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Original Research

Content Evaluation of Residency Websites for All 159 Anesthesiology ACGME Programs in the USA

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Introduction

Medical residency programs are increasingly using the Internet as a marketing tool to recruit applicants.[1-3] Residency applicants across specialties consistently list the residency program's website as an important factor in deciding where to apply.[4] For example, 1 emergency medicine study found that 40% of applicants cited poor website quality as a reason they chose not to apply to a residency program.[5]

The suspension of in-person interviews during the COVID-19 pandemic further elevated the vital role of residency program websites in conveying clear and accurate information to applicants.[2] Some residency programs will continue to offer virtual interviews, so there will be an ongoing need for comprehensive websites that provide applicants information that would ordinarily be obtained from an in-person visit.

Several analyses of residency website content for various specialties have been recently published.[1,6-8] However, the latest analyses of anesthesiology residency program websites were 8 and 10 years ago.[9,10] In those studies, the investigators found inconsistencies between programs with regard to content as well as gaps between what residency applicants wanted to see on residency websites and the actual website content available to them.

We sought to create a list of criteria to evaluate the content of anesthesiology residency program websites that both reflects the current application process and meets the needs of current applicants. For residency applicants, websites that showcase recruitment content and educational curriculum information in a consistent fashion would allow for easier comparison between programs, as recruitment and education-related content have been cited by previous anesthesiology residency applicants as information that is important but often missing from program websites.[10] Furthermore, a residency website that showcases diversity and inclusion-related criteria may help trainees evaluate the program's philosophy and its commitment to diversity and inclusion.[11]

The purpose of this study was to assess the recruitment, education, and diversity and inclusion content of anesthesiology residency program websites. Second, we aimed to test the hypothesis that the content scores of websites would be higher for programs with more National Institutes of Health funding, for programs that are university-based versus community-based, and for larger programs, as measured by number of residents.

Materials and Methods

The Stanford School of Medicine's institutional review board declared this study exempt from oversight, because all data obtained for it were publicly available.

Program Eligibility

We used the American Medical Association's Fellowship and Residency Electronic Interactive Database[12] to obtain a list of all 159 anesthesiology residency programs accredited by the Accreditation Council for Graduate Medical Education. We excluded 7 programs: 4 were military-based programs and consequently have specific requirements for what is listed on their websites, and 3 did not have a functional residency program website. As a result, website content analysis was completed for the 152 remaining programs. All websites were accessed and evaluated from January 21, 2021, to March 9, 2021, by 2 independent reviewers (S. A. C. and L. E. C.) with an interest in applying to anesthesiology residency programs. A κ coefficient was calculated for interrater agreement. Discrepancies between raters were marked and resolved via discussion and majority vote of the 2 reviewers and the 3 remaining study authors.

Website Eligibility

A Google (http://www.google.com) search was conducted to locate residency program websites. We performed 2 searches for each program and evaluated the first page of results (10 listings) for direct links to program websites. Two separate search strings were used in an attempt to cover the possible terms used by applicants: "program name + anesthesiology residency program" and "program name + anesthesia residency program."

Selection of Evaluation Criteria

Residency program websites were evaluated for the presence of 12 recruitment, 6 education, and 8 diversity and inclusion

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criteria. The final criteria were derived from several previous published content analyses of residency websites for other medical specialties, as well as a prior survey that asked anesthesiology residency applicants what information they felt should exist on program websites.[7,8,10,13,14] After a list of preliminary criteria was generated from prior studies, the authors voted to select which criteria were most relevant to the current anesthesiology residency application process. The criteria that we chose were largely based on those deemed "missing but moderately or most important" in the previously published survey of anesthesiology residency applicants.[10] We voted not to include "printable program information," which was rated "missing but moderately or most important" by half of the respondents in the previous survey, because we did not think this criteria was relevant today, given the emphasis on electronic resources and avoiding paper waste. From that previous survey, we also voted to exclude some of the criteria that were rated "missing but moderately or most important" by very few respondents, such as "detailed map of campus/directions."

Although not all of the criteria generated from prior studies were ultimately included in our analyses, all 26 criteria we chose to include have been analyzed in previously published content analyses of residency websites[1,4-8,10,13,14] (Table 1). Residency programs were credited for the presence of a criterion if it was directly mentioned on the website or there was a direct link to a departmental or institutional website with the relevant information. For example, many residency program websites had links to their associated office of graduate medical education, which provided information about additional resources for trainees.

Explanation of Evaluation Criteria

While some of the criteria we selected are self-explanatory, others require further explanation. In the recruitment category, Wellness Resources were defined as initiatives listed on program websites that were either labeled as "wellness" initiatives or aimed at improving residents' physical, emotional, or social well-being. Mental Health Resources were defined as resources listed on program websites that either were labeled as "mental health resources" or provided information about mental health counseling available to residents.

In the education category, Rotation Information was defined as information regarding resident rotations, such as location, type, and duration. Also in the education category, Anesthesia Case Listing was defined as examples of procedures that anesthesiology residents would likely be exposed to during residency. A distinction was made between journal clubs and didactics, because journal clubs represent a learning activity that promotes learning for both faculty and residents, whereas didactics are specifically designed for residents.

The diversity and inclusion criteria were broken down into diversity and inclusion categories. We defined diversity as the demographic characteristics of the anesthesiology department (who are the members of the residency, the department, and the larger institution) and the patients served. Therefore, Community Demographics, Resident Photos, Extended Resident Biographies, Financial Resources for Trainees, and Community Engagement Opportunities were considered diversity criteria. The Community Demographics and Community Engagement Opportunities criteria provide insight about the demographic characteristics of patients who are typically served, whereas Resident Photos and Extended Resident Biographies provide information about the department's demographic information. Financial Resources for Trainees was also included as a diversity criterion because less than one-quarter of medical students come from families in the bottom 3 quintiles of family income.[15]

We defined inclusion as whether individuals in the residency and anesthesia department, regardless of demographic characteristics, feel engaged, supported, treated properly, welcomed, and at ease expressing themselves. Therefore, Nondiscrimination/Equal Opportunity Statement, Diversity and Inclusion Message, and Diversity and Inclusion Committee were deemed inclusion criteria. Nondiscrimination/Equal Opportunity Statement differs from Diversity and Inclusion Message because the former tends to be derived from legal language and serves as a reminder that freedom from discrimination is a legal right of prospective trainees. In contrast, Diversity and Inclusion Message was deemed to be a message from the program director or department chair specifically about the values and beliefs of the program or department pertaining to diversity and inclusion.

Program Stratification and Statistical Analysis

Residency programs were stratified by National Institutes of Health funding, affiliation, size, and geographic region. We identified anesthesiology-specific National Institutes of Health funding dollars in 2019 for all residency programs using data released by the Blue Ridge Institute for Medical Research.[16] Programs were divided into 3 categories based on affiliation status provided by the FREIDA database: university-based; university-affiliated, community-based; and community-based. For size, the number of residents in their second postgraduate year was used as a representative statistic for total program size. For geographic location, programs were divided into 4 groups—Midwest, Northeast, South, and West—based on regions defined by the US Census Bureau. A multiple linear regression model was used to determine which program factors were most influential in determining total website content score.

Results

The mean (± SD) number of residents in their second postgraduate year per program was 11.0 ± 6.7 (range, 1-31; median = 10). Of the 152 programs, 100 (65.8%) were university-based, 41 (27.0%) were university-affiliated and community-based, and 11 (7.2%) were community-based.

Anesthesiology residency program websites contained a mean of 12.9 ± 3.4 (range, 3-21; median = 13) of the 26 study criteria (Figure 1). Individual recruitment, education, diversity and inclusion, and total content scores for each of the 152 programs are provided in Supplemental Table 1. Program websites contained a mean of 5.6 ± 2.0 recruitment criteria, 3.6 ± 1.0 education criteria, and 3.5 ± 1.7 diversity and inclusion criteria. There was

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high interobserver reliability between the 2 independent website reviewers, with 91.8% agreement (3628/3952 total criteria) and a κ coefficient of 0.837.

The most common recruitment criteria present on websites were Program Description (151/152, 99.3%), Social Media Links (131/152, 86.2%), and PGY-2 Salary (105/152, 69.1%). The most common education criteria present were Rotation Information (149/152, 98.0%), Didactics Information (147/152, 96.7%), and Journal Club (111/152, 73.0%). The most common diversity and inclusion criteria present were Community Demographics (130/152, 85.5%), Resident Photos (118/152, 77.6%), and Financial Resources for Trainees (108/152, 71.1%; Table 2).

Alumni Contact Information was provided by 0% of programs, with other uncommon criteria being Diversity and Inclusion Committee (20/152, 13%), Board Pass Rate (21/152, 14%), Extended Resident Biographies (25/152, 16%), Community Engagement Opportunities (29/152, 19%), Mental Health Resources (30/152, 20%), Current Resident Research (37/152, 24%), and resident/faculty testimonials (41/152, 27%; Table 2).

Multiple linear regression revealed that university-based programs had higher website content scores than community-based programs ($F_{7,143} = 2.147$, $P < .001$), with an adjusted R^2 of 0.297 (Figure 2, Supplemental Table 2). Summary statistics for mean recruitment, education, and diversity and inclusion content stratified by 3 different program factors (affiliation, size, and region) are provided in Table 3.

Discussion

Website content for anesthesiology residency programs is highly variable, with 95% of websites containing between 6.1 and 19.7 of our study criteria. Overall, websites averaged slightly below half (12.9) of the 26 elements analyzed in this study. A university-based affiliation was associated with a higher website content score, although the association is relatively weak, with an R^2 of 0.297. This suggests that all programs, regardless of funding, affiliation, size, or region, have room for improving content which will benefit applicants. A website that incorporates elements examined in this study can serve as a more effective recruitment tool by providing consistent baseline information that may help applicants decide which programs align with their personal values and future career goals.[4,17,18] The current lack of content consistency may impede applicants from making informed comparisons.

For many of the criteria analyzed in this study, website content for anesthesiology residency programs was less informative than website content for residency programs in other specialties. For example, geographic placement of previous graduates was present on only 42% of anesthesiology program websites, but on 50% and 63% of ophthalmology and orthopedic surgery program websites, respectively.[1,7] Additionally, extended biographies of current residents were present on 73% of ophthalmology residency websites but only 16% of anesthesiology residency websites.[7] This may be related to the smaller relative size of ophthalmology residencies. With regard to diversity and inclusion content, anesthesiology program websites were often more informative than websites for general surgery programs, which is the only other specialty whose website content has been analyzed for the diversity and inclusion criteria included in this study. Resident photos, diversity and inclusion messages, and nondiscrimination statements were more frequent on anesthesiology program websites than general surgery program websites.[8]

With regard to recruitment criteria, in comparing our results with a study of website content for anesthesiology residencies from 2011 we observed a large increase in the percentage of websites containing program-specific social media links to Twitter, Facebook, or Instagram.[10] The enhanced social media presence of anesthesiology residency programs reflects the increasing importance of social media as an information source for applicants and a potential recruitment tool for residency programs.[19-21]

Other important elements of the recruitment domain are wellness resources and mental health and counseling resources, especially given that perceived availability of workplace resources has been found to lower the risk of burnout, distress, and depression among residents.[22] Despite their importance, only 40.8% and 19.8% of residency websites, respectively, featured wellness resources and mental health and counseling resources. This is a potential area of improvement for the majority of program websites.

Although institutional diversity has been cited by applicants as an important factor in deciding among residency programs, basic diversity and inclusion elements were often absent from program websites.[23] Residency programs can showcase their commitment to diversity and inclusion initiatives on their websites to help recruit more diverse applicants, as female and underrepresented minority applicants have been shown to seek out diversity during the residency application process.[24-26] A recent study showed that from 2000 to 2018, the increase in the total number of anesthesiology residents has resulted primarily from an increase in the number of white and Asian residents, with the proportion of black and Hispanic trainees remaining consistently low over that 18-year period.[27] A residency program's website may be used by the program to recruit more diverse applicants and ensure that the next generation of anesthesiologists practices in increasingly diverse environments.

There are limitations to this study. First, we measured only the presence or absence of the 26 recruitment, education, and diversity and inclusion criteria; we did not assess element quality. A separate qualitative study would be needed to measure the quality and accuracy of the content, which was beyond the scope of this study. The binary scoring system we used is similar to those used in other content analyses of residency programs, but it is also a limitation, because some criteria might carry greater weight with applicants than others. This would not be reflected in a total website content score calculated by merely summing the criteria present.[7,13,14,28] Additionally, only publicly available information was accessed for each of the websites analyzed. Password-protected websites specific to interviewees were found on only a few program websites and therefore would likely not affect our overall conclusions. Finally, although the 26 criteria measured in this study are not validated measures of website content, they

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were generated from previously published residency program website content analyses and surveys of previous anesthesiology residency applicants.[7,8,10,13,14]

Our criteria for measuring website content on anesthesiology residency program websites led us to determine that although 98% of programs had functioning websites, there is potential for further improvement of almost all websites with regards to recruitment, education, and diversity and inclusion content. Informative residency program websites may help future applicants make decisions about which anesthesiology residency programs align with their career and training goals.

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Abstract

Background: The shift to virtual interviews during the COVID-19 pandemic has elevated the vital role of Accreditation Council for Graduate Medical Education residency program websites in conveying information to applicants. The purpose of our study was to assess the recruitment, education, and diversity and inclusion content on websites for anesthesiology residency programs. Second, we aimed to test the hypothesis that the content scores of websites are higher in programs with more National Institutes of Health funding, in programs that are university-based versus community-based, and in larger programs, as measured by number of residents.

Methods: Two independent reviewers evaluated the websites of the 159 anesthesiology residency programs accredited by the Accreditation Council for Graduate Medical Education for the presence (yes/no) of 12 recruitment, 6 education, and 8 diversity and inclusion criteria. Multiple linear regression was used to determine which program factors were most associated with total website content score.

Results: Anesthesiology residency program websites contained a mean of 12.9 (SD = 3.4; range, 3-21) of the 26 study-defined criteria. The most common recruitment, education, and diversity and inclusion criteria were, respectively, program description, rotation information, and community demographics. Controlling for program factors, a university-based affiliation ($P = .016$) was associated with higher website content scores.

Conclusions: There is large variation in the recruitment, education, and diversity and inclusion content on anesthesiology residency program websites nationally. Since program websites averaged only half of criteria, this may provide an impetus for programs to modify their websites, which may inform applicant decisions about which programs align with their training and career goals.

Keywords: Website content, anesthesiology, residency, diversity and inclusion

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Figures

Figure 1. *Total website content scores (minimum = 0, maximum = 26) for 152 anesthesiology residency program websites analyzed.*

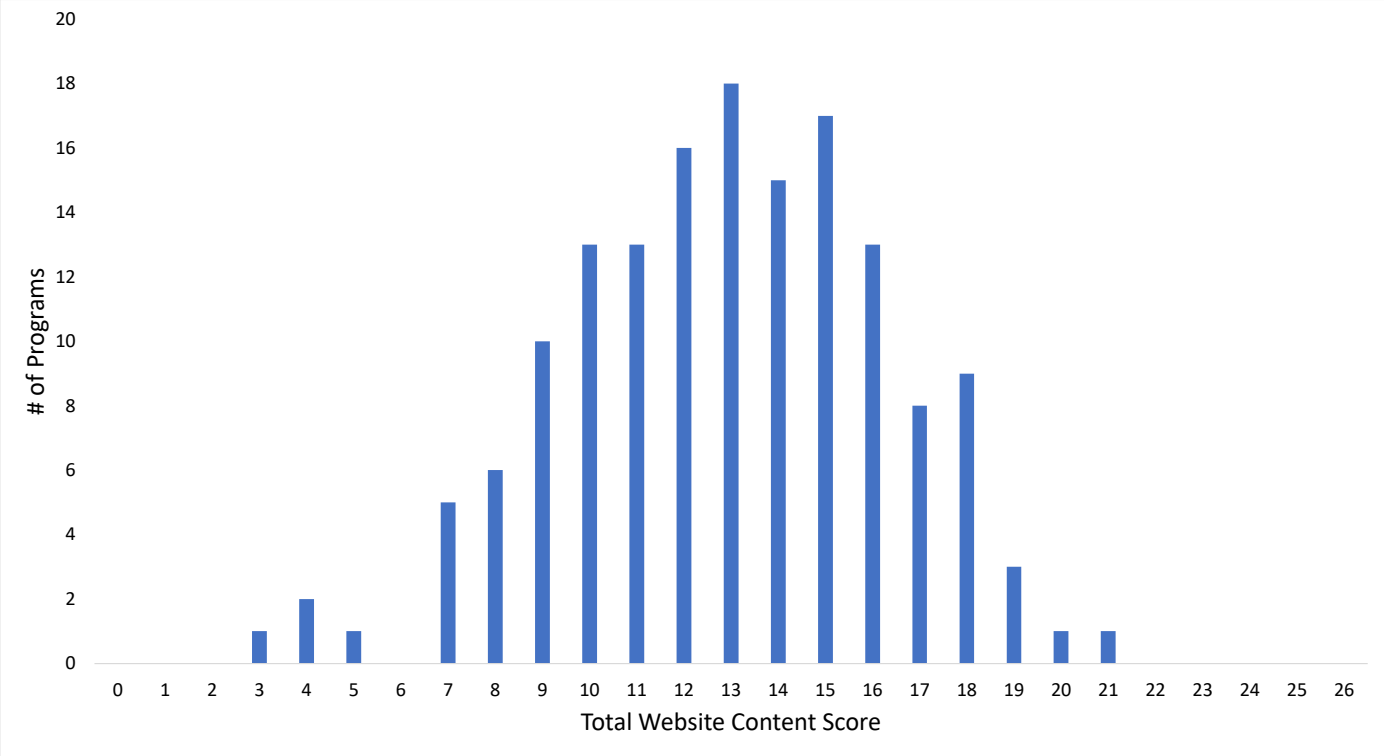
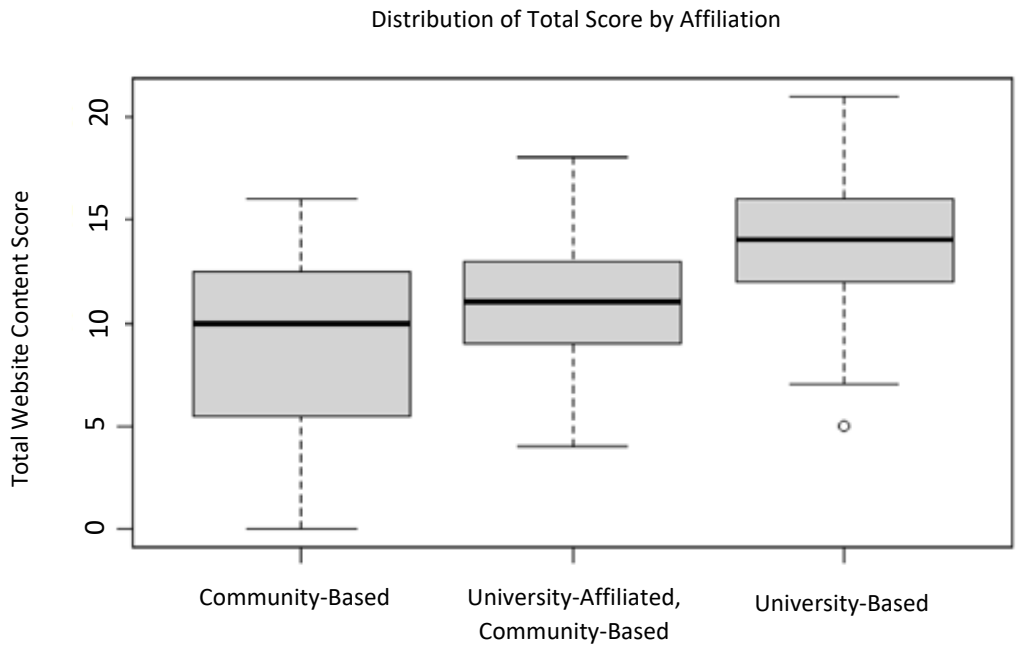


Figure 2. *Box plots of total website content scores for community-based; community-based, university-affiliated; and university-based anesthesiology residency programs.*



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Tables

Table 1. *Recruitment (n = 12), Education (n = 6), and Diversity and Inclusion (n = 8) Criteria Evaluated for Anesthesiology Residency Program Websites*

Recruitment	Education	Diversity and Inclusion
Program Description	Rotation Information	Nondiscrimination/Equal Opportunity Statement
PGY-2 Salary	Didactics Information	Community Demographics
Resident/Faculty Testimonials	Current Resident Research	Diversity and Inclusion Committee
Interview Day Information	Daily Work/Call Schedule	Resident Photos
Board Pass Rate	Journal Club	Extended Resident Biographies
% of Graduates Pursuing Fellowship Training	Anesthesia Case Listing	Financial Resources for Trainees
Geographic Placement of Graduates		Diversity and Inclusion Message
Wellness Resources		Community Engagement Opportunities
Mental Health Resources		
Alumni Contact Information		
Informational Video Content		
Social Media Links		

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Table 2. *Recruitment, Education, and Diversity and Inclusion Criteria Scores for Anesthesiology Residency Program Websites.*

Category	Mean ± SD	Low	High	Criterion	n (%)
Recruitment	5.6 ± 2.0 1.97	1	10	1. Program Description	151 (99.3)
				2. Social Media Links	131 (86.2)
				3. PGY-2 Salary	105 (69.1)
				4. Informational Video Content	90 (59.2)
				5. Interview Day Information	88 (57.9)
				6. % of Graduates Pursuing Fellowship Training	72 (47.4)
				7. Geographic Placement of Graduates	64 (42.1)
				8. Wellness Resources	62 (40.8)
				9. Resident/Faculty Testimonials	41 (27.0)
				10. Mental Health Resources	30 (19.7)
				11. Board Pass Rate	21 (13.8)
				12. Alumni Contact Information	0 (0)
Education	3.6 ± 1.0	0	6	1. Rotation Information	149 (98.0)
				2. Didactics Information	147 (96.7)
				3. Journal Club	111 (73.0)
				4. Anesthesia Case Listing	59 (38.8)
				5. Daily Work/Call Schedule	54 (35.5)
				6. Current Resident Research	37 (24.3)
Diversity and Inclusion	3.5 ± 1.7	0	8	1. Community Demographics	130 (85.5)
				2. Resident Photos	118 (77.6)
				3. Financial Resources for Trainees	108 (71.1)
				4. Nondiscrimination/Equal Opportunity Statement	66 (43.4)
				5. Diversity and Inclusion Message	44 (28.9)
				6. Community Engagement Opportunities	29 (19.1)
				7. Extended Resident Biographies	25 (16.4)
				8. Diversity and Inclusion Committee	20 (13.2)

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Table 3. *Comparison of Website Recruitment, Education, Diversity and Inclusion Scores and Total Content Scores (All Mean ± SD) by Program Characteristics*

Characteristic	# of Programs	Recruitment Content Score	Education Content Score	Diversity Content Score	Total Content Score
Affiliation					
University-based	100	6.1 ± 1.8	3.8 ± 1.0	4.0 ± 1.6	13.9 ± 3.0
University-affiliated, community-based	41	5.0 ± 1.7	3.4 ± 0.9	2.8 ± 1.5	11.3 ± 3.0
Community-based	11	3.9 ± 2.2	3.4 ± 1.5	2.7 ± 1.3	10.0 ± 4.2
Size[a]					
Small (1-6)	51	5.1 ± 2.0	3.4 ± 1.0	3.0 ± 1.5	11.5 ± 3.5
Medium (7-13)	57	5.7 ± 1.9	3.7 ± 0.9	3.3 ± 1.5	12.7 ± 3.0
Large (14+)	44	6.3 ± 1.7	3.9 ± 1.0	4.5 ± 1.7	14.7 ± 3.1
Region					
Northeast	55	5.8 ± 1.8	4.0 ± 1.0	3.3 ± 1.5	13.0 ± 3.2
Midwest	37	5.1 ± 1.9	3.6 ± 0.9	3.5 ± 1.7	12.1 ± 3.5
South	39	5.7 ± 2.1	3.5 ± 1.1	3.7 ± 1.5	12.9 ± 3.6
West	21	6.4 ± 1.9	3.2 ± 0.8	4.2 ± 2.0	13.8 ± 3.5

[a] Number of residents in their second postgraduate year.

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Supplemental Online Material

Supplemental Table 1. *Recruitment, Education, Diversity and Inclusion Scores and Total Content Scores for all 152 Anesthesiology Residency Program Websites*

Program Name	Recruitment Score (Out of 12)	Education Score (Out of 6)	Diversity Score (Out of 8)	Total Content Score
University of North Carolina Hospitals	10	4	7	21
Stanford Health Care	10	3	7	20
UCLA David Geffen School of Medicine/UCLA Medical Center	7	4	8	19
Stony Brook Medicine/University Hospital	9	6	4	19
Baylor College of Medicine	8	6	5	19
University of Michigan Health System	8	4	6	18
Mayo Clinic College of Medicine and Science (Arizona)	9	4	5	18
University of Connecticut	8	4	6	18
Rush University Medical Center	8	4	6	18
Massachusetts General Hospital	8	5	5	18
University of Colorado	10	3	5	18
Maine Medical Center	8	5	5	18
Penn State Milton S. Hershey Medical Center	8	4	6	18
Medical University of South Carolina	9	4	5	18
University of Washington	7	3	7	17
Brigham and Women's Hospital	8	4	5	17
Duke University Hospital	6	4	7	17
Johns Hopkins University	8	5	4	17
New York Presbyterian Hospital (Columbia Campus)	7	5	5	17
Icahn School of Medicine at Mount Sinai (Mount Sinai Hospital)	9	5	3	17
New York Presbyterian Hospital (Cornell Campus)	8	4	5	17
UPMC Medical Education	7	6	4	17
Louisiana State University	8	4	4	16
University of Arkansas for Medical Sciences College of Medicine	8	4	4	16
University of Arizona College of Medicine-Tucson	7	3	6	16
Cedars-Sinai Medical Center	7	3	6	16
University of Iowa Hospitals and Clinics	7	5	4	16
Ochsner Clinic Foundation	8	5	3	16
Mayo Clinic College of Medicine and Science (Rochester)	7	5	4	16
The MetroHealth System/Case Western Reserve University	9	3	4	16
Cleveland Clinic Foundation	5	5	6	16

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Supplemental Online Material *continued*

University of Tennessee Medical Center at Knoxville	8	4	4	16
Vanderbilt University Medical Center	6	3	7	16
University of Virginia Medical Center	7	4	5	16
Medical College of Wisconsin Affiliated Hospitals	5	5	6	16
University of Minnesota	6	3	6	15
University of Alabama Medical Center	6	3	6	15
Oregon Health & Science University	8	2	5	15
University of California Davis	6	4	5	15
University of Louisville School of Medicine	7	3	5	15
Beth Israel Deaconess Medical Center	8	3	4	15
UMMS-Baystate	7	4	4	15
St Louis University School of Medicine	8	4	3	15
Wake Forest University School of Medicine	6	3	6	15
SUNY Upstate Medical University	7	4	4	15
Westchester Medical Center	7	5	3	15
Ohio State University Hospital	5	5	5	15
Oklahoma State University Center for Health Sciences	4	4	7	15
University of Pennsylvania Health System	6	3	6	15
University of Texas Southwestern Medical Center	8	3	4	15
University of Wisconsin Hospitals and Clinics	7	5	3	15
West Virginia University	8	4	3	15
Boston University Medical Center	5	4	5	14
Lahey Clinic	9	3	2	14
University of California San Diego	5	5	4	14
University of Florida College of Medicine Jacksonville	7	4	3	14
Emory University School of Medicine	7	4	3	14
Medical College of Georgia	8	4	2	14
University of Missouri-Kansas City School of Medicine	5	4	5	14
Cooper Medical School of Rowan University/Cooper University Hospital	6	5	3	14
University of Rochester	7	4	3	14
University of Cincinnati Medical Center/College of Medicine	3	5	6	14
Case Western Reserve University/University Hospitals Cleveland Medical Center	6	3	5	14
University of Oklahoma Health Sciences Center	5	4	5	14
Geisinger Health System	8	4	2	14
Temple University Hospital	7	5	2	14

continued on next page

continued from previous page

Supplemental Online Material *continued*

University of Utah Health	6	3	5	14
George Washington University	6	4	3	13
University of Florida	6	3	4	13
Riverside University Health System	7	3	3	13
University of Vermont Medical Center	5	4	4	13
University of Chicago	3	4	6	13
Virginia Commonwealth University Health System	7	4	2	13
Mayo Clinic College of Medicine and Science (Jacksonville)	5	4	4	13
Cleveland Clinic (Florida)	6	5	2	13
Loyola University Medical Center	5	4	4	13
University of Kansas	5	4	4	13
University of Kentucky College of Medicine	5	4	4	13
Tulane University	6	4	3	13
Tufts Medical Center	5	4	4	13
University of Maryland	6	4	3	13
Dartmouth-Hitchcock/Mary Hitchcock Memorial Hospital	7	4	2	13
St. Joseph's University Medical Center	5	6	2	13
Zucker School of Medicine at Hofstra/Northwell	7	3	3	13
HCA Healthcare Grand Strand Regional Medical Center	6	3	4	13
Kaweah Delta Health Care District (KDHCD)	5	4	3	12
University of California (San Francisco)	5	3	4	12
Los Angeles County Harbor UCLA Medical Center	7	3	2	12
Yale-New Haven Medical Center	4	5	3	12
McGaw Medical Center of Northwestern University	5	3	4	12
University of Massachusetts	6	2	4	12
Washington University/B-JH/SLCH Consortium	7	3	2	12
University of Nebraska Medical Center College of Medicine	6	4	2	12
University of New Mexico School of Medicine	5	3	4	12
Albany Medical Center	6	3	3	12
Icahn School of Medicine at Mount Sinai (Morningside/ West)	5	4	3	12
Sidney Kimmel Medical College at Thomas Jefferson University/TJUH	4	4	4	12
Allegheny Health Network Medical Education Consortium (AGH/WPH)	5	4	3	12
Brown University/Rhode Island Hospital-Lifespan	5	5	2	12
University of Texas Medical Branch Hospitals	6	4	2	12
Texas Tech University Health Sciences Center at Lubbock	4	4	4	12

continued on next page

continued from previous page

Supplemental Online Material *continued*

Advocate Health Care (Advocate Illinois Masonic)	5	4	2	11
Virginia Mason Medical Center	7	3	1	11
HCA Healthcare East Florida Division GME/Kendall Regional Medical Center	4	3	4	11
University of Kansas (Wichita)	5	2	4	11
St. Elizabeth's Medical Center	4	4	3	11
Wayne State University School of Medicine	5	3	3	11
University of Missouri-Columbia	4	4	3	11
Rutgers Health/Robert Wood Johnson Medical School	5	4	2	11
HCA Healthcare Sunrise Health Graduate Medical Education	4	3	4	11
SUNY Health Science Center at Brooklyn	4	4	3	11
NYU Grossman School of Medicine	4	4	3	11
University of Toledo	3	4	4	11
Texas A&M College of Medicine-Scott and White Medical Center (Temple)	4	3	4	11
University of Miami/Jackson Health System	4	2	4	10
Memorial Healthcare System (Hollywood Florida)	4	4	2	10
HCA Healthcare/USF Morsani College of Medicine GME/ Oak Hill Hospital	3	3	4	10
Indiana University School of Medicine	5	3	2	10
Rutgers Health/New Jersey Medical School	4	3	3	10
Maimonides Medical Center	4	3	3	10
University at Buffalo	4	4	2	10
New York Medical College at Metropolitan Hospital	4	3	3	10
Nuvance Health	4	4	2	10
UPMC Lititz	5	3	2	10
University of Texas Health Science Center at Houston	4	3	3	10
University of Texas Health Science Center San Antonio Joe and Tereza Lozano Long School of Medicine	4	4	2	10
University of Central Florida/HCA Healthcare GME (Ocala)	4	3	3	10
Loma Linda University Health Education Consortium	3	5	1	9
University of California (Irvine)	6	2	1	9
McLaren Health Care/ Oakland/MSU	4	3	2	9
MedStar Health/Georgetown University Hospital	5	2	2	9
Louisiana State University Shreveport	3	4	2	9
Beaumont Health (Royal Oak)	5	2	2	9
University of Mississippi Medical Center	4	3	2	9
Hackensack University Medical Center	4	4	1	9

continued on next page

continued from previous page

Supplemental Online Material *continued*

Montefiore Medical Center/Albert Einstein College of Medicine	3	4	2	9
OhioHealth/Doctors Hospital	3	3	3	9
University of Illinois College of Medicine at Chicago	4	2	2	8
Henry Ford Hospital/Wayne State University	3	4	1	8
McLaren Health/Greater Lansing/MSU	4	3	1	8
Rutgers Health/St. Barnabas Medical Center	3	4	1	8
Robert Packer Hospital	4	2	2	8
Tower Health	3	4	1	8
University of Southern California/LAC+USC Medical Center	3	2	2	7
Detroit Medical Center/Wayne State University	3	3	1	7
Still OPTI/Northeast Regional Medical Center	2	4	1	7
Cleveland Clinic Foundation/South Pointe Hospital	2	3	2	7
Mount Sinai Medical Center of Florida Inc	3	3	1	7
University of Tennessee Health Science Center	3	0	2	5
Cook County Health and Hospitals System	1	2	1	4
New York-Presbyterian Brooklyn Methodist Hospital	3	1	0	4
Larkin Community Hospital	1	0	2	3

Supplemental Table 2. *Multiple Linear Regression Coefficients*

	Coefficient	95% CI	*P*
Intercept	2.650	(1.920, 3.380)	<.001**
Region (Reference = Midwest)			
Northeast	−0.392	(−0.110, 0.316)	.273
South	0.093	(−0.671, 0.857)	.809
West	0.173	(−0.8248, 1.1708)	.730
Academic Affiliation (Reference = Community-Based)			
University-affiliated, community-based	2.391	(−0.433, 5.215)	.093
University-based	3.465	(0.605, 6.325)	.016*
Class size	−0.080	(−0.301, 0.140)	.126
NIH funding	−0.007	(−0.067, 0.053)	.760

Abbreviations: CI, Confidence interval; NIH, National Institutes of Health.

* Significant at the 5% level.

** Significant at the 1% level.