

Introducing Osteopathic Medical Education in an Allopathic Residency

Amity Rubeor, DO
Melissa Nothnagle, MD
Julie Scott Taylor, MD, MSc

Background: Osteopathic medical school graduates, who are entering allopathic residencies in increasing numbers, want to maintain their osteopathic manipulative medicine (OMM) skills, but such residency programs do not include osteopathic curricula.

Objectives: To describe the development and implementation of an osteopathic curriculum within an allopathic family medicine residency, and to evaluate the program's success.

Methods: Osteopathic residents, with the assistance of their allopathic faculty, generated the goals, objectives, and implementation strategies for an osteopathic curriculum that consisted of an osteopathic clinic and educational activities. The modified nominal group technique was used to determine the success of the clinic, highlighting its strengths and weaknesses. Success of the educational activities was measured by the American Osteopathic Association's approval of the residents' first year of postgraduate training.

Results: Osteopathic residents, who staffed the clinic, reported maintenance of their OMM skills to be the greatest strength of the clinic and lack of structured didactics to be its greatest weakness. Since the curriculum was introduced in 2004, 3 residents have applied for and received the American Osteopathic Association's approval for training.

Conclusion: In the present study, an osteopathic curriculum was successfully implemented in an allopathic family medicine residency, enabling osteopathic residents to maintain their OMM skills. In addition to exploring the curriculum's impact on allopathic colleagues, further research should investigate whether osteopathic graduates who participate in such a curriculum are more likely to practice OMM after their residency ends.

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From the Department of Family Medicine at the Warren Alpert Medical School of Brown University at Memorial Hospital of Rhode Island in Pawtucket.

Address correspondence to Amity Rubeor, DO, Memorial Hospital of Rhode Island, 111 Brewster St, Pawtucket, RI 02860-4400.

E-mail: amity_rubeor@mhri.org.

Osteopathic medicine's tradition in family medicine is not surprising, considering that the osteopathic principles are very similar to the core values of family medicine. For example, one of the basic principles of osteopathic medicine is that the person is a unit of body, mind, and spirit.¹ Similarly, family medicine aims to "integrate the biological, clinical, and behavioral sciences."² According to the American Osteopathic Association (AOA), the majority of graduates of colleges of osteopathic medicine (COMs) are "family-oriented, primary care physicians."³

As the percentage of allopathic medical school graduates choosing family medicine declines, COM graduates have been increasingly entering allopathic family medicine residency programs.⁴ In 2004 and 2005, more than 12% of all family medicine residents in programs approved by the Accreditation Council for Graduate Medical Education (ACGME) were osteopathic physicians (DOs)—an 8% increase from 1995 and 1996.⁵ Likewise, the percent of COM graduates entering allopathic family medicine residency programs has steadily increased from 15.8% in 1998 to 18.5% in 2005.^{6,7}

However, ACGME-accredited residencies often lack the appropriate faculty, curricula, and resources to enable osteopathic residents to continue practicing osteopathic manipulative medicine (OMM). Allee and colleagues⁸ studied DOs in family medicine residencies and found that respondents anticipated they would practice similar amounts of OMM, regardless of the type of residency program. However, compared with residents from AOA-accredited programs, those in allopathic programs were less likely to exercise "frequent" OMM and reported that they lacked adequate facilities and mentors to effectively practice OMM.⁸

In response to the increasing number of osteopathic graduates attending allopathic residencies, the AOA passed a resolution (Resolution 42 [A/2000]—Approval of ACGME Training as an AOA-Approved Internship) allowing residents who trained in ACGME-accredited postgraduate training programs to apply for AOA approval of their internship or first postgraduate year. As described in the resolution, osteopathic residents who completed allopathic internships before July 1, 2008, are required to participate in at least one osteopathic educational activity, such as attending the AOA Annual Convention and Scientific Seminar or preparing and conducting an osteopathic clinical presentation to the ACGME-accredited program.⁹

In 2004, the ACGME-accredited family medicine residency program at the Warren Alpert Medical School of Brown University in Providence, RI, noted increasing numbers of COM graduates entering their program. Many of these residents and applicants expressed a desire to continue the practice of OMM and identified a need for an osteopathic curriculum. Although the residency administrators decided that dual accreditation was not financially feasible, they wanted to meet the osteopathic residents' educational needs.

In the present study, we describe the development, implementation, and evaluation of an osteopathic curriculum at the Brown Family Medicine Residency Program. Improvements made to the program since the osteopathic curriculum's inception are also described.

Methods

Brown University's family medicine residency is an ACGME-accredited program and the only family medicine residency in Rhode Island.¹⁰ In the 2004-2005 academic year, 8 of 39 residents were osteopathic physicians, 4 of whom were in their first year of postgraduate training. Although two community preceptors were DOs, there was no core osteopathic faculty.

Although many of the osteopathic residents wanted to practice OMM, the community and faculty preceptors were uncomfortable supervising procedures in which they were not trained. Therefore, in the fall of 2004, the residency director and the medical director of the outpatient residency practice identified an osteopathic resident "leader" (A.R.) to explore ways to enable osteopathic residents to practice OMM within the residency practice. The osteopathic resident leader and the other osteopathic residents then identified two primary goals for the project: (1) creating an osteopathic clinic and (2) promoting osteopathic educational activities. The group identified learning goals and objectives and developed interventions to meet those needs, as outlined in the *Figure*.

Creation of the Osteopathic Clinic

In developing the osteopathic clinic, staff had to consider the available resources, from staffing to appropriate equipment. Osteopathic residents and one allopathic resident with previous OMM training comprised the available staff for the clinic. Residents were scheduled to work the OMM clinic two evenings per month in the residency practice. The sessions were scheduled during an existing evening clinic to avoid the need for additional nursing and office staff. The residency had three adjustable tables appropriate for the practice of OMM.

The osteopathic residents identified many of their own patients that could benefit from OMM at the clinic. In fact, even before the osteopathic clinic was finalized, some allopathic residents and faculty began referring patients to the osteopathic residents for OMM consultation. To limit the number of patients presenting to the osteopathic clinic, the osteopathic resident leader provided information on appropriate referrals through written memos to all physicians and

through presentations at monthly practice meetings and at a resident conference. The leader reviewed the referral volume and resident availability and determined that four to six 30-minute appointments would be offered during each session.

Osteopathic Educational Activities

To promote osteopathic educational activities, the residents created an osteopathic interest group, which was open to both osteopathic and allopathic physicians. The objectives of the interest group were to review OMM techniques, discuss osteopathic publications, and allow residents to provide case reports of patients with uncommon or interesting presentations. The 8 osteopathic residents were to collect resources from their Osteopathic Principles and Practice courses, articles from *JAOA—The Journal of the American Osteopathic Association*, and osteopathic textbook chapters for discussion.

Each of these monthly sessions were to include two "educational interventions." First, a resident would present a case and invite the other participants to share techniques that they might use in their approach to the patient. The OMM techniques would have to be supported with the previously described materials. Residents would then discuss a selected journal article or textbook chapter and describe how they intended to incorporate its contents into their practice.

In addition, each osteopathic resident was encouraged to make a formal presentation on osteopathic philosophy and techniques at a residency conference in order to fulfill the AOA's osteopathic educational activity requirement.

Evaluation

The osteopathic clinical experience was evaluated using the modified nominal group technique.¹¹ As described by Dobbie et al,¹¹ this evaluation technique elicits positive and negative feedback from participants in an inclusive and nonjudgmental atmosphere in which each participant contributes equally to the feedback.

The first step in the process is to present evaluation questions to the respondents—in this case, the osteopathic residents. The following two questions were used to elicit feedback on our curriculum: (1) What are the strengths of the osteopathic clinic? And (2) what are the clinic's weaknesses or your suggestions for improvement? Second, each group member silently wrote down their five personal responses to each question. Third, with the whole group, the items were pooled, clarified, and edited into themes, with the most popular items listed first. Then, from the pooled list, each group member ranked their top responses. In the present study, participants were asked to rank their top five items, awarding 5 points to the most important item, 4 points to the next, and so forth down to one. Finally, points were tallied, resulting in a rank-ordered, weighted list of the group's collective opinions.

Success of the educational activities was based on whether osteopathic residents were able to obtain AOA approval of their first postgraduate year.

Goals	Objectives	Implementation	Evaluation
■ Create an osteopathic clinic	<input type="checkbox"/> Improve OMM skills of osteopathic residents <input type="checkbox"/> Offer an alternative treatment option to patients	<input type="checkbox"/> Recruit osteopathic preceptors <input type="checkbox"/> Educate colleagues about OMM referrals	<input type="checkbox"/> Modified nominal group technique
■ Promote osteopathic educational activities	<input type="checkbox"/> Improve osteopathic residents' knowledge of OMM techniques <input type="checkbox"/> Facilitate AOA approval of osteopathic residents' first postgraduate year	<input type="checkbox"/> Collect osteopathic educational resources <input type="checkbox"/> Discuss osteopathic publications and patient cases <input type="checkbox"/> Make formal didactic presentations on osteopathic medicine	<input type="checkbox"/> AOA approval of first postgraduate year

Figure. Framework for the development of an osteopathic curriculum at the family medicine residency program at Warren Alpert Medical School of Brown University in Providence, RI. **Abbreviations:** AOA, American Osteopathic Association; OMM, osteopathic manipulative medicine.

Results

Osteopathic Clinic

The clinic was implemented in August 2004 and has since occurred once every 2 weeks. A month before the first clinic session, the osteopathic resident leader approached two community osteopathic preceptors, who both agreed to precept once or twice a month on a volunteer basis. Each session has been staffed by at least 2 osteopathic residents and 1 osteopathic preceptor, treating up to 6 patients in a 2.5 hour session.

In April 2005, 5 of the 7 osteopathic residents who participated in the clinic took part in a 3-hour evaluation session. The resident leader served as the facilitator for the group discussion but did not contribute answers. Using the modified nominal group technique previously described, the osteopathic residents identified 10 strengths and 8 weaknesses (Table). The top three strengths of the clinic were (1) maintaining OMM skills, (2) benefits to patients, and (3) integration of OMM. The top three weaknesses were (1) need for more structured didactics, (2) lack of compensation for their time, and (3) need for more varied preceptors.

Osteopathic Educational Activities

All osteopathic and allopathic residents were invited to an osteopathic interest group meeting, at which 3 residents—2 osteopathic and 1 allopathic—participated. No additional group meetings were held. However, 3 osteopathic residents presented osteopathic topics during residency conferences.

Between 2004 and 2006, 4 osteopathic residents graduated from the residency program. Of the 3 osteopathic residents who presented osteopathic topics, 2 applied for and received AOA approval of their first postgraduate year. The other 2 first-year osteopathic residents did not apply for AOA approval

because they did not intend to practice in states that require it for osteopathic medical licensure.

Comment

As noted by Burkhardt and Lischka,¹² AOA-approved internships and residencies have made modest gains in the number of osteopathic graduates entering their programs. However, nearly half of osteopathic graduates enter ACGME-accredited programs.¹² Factors such as location, curriculum, and reputation may be just a few of the reasons some COM graduates opt to participate in ACGME programs.

Dually accredited residencies (ie, programs accredited by both the AOA and the ACGME) can take advantage of the resources of their Osteopathic Postdoctoral Training Institutions when creating osteopathic curricula, and affiliation with a COM provides osteopathic faculty for didactics and precepting. However, allopathic residencies such as the one at Brown University may not seek dual accreditation. Potential barriers for such residency programs include accreditation fees, administration burden, and a lack of osteopathic faculty to meet the requirements of the AOA Program and Trainee Review Committee.¹³

Although the small population size limits the strength of the present study's results, an osteopathic curriculum was successfully implemented into an allopathic family medicine residency, enabling osteopathic residents to maintain and develop their practice of OMM. In fact, the participants rated the maintenance of their OMM skills to be the clinic's greatest strength, thereby meeting one of the curriculum's key objectives.

Allee and colleagues⁸ suggest that osteopathic residents training in allopathic programs are less likely to practice frequent OMM because they lack adequate osteopathic mentors and equipment. By providing resources for osteopathic resi-

Table
Osteopathic Clinic Program in an Allopathic Residency:
Evaluation by Osteopathic Residents
Using the Modified Nominal Group Technique (n=5)

Osteopathic Clinic Evaluation	Total Points*
■ Strengths	
□ Maintaining OMM skills	20
□ Benefits to patients	18
□ Integration of OMM	12
□ Camaraderie with other DOs	7
□ Focused OMM care	5
□ Help toward AOA certification	4
□ Learning OMM coding	3
□ Working with DO preceptors	3
□ Broadening OMM skills	2
□ Fun	1
■ Weaknesses†	
□ Need more structured didactics	22
□ Lack of compensation time	19
□ Need for more varied preceptors	9
□ Too many "no show" appointments	8
□ Need for standardized notes or electronic medical record template	7
□ Need better tables	5
□ Inappropriate referrals	3
□ Lack of knowledge about billing for OMT services	3

* Each participant chose the clinic's top five strengths and weaknesses and rated them in order of greatest (score of 5), second greatest (score of 4), and so on. Therefore, 25 points was the maximum any strength or weakness could receive.

† Participants were asked to either identify weaknesses of the clinic or make suggestions for improvements.

Abbreviations: AOA, American Osteopathic Association; DO, osteopathic physician; OMM, osteopathic manipulative medicine; OMT, osteopathic manipulative treatment.

dents to practice OMM, we facilitated the integration of OMM into their practice. In fact, several allopathic faculty expressed interest in attending osteopathic skills courses. In the future, we hope to collaborate with DO instructors to provide a course for our allopathic faculty and residents, after which they could precept or practice within the osteopathic clinic.

By contrast, osteopathic residents identified the lack of structured osteopathic didactics as the greatest weakness of the osteopathic program. This weakness can be attributed to the fact that the osteopathic interest group, who met in the evening so as to not conflict with required residency activities, did not receive compensation for their extra time commitment. As a result, the group did not meet again after the first session. To address this problem, the group meetings have been replaced by quarterly osteopathic presentations by DO faculty. These presentations have since been incorporated into the weekly residency conference series. Not only do these presentations pro-

vide ongoing education for osteopathic residents, they also introduce osteopathic concepts and basic techniques to allopathic residents and faculty.

In the 4 years of its existence, the clinic has met some difficulties in staffing both residents and preceptors. Although work hour restrictions of the clinic were never broken, many residents had difficulty making additional time within their schedules, which were already booked with continuity practice and required rotations. In addition, one of the two community preceptors had difficulty taking time out of private practice to precept every month.

Recently, positive changes have been made that address these issues and contribute to the sustainability of the program. First, the osteopathic resident leader successfully negotiated with the program director for compensation time. Now, when the residents work two osteopathic clinical sessions, they receive a half-day off that can be taken when their schedule permits. Second, the original osteopathic resident leader began working as residency faculty in July 2007, providing more dedicated precepting time for the OMM clinic and permitting integration of OMM when supervising residents in their continuity practices.

Despite the difficulties that occurred in establishing formal osteopathic educational opportunities, 3 residents received AOA approval of their internship. Although it is impossible to draw definite conclusions based on these minimal data, particularly considering that fewer than 1% of applicants have been denied training approval by the AOA,¹² their formal presentations to the residency on osteopathic philosophy and techniques likely helped the residents meet the necessary AOA educational activity requirement.

Effective July 1, 2008, requirements for AOA approval of the first postgraduate year will be more stringent. Electives or training modules and AOA conference attendance are now required in addition to educational presentations on osteopathic medicine.¹⁴ As a result, the curriculum described in the present study will need to adapt to these changes to ensure residents' continued success in obtaining AOA approval for first year of postgraduate training.

Johnson and colleagues¹⁵ described a model osteopathic curriculum for ACGME-accredited residencies applying—or considering applying—for AOA accreditation. This model included monthly or bimonthly didactics, osteopathic patient care integrated into resident schedules, and elective OMM rotations. Based on our experience, a bimonthly osteopathic clinic can be created in any allopathic residency with at least two dedicated osteopathic preceptors from the community, adjusted clinical time for the osteopathic residents, and the necessary equipment and resources (eg, treatment tables). Didactic time can be focused on areas of interest elicited from the osteopathic residents.¹⁵

In 2007, the total number of osteopathic graduates exceeded 3000 for the first time.¹² With new COMs and increased enrollment at several existing COMs, the number of osteopathic grad-

uates will only continue to increase. However, it remains to be seen whether COM graduates will opt for osteopathic or allopathic family medicine residencies in the coming years, particularly with the implementation of the restructured traditional osteopathic internship that went into effect in July.¹²

Conclusion

As indicated in the present study, an osteopathic clinic staffed by osteopathic residents and at least two preceptors can be a simple and sustainable way to allow osteopathic residents to maintain and further develop their osteopathic skills within the context of their required residency curriculum. Further research should address the long-term effects of such a program, both on COM graduates' continued use of OMM and the influence of an osteopathic curriculum on allopathic colleagues.

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