A New Model of Graduate Orthodontic Education

RICHARD M. JACOBS, D.D.S., Ph.D.

During the period of the past few decades the American system of orthodontic education has gained wide recognition not only for its excellence but also for its capacity to provide sufficient orthodontic manpower to meet the growing demand for orthodontic services. In light of this, there would appear to be very little justification, or need, for any significant changes in our basic approach to orthodontic training if it were not for the fact that the prevailing socioeconomic trends and the current thrust of the dental research suggest that the scope of the dental practice may be drastically altered. The purpose of this paper is (1) to assess the nature of the potential challenges that may confront our specialty as a consequence of the current socioeconomic and technological developments and (2) to identify new educational approaches that may be necessary to cope with these challenges.

ACADEMIC MODEL OF ORTHODONTIC EDUCATION

Let me first identify those features of our current model of orthodontic education which seem to warrant some concern:

One might, for example, raise a question whether our educational model could, if necessary, meet drastically increased orthodontic manpower needs. In other words, could our institutions train a significant number of orthodontists beyond the present capacity of 424 annual openings,[1] if needed?

I should preface this question by clarifying one basic point, that is, that there is no tangible evidence, at least to my knowledge, that we are *currently* experiencing a general shortage of orthodontists or that the demand for orthodontic services will indeed drastically expand in the near future. Therefore, there seems to be no valid reason to support a significant increase of orthodontic manpower at this time. In fact, in view of the total absence of reliable, hard data, we have been so far unable to substantiate either (a) the frequent claims that we are already training too many orthodontists[2] or (b) the equally prevalent assertions that the demand for orthodontic services will soon surpass our capacity to produce sufficient manpower to cope with it.[3] I suppose, because of these conflicting claims, it has been proposed recently that the American Dental Association conduct a survey of the dental service needs.[1] It is my understanding that some progress is also being made in the related field of the dental market research. These significant developments suggest that eventually we will have access to well-validated demographic data on the basis of which we may be able to make rational manpower decisions for the future.

In the meantime, however, it might be useful to recognize the fact that a formal academic system of orthodontic training has a number of inherently built-in constraints such as limited facilities, limited availability of qualified faculty and limited budgets, which may be expected to make difficult any drastic expansion of the student enrollment without lowering our high educational standards. In view of that, I believe we

Presented at the Quadrennial Meeting of the University of Illinois Orthodontic Alumni Association, March 7, 1972.

Professor, Department of Orthodontics, University of Iowa.

should be making some contingency plans to enhance our capacity to cope with a demand for increased manpower which, for example, could be generated suddenly by a comprehensive national health insurance program.

One might also ask whether our academic model of orthodontic education is compatible with an expanded undergraduate teaching effort.

There is some evidence that the nature and the scope of dental education may be drastically altered as a consequence of the changing pattern of dental disease and the eventual control of dental caries. Such developments can for many reasons be expected to produce much greater emphasis on undergraduate orthodontic education which may compel our orthodontic faculties to shift their primary teaching effort from graduate to undergraduate students.[4] This could lower the standard of the graduate orthodontic training and, perhaps, force some dental colleges to reduce the scope of their graduate orthodontic programs. Again, in view of that we should be making some contingency plans to supplement our graduate education resources.

Let me briefly touch upon another characteristic of our current model of graduate orthodontic training, its *cost*. It is becoming generally recognized that the "worth" of an educational program cannot be evaluated in isolation, without considering what demands it places upon our scarce educational resources.[5] On that basis it appears that academic orthodontic education is rather expensive despite the considerable income usually generated by orthodontic clinics.

Finally, our present system of orthodontic education is expensive to the student who not only has to continue paying a high tuition for the additional two years, but also must "survive" the period of postdoctoral education substantially without any income. As you know, in the field of medical graduate education things are quite different; the hospital residents pay no tuition and usually receive quite reasonable remuneration.

Generally speaking, modern orthodontic education, as well as the general dental and medical education in the United States, has been based upon the Flexner model[6] which places a great emphasis on biological research. Historically speaking, this model was conceived as a reaction against chaotic and corrupt educational systems prevailing at the time of proprietary medical schools. The Flexner model undoubtedly has restored respectability to professional colleges and, indirectly, has led to the renaissance of health professions in general. Despite that, there is now a growing awareness among the health science educators that the contemporary goals and responsibilities of the medical and dental colleges cannot be optimally fulfilled as long as we strictly adhere to a single model of education. In fact, a recently published "Carnegie Report on Higher Education and the Nation's Health"[7] recommended two new models of professional education, the "Health care delivery" and "Integrated science" models. It is conceivable that for similar reasons we ought to consider developing new training models in the field of graduate specialty education in dentistry.

Hospital Model of Graduate Medical Education

It should be noted that the so-called "graduate medical education", in contrast to the graduate dental education, has always been offered entirely outside of the graduate and medical schools in the clinically-oriented hospital environment. As a result, the medical specialists in this country are being trained in 1300 teaching hospitals[8] while the den-

tal specialty education is primarily offered in approximately 50 academic institutions.[9] What is even more important, however, is that practically all prominent medical specialists, including those not associated with medical colleges, are affiliated with hospitals and, as a result, constitute a broadly based "clinical faculty" which has most valuable direct input into graduate medical education. Unfortunately, these important non-academic teaching resources are not extensively utilized in the field of dental specialty tra ning; as an example, the great majority of the most talented orthodontic clinicians have only sporadic, if any, contact with our graduate students.

New Model of Orthodontic Education

In view of the above outlined considerations, I would like to propose an alternative model of orthodontic training which could supplement, but not necessarily supplant, the present academic model. The proposed model involves two distinct training stages:

1. An *academic core program* conducted in the traditional academic environment and
2. *Orthodontic externship* offered in private orthodontic offices located in a given geographical area.

The current trends of undergraduate dental education seem to be directed toward an abbreviated, flexible, multitrack curriculum.[10] Such dental programs give the student an opportunity to either graduate early or to pursue an advanced educational track, such as oral surgery, orthodontics, research, etc. With this in mind I would like to propose that an orthodontic core program of two semester duration be offered to a limited number of seniors selected from among those students who had expressed interest in pursuing the orthodontic track. This curriculum could consist of the following subjects: advanced biology, biostatistics, biomechanics, cephalometrics, orthodontic diagnosis, treatment planning and the orthodontic clinic.

As the second stage, a clinical externship of fifteen to twenty-one months duration would be offered under the auspices of the College of Dentistry. Though "externship", the way we view it, basically would represent a program of clinical training in private offices, the proposed approach contains a number of important features which distinguishes it significantly from the recently terminated AAO-supervised preceptorship.[11]

In the first place, students would be permitted to enter the externship program only after they have successfully complete an intensive period of "core" training. Consequently, these students could be expected to become "useful" and relatively competent very rapidly. On the basis of our experience with the ongoing undergraduate summer externship program for senior dental students in Iowa, I would contend that externship represents a viable route for an "advanced" clinical training.

During the period of orthodontic externship, students would be expected to spend one day a week in the College of Dentistry serving as teaching assistants and treating the cases they had started during the academic stage of the program. In order to facilitate an exposure to a broad clinical experience, students, as a rule, would be assigned to at least two orthodontic offices which, by the way, would be expected to provide a reasonable remuneration for the services performed by the externees. No master's thesis would be required and those students committed to further formal education will be encouraged to pursue a Ph.D. program under some special arrangement.

The orthodontists directing the ex-

ternees' training would become clinical professors in the College of Dentistry sponsoring the program and, consequently, could enjoy various academic privileges and fringe benefits, such as, for example, the use of research facilities.

The above outlined features of the proposed clinical externship program have been partially designed to overcome some of the difficulties known to have been associated with the AAO-supervised orthodontic preceptorship.[12]

Multiexperience Route to Specialty Certification

The recent Report on Licensure and Related Health Personnel Credentialing prepared by the Department of Health, Education and Welfare, National Center for Health Services Research and Development contains the following significant statement:[13]

> ". . . educational institutions, accrediting agencies and certifying bodies are asked to continue formulating programs that accept alternatives to formal education for entry into career fields."

It seems to me that the proposed orthodontic externship does exactly that, *i.e.,* it supplements the present single, formal-education approach with a less formal, multiexperience route. I wish to emphasize again that the proposed combined academic core-clinical externship model is offered not as a substitute of our traditional academic model but as a program which could, if needed, supplement our manpower production capacity. In fact, the proposed model could be implemented on a large scale *only* in case of a relative "overabundance" of orthodontic patients,[14] since only then one could expect a great demand for our externees. It should also be noted that because of the pressures and rewards of private practice, the availability of additional orthodontic faculty, especially part-time faculty, could be expected to decrease in a direct proportion to the "overabundance" of orthodontic patients. For that reason, expansion of academic orthodontic graduate programs could prove to be most difficult to achieve precisely at the time when it is most urgently required. In view of all this, one might view the clinical externship route to orthodontic specialty certification as a self-regulating safety device primarily designed to restore equilibrium between an excessive demand for orthodontic services and an insufficient supply of orthodontic manpower. Accordingly, the most extensive, "spontaneous" utilization of this route may be expected to occur at a time when this balance is severely disturbed.

If deemed basically feasible, the proposed model of graduate orthodontic training would have to be subjected to an extensive review and, as a final step, an evaluation by the ADA Council on Dental Education. There is some evidence that the Council is presently committed to a flexible approach to education[15] and therefore, despite the history of its past rulings on Curriculum II and the AAO-supervised preceptorship program, perhaps it is not totally unreasonable to hope for a favorable reaction of the Council to the proposed new model of graduate dental education.

College of Dentistry
Univ. of Iowa
Iowa City, Iowa 52240

References

1. ADA News. Page 1, February 14, 1972.
2. Okun, J. H.: Ten little dentists. . . and then there were . . . five, *Straight-Talk,* 2:1-2, 1972.
3. Weber, F. N.: How can we educate more orthodontists? *Am. J. Orthod.,* 51:58-64, 1965
4. Goodman, S. E.: 1978: Dentistry, anyone? *Dental Economics* 61:28-34, 1971.
5. Jacobs, R. M.: Health manpower and continuous progress education, *J. Am. Coll. Dent.,* pp. 81-88, 1971.

6. Flexner, Abraham: Medical Education in the United States and Canada; A Report to the Carnegie Foundation, New York, 1910.
7. Carnegie Commission on Higher Education: *Higher Education and the Nation's Health.* McGraw-Hill Company, New York, 1970.
8. Citizen's Commission on Graduate Medical Education, J. S. Millis, Chairman: The Graduate Education of Physicians. *Am. Med. Assoc.*, Chicago, Ilinois, 1966.
9. Baker, R. W.: Contemporary orthodontic education. *Angle Orthod.* 40: 249-61, 1970.
10. Teuscher, W. G.: Accelerated programs (Editorial) *J. Dent. Educ.* 35:720, 1971.
11. Dewel, B. F.: The supervised preceptorship training program in retrospect (Editorial) *Am. J. Orthod.* 60:196-198, 1971.
12. Hahn, G. W.: The story of the AAO-supervised preceptorship program. *Am. J. Orthod.* 60:189-195, 1971.
13. Department of Health, Education and Welfare: Report on Licensure and Related Health Personnel Credentialing. Chapter XI: Departmental Actions and Recommendations, page 75, June, 1971.
14. DeKock, W.: Personal Communication, 1972.
15. American Dental Association: Transactions, page 54, 1970.