More than 50% of new osteopathic physicians receive their residency training in programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) rather than in programs approved by the American Osteopathic Association (AOA). To examine the implications of this training pattern for trends in the practice of osteopathic manipulative treatment (OMT), the authors surveyed attitudes toward OMT with questionnaires targeted to osteopathic and allopathic residents in family medicine residency programs. Osteopathic residents in specialties other than family medicine were also surveyed. Differences in views between osteopathic residents in AOA-approved and ACGME-accredited programs—as well as the views of the allopathic residents—were analyzed using χ² tests. Fewer osteopathic residents in ACGME-accredited family medicine programs (39.5%) reported frequent use of OMT than did osteopathic residents in AOA-approved family medicine programs (67.9%). This difference appears to result more from experiences during residency training than from expectations formed before residency training. Ninety percent of the allopathic residents who responded to the survey said they believed that OMT is effective for treating somatic dysfunction. Moreover, 70.9% of allopathic physicians indicated they had at least some interest in learning OMT. To the authors' knowledge, this study was the first to quantify a change in attitude of allopathic residents toward a more positive view of osteopathic medicine.

Recent surveys on the use of osteopathic manipulative treatment (OMT) by osteopathic physicians (DOs) in clinical practice have documented a declining use of OMT. This diminished use of OMT by DOs, in turn, has raised concerns that OMT might become a “lost art” in the osteopathic medical profession. Because OMT is one of the most distinctive features of osteopathic medicine, the concern is not only for the loss of a central component of osteopathic medical practice, but also for the potential loss of the distinctive nature of the osteopathic medical profession.

Since 1985, the majority of new DOs have received their residency training in allopathic training programs that have been accredited by the Accreditation Council for Graduate Medical Education (ACGME) rather than those that have been approved by the American Osteopathic Association (AOA). There are two main implications of this training pattern for trends in the practice of OMT. These implications can be stated in the form of hypotheses:

Hypothesis 1: Osteopathic physicians who receive postdoctoral training outside of traditional AOA-approved medical residency programs will be less likely to use OMT.

Hypothesis 2: Because more allopathic graduates are being exposed to OMT, by virtue of practicing alongside increasing numbers of osteopathic residents, the interest of allopathic physicians (MDs) in learning OMT and using it in their practices is increasing.

A number of previous studies support our first hypothesis. Aguwa and Liechty and Johnson and Kurtz found that DOs who received training in residency programs approved by the AOA reported more OMT use than did DOs who received training in ACGME-accredited programs or programs with dual accreditations. Fry found that practicing DOs who developed an interest in OMT during their internships also reported using OMT more frequently in their practices, compared with those DOs who were not interested in OMT during their internships. Spaeth and Pheley discovered that low frequency of OMT use by practicing DOs was associated more closely with insufficient training in OMT during residency than during medical school.

In contrast to these results, Johnson et al found that DOs’ perceptions of insufficient training were not predictive of cur-
rent use of OMT in clinical practice. Since all of these studies asked practicing DOs to respond to questions about postdoctoral training experiences that had occurred years before, it is not clear that the observed differences in OMT use in clinical practice are the result of experiences obtained during postdoctoral training. We believe there are at least three alternative explanations for these differences, outlined below.

The first alternative explanation is that differences in OMT use among practicing DOs reflect decisions or expectations formed before residency training. For example, DOs who intend to use OMT minimally or not at all in subsequent clinical practice, or for whom other considerations play a more important role in residency choice, may be more likely to choose ACGME-accredited postdoctoral training programs. One such group consists of those who use the degree in osteopathic medicine as a “backdoor” into allopathic medicine. Two studies have found that these so-called “allopathic ideologists” (ie, DOs who would have preferred to attend allopathic medical schools) were less likely than other DOs to use OMT in their current or future practice.

The second alternative explanation is that differences in use of OMT among practicing DOs is a result of posttraining experiences and decisions. Fry reported that two-thirds of the practicing DOs who responded to his group’s survey indicated that experiences they had after completion of formal training influenced the amount of OMT they use. Spaeth and Pheley reported that 40% of the DOs in their survey had reduced OMT use since starting medical practice. In two studies, Johnson et al and Johnson and Kurtz reported that survey respondents attributed their reduced use of OMT to barriers to OMT use in practice rather than to deficiencies in training. Among these barriers were limited time, poor reimbursement, competing professional interests, and unsuitable physical facilities.

The third alternative explanation is that differences in OMT use among practicing DOs reflect the different types of medical specialties chosen by those residents who are enrolled in AOA-approved programs versus ACGME-accredited programs. For example, if a larger proportion of DOs in AOA-approved residency programs, compared with ACGME-accredited residency programs, specialize in family medicine, the physicians in family medicine would be more likely than the physicians in other specialties to treat their patients with OMT. In this case, differences in OMT use between DOs in AOA-approved and ACGME-accredited residency programs might reflect the larger proportion of family medicine physicians in AOA-approved programs.

Given the recent downward trend in OMT use in clinical practice, as well as the potential influence of postdoctoral training programs on attitudes toward OMT, we undertook a survey of OMT use by, and attitudes of, osteopathic residents in AOA-approved and ACGME-accredited family medicine residency programs and residency programs other than family medicine. We also studied attitudes toward OMT of allopathic residents in ACGME-accredited family medicine residency programs.

Methods

We developed separate one-page surveys for osteopathic (Figure 1) and allopathic (Figure 2) family medicine residents who were in AOA-approved or ACGME-accredited programs. The survey for DOs was also given to physicians in residency programs other than family medicine. The Institutional Review Board of the University of Oklahoma College of Medicine at Tulsa approved these surveys and all other aspects of the current study.

Both surveys asked about physicians’ attitudes regarding the effectiveness of OMT and their desire for continuing medical education (CME) opportunities focused on OMT. The survey for osteopathic residents also asked about the extent of their current OMT use; expectations they might have had before their residencies with regard to OMT use; expectations for postresidency OMT use; confidence in their OMT training and ability; availability of skilled OMT mentors; adequacy of their current facilities for OMT; and support for OMT among colleagues.

The survey for allopathic residents asked about their presidency familiarity with and exposure to OMT; their interest in OMT training; the level of their support for inclusion of OMT training into the curricula of allopathic medical schools and residency programs; and the level of their support for AOA certification of allopathic physician proficiency in OMT.

We purchased 439 mailing labels from the AOA for all AOA family medicine residents in Arkansas, Missouri, Oklahoma, and Texas. Most of the AOA trainees in these four contiguous states who returned the surveys graduated from one of the four osteopathic medical schools in this region: Kirksville (Mo) College of Osteopathic Medicine of A.T. Still University of Health Sciences, Oklahoma State University College of Osteopathic Medicine in Tulsa, Kansas City (Mo) University of Medicine and Biosciences College of Osteopathic Medicine, or University of North Texas Health Science Center at Fort Worth—Texas College of Osteopathic Medicine. We also purchased 1424 mailing labels from the ACGME for all ACGME family medicine residents in this same region. We used the labels to mail surveys and postage-paid return envelopes to the resident physicians. A cover letter explained the nature of the study and assured confidentiality.

Six weeks following the first mailing, we mailed a second copy of the survey using an updated mailing list for both AOA and ACGME residents. Along with the second survey, we sent a cover letter asking the recipient to complete and return the accompanying form only if he or she had not returned the original survey.

We tabulated response frequencies using SPSS statistical software (version 11.5 for Windows; SPSS Inc, Chicago, Ill) and used the χ² test procedure to analyze differences in response frequencies between DOs in AOA-approved and ACGME-accredited programs. All group differences reported in the current study are significant at P<.05.
The University of Oklahoma College of Medicine at Tulsa

Survey of Osteopathic Residents’ Attitudes Toward Osteopathic Manipulative Treatment

*Please answer the questions below by filling in the blanks or checking the appropriate boxes.*

1. From what medical school did you graduate? ________________________________________
2. What institution are you currently training in? ________________________________________
3. What is your specialty? ____________________________________________________________
4. What is your current academic status?
   - PGY1
   - PGY2
   - PGY3
   - PGY4
   - PGY5
5. Are you in an osteopathic or allopathic residency?
   - Osteopathic
   - Allopathic
6. To what extent do you use osteopathic manipulative treatment (OMT)?
   - Daily
   - Weekly
   - Monthly
   - Rarely
   - None
7. Do you feel confident in your OMT training?
   - Yes
   - No
   - Not Sure
8. Do you feel confident in your OMT ability?
   - Yes
   - No
   - Not Sure
9. How has residency impacted your utilization of OMT?
   - Increased Use
   - Decreased Use
   - Not Sure
10. Do you feel your current facilities are adequate for OMT?
    - Yes
    - No
11. Do you feel your faculty and fellow residents support OMT?
    - Yes
    - Some
    - No
12. Would you like to have more continuing medical education (CME) geared toward OMT?
    - Yes
    - No
13. To what extent do you feel OMT is effective for somatic dysfunction?
    - Very Effective
    - Somewhat Effective
    - Not Effective
14. To what extent do you feel OMT is effective for systemic illness (e.g., asthma)?
    - Very Effective
    - Somewhat Effective
    - Not Effective
15. Do you have a skilled OMT department faculty mentor available?
    - Yes
    - No
16. To what extent do you plan on including OMT in your practice after residency?
    - Frequently
    - Occasionally
    - Rarely
    - Never
17. Prior to residency, to what extent did you plan on using OMT?
    - Frequently
    - Occasionally
    - Rarely
    - Never
18. If you do not plan on using OMT, why not? ________________________________________

**Figure 1.** Survey provided to osteopathic residents on attitudes toward osteopathic manipulative treatment.

### Results

Although we had originally intended to survey only family medicine residents, many surveys returned to us were from residents in specialties other than family medicine. Responses from these additional respondents were tabulated and included for analysis and discussion.

*Table 1* shows the distribution of DOs and MDs who responded to the survey by program type and medical spec-
Of the 439 DOs surveyed, 155 (35.3%) returned completed questionnaires. However, results for six DO respondents who indicated OMT as their medical specialty were excluded from statistical analyses, resulting in a final DO response rate of 33.9%. Of these DO respondents (n=149), 54 (36.2%) were in AOA-approved residency programs and 95 (63.8%) were in ACGME-accredited residency programs.

Sixty-six (44.3%) of the DO respondents specialized in Allee et al• Medical Education

The University of Oklahoma College of Medicine at Tulsa

Survey of Allopathic Residents’ Attitudes Toward Osteopathic Manipulative Treatment

Please answer the questions below by filling in the blanks or checking the appropriate boxes.

1. From what medical school did you graduate? _________________________________________
2. What institution are you currently training in? _________________________________________
3. What is your specialty? ________________________________________________________________
4. What is your current academic status?
   - PGY1
   - PGY2
   - PGY3
   - PGY4
   - PGY5
5. How familiar were you with osteopathic manipulative treatment (OMT) before medical school?
   - Very Familiar
   - Somewhat Familiar
   - Unfamiliar
6. To what extent were you exposed to OMT during medical school?
   - Lectures
   - Demonstrations
   - Reading
   - Personal Experience
   - None
7. To what extent were you exposed to OMT during residency?
   - Lectures
   - Demonstrations
   - Continuing Medical Education (CME)
   - Fellow Resident
   - Personal Experience
   - None
8. To what extent do you feel OMT is effective for somatic dysfunction?
   - Very Effective
   - Somewhat Effective
   - Not Effective
9. To what extent do you feel OMT is effective for systemic illness (eg, asthma)?
   - Very Effective
   - Somewhat Effective
   - Not Effective
10. To what extent are you interested in learning how to perform OMT?
    - Very Interested
    - Somewhat Interested
    - Not Interested
11. Should OMT be incorporated into allopathic medical school curricula?
    - Strongly Support
    - Support
    - Neutral
    - Oppose
12. Should OMT be incorporated into allopathic residency program curricula?
    - Strongly Support
    - Support
    - Neutral
    - Oppose
13. Would you be interested in more OMT CME geared toward teaching MDs?
    - Very Interested
    - Somewhat Interested
    - Not Interested
14. Do you feel the American Osteopathic Association should provide certification for MDs who have tested proficient in the use of OMT?
    - Strongly Support
    - Support
    - Neutral
    - Oppose
15. Other comments (Use back of page if more space is needed.) ________________________
________

Figure 2. Survey provided to allopathic residents on attitudes toward osteopathic manipulative treatment.
approved programs and 97.3% of DOs in ACGME-accredited programs planned to use OMT "frequently" or "occasionally" during residency. Furthermore, DO respondents in the two types of programs had similar expectations with regard to their use of OMT after residency: 92.8% of residents in AOA-approved programs and 84.2% of residents in ACGME-accredited programs planned to use OMT at least occasionally after residency.

The proportions of DOs in AOA-approved and ACGME-accredited family medicine residency programs did not differ significantly in residents' confidence in their OMT training (92.9% for AOA residents versus 78.9% for ACGME residents) or their OMT ability (89.3% for AOA residents versus 78.9% for ACGME residents). All DOs in AOA-approved family medicine residency programs and virtually all DOs in ACGME-approved programs (97.4%) indicated that they believed OMT is an effective treatment modality for somatic dysfunction. With regard to treating systemic illness, however, fewer DOs endorsed OMT’s effectiveness, with no significant difference between those in AOA-approved programs (82.2%) and ACGME-accredited programs (73.7%).

Most DOs in AOA-approved family medicine residency programs reported more frequent use of OMT than did those in ACGME-accredited programs: 67.9% of DOs in AOA-approved programs and 39.5% of DOs in ACGME-accredited programs planned to use OMT “frequently” or “occasionally” during residency. Furthermore, DO respondents in the two types of programs had similar expectations with regard to their use of OMT after residency: 92.8% of residents in AOA-approved programs and 84.2% of residents in ACGME-accredited programs planned to use OMT at least occasionally after residency.

The proportions of DOs in AOA-approved and ACGME-accredited family medicine residency programs did not differ significantly in residents’ confidence in their OMT training (92.9% for AOA residents versus 78.9% for ACGME residents) or their OMT ability (89.3% for AOA residents versus 78.9% for ACGME residents). All DOs in AOA-approved family medicine residency programs and virtually all DOs in ACGME-accredited programs (97.4%) indicated that they believed OMT is an effective treatment modality for somatic dysfunction. With regard to treating systemic illness, however, fewer DOs endorsed OMT’s effectiveness, with no significant difference between those in AOA-approved programs (82.2%) and ACGME-accredited programs (73.7%).

**Table 1**

<table>
<thead>
<tr>
<th>Specialty/Residency Program</th>
<th>Osteopathic (n=149)</th>
<th>Allopathic (n=232)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Medicine</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ AOA</td>
<td>28 (42.4)</td>
<td>...</td>
<td>28 (7.3)</td>
</tr>
<tr>
<td>□ ACGME</td>
<td>38 (57.6)</td>
<td>232 (100)</td>
<td>270 (70.9)</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ AOA</td>
<td>26 (31.3)</td>
<td>...</td>
<td>26 (6.8)</td>
</tr>
<tr>
<td>□ ACGME</td>
<td>57 (68.7)</td>
<td>...</td>
<td>57 (15.0)</td>
</tr>
</tbody>
</table>

* AOA indicates American Osteopathic Association; ACGME, Accreditation Council for Graduate Medical Education.
† The number of osteopathic residents shown excludes six residents who indicated osteopathic manipulative treatment as their medical specialty.
Table 2
Survey of Osteopathic Residents’ Attitudes Toward Osteopathic Manipulative Treatment by Specialty and Residency Type*

<table>
<thead>
<tr>
<th>Question</th>
<th>Family Medicine (n=66†)</th>
<th>Other (n=83‡)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AOA</td>
<td>ACGME</td>
</tr>
<tr>
<td>1. To what extent do you use OMT?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Daily</td>
<td>8 (28.6)</td>
<td>3 (7.9)</td>
</tr>
<tr>
<td>- Weekly</td>
<td>11 (39.3)</td>
<td>12 (31.6)</td>
</tr>
<tr>
<td>- Monthly</td>
<td>3 (10.7)</td>
<td>7 (18.4)</td>
</tr>
<tr>
<td>- Rarely</td>
<td>4 (14.3)</td>
<td>3 (34.2)</td>
</tr>
<tr>
<td>- None</td>
<td>2 (7.1)</td>
<td>3 (7.9)</td>
</tr>
<tr>
<td>2. Prior to residency, to what extent did you plan on using OMT?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Frequently</td>
<td>14 (50.0)</td>
<td>15 (40.5)</td>
</tr>
<tr>
<td>- Occasionally</td>
<td>13 (46.4)</td>
<td>21 (56.8)</td>
</tr>
<tr>
<td>- Rarely</td>
<td>1 (3.6)</td>
<td>1 (2.7)</td>
</tr>
<tr>
<td>- Never</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>3. To what extent do you plan on including OMT in your practice after residency?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Frequently</td>
<td>16 (57.1)</td>
<td>12 (31.6)</td>
</tr>
<tr>
<td>- Occasionally</td>
<td>10 (35.7)</td>
<td>20 (52.6)</td>
</tr>
<tr>
<td>- Rarely</td>
<td>2 (7.1)</td>
<td>5 (13.2)</td>
</tr>
<tr>
<td>- Never</td>
<td>0 (0.0)</td>
<td>1 (2.6)</td>
</tr>
<tr>
<td>4. Do you feel confident in your OMT training?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Yes</td>
<td>26 (92.9)</td>
<td>30 (78.9)</td>
</tr>
<tr>
<td>- No</td>
<td>0 (0.0)</td>
<td>5 (13.2)</td>
</tr>
<tr>
<td>- Not sure</td>
<td>2 (7.1)</td>
<td>3 (7.9)</td>
</tr>
<tr>
<td>5. Do you feel confident in your OMT ability?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Yes</td>
<td>25 (89.3)</td>
<td>30 (78.9)</td>
</tr>
<tr>
<td>- No</td>
<td>0 (0.0)</td>
<td>6 (15.8)</td>
</tr>
<tr>
<td>- Not sure</td>
<td>3 (10.7)</td>
<td>2 (5.3)</td>
</tr>
<tr>
<td>6. To what extent do you feel OMT is effective for somatic dysfunction?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very effective</td>
<td>23 (82.1)</td>
<td>27 (71.1)</td>
</tr>
<tr>
<td>- Somewhat effective</td>
<td>5 (17.9)</td>
<td>10 (26.3)</td>
</tr>
<tr>
<td>- Not effective</td>
<td>0 (0.0)</td>
<td>1 (2.6)</td>
</tr>
<tr>
<td>7. To what extent do you feel OMT is effective for systemic illness (eg, asthma)?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Very effective</td>
<td>5 (17.9)</td>
<td>4 (10.5)</td>
</tr>
<tr>
<td>- Somewhat effective</td>
<td>18 (64.3)</td>
<td>24 (63.2)</td>
</tr>
<tr>
<td>- Not effective</td>
<td>5 (17.9)</td>
<td>10 (26.3)</td>
</tr>
</tbody>
</table>

* Boxes indicate significant difference (P<.05) in distribution of responses between osteopathic residents in programs approved by the American Osteopathic Association (AOA) and osteopathic residents in programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). CME indicates continuing medical education; OMT, osteopathic manipulative treatment.
† The sample size for each question varied because of nonresponses to particular questions by some osteopathic residents. The sample size for osteopathic residents in AOA-approved family medicine residency programs was 28 for all questions except question 9 (n=27) and question 11 (n=27). The sample size for osteopathic residents in ACGME-accredited family medicine residency programs was 38 for all questions except question 2 (n=37), question 9 (n=37), and question 11 (n=37).
‡ The sample size for each question varied because of nonresponses to particular questions by some osteopathic residents. The sample size for osteopathic residents in AOA-approved residency programs other than family medicine was 25 for all questions except questions 1, 2, 3, and 7 (n=26), question 8 (n=24), and question 11 (n=23). The sample size for osteopathic residents in ACGME-accredited residency programs other than family medicine was 57 for all questions except questions 6, 8, and 10 (n=56) and question 11 (n=53).
Compared with DOs in family medicine residency programs, DO respondents in other residency programs reported less frequent daily or weekly current OMT use (51.5% in family medicine programs versus 14.5% in other specialties); less frequent preresidency expectations for using OMT at least occasionally during residency (96.9% in family medicine programs versus 75.9% in other specialties); and less frequent current expectations for using OMT at least occasionally after residency (87.9% in family medicine programs versus 37.3% in other specialties).

More DOs in family medicine residency programs than in programs in other specialties indicated confidence in their OMT training (84.8% in family medicine programs versus...
69.5% in other specialties) and OMT ability (83.3% in family medicine programs versus 46.3% in other specialties). However, DOs in family medicine residency programs did not differ significantly from DOs in other specialties in their beliefs about the effectiveness of OMT for treating somatic dysfunction (98.5% in family medicine programs versus 97.5% in other specialties) or systemic illness (77.3% in family medicine programs versus 66.3% in other specialties).

More DOs in family medicine residency programs than in programs in other specialties reported that their colleagues supported the use of at least some OMT (95.5% in family medicine programs versus 68.8% in other specialties). In addition, more DOs in family medicine programs than in programs in other specialties reported adequate facilities in their departments for OMT (50% in family medicine programs versus 29.3% in other specialties); the availability of skilled mentors for OMT (45.5% in family medicine programs versus 14.8% in other specialties); and a desire for more CME on OMT (67.2% in family medicine programs versus 44.7% in other programs).

Osteopathic physicians in AOA-approved residency programs other than family medicine reported more frequent daily or weekly OMT use than did those in ACGME-accredited programs other than family medicine (30.7% AOA versus 7.0% ACGME). Despite this difference in current use, DOs in AOA-approved and ACGME-accredited non-family medicine programs reported statistically similar preresidency expectations for at least occasional OMT use during residency (80.7% AOA versus 73.7% ACGME) and similar current expectations for at least occasional OMT use after residency (42.3% AOA versus 35.1% ACGME).

The survey indicated that DOs in AOA-approved residency programs other than family medicine were more likely than their counterparts in ACGME-accredited programs to have confidence in the OMT training they had received (88% AOA versus 61.4% ACGME). However, the survey showed no statistical difference in the opinions between DOs in AOA-approved and ACGME-accredited non-family medicine programs regarding their ability to perform OMT (60% AOA versus 40.4% ACGME).

Almost all (96% AOA and 98.2% ACGME) residents in non-family medicine programs indicated their beliefs that OMT is at least a somewhat effective treatment modality for somatic dysfunction. In addition, no significant difference was found between DOs in the AOA-approved non-family medicine programs (76.9%) and ACGME-accredited non-family medicine programs (61.4%) regarding beliefs that OMT is effective for treating patients with systemic illness.

A greater percentage of DOs in AOA-approved residency programs other than family medicine (87.5%) than in corresponding ACGME-accredited programs (60.7%) indicated that their colleagues supported the use of OMT. Many DOs in ACGME-accredited non-family medicine programs reported that their departments’ facilities for OMT were not adequate (80.7%) and that skilled OMT mentors were not available (98.2%). For DOs in AOA-approved non-family medicine programs, these percentages were much lower: 48.0% noted inadequate facilities and 56.0% noted unavailable mentors.

The proportions of DOs in AOA-approved and ACGME-accredited non-family medicine residency programs did not

### Table 3
Survey of Allopathic Residents’ Attitudes Toward Osteopathic Manipulative Treatment (n=232)*

<table>
<thead>
<tr>
<th>Question</th>
<th>Response, No. (%)†</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How familiar were you with OMT before medical school?</td>
<td></td>
</tr>
<tr>
<td>Very familiar</td>
<td>9 (3.9)</td>
</tr>
<tr>
<td>Somewhat familiar</td>
<td>65 (28.0)</td>
</tr>
<tr>
<td>Unfamiliar</td>
<td>158 (68.1)</td>
</tr>
<tr>
<td>2. To what extent were you exposed to OMT during medical school?</td>
<td></td>
</tr>
<tr>
<td>Lectures</td>
<td>10 (4.4)</td>
</tr>
<tr>
<td>Demonstrations</td>
<td>10 (4.4)</td>
</tr>
<tr>
<td>Reading</td>
<td>8 (3.5)</td>
</tr>
<tr>
<td>Personal experience</td>
<td>30 (13.1)</td>
</tr>
<tr>
<td>None</td>
<td>171 (74.7)</td>
</tr>
<tr>
<td>3. To what extent were you exposed to OMT during residency?</td>
<td></td>
</tr>
<tr>
<td>Lectures</td>
<td>26 (11.2)</td>
</tr>
<tr>
<td>Demonstrations</td>
<td>21 (9.0)</td>
</tr>
<tr>
<td>CME</td>
<td>2 (0.9)</td>
</tr>
<tr>
<td>Fellow resident</td>
<td>87 (37.5)</td>
</tr>
<tr>
<td>Personal experience</td>
<td>10 (4.3)</td>
</tr>
<tr>
<td>None</td>
<td>86 (37.1)</td>
</tr>
<tr>
<td>4. To what extent do you feel OMT is effective for somatic dysfunction?</td>
<td></td>
</tr>
<tr>
<td>Very effective</td>
<td>36 (16.4)</td>
</tr>
<tr>
<td>Somewhat effective</td>
<td>161 (73.2)</td>
</tr>
<tr>
<td>Not effective</td>
<td>23 (10.5)</td>
</tr>
<tr>
<td>5. To what extent do you feel OMT is effective for systemic illness (eg, asthma)?</td>
<td></td>
</tr>
<tr>
<td>Very effective</td>
<td>2 (0.9)</td>
</tr>
<tr>
<td>Somewhat effective</td>
<td>32 (14.6)</td>
</tr>
<tr>
<td>Not effective</td>
<td>185 (84.5)</td>
</tr>
</tbody>
</table>

* All allopathic residents were in family medicine residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). AOA indicates American Osteopathic Association; CME, continuing medical education; MDs, allopathic physicians (medical doctors); and OMT, osteopathic manipulative treatment.
† The sample size for each question varied because of nonresponses to particular questions by some allopathic residents. The sample size was 232 for questions 1 and 3; 231 for questions 6 and 9; 230 for questions 7 and 10; 229 for questions 2 and 8; 220 for question 4; and 219 for question 5.

(continued)
DOs indicated the same. In the ACGME-accredited programs, 50.9% of the DOs indicated that they wanted more CME geared toward OMT. In the AOA-approved programs, 30.4% of the DOs indicated the same.

Survey results for allopathic residents in ACGME-accredited programs are reported in Table 3. Because of nonresponses to certain questions by some survey respondents, the sample size for each question in the survey varied from 219 to 232. All group differences are significant at $P<.05$.

Most of the MD respondents reported that they were unfamiliar with OMT prior to attending medical school (68.1%) and had received no exposure to OMT during medical school (74.7%). By contrast, most of the MDs (62.9%) noted that they had been exposed to OMT during their residencies. The most frequent avenues of exposure during residency were a fellow, osteopathic resident (37.5%) and lectures on the use of this treatment modality (11.2%).

As with the DO respondents, most of the MD respondents (89.6%) indicated that they believed OMT is at least somewhat effective in treating somatic dysfunction, while far fewer of the MDs (15.5%) supported the effectiveness of OMT for treating patients with systemic illness.

Most of the MD respondents expressed interest in learning to perform OMT (20.3% very interested, 50.6% somewhat interested). In addition, 42.6% of the MD respondents supported incorporation of OMT training into the allopathic medical school curricula, with only 13.9% opposed. The MDs indicated support in similar proportions (43.7%) for incorporation of OMT training into allopathic residency training programs. Approximately 80% percent of the participating MDs indicated their interest in receiving OMT training as part of CME. Finally, 68.2% of MD respondents expressed their support for AOA certification of MDs who demonstrate proficiency in the use of OMT. Such certification was opposed by 5.2% of the MDs.

In combining responses to the first three questions of the MD questionnaire (Table 3), we found that 50 (21.6%) of the MD residents indicated no exposure to OMT at any time—before medical school (question 1), during medical school (question 2), or during residency (question 3). The remaining 182 MD residents indicated exposure to OMT during at least one of these three time frames. In analyses comparing these two groups, allopathic medical residents with some exposure to OMT were more likely than those with no exposure to endorse the effectiveness of OMT in treating somatic dysfunction (93.3% some exposure versus 76.2% no exposure) and more likely to indicate interest in learning OMT (75.7% some exposure versus 54% no exposure). They were also more likely to support incorporation of OMT training into allopathic medical school curricula (48.6% some exposure versus 20.4% no exposure) and allopathic residency programs (48.9% some exposure versus 24.5% no exposure).

Allopathic medical residents with some exposure to OMT were more likely than those with no exposure to support the incorporation of OMT into CME (83.5% some exposure versus 65.3% no exposure) and more likely to support AOA certification.

differ significantly in residents’ attitudes toward incorporating OMT in CME. In the AOA-approved programs, 30.4% of the DOs indicated that they wanted more CME geared toward OMT, and in the ACGME-accredited programs, 50.9% of the DOs indicated the same.

### Table 3 (continued)

<table>
<thead>
<tr>
<th>Question</th>
<th>Response, No. (%)†</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. To what extent are you interested in learning how to perform OMT?</td>
<td></td>
</tr>
<tr>
<td>□ Very interested</td>
<td>47 (20.3)</td>
</tr>
<tr>
<td>□ Somewhat interested</td>
<td>117 (50.6)</td>
</tr>
<tr>
<td>□ Not interested</td>
<td>67 (29.0)</td>
</tr>
<tr>
<td>7. Should OMT be incorporated into allopathic medical school curricula?</td>
<td></td>
</tr>
<tr>
<td>□ Strongly support</td>
<td>20 (8.7)</td>
</tr>
<tr>
<td>□ Support</td>
<td>78 (33.9)</td>
</tr>
<tr>
<td>□ Neutral</td>
<td>100 (43.5)</td>
</tr>
<tr>
<td>□ Oppose</td>
<td>32 (13.9)</td>
</tr>
<tr>
<td>8. Should OMT be incorporated into allopathic residency program curricula?</td>
<td></td>
</tr>
<tr>
<td>□ Strongly support</td>
<td>22 (9.6)</td>
</tr>
<tr>
<td>□ Support</td>
<td>78 (34.1)</td>
</tr>
<tr>
<td>□ Neutral</td>
<td>98 (42.8)</td>
</tr>
<tr>
<td>□ Oppose</td>
<td>31 (13.9)</td>
</tr>
<tr>
<td>9. Would you be interested in more OMT CME geared towards teaching MDs?</td>
<td></td>
</tr>
<tr>
<td>□ Very interested</td>
<td>64 (27.7)</td>
</tr>
<tr>
<td>□ Somewhat interested</td>
<td>120 (51.9)</td>
</tr>
<tr>
<td>□ Not interested</td>
<td>47 (20.3)</td>
</tr>
<tr>
<td>10. Do you feel the AOA should provide certification recognition of MDs who have tested proficient in the use of OMT?</td>
<td></td>
</tr>
<tr>
<td>□ Strongly support</td>
<td>53 (23.0)</td>
</tr>
<tr>
<td>□ Support</td>
<td>104 (45.2)</td>
</tr>
<tr>
<td>□ Neutral</td>
<td>61 (26.5)</td>
</tr>
<tr>
<td>□ Oppose</td>
<td>12 (5.2)</td>
</tr>
</tbody>
</table>

* All allopathic residents were in family medicine residency programs accredited by the Accreditation Council for Graduate Medical Education (ACGME). AOA indicates American Osteopathic Association; CME, continuing medical education; MDs, allopathic physicians (medical doctors); and OMT, osteopathic manipulative treatment.
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Allopathic Residents in Family Medicine

As with the DO respondents, most of the MD respondents (89.6%) indicated that they believed OMT is at least somewhat effective in treating somatic dysfunction, while far fewer of the MDs (15.5%) supported the effectiveness of OMT for treating patients with systemic illness. Most of the MD respondents expressed interest in learning to perform OMT (20.3% very interested, 50.6% somewhat interested). In addition, 42.6% of the MD respondents supported incorporation of OMT training into the allopathic medical school curricula, with only 13.9% opposed. The MDs indicated support in similar proportions (43.7%) for incorporation of OMT training into allopathic residency training programs. Approximately 80% percent of the participating MDs indicated their interest in receiving OMT training as part of CME. Finally, 68.2% of MD respondents expressed their support for AOA certification of MDs who demonstrate proficiency in the use of OMT. Such certification was opposed by 5.2% of the MDs.
of MD proficiency in OMT (71.8% some exposure versus 55.1% no exposure). However, they were not statistically more likely to endorse the effectiveness of OMT for treating patients with systemic illness (17.1% some exposure versus 9.1% no exposure).

Comment
The results of this survey support our first hypothesis, that osteopathic physicians who receive postdoctoral training outside of traditional osteopathic programs will be less likely to use OMT. This conclusion extends the findings of previous studies by showing that the lower frequency of OMT use by practicing DOs who received their residency training in ACGME-accredited programs is mirrored by differences in OMT use during residency training.

The survey results also suggest that the less frequent use of OMT during ACGME-accredited residency programs results from experiences or influences during residency training—rather than from decisions or expectations formed before residency training. This suggestion, in turn, implies that the less frequent use of OMT by the ACGME residents may be related to environmental barriers to OMT use. For example, ACGME residents were more likely than AOA residents to report inadequate facilities for OMT and lack of skilled OMT mentors. This interpretation is consistent with the findings of Johnson et al, who reported that most of the practicing DOs who responded to their survey believed in the efficacy of OMT and agreed that they were well prepared by their training to diagnose and treat structural problems.

As previously noted, these results argue against the idea that ACGME trainees may become disinclined toward using OMT before residency training begins. Such disinclination might be evidenced by preresidency expectations of ACGME trainees—compared with those of AOA trainees—for less frequent OMT use, by less confidence of ACGME trainees in their OMT skills, or by less belief among ACGME trainees in OMT’s effectiveness. This study, however, found no such differences between the attitudes of AOA and ACGME trainees. Residents in both AOA-approved and ACGME-approved programs indicated high preresidency expectations for OMT use during residency training. Statistically similar proportions of AOA and ACGME trainees expressed confidence in their OMT training and ability. Virtually all AOA and ACGME residents endorsed OMT as an effective treatment modality for somatic dysfunction. Furthermore, there was no significant difference in AOA and ACGME residents’ attitudes regarding the effectiveness of OMT for treating patients with systemic illness.

These findings are not consistent with speculations regarding the role of “allopathic ideologists” in reducing OMT use. Such individuals are sometimes seen by other DOs as not valuing OMT. One might expect that, having attained their credentials as physicians, these individuals would take the opportunity to enroll in ACGME-accredited postdoctoral programs, thereby coming closer to fulfilling their presumed desire to be MDs. If this had indeed been the case, we would have expected to find that ACGME trainees were less likely than AOA trainees to endorse OMT as an effective treatment and that ACGME trainees anticipated less OMT use during residency training. Neither of these expectations is supported by the survey results, however.

Despite the reported difference in OMT use during residency training, residents in AOA-approved and ACGME-accredited programs reported statistically similar expectations for OMT use after residency training. This is an interesting finding that requires further confirmation and elaboration, however, because it is not consistent with the results of other studies, which found less frequent OMT use by DO graduates of ACGME-accredited residency programs. In attempting to reconcile these conflicting results, it might be important to distinguish between those individuals who completed both a residency and an internship—that is, first year of allopathic residency—under ACGME auspices and those who completed an AOA internship followed by an ACGME residency.

It might also be important for future studies, when comparing OMT use among graduates of AOA-approved and ACGME-accredited residency programs, to consider reductions in OMT use that may occur over the course of DOs’ careers. Spaeth and Pheley reported that 40% of the DOs who responded to their 2001 survey admitted to less current use of OMT, compared with OMT use earlier in their practice years.

Perhaps the similar inclinations of AOA and ACGME postdoctoral trainees regarding projected use of OMT during practice are overshadowed by other considerations that come into play during the early years of a physician’s practice. For example, the time limitations and other barriers to OMT use noted by Johnson et al and Johnson and Kurtz may explain much of the real-world difference between residents’ expectations and DOs’ clinical practice.

The results of the current study do not support the idea that differences in OMT use between DOs trained in AOA-approved residency programs and ACGME-accredited residency programs reflect a different distribution of family medicine and specialty medicine trainees in the AOA-approved and ACGME-accredited programs. Residents trained in ACGME-accredited programs in both family and specialty medicine reported less frequent OMT use than their colleagues in AOA-approved family and specialty medicine programs.

The low return rate of the survey among MDs limits firm conclusions about our second hypothesis, that more allopathic graduates are being exposed to OMT by virtue of practicing alongside increasing numbers of osteopathic residents, and that the interest of MDs in learning OMT and using it in their practices is increasing. Nevertheless, to our knowledge, this is the first study to quantify a change in attitude of allopathic medical residents toward a more positive view of osteopathic medicine. Considering the historical rivalry between the AOA and the American Medical Association, it is remarkable that so many new MDs are willing to endorse the effectiveness of OMT for treating somatic dysfunction and that these MDs express interest in learning to treat patients with OMT.
Although the current study cannot directly address issues of causation, it seems reasonable to assume that training alongside osteopathic medical residents is an important contributor to this positive attitude toward OMT among MDs. This interpretation is supported by two related findings of the study. First, MD residents with exposure to OMT were more likely than those without exposure to OMT to endorse OMT effectiveness and to desire OMT training. Second, fellow residents who were DOs were the MD residents’ main source of exposure to OMT.

Therefore, this study suggests that, absent the official hostility toward osteopathic medicine previously emanating from the allopathic medical establishment, exposure to OMT through fellow trainees tends to increase acceptance by MDs of OMT as a treatment option for some medical conditions.

The widespread acceptance among new MDs of OMT as a treatment for some disorders may be seen by some DOs as a welcome and long overdue sign of acceptance of the osteopathic medical profession’s unique contribution to medical practice. However, the desire of MDs for OMT training is likely to be controversial within the osteopathic medical profession. Many DOs might fear that the training of MDs to perform OMT could contribute to the osteopathic medical profession’s loss of distinctiveness and promote further “defections” to the allopathic medical profession. After all, osteopathic and allopathic medical training is already so similar that graduates of both professions can receive postdoctoral training in the same programs.

If significant numbers of MDs begin to treat their patients with OMT, what differences will remain to distinguish DOs from MDs? Why should prospective medical students choose the minority profession (ie, osteopathic medicine) if they can learn the same skills through the majority profession (ie, allopathic medicine)? While some authorities have suggested that osteopathic medicine is distinct from allopathic medicine in its focus on the whole body or on primary care, these are merely differences in degree. Up to now, OMT has been the most unique practice of DOs.

Preserving OMT for use only by DOs may help to maintain a clear distinction between DOs and MDs. However, Mills suggests that the official acceptance of MDs who want to learn OMT would actually strengthen the osteopathic medical profession. She notes that it is entirely reasonable for physicians of any stripe to want to use the best available treatment for their patients and that, if some MDs have come to believe that OMT is the best available treatment, it is unreasonable to deny it to them and their patients. Ironically, as the osteopathic medical profession searches for ways to increase the use of OMT among its own members—who are using manipulation with decreasing frequency—the largest pool of potential new adherents may come from a group of physicians who have spurned its use in the past—MDs.

As is the case with many surveys, the possibility that respondents in the current study are not representative of the populations of resident DOs and MDs cannot be disregarded. The main concern with regard to potential sampling bias in this study is the survey return rate. Although the return rate for DOs, 33.9%, was similar to that for DOs in other, well-regarded studies, including Johnson and Kurtz (33%) and Spaeth and Pheley (38%), the lower return rate for MDs, 16.4%, is of greater concern. In addition, if MDs with a favorable attitude toward OMT were more likely to respond to this survey than were those with unfavorable or neutral attitudes toward OMT, the current study may overestimate the percentage of MDs with favorable attitudes toward OMT. Further research is needed to establish more reliable quantitative estimates regarding these possibilities.

References