it used to be. 1) Pedo must in the future train more extensively in the field of complete competent interceptive and banded orthodontic therapy. 2) Pedo must begin to control the number of new graduates in the field. 3) AAP must take a hand in the field to begin a limiting of the number of freshmen to dental schools."

. . . Texas

These comments reflect in part the results of actions by government and organized dentistry that in the last decade led to increases of approximately 40% in freshman dental enrollment. Even larger increases were noted for specialties.<sup>1</sup> Specifically, during the period 1960-1977 the number of specialists grew by 271%; the pedodontic profession grew faster than any other dental specialty. In 1960, 5% of all dental specialists were pedodontists. By 1977, the figure had grown to 12%. In absolute numbers, there were reported to be 229 pedodontists in 1960; by 1977 the figure had grown to 1,836. Thus, for the period 1960-1977, the ranks of pedodontists increased by 702% compared to 271% for all dental specialties combined. Figure 1 demonstrates the predicted growth rate of the pedodontic profession for the next two decades. It is based on the premise that the present annual graduation of 152 pedodontists will continue. The prediction accounts for expected retirements and deaths.

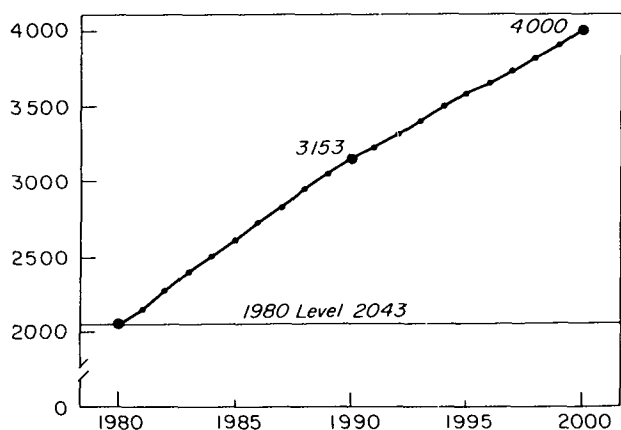


Figure 1. Expected number of pedodontists 1980-2000 based on present graduation rate (152).

What impact will this increasing number of practitioners have on the practice of pedodontics? To examine this issue, a simple equation is employed (Figure 2). The number of pedodontists predicted to be practicing in each year is multiplied by 2,000 (the number of patients per pedodontist in the age bracket 5 to 14 who presently utilize pedodontic services at least once yearly). This total, divided by the number of all children in the age bracket 5 to 14 who

Number Of Pedodontists
X
2000
(Number of Patients Ages 5-14 Needed to Maintain Present Pedodontic Output)
÷
(Number of Children Ages 5-14 Making at Least 1 Dental Visit per Year)
=
Market Share of Children Needed by Pedodontists

Figure 2. Equation for the impact on increasing numbers of practitioners on the practice of pedodontics.

make at least one dental visit to any dental practitioner per year, gives the market share of children needed by practicing pedodontists to approximate their 1980 practice output. Figure 3 displays graphically the percent of the market needed to maintain this output over the next two decades. According to these projections, pedodontists are currently treating 24.1% of all children that utilize dental services. Assuming no major changes in dental disease or dental utilization rates, by the end of this decade pedodontists would need 35.3% of all children that use dental services to maintain present 1980 output. By the year 2000, the market share would have to grow to 40.9%. These projections are based on population projections indicating relative stability in the numbers of children in the 5 to 14 age group and the previously stated increases in the number of new pedodontists entering the delivery arena. It is important to emphasize that these market projections can change significantly by altering any of the model's assumptions either in a positive or negative direction.

For example, Figure 4 displays what would happen if there were a 1% yearly decline in the number of children available to pedodontists due, for instance, to the impact of prevention and/or as a result of switching from pedodontists to general practitioners for dental services. It can be seen that by 1990 — just to maintain present pedodontic output — a 4% increase in market share would be necessary. By the year 2000, almost 10% more of the market would be needed if a 1% yearly decline in total

children available for specialty pedodontic treatment takes place.

On the positive side, it can be hypothesized that a national health insurance program or increases in dental prepaid coverage could add additional patients to the pedodontic office. Considering the political history of national health insurance, it would appear to be unwise for the pedodontic profession to depend too heavily on as yet unpassed legislation to increase patient load. It seems more realistic to assume that any increases in the number of patients utilizing pedodontic services will come either through an increase in the number of children utilizing the benefits of prepaid dental care or from children who now use the services of general practitioners seeking the services of pedodontists. To be successful in either of these suggested avenues would require a meaningful effort on the part of the pedodontic profession to educate the public to the advantages of obtaining their children's dental care from a pedodontist. The concept of institutional advertising, once scorned, now seems to be accepted by the dental profession. The American Dental Association, state and local dental societies and the specialty of orthodontics all have employed advertising to promote the benefits of dental treatment. It seems inevitable that the pedodontics specialty will need to do the same.

Assuming that as a result of either institutional advertising or of increases in dental prepaid coverage there is a 1% yearly increase in the children availing themselves of pedodontic services, there would be a demonstrable decrease in the market needed to maintain the 1980 level of pedodontic output (Figure 5). This figure indicates that by 1990 pedodontists would need 3.4% less of the market than they would have needed in the absence of this assumed patient increase, and by the year 2000, they would need 7.4% less than the baseline market share.

In addition to increasing the number of patients attending a pedodontist, an increase in the sophistication of services provided by the pedodontist could also help obviate some of the oversupply problems that have been projected. Opportunity for such increased sophistication appears to be restricted primarily to the delivery of comprehensive orthodontic services. The following three comments taken from the questionnaire summarize the attitudes of the 223 surveyed pedodontists.

"The future of pediatric dentistry will be towards growth development, interceptive and corrective orthodontics."

... Minnesota

"The future of pedodontics (as I was taught in graduate school) I feel is limited. Its best hope for the future is for pedodontic training to include orthodontic training. Its future as a combined

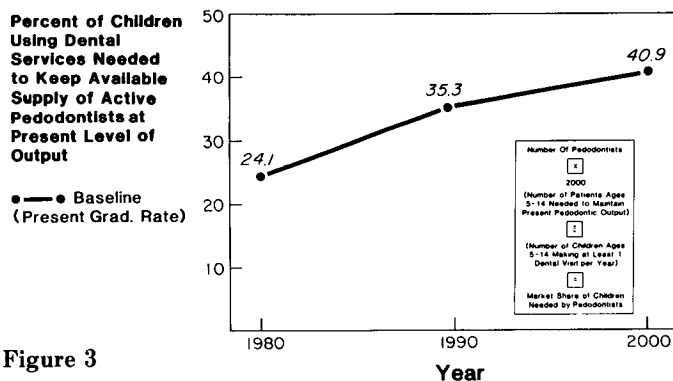


Figure 3

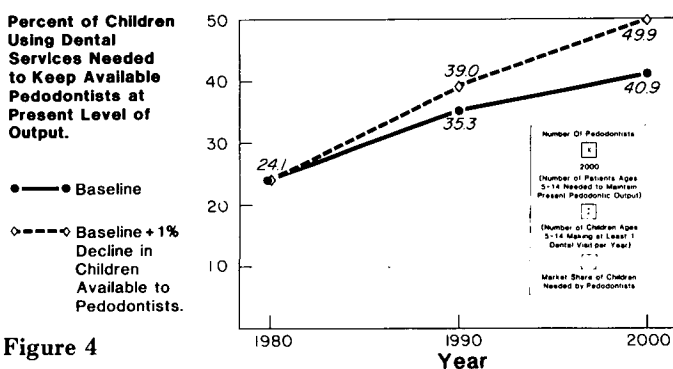


Figure 4

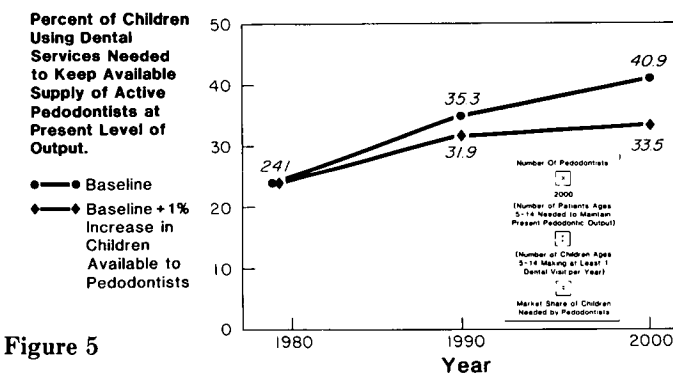


Figure 5

specialty I feel would be good. The 'pure' pedodontist is a dinosaur."

... North Carolina

"As a specialty, it is dead unless combined with orthodontics."

... Wisconsin

There was consensus regarding the need to deliver more orthodontic services. However, it seems likely that the orthodontic profession would see this as an intrusion of their domain, especially if it became a policy decision by the organized pedodontic profession. Considering that orthodontists are having oversupply difficulties of their own, sharing the market with the pedodontists would not meet with great favor.<sup>4</sup>

At least from the standpoint of pure numbers, the easiest way to reduce the potential oversupply of pedodontists would be to decrease the number of pedodontist graduates. While such a suggestion is met most often with support from the pedodontic

profession, it does not necessarily elicit similar responses from those directing graduate programs or from administrators of the area in which the programs reside. Clearly, graduate program reduction would have to take place with their consent. In this regard, it is important to understand the importance of graduate students to such programs and to contemplate reductions in the number of graduate students with this in mind.

The pedodontic graduate student serves a number of functions while in training: (1) they deliver clinical services to patients which results in clinic income to the institution; (2) in many dental training institutions they provide the bulk of clinical teaching for the undergraduate students at a relatively low cost; (3) they often provide a great portion of the research output of their department; and (4) their presence adds to the prestige of the institution and the program director.

The following proposal to reduce pedodontic output acknowledges the institutional importance of graduate students and suggests a program to train "superspecialists" that will allow the maintenance of the previously stated graduate functions. Specifically, the proposal suggests: (1) gradually reducing specialty student intake to approximately 50% of present level (the percent reduction can be altered depending on the need for different amounts of students or needs of the program at a particular time); and (2) gradually increasing the minimum years of study from two to four. Ultimately, this pro-

posal could reduce the number of graduates by half while keeping the number of students enrolled in the program at the same level that existed prior to the reduction, thus responding to the previously stated needs of graduate programs. It might be argued that such a proposal would be at the expense of the student who must now spend two additional years in training. Such an argument can be countered by the following advantages.

1. Present pedodontic graduate students, considering the substantial clinical demands placed on them, are often unable to conduct research of any sophistication. The opportunity to work over a four-year period in a research environment should remedy this.
2. For pedodontists interested in increasing the sophistication of the services they deliver, especially in the orthodontic area, the increased time spent in a training program should allow them to reach a high level of competence. Also, a longer training period would allow the pedodontic student who may wish to do so to branch off into other areas such as cleft palate and maxillofacial prosthodontics.
3. During the four-year program the greater clinical proficiency that a student would attain would translate into greater productivity and clinical income, thus allowing these institutions to pay their students higher stipends during training. These higher stipends in turn should provide an incentive for high quality students to undertake the additional years of study.

To assist in determining the likely impact of reducing the total number of graduating pedodontists, two simulations were run. The first of these, Simulation A, proposes that a one-third reduction in the base year (1980) number of graduates is scheduled to take effect in 1987, and then five years later (1992) the base is reduced by an additional third. Simulation B calls for a 50% reduction of the base year number of graduates beginning in the year 1984.

The results of these projections using the model that we have employed previously are shown in Figure 6. The projections indicate that by 1990 Simulation B results in a reduction of approximately 500 pedodontic graduates, whereas Simulation A results in a reduction of approximately 200 pedodontic graduates. However, by the year 2000, both simulations reduce the anticipated number of pedodontic graduates by 1,200.

The impact of these graduate program reductions in terms of the market model appear in Figure 7. If there are no reductions in the present graduate rate by the year 2000, pedodontists would need 41% of the market to maintain their present level of pedodontic output. Utilizing the class reductions,

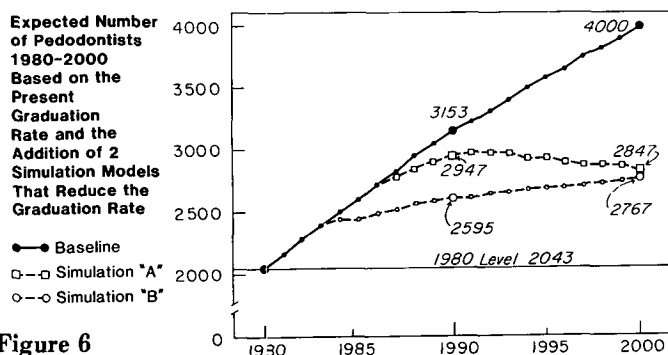


Figure 6

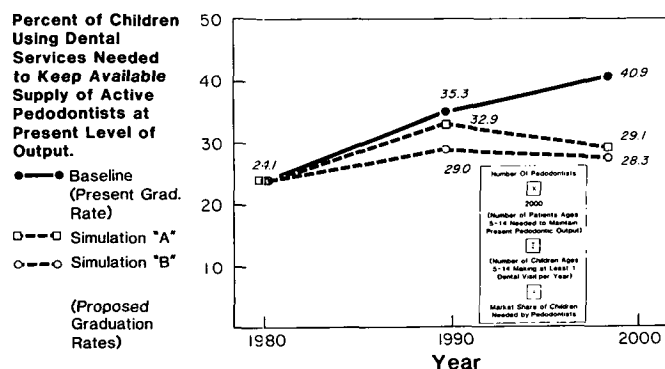


Figure 7

however, market needs drop to 28 or 29%.

Since the end result of the simulation models are approximately the same, from the perspective of policy convenience, Simulation B stands out as the model of choice. This model allows, as previously indicated, two full years from the present time to prepare for a pedodontic class reduction. It would result in a significant decrease in the amount of pedodontic graduates and, if coupled with a hypothetical 1% increase in children available to pedodontists on a yearly basis due to increased utilization or institutional advertising, pedodontists' share of the market would not need to change in any major way (Figure 8).

## Conclusion

Both the survey data as well as the computer simulated projections indicate that an oversupply of pedodontic manpower may become a reality in the near future. A solution to avoid this predicted oversupply has been presented. While it is the authors' view that this plan is both feasible and practical, there are those that may argue that the proposed actions are based on future projections — projections that may not materialize.

Since there is always some uncertainty in any future projection, it is important to ascertain what the consequences of an incorrect decision would be. For example, what might the consequences be if (1) we reduce manpower and there is no true excess of pedodontists, or (2) if we take no action and the projections indicating manpower excesses are correct?

Fortunately, if an incorrect decision is made it would only take a few years to rapidly increase the number of pedodontic graduate students and/or maximize the use of expanded dental auxiliaries in the pedodontic system. But, if we are right and no action is taken, a large number of young pedodontic

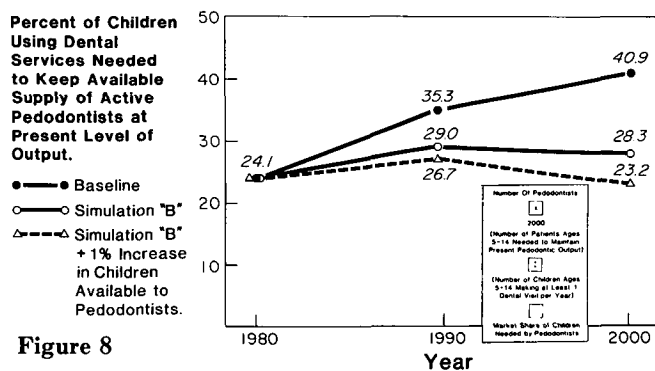


Figure 8

practitioners may face up to 35 years of anticipated productivity with restricted means of realizing their potential.

It is our hope, therefore, that the concepts presented in this paper will find a forum for discussion and debate and, perhaps, form the basis for a new manpower policy for the pedodontic profession.

Dr. Meskin is professor and chairman, health ecology; Dr. Davidson is assistant professor, health services research; and Dr. Walker is associate professor, pediatric dentistry, School of Dentistry, University of Minnesota, Minneapolis, MN 55455. Requests for reprints should be sent to Dr. Meskin.

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1. Public Health Service - Health Resources Administration. Dental Manpower Fact Book. DHEW, Hyattsville, MD, March 1979. Publication No. (HRA) 79-14.
2. Meskin, L. H. Too Many Dentists? If So, What Then? *J Dent Ed* 41(10):601, 1977.
3. Meskin, L. H., Davidson, G. B., and Walker, P. O. Entering the '80s: pedodontic practice characteristics and practitioner satisfaction. *Pediatr Dent* 3:241, 1981.
4. Gottlieb, E. L. How to understand and deal with the growing economic crisis in orthodontics. *J Clin Orthod* 11:590, 1977.

## Quotable Quote

The selection of the 1981 Nobel prizes in the sciences confirms the continued preeminence of the major U.S. research universities, not only as centers for the creation of knowledge but also as magnets for scientific workers from other countries. Of the nine investigators who won the awards this year, seven are faculty members at institutions of higher learning in the U.S.; of those seven, three were born and educated abroad. A fourth came to the U.S. at the age of 11 and a fifth, although born in the U.S., earned his university degrees in Canada.

From Science and the citizen. *Scientific American*, 245(6):80, 1981.