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AOA ophthalmology and otolaryngology program closures as a model to highlight challenges of maintaining GME in high need areas

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Abstract

Context: While 90% of former American Osteopathic Association (AOA) residency programs transitioned to Accreditation Council for Graduate Medical Education (ACGME) accreditation, surgical subspecialty programs such as ear, nose, and throat (ENT, 62%) and ophthalmology (47%) struggled to gain accreditation. Doctors of Osteopathic Medicine (DOs) actively participate in serving underserved communities, and the loss of AOA surgical specialty programs may decrease access to surgical care in rural and nonmetropolitan areas.

Objectives: To determine the challenges faced by former AOA-accredited surgical subspecialty programs during the transition to ACGME accreditation, particularly ENT and ophthalmology programs in underresourced settings.

Methods: A directory of former AOA ENT and Ophthalmology programs was obtained from the American Osteopathic Colleges of Ophthalmology and Otolaryngology-Head and Neck Surgery (AOCOO-HNS). A secured survey was sent out to 16 eligible ENT and ophthalmology program directors (PDs). The survey contained both quantitative and qualitative aspects to help assess why these programs did not pursue or failed to receive ACGME accreditation.

Results: Twelve of 16 eligible programs responded, comprising six ophthalmology and six ENT PDs. Among the respondents, 83% did not pursue accreditation

(6 ophthalmology and 4 ENT programs), and 17% were unsuccessful in achieving accreditation despite pursuing accreditation (2 ENT programs). Across 12 respondents, 7 (58%) cited a lack of hospital/administrative support and 5 (42%) cited excessive costs and lack of faculty support as reasons for not pursuing or obtaining ACGME accreditation.

Conclusions: The survey results reflect financial issues associated with rural hospitals. A lack of hospital/administrative support and excessive costs to transition to the ACGME were key drivers in closures of AOA surgical specialty programs. In light of these results, we have four recommendations for various stakeholders, including PDs, Designated Institutional Officials, hospital Chief Medical Officers, and health policy experts. These recommendations include expanding Teaching Health Center Graduate Medical Education to surgical subspecialties, identifying and learning from surgical fields such as urology that fared well during the transition to ACGME, addressing the lack of institutional commitment and the prohibitive costs of maintaining ACGME-accredited subspecialty programs in underresourced settings, and reconsidering the Centers for Medicare & Medicaid Services (CMS) pool approach to physician reimbursement.

Keywords: health policy; ophthalmology; single accreditation.

In 2014, the American Osteopathic Association (AOA), the American Association of Colleges of Osteopathic Medicine (AACOM), and the Accreditation Council for Graduate Medical Education (ACGME) announced plans to institute a single accreditation system (SAS) to oversee both allopathic and osteopathic residency programs under the ACGME by July 1, 2020. The premise of the SAS was to promote and improve health and health delivery for the public by enhancing the quality and consistency of medical education, reducing costs, and increasing collaboration opportunities between allopathic and osteopathic physicians [1, 2].

When single accreditation began in 2014, it was recognized that many former AOA programs were in

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community settings and not academic health centers [3]. Faculty size and research development were not priorities for AOA programs, with the overall costs to maintain many AOA programs being less relative to costs associated with ACGME programs [4]. Meeting faculty, staff, resident size, infrastructure, and curriculum requirements of the ACGME were expected to be significant barriers for AOA programs making the transition [3], yet by early 2020, nearly 90% of programs transitioned successfully [5]. For surgical programs, however, the transition was far more difficult. Only 47% of the ophthalmology programs, or 7 out of 15, and 62% of the otolaryngology (ENT) programs, or 13 out of 21 programs, transitioned [6]. Without ACGME accreditation, these 16 AOA programs will be shut down, potentially reducing the number of Doctor of Osteopathic Medicine (DO) surgical subspecialists in the workforce [7, 8]. Combining 2005 master files from the American Medical Association (AMA) and the AOA, Fordyce et al. [9] stratified 559,709 clinically active primary care physicians (95.1% MDs and 4.9% DOs under the age of 70) based on zip codes and Rural-Urban Commuting Area (RUCA). Although DOs made up just 4.9% of the studied physicians, they represented 10.4% of all rural primary care physicians and 14.5% of primary care physicians in isolated small rural areas, whereas MDs (95.1%) made up 38.5% of all rural primary care physicians and 24.3% of primary care physicians in isolated small rural areas. These results highlight that DO primary care physicians are more likely to serve in smaller communities and rural areas than their allopathic counterparts. Several studies have shown that DO ENTs and ophthalmologists also follow similar practice patterns [7, 8]. In an analysis by Griffith et al. [7] of 284 ENTs, 16.2% (46) DOs, and 83.8% (238) MDs, 70% (32) DO ENTs practiced in locations with a population of less than 49,999 compared with 49.6% (118) MD ENTs ($p = 0.012$). In rural areas with a population of fewer than 2,500, the presence of DO ENTs was 6.5% (3) vs. 2.9% (7) MD ENTs. Another study by Ahmed et al. [8] of 643 ophthalmologists (13.2% [85] DOs and 86.8% [558] MDs) further demonstrated DO specialists' commitment to smaller communities, revealing that 67% (57) of practicing DO ophthalmologists practiced in communities with populations less than 49,999 compared to 37% (187) MD ophthalmologists ($p < 0.1$). The active participation of DOs in rural healthcare addresses and mitigates existing physician shortages in underserved areas across the United States.

Physicians practicing in high-need areas are critical, because a significant aspect of our national physician shortage is related to regional distribution issues [10]. The closure of nearly 30% of the 132 AOA training programs in rural locations during the ACGME single accreditation

process presents a greater challenge to increase access to healthcare services [11]. Analysis utilizing 2013–2017 data from the Department of Health and Human Services (HHS) showed that 3% (64) of all rural hospitals were closed, doubling the number of closures in previous years [12]. Follow-up interviews with stakeholders and documents from HHS revealed financial distress as a leading cause of closure, which has been exacerbated by multiple factors, notably Medicare payment reductions.

It is even more challenging for surgical subspecialties to meet the ACGME standards under the SAS because ACGME standards tend to be tailored toward urban and metropolitan academic center settings that pose a number of practical challenges for smaller osteopathic community-based hospitals [13]. Challenges include but are not limited to minimum program size (number of residents), core faculty requirement, and faculty scholarly requirements, all of which contribute to an increase in costs, causing financial limitation and ultimately program closure [13–15]. The number of approved AOA ENT and ophthalmology programs in 2014–2015 were 21 and 15, respectively [16]. As of May 2021, 15 ENT programs applied for accreditation under the SAS; 66.7% (10) are in initial accreditation, 20% (3) have continuing accreditation without outcomes, and 13.3% (2) voluntarily withdrew [17] (Table 1). Out of the eight ophthalmology programs that applied, 50% (4) received initial accreditation, 25% (2) have continuing accreditation, 12.5% (1) has continuing accreditation without outcomes, and 12.5% (1) withdrew [17]. Overall, before and after the SAS, from 2015 to 2021, 46.7% (7) ophthalmology and 61.9% (13) ENT programs remain [13, 16, 17] (Table 2).

Currently, there are three ophthalmology and two ENT programs that remain in cities with a population of less than 50,000; one of these two ENT programs is in the rural town of Clinton, Michigan [18]. One interesting aspect of these programs is that despite being former AOA residency programs, a significant number were led by MD program directors (PDs) [13]. Based on the ACGME data, the aforementioned three ophthalmology programs were led by MD PDs [16, 17]. As for ENTs, four DO-led programs in communities of less than 50,000 had applied for accreditation, but only two programs received accreditation status. This may suggest that MD PDs may have familiarity with the ACGME accreditation standards and processes that can help in transitioning former AOA surgical subspecialty programs into the ACGME (Table 3). Comparing the success rate of MD-led vs. DO-led former AOA programs irrespective of population density, MD-led ophthalmology programs have had a greater success rate in gaining accreditation, whereas there is a greater success rate of

Table 1: 2020–2021 status of ACGME-approved AOA ENT and ophthalmology programs applied for accreditation under the SAS.

Specialty	2020–2021 accredited programs	Applications for accreditation	% Programs with accreditation status	% Received initial accreditation	% Continuing accreditation	% Continuing accreditation without outcomes	% Voluntary withdrawal
Ophthalmology	7	8	87.5%	50.0%	25.0%	12.5%	12.5%
Otolaryngology	13	15	86.7%	66.7%	0.0%	20.0%	13.3%

ACGME, Accreditation Council for Graduate Medical Education; AOA, American Osteopathic Association; ENT, ear, nose, and throat; SAS, single accreditation system.

Table 2: The percentage of remaining osteopathic ophthalmology and otolaryngology (ENT) programs from 2014–2015 to 2020–2021 academic year under the SAS. There is a net decline of 53.3 and 38.1% of osteopathic ophthalmology and otolaryngology (ENT) programs.

Specialty	2014– 2015	2020– 2021	% Total programs remained	% Initial accreditation after merger	% Continuing accreditation	% Continuing accreditation without outcomes	Net decline
Ophthalmology	15	7	46.7%	26.7%	25.0%	6.7%	–53.3%
Otolaryngology	21	13	61.9%	47.6%	0.0%	14.3%	–38.1%

ENT, ear, nose, and throat; SAS, single accreditation system.

DO-led ENT programs achieving accreditation. Furthermore, there are more DO PDs leading former AOA ENT programs compared to former AOA ophthalmology programs. Hence, more data are necessary to elucidate a clear association between MD-led former AOA programs and success in gaining ACGME accreditation as well as the limitations that each program faces, including financial and administrative factors.

The loss of AOA ophthalmology and ENT programs will decrease opportunities for DOs to pursue these surgical subspecialties. A smaller pool of DO surgical subspecialists may ultimately affect smaller, rural, and underserved communities, decreasing access to surgical specialist care. It is unclear why surgical specialty programs, such as ENT and ophthalmology, struggled to obtain ACGME accreditation. Because DO specialists are more likely to work in smaller, rural, and underserved areas, it is pertinent to understand the reasons behind the failure of former AOA surgical programs to transition under the ACGME system, because the closures of these programs may impact healthcare delivery in areas of high need. Uncovering these reasons may also help us understand the more significant challenges we face in establishing and maintaining graduate medical education programs in underresourced communities.

A decreasing trend in the number of remaining former AOA subsurgical programs has been well documented [13, 16, 17], but research regarding PDs' views on the reasons behind their decision to pursue or not pursue ACGME accreditation are lacking in the primary literature. This survey-based study aims to uncover why a significant percentage of former AOA surgical specialty programs, such as ENT and ophthalmology, did not transition to the

Table 3: 2020–2021 DO- vs. MD-led otolaryngology (ENT) and ophthalmology programs that successfully transitioned under the SAS in communities with populations above and below 50,000. There is an overall greater success rate of MD-led ophthalmology programs in gaining accreditation, whereas there is a greater success rate of DO-led ENT programs achieving accreditation. A similar trend is observed in communities of less than 50,000 people. There are more DO PDs in former AOA ENT programs compared to former AOA ophthalmology programs.

Ophthalmology		
	PDs	
	MD-led	DO-led
Community population under 50,000		
Applications received	3	0
Voluntary withdrawals	0	0
Success rate	100%	N/A
Community population above 50,000		
Applications received	1	4
Voluntary withdrawals	0	1
Success rate	100%	75%
Otolaryngology (ENT)		
	MD-led	DO-led
Community population under 50,000		
Applications received	0	4
Voluntary withdrawals	0	2
Success rate	N/A	50%
Community population above 50,000		
Applications received	1	10
Voluntary withdrawals	0	0
Success rate	100%	100%

AOA, American Osteopathic Association; DO, Doctor of Osteopathic Medicine; ENT, ear, nose, and throat; MD, medical doctor; PD, program director; SAS, single accreditation system.

ACGME under the SAS, from the perspective of the individual PDs of programs that did not achieve accreditation.

Methods

Based on the institutional standards at Loma Linda University in Loma Linda, California, our study met the criteria for IRB exemption. We did not receive any financial support for the research, authorship, and publication of this study.

A 2020 directory of former ophthalmology and otolaryngology (ENT) residency programs was obtained from the American Osteopathic Colleges of Ophthalmology and Otolaryngology-Head and Neck Surgery (AOCOO-HNS). This directory represented AOA ENT and ophthalmology programs that existed before the single accreditation process began in 2014.

In January 2020, a secured survey was sent via direct e-mail to PDs of former AOA ENT and ophthalmology programs that did not achieve ACGME accreditation (Appendix). Follow-up emails were sent on May 12, 2020 and again on May 22, 2020. The survey helped reveal challenges faced by these programs, many of which were in cities with less than 50,000 people. This survey examined why accreditation was not pursued or obtained utilizing two questions, each with response options generated through personal communication with AOA ENT and ophthalmology PDs. Another response option with a comment box was provided for both questions.

- (1) If you did not pursue ACGME accreditation, why did your program not pursue ACGME accreditation? (Choose one or more of the following: excessive cost, excessive paperwork, lack of faculty support, lack of hospital/administration support, ACGME clinical case volume requirements, ACGME research and academic volume requirements, ACGME logistical/facility proximity requirements, ACGME surgical case volume requirements, we did not pursue ACGME accreditation, and other.)
- (2) If you did apply for ACGME accreditation, why did your program not attain ACGME accreditation? (Choose one or more of the following: excessive cost, excessive paperwork, lack of faculty support, lack of hospital/administration support, ACGME clinical case volume requirements, ACGME research and academic volume requirements, ACGME logistical/facility proximity requirements, ACGME surgical case volume requirements, we did not apply for ACGME accreditation, and other.)

Results

Out of the 16 programs that were issued surveys, 12 respondents completed the surveys: six ophthalmology and six ENT PDs. Ten (83.3%) of the respondents did not pursue ACGME accreditation, and 2 (16.7%) of the respondents pursued ACGME accreditation but were unsuccessful in achieving accreditation. The most common reason behind the inability of the programs to pursue or achieve accreditation was the lack of hospital/administrative support (7; 58.3%). Other frequently selected reasons included

excessive costs and lack of faculty support (5; 41.7%). “Other” was chosen by 50% of respondents, citing common reasons associated with the cost-benefit of accreditation. ACGME research and academic requirements (4, 33.3%), logistical/facility requirements (3; 25%), excessive paperwork (3; 25%), and surgical case volume requirement (2; 16.7%) were also cited as reasons for not pursuing ACGME accreditation.

Given the relatively small sample size in this survey, data from both ophthalmology and ENT respondents’ “Other” reasons in their nonpursuit for ACGME accreditation were aggregated. The ophthalmology program respondents who chose “Other” cited limited office space and independent third-party consultant recommendation as their reasons not to pursue accreditation from a cost-benefit perspective. The hospital administration made a decision that reflected the consultant’s recommendation. The responses of ENT programs varied. One program was part of a hospital system that merged all residency programs with a nearby university and consolidated all specialties in primary care. Another program closed its ENT residency to expand other residency programs. One ENT PD stated that the sponsoring institution did not want to commit the time and money to achieve ACGME accreditation; furthermore, the PD believed that the program could have successfully attained ACGME accreditation had the hospital supported the ENT residency.

Discussion

Based on our survey results, the most common issues faced by former AOA surgical subspecialty programs that failed to receive ACGME accreditation were related to finances, logistics, and administration rather than clinical and surgical volumes. Lack of quality in programs, such as those with smaller surgical and clinical case volumes, may be logical reasons for closing former programs. However, it seems that surgical and clinical case volumes was not a common issue for most former AOA ENT and ophthalmology programs because 3 of the 12 programs cited surgical or clinical volume as part of their decision not to pursue ACGME accreditation.

Considering these results, we have recommendations that should interest PDs and Designated Institutional Officials who faced similar issues in other medical specialties, hospital Chief Medical Officers that supervise program transitions, residents interested in how transitions toward ACGME accreditation could impact their future medical education, and health policy experts examining physician access in high-need areas.

Recommendation #1

The first recommendation is to expand Teaching Health Center Graduate Medical Education (THCGME). Currently, the THCGME model has successfully established GME in high-need areas with high primary care physician retention rates. However, no such program exists for surgical programs despite increasing needs for surgical subspecialties in the rural workforce. THCGME funding has been prioritized to primary care specialties considering workforce supply and demand as well as an increasing national emphasis on primary care. THCGME, however, now includes surgical fields such as Obstetrics and Gynecology (Ob-Gyn), and existing Ob-Gyn programs can be utilized as a model to develop ENT and ophthalmology programs.

Recommendation #2

The second recommendation is to study other former AOA surgical subspecialty programs. Our findings were specific to ENT and ophthalmology programs. In similar fashion, 50% of former AOA neurosurgery programs transitioned to ACGME accreditation. However, 90% of urology AOA programs are now ACGME accredited [4]. Systematic inquiry is necessary to determine whether other affected surgical fields faced similar barriers transitioning to single accreditation. It may be beneficial to study former AOA urology programs to determine which characteristics of the urology programs contributed to their high transition rate to the ACGME. It is important to note that among the 10 urology programs that transitioned successfully, four were in cities with a population of less than 50,000.

Recommendation #3

The third recommendation is to address the lack of institutional commitment and high cost to maintaining subspecialty programs in high-need areas. To a certain extent, we propose reexamining specific ACGME requirements to accommodate former AOA residency programs to increase surgical specialty care access in high-need areas. Requirements surrounding academic output (research projects and publications), faculty size, and distance between training sites may be reexamined to reduce costs and increase support for these programs. To help facilitate this recommendation, we call upon the AOA and AACOM to

address the previously mentioned ACGME requirements at the federal and ACGME levels.

Recommendation #4

The fourth recommendation is for the Centers for Medicare & Medicaid Services (CMS) to reconsider its physician reimbursement approach. Currently, CMS periodically enacts alterations to their fee schedule that involves the reallocation of funds between fields. In the last several years, including the proposed fee schedule for 2021, CMS has enacted and proposed cuts to reimbursement for all surgical subspecialties [19]. Although increasing support from primary care specialties is essential and critical to public health, it should not come at the expense of surgical specialties. Such decline in reimbursements also contributed to ENT and ophthalmology program closures. In our discussions with PDs, they often mentioned that the cost of enhancing programs to meet ACGME requirements was too high for institutions to justify the investment, especially when considering declining reimbursement from public insurance entities such as CMS. Multiple institutions determined that it was more financially feasible to pursue their primary care program transitions.

Study limitations

Due to the small number of osteopathic ophthalmology and ENT PDs, there is a statistical limitation on the power of our study. Other limitations include the lack of participation of administrative stakeholders, the lack of more qualitative responses, and the lack of quantifiable data reflective of each respondent's hospital, community size, number of hospital beds, and department size. We invited the PDs to participate in this study and did not extend the survey to hospital administrative leaders; hence, we only had the PDs' impressions to trust. In our survey, we reserved a qualitative response section for PDs to express other thoughts and discussion, allowing further explanations regarding the reasoning behind their program's pursuit or nonpursuit for accreditation beyond the reasons they checked on the survey (e.g., costs, administrative support, research, surgical volumes, and other ACGME requirements). However, we received limited responses in this category.

Conclusions

When the AOA initially debated the SAS, a major concern was regarding the ability of rural programs to achieve ACGME accreditation. Nearly 30% of the 132 AOA training programs in rural locations did not achieve ACGME accreditation, the majority of which were primary care programs but also included surgical subspecialty fields. Typically, the lack of access to physician care in rural communities is due to rural hospitals having trouble recruiting physicians and remaining financially viable. Our survey results also reflect hospitals' financial issues. Respondents highlighted the lack of logistical and administrative support as well as the ongoing costs to maintain AOA surgical specialty programs as significant reasons for not pursuing/receiving ACGME accreditation. We have provided four recommendations to gain a greater understanding of and address this rural workforce issue.

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Competing interests: None reported.

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