The purpose of this study was to determine where the graduates of an inaugural class of a college of osteopathic medicine came from, what influenced their school selection, how their osteopathic medical school experience affected them, and how they chose what and where they would study after graduation as well as where they would practice. These data have significant implications for the osteopathic profession and its future recruitment efforts into the profession and into its postgraduate programs.

(Key words: osteopathic medical education, American Osteopathic Association Intern Registration Program, National Resident Matching Program)

The opportunity to study the demographics of the graduates of a new medical school does not come often. Lessons to be learned about where they came from and how they made the decisions they did serve as the basis for a better understanding of recruitment and counseling of future applicants and students. The success of these graduates in their entire program—100% pass rate for Comprehensive Osteopathic Medical Licensing Examination–USA (COMLEX–USA) Levels I and II is also inspiring, and studying these graduates may help us learn how to duplicate their success.

A review of the literature revealed little on this subject. Research cited in the osteopathic literature has been focused on how a class of recent graduates of a college of osteopathic medicine identifies with the profession.1 The allopathic literature has concentrated on the profiles of ethnicity, gender, grade point averages, Medical College Admission Test results, and primary care recruitment techniques.3-6 There seem to be no studies of graduates of new medical schools.

The first section of data in this study was gleaned from the official “match” data of the American Osteopathic Association (AOA) Intern Registration Program. The second section was compiled from a paper and pencil survey conducted on “senior checkout day.”

Results

American Osteopathic Association Intern Registration Program data

There were 96 graduates in the Arizona College of Osteopathic Medicine of Midwestern University (AZCOM) class of 2000; 72% were men and 28% were women. Twenty-one percent were ethnic minorities. These graduates had initially applied to Chicago College of Osteopathic Medicine of Midwestern University (CCOM), but when AZCOM was opening, accepted applicants were offered the opportunity to select either school.

Based on the match data of the 96 graduates, 42% went into AOA-approved programs as first-year graduates and 52% went into Accreditation Council for Graduate Medical Education (ACGME)–approved programs as first-year graduates; 6% went to the military. Of the 90 nonmilitary first-year graduates, 20% of those in AOA-approved programs went to the South/East, 55% to the Midwest, and 25% to the West. Twenty-four percent of those in ACGME-approved programs went to the South/East, 28% to the Midwest, and 44% to the West (Figure 1).

First-year graduates selected AOA-approved programs in Michigan (9), Illinois (7), Arizona (7), Ohio (6), Pennsylvania (5), California (2), Maine (1), Massachusetts (1), Texas (1), New Jersey (1), and New York (1). First-year graduates selected ACGME-approved programs in Illinois (11), California (7), New York (6), Texas (6), Arizona (4), Nevada (2), Tennessee (2), Virginia (2), Oregon (1), Indiana (1), Virginia (1), Florida (1), Utah (1), Massachusetts (1), South Carolina (1), Maryland (1), and Washington (1). The most frequently chosen states for both types of programs were Illinois (18), Arizona (11), California (9), Michigan (9), Texas (7), New York (7), Ohio (6), and Pennsylvania (5).

In terms of total matches for all first-year graduates, 41% chose AOA-approved programs in primary care and 40% chose ACGME-approved primary care programs for training. One percent of first-year graduates chose an AOA-approved specialty program, and 18% chose ACGME-approved specialty programs. The one graduate who chose an AOA-approved specialty program chose emergency medicine. Those

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in ACGME-approved specialty programs chose the following: psychiatry (6), anesthesiology (2), emergency medicine (3), surgery (3), neurology (2), and pathology (1).

Of those graduates taking AOA-approved rotating internships (41% of the total class) and matched into AOA-approved programs for their second postgraduate year, 32% of the total class plan to complete a primary care AOA-approved training program: 8 in family practice, 6 in internal medicine, and 1 in obstetrics. Some of the remainder of that 41% are moving to specialty care in AOA-approved programs: 2 in emergency medicine, 2 in radiology, and 1 in surgery. After completing AOA-approved first-year programs, 3 others are switching to ACGME-approved second-year programs: 1 in anesthesiology and 2 in physical medicine and rehabilitation.

Of the 40% of graduates taking ACGME-approved primary care programs for their first postgraduate year, 4 are going to ACGME-approved specialty programs (2 in anesthesiology, 1 in neurology, and 1 in physical medicine and rehabilitation) for the second and subsequent postgraduate years. Three graduates chose programs not available in the AOA-approved training offerings (physical medicine and rehabilitation). Overall, at the completion of the currently matched residency programs, the class will have divided into 32% in AOA-approved primary care programs and 35% in ACGME-approved primary care programs, or 67% in primary care training for the entire class.

Survey data
Graduating seniors were surveyed to obtain more information about their choices and how they came to be members of the Class of 2000. Sixty-nine surveys were returned (response rate, 72%), though not all questions were answered in each survey. Additionally, some questions generated more than one answer. Seven students each were born in Illinois and California; 4 were born in Vietnam; 3 each were born in New York, Washington, Utah, and Maine; and 2 each were born in Wisconsin, Nebraska, and Pennsylvania. One student each was born in 17 other states, plus France, Iran, and El Salvador. Other questions asked on the survey follow, along with responses received from graduating seniors.

■ What prompted you to decide to be a doctor?
For this fill-in-the-blank question, 39% of graduates responded with some variation on the theme of desiring to pursue a challenging and interesting profession; 23% expressed the desire to help people; 12% cited personal experiences in the medical field that affected their career choice; and 6% each cited family influences, financial rewards, or personal/family illness experiences that had influenced their choice. Two people indicated spiritual reasons for their choice, while two indicated they wanted control over “all aspects of my patient care” or “my future.” One person stated that the choice of a medical career was influenced by Trapper John, MD, a character on the television show and movie *M*A*S*H*. One cryptic answer was hard to classify: “I started in business and got fired from every job.”

■ At what age did you decide to attend medical school?
Answers to this question ranged from “birth” to 31 years of age. There were two median ages indicated, with 8 votes apiece—ages 18 and 21 years. While the average age was 18 years, seven graduates indicated that they decided to attend medical school at age 16 years. When asked if they already knew about osteopathic medicine when they chose to attend medical school, 75% of graduates said no and 25% said yes.

■ At what age did you first have a close working relationship with an osteopathic physician?
Median age was 22 years, ranging from 1 year to 30 years. Also, when graduates were asked whether their medical role model was an osteopathic physician or an allopathic physician, 54% said their role models were allopathic physicians, 41% said their role models were osteopathic physicians, and 5% said both.

■ Why did you choose this school?
Thirty-four graduates cited location as their primary reason for applying to AZCOM. “That’s where I was accepted” was the second most common reason (16), while the reputation of CCOM was the next most common reason (14). Ten students wished to remain close to their families, and the attraction of being part of the inaugural class was inviting to 7. Four graduates mentioned the reputation of the CCOM alumni they
knew, while 3 commented on the friendly treatment during the interview process. If one assumes that being close to family is a variant of location, then 44 (50%) graduates selected AZCOM based on location. Eighteen (21%) students selected the school based on reputation of school or alumni of CCOM.

- To how many colleges of osteopathic medicine did you apply? Median numbers were 2 and 5, with 9 students each applying to that number of schools. Most students applied to between 1 and 6 colleges of osteopathic medicine, and 4 students applied to all 17 schools open at that time. The mean number of colleges of osteopathic medicine applied to was 6.5. Eighty percent of graduates who completed the survey applied to Liaison Committee on Medical Education (LCME)-accredited schools and 11% were accepted. Only 33 students answered the question concerning whether, if accepted at an LCME-accredited school, they would have attended, but 81% of those students said they would have attended. Of those who applied to LCME-accredited schools, but were not accepted and would have attended if accepted, the following explanations were given:
  - 36% would have selected an LCME-accredited school because of less cost; 32% would have selected an LCME-accredited school so as not to have to explain what a DO is; 20% said they would have accepted an LCME-accredited school position because they were not aware of osteopathic medicine when they applied; and 12% would have accepted an LCME-accredited school’s offer if that school were in a location that was more desirable to them. Two of the respondents put an interesting twist on the issue cost, stating that they did not feel there was a difference between allopathic and osteopathic physicians, so why select the most costly path to being a physician?

- On a scale of 1 to 10 (1, not osteopathic; 10, very osteopathic), how osteopathic were you when you started school? When you finished school?
  The overall average score for the first question was 4.8. When asked how osteopathic the graduates were when they finished school, overall average was 6.9. Comparing the starting numbers to the finishing numbers yielded a net increase of 2.4 points, as 10 students indicated a decrease in score. When asked what changed their opinion about osteopathic medicine while at AZCOM (if their opinion changed), 42% stated their opinion became more positive because they developed a better understanding of osteopathic medicine; 32% attributed their improved opinion to the mentoring of the osteopathic physicians; and 8% stated that their opinion did not change. Five percent stated their opinion was more negative as the result of the politics of osteopathic medicine; 5% had a worse opinion because of the lack of postdoctoral rotations they considered desirable; 3% attributed a worse opinion to the lack of use of osteopathic medicine as seen with preceptors; and 3% cited a worse opinion because of the lack of a difference between osteopathic and allopathic physicians.

- On a scale of 1 to 10 (1, not distinctive; 10, very distinctive), was osteopathic distinctiveness seen in your training in basic science lecturers in first- and second-year medical school; clinical science lecturers in third- and fourth-year medical school; and osteopathic physician preceptors/rotations with osteopathic physicians?
  The median rating for osteopathic distinctiveness seen in basic science lecturers was 8 (average, 5.5); the median rating for osteopathic distinctiveness seen in clinical science lecturers was 5 (average, 4.5); and the median rating for osteopathic physician preceptors was 5 (average, 4.6).

- What was the best part of the medical school experience?
  Graduates frequently cited specific rotations, but most comments were about individuals who influenced them through the 4 years.

- What factors affected your choice of a first-year graduate position in order of significance?
  Some graduates ranked the options in order, while some just checked off the applicable items. Therefore the rank order was not used and the frequencies of choices were added up to determine the most important factors. The most frequent (15 graduates) choice was “best position I could get, MD or DO.” The second most common choice (14) was “I want to be near family.” Next most commonly indicated (11) was “the choice of training site is important to my future plans.”

  Asked if they plan to become AOA board—certified, 68% of graduates said yes and 32% said no. Ninety-seven percent said they plan to be in a group practice, while 3% said they plan a solo practice. There was an almost perfect split on whether they planned to be an employee or own the practice, with one indicating plans for a military career. With some overlap in answers, 41% said they plan to work 40 hours per week; 41% said they plan to work 60 hours per week; and 8% said they plan to work 80 hours per week. One hardy soul said the plan was to work 200 hours per week.

  The ultimate career choices indicated at this time were family practice (27%); internal medicine (19%)—including 1 in nephrology and 2 in pulmonary, geriatrics, and critical care; obstetrics (10%); and pediatrics (6%). That adds up to 63% in primary care areas. This correlates closely with the choices recorded in the match, with 67% of the class making residency choices in a primary care career. The rest were divided into surgery (11%)—in which half indicated orthopedics; emergency medicine (8%); anesthesiology (8%); and psychiatry (5%). Two students indicated a choice of neurology, 2 chose physical medicine and rehabilitation, 1 chose radiology, and 1 chose ophthalmology.
The most common states chosen for intended site of practice were Arizona (22%), California (12%), Colorado (10%), Illinois (7%), Michigan (5%), and New York (5%). Two graduates each chose Utah, Oregon, Texas, and Missouri, while one student each chose Montana, Idaho, Washington, Pennsylvania, Virginia, Massachusetts, Tennessee, Alabama, Georgia, and Florida. By US region, 65% intend to practice in the West, 13% in the Midwest, 11% in the East, and 8% in the South. Of the 48 students who indicated their birth state, 35% were born in the West, 33% in the Midwest, 25% in the East, and 6% in the South (Figure 2).

Seventy-three percent of the respondents indicated that they intend to be involved in the AOA at some level. Eighty percent indicated that they intend to teach.

Responses to various questions were analyzed in comparison with which type of postgraduate program was selected: ACGME-approved or AOA-approved. This was an attempt to see if there was a common thread in the graduates’ backgrounds that affected the selection of type of postgraduate training program. In answer to the question of what age the graduate made the close acquaintance of an osteopathic physician, of those who selected ACGME-approved postgraduate programs, the average age was 21 years. Of those who chose dually accredited programs, the average age was 23; and of those who chose AOA-approved programs, the average age of acquaintance with an osteopathic physician was 19.

When 47 respondents’ answers to the questions about whether they grew up in a rural or urban setting were plotted against whether they chose AOA-approved or ACGME-approved postgraduate programs, the numbers divided as follows: 37% of the graduates were raised in an urban setting and chose ACGME-approved programs; 25% were raised in an urban setting and chose AOA-approved programs; 17% were raised in a rural setting and chose ACGME-approved programs; and 12% were raised in a rural setting and chose AOA-approved programs. Also, 6% of graduates were raised in an urban setting and chose a dual program; 2% of graduates were raised in a rural setting and chose a dually accredited program (Figure 3).

Our informal profession-wide classification of “large states”—meaning those states that have substantial populations of practicing osteopathic physicians—includes Michigan, Ohio, Pennsylvania, New Jersey, Florida, Texas, Oklahoma, and Missouri. The rest of the states are classified as “small states” by virtue of their relatively smaller populations of practicing osteopathic physicians.

Of the 49 graduates who responded to the question of which state they were born in, 41% of those born in “small” states chose ACGME-approved programs. Thirty-three percent of those born in small states chose AOA-approved programs. Of the 10% born in “large” states, 2% chose ACGME-approved programs and 8% chose AOA-approved programs. There was a trend of students born in states with more osteopathic physicians to choose AOA-approved postgraduate training programs (Figure 4).

The choices of ACGME-approved and AOA-approved programs plotted against birth in a state with a college of osteopathic medicine (COM), which may imply a greater

![Figure 2. Choice of practice site vs. birthplace.](#)

![Figure 3. Birthplace vs. type of postgraduate program. DO indicates AOA-approved program; MD, ACGME-approved program.](#)
knowledge of osteopathic medicine, yielded the following results. Twenty-four percent were born in a state with a college of osteopathic medicine and took ACGME-approved programs; 22% were born in a state with a college of osteopathic medicine and took AOA-approved programs. Thirty-one percent were born in a state without a college of osteopathic medicine and took ACGME-approved programs; 16% were born in a state without a college of osteopathic medicine and chose AOA-approved programs. There was a trend of students born in states with a college of osteopathic medicine to choose AOA-approved postgraduate training programs (Figure 5).

The states where the graduates attended undergraduate colleges were also analyzed for selection of ACGME-approved or AOA-approved programs, but there were no consistent findings (Figure 6). The most commonly chosen states for all first-year postgraduate programs combined are listed in the first column by percentage of the class making that selection. The second column lists the percentage of the class who indicated intention to practice in that state. Only states with a 5% or greater interest in either column are listed.

An interesting statistic was revealed when comparing the type of degree of the doctor who was the graduate’s role model with which type of program the graduate selected. Sixty-six percent of graduates with allopathic physician role models selected ACGME-approved programs; 65% of graduates with osteopathic physician role models selected AOA-approved programs (Figure 7).

Of those graduates selecting ACGME-approved programs, 50% plan to join the AOA. Of those selecting AOA-approved programs, 87% plan to join the AOA. Eighty-one percent of those selecting ACGME-approved programs plan to teach, and 72% of those selecting AOA-approved programs plan to teach.

The age at which those selecting either an ACGME-approved or an AOA-approved program decided to make medicine their career was 19 years. Of graduates who knew about osteopathic medicine before deciding to be a physician, 24% of those selected ACGME-approved postgraduate programs and 27% selected AOA-approved postgraduate programs. Therefore, it seems that knowledge of osteopathic medicine made no difference in type of program selected.

Forty-two percent of those who chose ACGME-approved programs plan to be AOA-certified, and 100% of those who chose osteopathic programs plan to be AOA-certified. According to the paper and pencil survey of 72% of the graduates, the selected areas of the country for practice are West (65%), South and East (19%), and Midwest (13%). Again, according to the 72% of graduates in the supplementary survey, 31% were born in the South and East, 33% were born in the Midwest, and 35% were born in the West. Comparing that with the
match data, of the 90 nonmilitary first-year graduates, those enrolling in AOA-approved postgraduate programs went 25% to the South and East, 55% to the Midwest, and 25% to the West. Those in ACGME-approved postgraduate programs went 24% to the South and East, 28% to the Midwest, and 44% to the West.

**Interpretation**

The purpose of this study was to determine where the graduates of an inaugural class of a college of osteopathic medicine came from, what influenced their selection of this school, how their medical school experience affected them, and how they decided what and where they wanted to study after graduation as well as where they chose to practice. The results of this study may be used to modify the public awareness and recruitment efforts for the osteopathic profession and its graduate medical education programs.

Because they were at the end of their medical school career, the graduates were asked what influenced the original decision to become a doctor. Answers were predominantly focused on having a fulfilling career helping others. In this cynical medical climate, that is a heartening response. The two graduates who indicated that they chose this career to have control over their lives may not find that to be the case, at least compared with previous graduates and their type of practice environment.

The most significant factors affecting choice of school were location and reputation of the school. This finding should influence future decisions about the importance of marketing the school to prospective students as well as how to do so. When graduates were asked if they knew about osteopathic medicine when deciding which school to attend, 75% said no and 25% said yes. This statistic has implications for the public relations effort of the AOA and its effect on students applying to colleges of osteopathic medicine. The reasons that students would have accepted LCME-accredited school positions in preference to AZCOM also frequently related to knowledge of the profession as well as the cost of a private medical education.

Graduates’ answers about how “osteopathic” they believed they were before and after completing medical school were almost completely affected by a growing understanding of the profession and, most important, by the mentoring they received in their clinical training years. However, this statistic contrasts with the assessment by the graduates that their most “osteopathically” distinctive experiences were with the basic science professors—37% of whom were osteopathic physicians, 6% of whom were allopathic physicians, and 57% of whom were nonphysicians.

It is encouraging to AZCOM that the focus on primary care in osteopathic medicine has been reflected in the choice of a primary care career by 67% of the total class according to “match” results and 63% of the surveyed class who indicated their eventual plans.

Questions about choice of AOA-approved and ACGME-approved postgraduate programs were analyzed. By aggregating choices related to position and location, two thirds of the respondents cited the position and its characteristics as being more important, while one third cited location as more impor-
It is clear that the desired region of practice is the West (Figure 8). Most AOA-approved programs are in the Midwest and East, so it would appear that many who wish to take AOA-approved programs and then practice in the West are taking AOA-approved programs in the Midwest instead of going to the East to train. The paucity of osteopathic residency training programs in the West may explain the relatively high percentage of this class of graduates entering the National Resident Matching Program.

Results of this study did not show any specific characteristic that would indicate a particular demographic to focus on for recruitment of students into the osteopathic profession. It appears that once there is a familiarity with the osteopathic profession, the students select on the basis of location and reputation of the school. Similarly, marketing osteopathic postgraduate programs and mentoring osteopathic students were the strongest influences that led to selection of osteopathic postgraduate training programs.

If the osteopathic profession wishes to maintain its presence in the US medical community through recruitment of students into colleges of osteopathic medicine and osteopathic postgraduate programs, it should note that an increased public awareness through marketing of the osteopathic profession and its programs as well as mentoring the students were the most influential forces found in this study.

References