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Attitudes of Family Medicine Program Directors Toward Osteopathic Residents Under the Single Accreditation System

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Background: Between 2015 and 2020, residency programs accredited through the American Osteopathic Association (AOA) are preparing the single graduate medical education (GME) system through the Accreditation Council for Graduate Medical Education (ACGME).

Objectives: (1) To assess the attitudes of family medicine program directors in programs accredited dually by the AOA and ACGME (AOA/ACGME) or ACGME only toward the clinical and academic preparedness of osteopathic residency candidates and (2) to determine program director attitudes toward the perceived value of osteopathic-focused education, including osteopathic manipulative treatment (OMT) curricula.

Methods: A survey was sent to program directors of AOA/ACGME and ACGME-only accredited family medicine residency programs. Items concerned program directors' perception of the academic and clinical strength of osteopathic residents at the onset of residency, the presence of osteopathic faculty and residents currently in the program, and the presence of formal curricula for teaching OMT. The perceived value of osteopathic focus was obtained through a composite score of 5 items.

Results: A total of 38 AOA/ACGME family medicine residency program directors (17%) and 211 ACGME family medicine residency program directors (45.6%) completed the survey (N=249). No difference was found in the ranking of the perceived clinical preparation of osteopathic residents vs allopathic residents in programs with and without OMT curricula ($P=.054$). Directors of programs with OMT curricula perceived the academic preparation of their osteopathic residents vs allopathic residents more highly than those without OMT curricula ($P=.039$). Directors of AOA/ACGME programs perceived both the academic preparation and clinical preparation of their osteopathic residents more highly than those at ACGME-only programs ($P=.004$ and $P=.002$, respectively).

Conclusion: Directors of AOA/ACGME programs, as well as those whose programs have an osteopathic focus in curricular offerings, were more likely to rank the academic preparation of osteopathic residents higher than directors of ACGME-only programs and those without OMT curricula. Further research is needed to determine the value of osteopathic recognition in attracting strong family medicine residency candidates.

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In February 2014, the Accreditation Council for Graduate Medical Education (ACGME), the American Osteopathic Association (AOA), and the American Association of Colleges of Osteopathic Medicine (AACOM) announced an agreement to pursue a single graduate medical education (GME) accreditation system.¹ The agreement was intended to provide consistent evaluation and accountability among residency programs, eliminate unnecessary duplication and cost, and provide enhanced opportunities for trainees.² In 2015, residency programs became eligible to apply for osteopathic recognition through the ACGME.³ Osteopathic recognition allows traditional osteopathic residency programs and current dually accredited programs (accredited by the AOA and the ACGME [AOA/ACGME]) to maintain their osteopathic identity as they assimilate into ACGME standards.² As of February 27, 2017, 440 AOA programs have applied for ACGME accreditation, and 146 have achieved initial accreditation.⁴ Two hundred ninety-four programs are in the preaccreditation process.⁴ Additionally, osteopathic recognition can be an avenue by which current ACGME residency programs seek to expand the attractiveness of their program to strong osteopathic candidates.

Maintaining osteopathic distinctiveness through osteopathic recognition and osteopathic-focused curricula during this transition to a single GME accreditation system is important for the profession.⁵ A prominent aspect of osteopathic distinctiveness is an enhanced focus on musculoskeletal diagnostic skills, including the performance of osteopathic manipulative treatment (OMT).⁶⁻¹⁰ Graduating osteopathic medical students and residents in allopathic (ie, MD) settings may lack confidence in managing musculoskeletal complaints with osteopathic manipulative medicine and desire more instruction in OMT techniques.^{11,12} The single accreditation system allows the potential for allopathic residents and faculty to enhance their musculoskeletal diagnostic and treatment skills through exposure to osteopathic-focused faculty and residents.

Osteopathic recognition is intended to preserve the ability of osteopathic (ie, DO) residents to use their unique osteopathic training. An unintended consequence

of osteopathic medical students and residents training in an allopathic environment is the decreasing number of practicing DOs who use OMT in their practice.⁶ Osteopathic residents are less likely to use OMT when they are trained in allopathic institutions without DO mentors.¹³ More than 93% of osteopathic medical students express interest in OMT; however, most practicing DOs report using OMT less than 5% of the time.¹⁴ At least 25% of practicing DOs report no use of OMT at all.¹⁴ The more recent the date of graduation from a college of osteopathic medicine (COM), the lower the reported use of OMT.¹⁴ Despite these statistics, DO residents in programs with training in OMT have expressed an intent to use it in their practice. Findings from a 2012 survey of 29 DO residents in an AOA/ACGME residency program showed that most planned to practice OMT upon graduation and considered the osteopathic curriculum to be a strength of the program.¹⁵

As the single GME accreditation system moves forward, questions arise regarding the desirability of DO residents to ACGME program directors (of AOA/ACGME and ACGME-only programs), as well as the desirability of seeking osteopathic recognition. A 2015 survey by AACOM revealed that 70.6% of the third-year students surveyed answered “yes” to the question “Would an ACGME-accredited program with osteopathic recognition be more appealing to you than an ACGME-accredited program without osteopathic recognition?”¹⁶ To our knowledge, no literature has been published regarding the desirability of recruiting osteopathic candidates to an ACGME-only family medicine residency program. Additionally, no data seem to exist regarding attitudes among ACGME-only family medicine program directors toward the perceived value of an OMT curriculum or the perceived value of seeking osteopathic recognition.

The current study was intended to provide baseline knowledge that could inform program directors as they seek to attract desirable family medicine residency candidates in the single GME accreditation system. The objective of the study was to assess the attitudes of family medicine program directors toward the clinical and academic preparedness of osteopathic residency candidates at

the start of their residency program and toward the perceived value of osteopathic-focused training. We hypothesized that program directors whose programs had formal osteopathic curricula would rate their DO residents higher academically and clinically than those whose programs did not have formal osteopathic curricula.

Methods

A survey developed to assess the attitudes of the family medicine residency program directors toward osteopathic training was included in the 2015 Council of Academic Family Medicine Educational Research Alliance (CERA) survey of family medicine residency program directors. This survey was an annual omnibus survey sent to all ACGME family medicine residency program directors. Osteopathic-focused demographics included whether the program was dually accredited (AOA/ACGME), whether the respondent was an MD or DO, the ratio of DO residents in the program, the ratio of DO faculty in the program, the number of faculty who practiced OMT, the intention of the program to apply for osteopathic recognition status, and the presence of formal curricula for teaching OMT to residents. Program director perception of clinical and academic preparedness of DO vs MD residents at the initiation of training was measured by 2 items. The first question asked the program directors to rank their DO residents compared with MD residents clinically as comparable, more prepared, or less prepared at the onset of residency training. There was an answer choice for residency programs with only MD or only DO residents in the program, indicating that a comparison could not be reliably made. The second question similarly asked the program directors to academically rank their DO residents compared with MD residents at the onset of residency training. A perceived value of osteopathic focus was obtained via a composite score of 5 items, presented in *Table 1*.

Program directors completing the survey were not required to respond to all items. The survey assessing attitudes toward osteopathic training was provided to the American College of Osteopathic Family Physicians

(ACOFPP) office. The ACOFP sent this survey to family medicine program directors accredited by the AOA (either AOA only or AOA/ACGME). Program directors of AOA/ACGME programs who had completed the CERA study were asked not to complete the ACOFP-initiated survey. The surveys were open between December 14, 2015, and February 1, 2016, with 3 reminder e-mails sent out before the surveys closed. The CERA study received institutional review board approval through the American Academy of Family Physicians. The ACOFP study received institutional review board approval through the University of Missouri–Kansas City.

The perceived value of osteopathic-focused curricula that included OMT was determined from a composite score computed as a mean of 5 items (*Table 1*). All items were ranked on a Likert scale, with 1 indicating strongly agree and 5, strongly disagree. An internal estimate of reliability (Cronbach α) was computed to ensure appropriateness for using the composite score ($\alpha=.73$).

Statistical Analysis

Descriptive statistics (frequencies and proportions) and χ^2 analyses were generated to compare categorical responses between directors of different program categories and their rating of resident clinical and academic preparation at the beginning of their residency programs. Program categories included comparing programs with formal OMT curricula with programs without formal OMT curricula, and programs accredited by the AOA vs those solely accredited by the ACGME. An internal consistency estimate of reliability was obtained to create the composite scale on the perceived value of osteopathic-focused education to program directors. An independent t test was used to compare the composite scale scores between programs that were AOA or AOA/ACGME vs ACGME-only programs.

Results

An overall response rate of 36.3% (249 of 686) was achieved. Of 223 AOA-accredited family medicine residency program directors surveyed, 38 completed a

Table 1.
Program Directors' Perceived Value of Osteopathic-Focused Education^a

Survey Item ^b	AOA or AOA/ACGME Accreditation	ACGME-Only Accreditation
Osteopathic recognition status would benefit my residency program	2.0 (1.0-3.0)	2.0 (1.0-2.0) ^c
Attracting candidates committed to practicing osteopathic medicine is a high priority	1.0 (1.0-2.0)	3.0 (2.0-4.0)
Osteopathic candidates are interested in maintaining OMT skills	1.5 (1.0-2.0)	2.0 (2.0-3.0)
Faculty and residents are open to referring patients for OMT	1.0 (1.0-2.0)	2.0 (1.0-2.0)
OMT curriculum benefits allopathic residents	1.5 (1.0-2.0)	2.0 (1.0-3.0)
Composite score, mean (SD)	1.7 (0.5)	2.5 (0.7)

^a Data are given as median (interquartile range) unless otherwise indicated.

^b Response options were ranked on a 5-point Likert scale, where 1 indicated strongly agree and 5, strongly disagree.

^c Item not answered by all respondents.

Abbreviations: ACGME, Accreditation Council for Graduate Medical Education; AOA, American Osteopathic Association; OMT, osteopathic manipulative treatment.

survey similar to CERA, sent through the ACOFP, and of 463 ACGME family medicine residency program directors surveyed, 211 (45.6%) completed the CERA survey.

Table 2 presents the demographics of the survey respondents. Of the 249 program directors, 154 (61.8%) were from university-affiliated community-based hospitals. One hundred seventy-six programs (70.7%) served communities with a population of less than 500,000. The mean number of years the program had been training residents was 31. With respect to characteristics of program directors, 98 (39.4%) were women and 49 (19.7%) were DOs. Residency programs with formal OMT curricula had a significantly higher mean percentage of DO residents than residency programs with no OMT curricula (49.4% vs 15.7%, respectively; $P<.001$).

Table 3 presents the responses of program directors who reported having formal OMT curricula compared with programs without formal OMT curricula. Program directors who reported the presence of formal OMT curricula rated their DO residents significantly higher academically ($P=.039$) than program directors without OMT curricula. More than half of directors of programs

with and without OMT curricula ranked their DO residents as academically comparable to MD residents at the start of their residency training. A greater proportion of directors of programs with formal OMT curricula (12 [11%]) responded that their DO residents were better prepared academically than MD residents, compared with directors of programs without OMT curricula (4 [3%]). Thirty-two (24%) directors of programs without formal OMT curricula ranked the DO residents as less academically prepared vs MD residents at the start of residency vs 20 (18%) directors of programs with formal OMT curricula.

With respect to perceived clinical preparedness, no difference was found in the clinical rating of DO residents compared with MD residents by directors of residencies with and without formal OMT curricula ($P=.054$). Overall, DO residents were rated similarly as MD residents with respect to their clinical preparation at the beginning of their residencies (Table 3).

When responses were compared between AOA/ACGME programs vs ACGME-only programs, greater differences were observed. More directors of AOA/

Table 2.
Survey of Program Directors Regarding Attitudes Toward Osteopathic
Residency Candidates: Characteristics of Programs and Respondents^a

Characteristics	AOA or AOA/ACGME Accreditation (n=62)	ACGME-Only Accreditation (n=187)
Program		
Type of program		
University based	5 (8.1)	34 (18.2)
Community based, university affiliated	40 (64.5)	114 (61.0)
Community based, nonaffiliated	15 (24.2)	32 (17.1)
Military	2 (3.2)	7 (3.7)
Community population size		
≤30,000	2 (3.2)	14 (7.5)
30,000-74,999	20 (32.3)	29 (15.5)
75,000-149,999	12 (19.4)	32 (17.1)
150,000-499,999	18 (29.0)	49 (26.2)
500,000-1,000,000	3 (4.8)	32 (17.1)
>1,000,000	7 (11.3)	27 (14.4)
Missing data	NA	4 (2.1)
Proportion non-US medically trained		
24 or less	31 (50)	116 (62.0)
25-49	17 (27.4)	23 (12.3)
50-74	8 (12.9)	20 (10.7)
75-100	5 (8.1)	27 (14.4)
No. of years training residents, mean (SD)	31.4 (14.5)	31.0 (15.6)
Program Director		
Sex		
Female	19 (30.6)	79 (42.2)
Male	43 (69.4)	108 (57.8)
Professional degree		
DO	25 (40.3)	24 (12.8)
MD	37 (59.7)	163 (87.2)
Years as program director		
Mean (SD)	6.1 (5.2)	6.4 (6.0)
Median (interquartile range)	5.0 (2.0-8.0)	4.5 (2.0-9.0)

^a Data are given as No. (%) unless otherwise indicated.

Abbreviations: ACGME, Accreditation Council for Graduate Medical Education; AOA, American Osteopathic Association; DO, doctor of osteopathic medicine; MD, doctor of medicine; NA, not applicable.

Table 3.
Program Director Perception of DO Preparedness:
Programs With vs Without Formal OMT Curricula^a

Perception	Formal OMT Curricula (110 programs)	No Formal OMT Curricula (135 programs)
Academic		
DOs are comparable to MDs	59 (54)	71 (52)
DOs are more prepared	12 (12)	4 (3)
DOs are less prepared	20 (18)	32 (24)
Program has only MDs or only DOs	19 (17)	28 (21)
Clinical		
DOs are comparable to MDs	54 (49)	74 (55)
DOs are more prepared	16 (15)	6 (4)
DOs are less prepared	23 (21)	27 (20)
Program has only MDs or only DOs	19 (17)	28 (21)

^a Data are given as No. (%).

Abbreviations: DO, doctor of osteopathic medicine; MD, doctor of medicine; OMT, osteopathic manipulative treatment.

ACGME programs perceived their DO residents vs MD residents as being better academically prepared at the onset of training ($P=.004$) compared with directors of ACGME-only programs. One hundred seventeen (64%) directors of programs containing both DO residents and MD residents, with AOA/ACGME or ACGME-only accreditation, viewed DO residents and MD residents as academically comparable at the onset of training. Eight (17%) vs 6 (5%) directors viewed DO residents as more academically prepared, and 9 (19%) vs 43 (29%) viewed their DO residents as less academically prepared (*Table 4*). Eighty-nine (65%) ACGME-only programs perceived equity in academic and clinical preparedness of DO residents at the start of residency, 40 (29%) perceived DO residents to be less clinically prepared, and 43 (32%) perceived DO residents to be less academically prepared. Directors of AOA/ACGME programs perceived their DO residents as being more clinically prepared ($P=.002$) than direc-

tors of ACGME-only programs (*Table 4*). One hundred eighteen (64%) directors with both DO residents and MD residents in their programs viewed DO and MD residents as clinically comparable at the start of residency. Ten directors of AOA/ACGME programs (21%) vs 7 directors of ACGME-only programs (4%) viewed their DO residents as more clinically prepared. Eight (17%) vs 40 (29%), respectively, viewed their DO residents as less clinically prepared.

Program directors generally had positive attitudes toward the value of osteopathic-focused curricula regardless of AOA accreditation status. Comparison of the mean composite scores showed that directors of AOA or AOA/ACGME programs rated the value of osteopathic-focused curricula significantly higher compared with directors of ACGME-only programs. When comparing the composite score that measured the relative value of osteopathic-focused curricula, directors of AOA/ACGME programs had a mean (SD) score of 1.7 (0.5) vs

Table 4.
Program Directors' Perceptions of DO Preparedness:
Programs With Dual AOA/ACGME vs ACGME-Only Accreditation^a

Perception	AOA/ACGME Accreditation (47 programs)	ACGME-Only Accreditation (163 programs ^b)
Academic		
DOs are comparable to MDs	30 (64)	87 (64)
DOs are more prepared	8 (17)	6 (4)
DOs are less prepared	9 (19)	43 (32)
Clinical		
DOs are comparable to MDs	29 (62)	89 (65)
DOs are more prepared	10 (21)	7 (5)
DOs are less prepared	8 (17)	40 (29)

^a Data are given as No. (%).

^b 27 programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) had only MD trainees.

Abbreviations: AOA, American Osteopathic Association; DO, doctor of osteopathic medicine; MD, doctor of medicine.

directors of ACGME-only programs had a mean (SD) score of 2.5 [0.7] ($P < .001$).

Of the 249 program directors who responded to the items addressing the perceived value of osteopathic-focused curricula, 49 were DOs and 200 were MDs. All 249 directors responded to at least 4 of the 5 items. Fifty-four of the 200 MD program directors (27%) and 46 of 49 DO program directors (94%) responded to the statement “osteopathic recognition status would benefit my residency program.” There was a greater reluctance among MD program directors to respond to the statement about osteopathic recognition status.

With regard to plans for applying for osteopathic recognition, 4 (6%) of AOA-only or AOA/ACGME programs and 6 (3%) of ACGME-only programs were not aware of osteopathic recognition ($P < .001$). Fifty-five (89%) directors from AOA or AOA/ACGME programs reported plans to apply in the future compared with 42 (23%) program directors from programs with ACGME only. Three (5%) directors of AOA/ACGME programs reported no plans to apply vs 139 (74%) directors of ACGME-only programs.

Discussion

The single GME accreditation system is a testament to the comparability of training in osteopathic and allopathic institutions and the compatibility of DO and MD residents within training institutions.² However, research has been limited regarding the ability of residency programs to maintain osteopathic distinctiveness. The 114 current AOA/ACGME family medicine residency programs¹⁷ demonstrate that residency programs with an osteopathic component function well within the ACGME system. Additionally, the effort these programs undertake each year to participate in both the AOA and the ACGME matches, and the cost and effort required to maintain dual accreditation confirm that osteopathic graduates are desired by allopathic family medicine residency programs.¹⁷ The AACOM 2015 survey of third-year osteopathic medical students revealed that 666 respondents (70.6%) found programs with osteopathic recognition appealing, confirming that osteopathic medical students overwhelmingly value seeking programs with osteopathic recognition.¹⁶ The results of the current study demonstrate that program directors

of AOA/ACGME programs perceived the academic and clinical preparedness of osteopathic residents at the start of training to be greater than the perceptions of program directors of ACGME-only programs.

We hypothesized that directors of programs with osteopathic curricula would perceive their DO residents higher academically and clinically than directors of programs without osteopathic curricula. Directors of programs with osteopathic curricula ranked their DO residents higher academically than did directors of programs without an osteopathic focus, but clinical ranking did not achieve statistical significance. This finding could indicate that MD program directors in family medicine generally perceive the clinical ability of their DO counterparts as comparable but believe that the academic training in COMs is inferior to training in allopathic medical schools. These numbers challenge our COMs to continue to work to prove the equity of osteopathic training to allopathic training.

Overall, both DO and MD program directors perceived value in implementing an osteopathic-focused curricula. An osteopathic-focused curricula in hospitals employing and training osteopathic physicians may benefit allopathic trainees and physicians as well as their osteopathic counterparts. In osteopathic-focused settings, allopathic medical students can be exposed to mentors with a strong musculoskeletal focus. Allopathic physicians may develop more favorable attitudes toward OMT and the osteopathic medical profession in a mixed-staff setting,^{14,18} learning to recognize OMT as a viable treatment option. Programs obtaining osteopathic recognition will serve as a source for osteopathic mentorship of students and residents, which is desirable to osteopathic medical students training in an allopathic setting.^{19,20} More widely available osteopathic-focused training is needed to meet the demand for physicians with training in osteopathic techniques.

The item regarding whether or not the program would seek osteopathic recognition was answered by the fewest program directors. The lack of response could indicate several possibilities. The MD program directors may have believed that the item did not per-

tain to them and therefore did not answer it. The programs may have been undecided, which was not outlined clearly as an answer choice option (“neutral” was a choice, “undecided” was not). Reluctance to answer may be a reflection of discomfort with the unknowns going forward in a single GME accreditation system. Although the response rate from the ACGME-only programs with regard to intent to apply for osteopathic recognition in 2015-2016 was low, it is encouraging that a number of these program directors perceived value in pursuing osteopathic recognition.

Limitations of the current study include a low response rate. Therefore, our results may not be generalizable to the US population of family medicine program directors. The low response rate to the item regarding the intention to seek osteopathic recognition limits the validity and generalizability of this item. An objective measure of the academic and clinical background of the residents was not obtained. Another potential limitation is the inherent bias introduced by surveys.

Future directions could include a follow-up study of program directors after the accreditation merger is complete. Further research is needed to determine whether academically strong osteopathic medical students will be preferentially attracted to residency programs that achieve osteopathic recognition or offer an osteopathic-focused curriculum track.

Conclusion

Directors of programs with OMT curricula ranked the initial academic preparation of DO residents higher than directors of programs without OMT curricula. No difference was found between the perceived clinical preparedness of DO candidates vs MD candidates overall. Program directors of AOA/ACGME programs rated the clinical preparedness of their DO residents more highly than directors of ACGME-only programs. Further research is needed to determine the value of osteopathic recognition in attracting the strongest, most academically and clinically desirable family medicine residency candidates.

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