

Massachusetts General Hospital/Harvard Medical School MD Oral and Maxillofacial Surgery Program: A 30-Year Review

Thomas B. Dodson, DMD, MPH, Walter C. Guralnick, DMD,†
R. Bruce Donoff, DMD, MD,‡ and Leonard B. Kaban, DMD, MD§*

Purpose: The first resident enrolled in the Massachusetts General Hospital/Harvard MD Oral and Maxillofacial Surgery (MD/OMFS) program graduated from Harvard Medical School (HMS) in 1972. The purpose of this report is to provide a summary of the first 30 years of the program and to outline plans for its future.

Materials and Methods: This was a retrospective cohort study and the sample was composed of the residents enrolled in the MD/OMFS program between 1971 and 2000. Study variables included the dental school from which the resident graduated, successful completion of the MD/OMFS program, performance on parts I and II of the United States Medical Licensing Examination/National Board of Medical Examinations (USMLE/NBME), HMS grades, and career trajectories (full- or part-time academic or private practice). Appropriate descriptive and bivariate statistics were computed for all study variables.

Results: During the study interval, 56 residents entered the MD/OMFS program and graduated from HMS. All members of the cohort, regardless of the dental school from which they graduated, performed well as evidenced by USMLE/NBME scores and medical school grades. Ninety-four percent of eligible graduates have completed the American Board of Oral and Maxillofacial Surgery examination. The pass rate was 100%. Thirty-four graduates are involved in full- or part-time academic practice. Four trainees completed medical school but did not complete the OMFS program.

Conclusion: The overwhelming majority of trainees completed the program, became board certified, and currently practice OMFS or a related specialty. A disproportionate number entered academic careers.

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*Associate Professor, Department of Oral and Maxillofacial Surgery, Harvard School of Dental Medicine, and Director of Resident Training, Massachusetts General Hospital, Boston, MA.

†Professor of Oral and Maxillofacial Surgery, Emeritus, Harvard School of Dental Medicine, Massachusetts General Hospital, Boston, MA.

‡Professor and Dean, Department of Oral and Maxillofacial Surgery, Harvard School of Dental Medicine, Massachusetts General Hospital, Boston, MA.

§Walter C. Guralnick Professor and Chairman, Department of Oral and Maxillofacial Surgery, Harvard School of Dental Medicine, Massachusetts General Hospital, Boston, MA.

Address correspondence and reprint requests to Dr Dodson: Department of Oral and Maxillofacial Surgery, Massachusetts General Hospital, 55 Fruit St, Warren 1201, Boston, MA 02114; e-mail: tbdodson@partners.org

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In 1972, the first trainee enrolled in the Massachusetts General Hospital (MGH)/Harvard MD Oral and Maxillofacial Surgery (MD/OMFS) program graduated from Harvard Medical School (HMS). Since 1971, 56 individuals have entered the MD/OMFS program and received a Harvard medical degree. Many graduates have reached high levels of professional and academic achievement, becoming department chairs, deans, and leaders of the profession. As an early example of MD/OMFS certificate programs, it is timely to review the program's first 30 years.

As articulated by Walter C. Guralnick, the program's originator, the primary mission was to provide excellent general medical education to remedy deficiencies in the standard dental school curriculum.¹ As the specialty's scope expanded, oral and maxillofacial surgeons became responsible for the care of the "whole patient," which included complete preoperative evaluation and work-up as well as the perioperative management of increasingly complex surgical patients.

Completion of the medical school curriculum and receipt of the MD degree would accomplish 3 important goals. First, the expanded biomedical and clinical curriculum would enhance the overall education of OMFS trainees. Second, OMFS residents would now be educationally qualified and licensed to serve as residents on a general surgery service. Oral and maxillofacial surgeons should have the same basic surgical training as other surgical specialists. The program philosophy contends that a core (12 to 24 months) of general surgery training is a valuable foundation for oral and maxillofacial surgeons. Third, with this training, graduates of combined programs would become part of the "mainstream" of surgeons and surgical specialists. "Turf" battles among surgical specialties have always existed and will probably always continue to exist to some degree. Differences are easier to negotiate and more rational solutions might be developed when all parties have a similar triad of credentials: education, training, and experience.

The fundamental goal of this combined program was an enhanced educational experience: medical school and a core of general surgery training. As a consequence of having better educated surgeons, we hypothesized that graduates of this program would become board-certified practitioners and leaders in clinical and academic OMFS.

The purpose of this report is to provide a summary of the first 30 years of the MGH/Harvard MD/OMFS program and to outline plans for its future evolution. The report is organized into 3 sections: 1) descriptive statistics of individuals enrolled, 2) a brief summary of the performance in medical school as measured by board scores and grades in selected courses, and 3) a description of the career trajectories of the graduates.

Materials and Methods

STUDY DESIGN AND SAMPLE

This was a retrospective cohort study with a sample consisting of residents enrolled in the MGH/Harvard MD/OMFS program between 1971 and 2000.

OVERVIEW OF THE TRAINING PROGRAM

The original MD/OMFS program (1971 to 1987) was 5 years in length and was limited to graduates of the Harvard School of Dental Medicine (HSDM). It consisted of 1 year as an OMFS intern, followed by 1 year as an enrolled medical student (HMS III, the principal clinical year), 18 months as a general surgery resident (postgraduate year 2), and 18 months as an OMFS resident. HSDM graduates were required to spend only 1 year in medical school because the first 2 years at HSDM are taken with the medical school class. One year of elective credit toward the MD degree was awarded for the OMFS training.

In 1987, HMS permitted MGH OMFS residents who were graduates of dental schools other than HSDM (non-HSDM graduates) to matriculate. There were now 2 training curricula: the 5-year program for HSDM graduates and a 6-year program for non-HSDM graduates. Non-HSDM graduates spent 2 years at HMS (HMS II, preclinical year; HMS III, principal clinical year). HMS justified awarding a medical degree by recognizing and giving credit for 1 year of dental school education, 2 years enrolled at HMS, and 1 year of the OMFS residency.

In 1999, the program further evolved. All new residents were required to complete a 6-year MD/OMFS residency program. The program was not changed for non-HSDM graduates. For HSDM graduates, a second year of medical school was added (HMS IV, final clinical year). The combined program was uniformly made 6 years for all residents for administrative purposes and to address some HMS concerns regarding the adequacy of a single year of medical school training for HSDM graduates. Over the years, the HSDM preclinical curriculum began to diverge from that of HMS. For residents in the 5-year program, the single year of medical school was overly compressed, providing no opportunity for elective rotations and barely allowing completion of a minimal principal clinical year. Furthermore, the trainee had to pass parts I and II of the national medical boards during this 12-month period.

STUDY VARIABLES

The primary predictor variable was the dental school from which a resident graduated before starting the MD/OMFS program. It was a binary variable and divided into HSDM and non-HSDM dental school graduates.

The primary outcome variables included 1) successful completion of the MD/OMFS program, 2) performance on parts I and II of United States Medical Licensing Examination or the National Board of Medical Examinations (USMLE/NBME), 3) grades for HMS courses, and 4) career trajectories grouped as full- or part-time academics or full-time private practice.

DATA SOURCES AND ANALYSES

Data for this study were derived from primary, (ie, resident personnel files), and secondary (ie, interviews with the previous and current department chairs and personal communication with graduates) source material. A database was constructed and analyses performed using SPSS Version 10.0 (SPSS, Inc, Chicago, IL). Descriptive and bivariate statistics were computed as indicated. Values of $P \leq .05$ were considered statistically significant.

Results

SECTION 1—OVERVIEW

Since 1971, a total of 56 individuals entered the MD/OMFS program and graduated from HMS. The cohort is composed of 44 men and 12 women. Seven members of the sample are still in the program and are scheduled to graduate in the next 24 months. Four individuals (7.1%) entered the program, graduated from HMS, did not complete the OMFS program, and chose non-OMFS career paths. Three other graduates of the MD/OMFS program pursued additional specialty training in related fields; 1 graduate is a plastic surgeon, and 2 are otorhinolaryngologists.

SECTION 2—PERFORMANCE IN MEDICAL SCHOOL

Overall, the group performed well in medical school. All members of the cohort passed both parts of the USMLE/NBME boards before graduation, with 94.6% passing on the first attempt. Based on available data, since 1992 ($n = 24$), the mean \pm SD USMLE score was 215 ± 15 on part I and 206 ± 21 on part II. For HMS as a whole, the mean scores for parts I and II of the national boards were 216 and 214, respectively. No members of this cohort failed any courses at HMS.

Location of Predoctoral Education (HSDM Versus Non-HSDM Graduates)

In 1987, the combined MD/OMFS program began accepting non-HSDM applicants. A total of 17 non-HSDM graduates have enrolled in the combined program compared with 39 HSDM graduates.

1. Demographics—There were no statistically significant differences in terms of distribution by gender between the 2 groups.
2. Career trajectories—HSDM graduates were more likely to pursue full-or part-time academics than were non-HSDM graduates (82% versus 36%, $P < .005$). The overwhelming majority of both HSDM (92%) and non-HSDM graduates (94%) completed the MD/OMFS program. Most HSDM graduates (87%) and non-HSDM graduates (88%) are still actively practicing the specialty.
3. Performance in medical school—Historically, the HSDM graduates completed their principal clinical year and the non-HSDM graduates completed 2 years of HMS before receiving their medical degrees. The mean USMLE part I scores for HSDM and non-HSDM graduates were 203.6 ± 13 ($n = 11$) and 209 ± 17 ($n = 13$), respectively ($P = .33$). The mean USMLE part II board scores for HSDM and non-HSDM graduates in the program were 202 ± 22 and 208 ± 21 , respectively ($P = .56$). The distribution of

grades among the courses for the 2 groups did not differ significantly for any of the rotations evaluated ($P \geq .23$).

SECTION 3—CAREER TRAJECTORIES

Enhancing resident education was and continues to be the primary goal of this program. A secondary goal was to produce clinical and academic leaders in the specialty. Of the 56 residents enrolled in the program, 7 are still in training, resulting in a sample of 49 with which to evaluate career paths. Currently, 69.4% (34 of 49) of the graduates are involved in full- or part-time academic positions: 42.9% and 26.5%, respectively. Fourteen of 49 graduates (28.6%) are in full-time private practice, and 2.0% (1 of 49) are retired from the specialty. The results of these outcome measures compare favorably with the estimated 36% to 40% of HMS graduates in academic positions. Noted by Daniel Federman, MD, Former Dean of Medical Education, HMS.

Of the 34 individuals in academics, 1 is a dean, 7 are chairmen or chiefs of service, 13 are in other positions in full-time academic practice, and 13 are in part-time academic practice. In addition to their academic positions, many graduates function as members of editorial boards, participate in the specialty's board-certification process, and are active in professional societies.

Discussion

The purpose of this report was to provide a summary of the first 30 years of the MGH/Harvard MD/OMFS program and to outline plans for its future evolution. The program has accomplished the goal of training dual-qualified oral and maxillofacial surgeons. A high percentage of graduates take (93.7%) and pass (100%) the American Board of Oral and Maxillofacial Surgery (ABOMS) examination. This percentage of board-certified graduates of the MGH/Harvard MD/OMFS program compares favorably with the national average of 88% of OMFS graduates being board certified (personal communication, C.E. Mounts, ABOMS, Chicago, IL). A common myth relative to dual-degree OMFS programs is that large numbers of residents are ultimately lost to the specialty. The results of this study indicate that 92.9% of the graduates are practicing OMFS (in 3 cases within another related specialty).

Although not articulated in the original description of the program, there have been a number of positive secondary outcomes that reflect the leadership position of MGH in this country. First, MGH led the way nationally in changing the educational curriculum for oral and maxillofacial surgeons. In 1972, there were only 2 combined MD/certificate OMFS training programs. In 2001, there are 44 such programs. Second,

almost 70% of the graduates are involved in full- or part-time academic positions, with many of these positions as deans or department chairs. Third, the MGH OMFS program has a significant umbrella effect on stimulating HSDM students to enter the specialty. Because MGH has a limited number of positions to offer, a significant number of HSDM students receive OMFS residency training elsewhere. Many of these students, based in part on their experience during externships in this department, have pursued academic careers in OMFS. Currently, 2 of these HSDM graduates who are oral and maxillofacial surgeons are deans of dental schools. One HSDM graduate is the editor of the *Journal of Oral and Maxillofacial Surgery*, and 4 of the 6 general members of the Editorial Board are graduates of either HSDM or the MGH program or both. Five graduates are department chairs. It is beyond the scope of this project to enumerate in detail all of the accomplishments of the HSDM graduates whose career choices and trajectories were heavily influenced by the MGH/Harvard Oral and Maxillofacial Surgery Department.

Despite the initial success of the program, there are some worrisome signals relative to the future. A more critical evaluation of the data reported here suggests a pattern found nationally—that is, a decline in the number of graduates choosing academic careers and a decline in the number of applicants to OMFS or combined OMFS programs.² The decline in applicants to OMFS training programs and the decline in numbers of academic surgeons may be related to indebtedness, to the extended length of training compared with other dental specialties, to the ability to earn excellent salaries in other specialties immediately after 2 or 3 years of postgraduate training, and to the increased proportion of graduates concerned with family as well as quality of life outside the profession. Similar factors have produced a similar national decline in medical student applicants to surgical programs in general.³

The specialty is also at a disadvantage because students receive their OMFS exposure relatively late in the dental school curriculum and for a short period of time. As a result, many have committed to other specialties before they know anything about OMFS.

The availability of the OMS Foundation Student Research Program is extremely helpful in recruiting dental students early enough in their careers to influence their ultimate choice and to get them started thinking about academic pursuits.

Students may have little or no understanding of the reality of a full-time academic position. They often do not realize that clinical practice is an essential component of an academic surgical career with excellent monetary rewards. One can enjoy an exciting academic environment without sacrificing financial satisfaction. It is incumbent on current faculty to deliver this message to students and residents in an effort to recruit more full-time faculty members.

HMS, MGH, and HSDM have always been committed to educational experimentation whenever there is evidence to suggest the possibility of improvement. The first 30 years of this program have been a testament to educational innovation in terms of producing talented academic and clinical oral and maxillofacial surgeons. Rather than threatening the specialty of OMFS, the combined degree residency training programs have enhanced its appeal and expanded its surgical horizons. Future plans for our program include the following:

1. Continue to educate dually trained oral and maxillofacial surgeons.
2. Develop strategies to combat the national trend of decreasing numbers of OMFS residents entering academic practice.
3. Develop innovative strategies to facilitate the training of physicians who want to pursue training in OMFS.
4. Develop innovative strategies to attract more underrepresented minorities to the program and to OMFS in general.

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