HHS Public Access

Author manuscript

Surgery. Author manuscript; available in PMC 2021 October 01.

Published in final edited form as:

Surgery. 2020 October ; 168(4): 707–713. doi:10.1016/j.surg.2020.05.022.

The Road to Academic Surgical Leadership: Characteristics and Experiences of Surgical Chairpersons

Tiffany C. Lee, MD[1], **Chantal Reyna, MD**[1], **Shimul A. Shah, MD, MHCM**[1], **Jaime D. Lewis, MD**[1]

[1]Department of Surgery, University of Cincinnati College of Medicine Cincinnati, OH

Abstract

Introduction: The evolving landscape of academic surgery demands leaders who are not only effective clinicians and researchers, but also administrators able to navigate complex hospital organizations, financial pressures in the era of quality measures, and inclusion of an increasingly diverse workforce. The aim of this study was to characterize achievements and assess perspectives in becoming a surgical chair, in order to guide young surgeons in their career trajectories to surgical leadership.

Methods: A survey encompassing demographics, surgical training, non-medical advanced degrees, academic advancement, and leadership experiences was sent via electronic mail to members of the American College of Surgeons Society of Surgical Chairs (SSC) in December 2018.

Corresponding author: Jaime D. Lewis MD, Associate Professor of Surgery, Division of Surgical Oncology, University of Cincinnati School of Medicine, 231 Albert Sabin Way, ML 0558, Cincinnati, OH 45267-0558, Phone: 513-584-8900, Fax: 513-584-0459, lewisjj@ucmail.uc.edu.

Statement of Author Contribution

All persons who meet authorship criteria are listed as authors, and all authors certify that they have participated sufficiently in the work to take public responsibility for the content, including participation in the concept, design, analysis, writing, or revision of the manuscript. Furthermore, each author certifies that this material or similar material has not been and will not be submitted to or published in any other publication before its appearance in *Surgery*.

CATEGORY 1

Conception and design of study: TCL, CR, SAS, JDL

Acquisition of data: TCL, JDL

Analysis and/or interpretation of data: TCL, CR, SAS, JDL

CATEGORY 2

Drafting the manuscript: TCL

Revising the manuscript critically for important intellectual content: TCL, CR, SAS, JDL

CATEGORY 3

Final approval of the version of the manuscript to be published: TCL, CR, SAS, JDL

CATEGORY 4

Agreement to be accountable for all aspects of the work: TCL, CR, SAS, JDL

Presentation: This paper was accepted as a QuickShot presentation at the 15th Annual Academic Surgical Congress in Orlando, FL on Feb 4, 2020.

COI/Disclosure Statements: The authors have no related conflicts of interest to disclose.

SUPPLEMENT

SUPPLEMENT A. Survey administered to participants.

Results: Of 191 SSC members, 52 (27.2%) completed the survey, with 6 (11.5%) women, 40 (76.9%) Caucasians, and the majority becoming chair between ages 46 and 60 (n=39, 75.0%). Training beyond residency included fellowships (n=41, 78.8%) and advanced non-medical degrees (n=15, 28.8%). Median H-index was 47 (range 10–120) with 126 (5–500) research publications and grants received was 2 (0–38) for federal and 5 (0–43) for industry. Female chairs appear to have fewer non-medical degrees (n=1) and no difference in age at becoming chair (66.7% vs 79.6% between ages 46 and 60), H-index (26 [10–41] vs 49 [17–120]), or publications (93 [10–189] vs 150 [5,500]). Prior educational (n=36, 69.2%) and clinical (n=44, 84.6%) leadership roles were common, with 30 chairs (57.7%) having held both roles. Experiences which respondents felt have most helped them function as chair included serving as a clinical division director (n=37, 71.2%), residency program director (n=28, 53.8%), leadership courses (n=28, 53.8%), a research career (n=22, 42.3%), and being a vice/interim chair (n=15, 28.8%). Personal traits felt to be most important in becoming a successful chair included being effective at communication (n=37, 71.2%), collaborative (n=35, 67.3%), trustworthy (n=30, 57.7%), and a problem-solver (n=27, 51.9%).

Conclusion: Becoming a department surgical chair often involves not only surgical subspecialty expertise, but also non-medical training and prior leadership roles which help facilitate development of skills integral to navigating the collaborative and diverse nature of academic surgery in the current era.

Graphical Abstract

This study evaluated accomplishments, experiences, and perspectives along the career paths of current chairpersons of academic departments of surgery. The importance of this study is to provide junior faculty and trainees a general roadmap of potential career paths to academic surgical leadership.

Keywords

academic surgery; leadership; career advancement

INTRODUCTION

Academic medical centers in the current era face a myriad of challenges, including managing financial pressures in changing economies, maintaining quality of care metrics while providing patient-centered care, balancing clinical and research productivity, and providing up to date medical education and training in the setting of exponential growth in medical information and technologies. Kahn et al. have suggested that academic medical centers may need to change radically to become more innovative, adaptable, and collaborative in order to stay competitive against other types of medical organizations.[1] Leaders in academic medicine therefore need to be able to navigate complex medical systems and collaborate with a diverse group of stakeholders to address all of these challenges.

Lieff et al. posit that traditional types of leadership constructs within academic medicine, including leaders as designers (within a hierarchical model composed of well-defined units

with standardized functions) or as heroes (within a transformational leadership approach, which may promote passivity in followers recruited to pursue the leader's vision) may be barriers to innovation and collaboration in the current era. [2] The authors describe new leadership paradigms that have emerged as a result of the complex pressures within academic medicine, which have more emphasis on individual authenticity, self-leadership, and collective leadership.[2] A study conducted via interviews with deans at 18 academic medical centers in the U.S. found that the values considered essential for effective leadership within their organizations included integrity, trust, vision, teamwork, development of staff and faculty, and building relationships.[3]

Leaders in academic surgery face challenges similar to the rest of academic medicine, demanding a shift from traditional autocratic, hierarchical leadership styles to a more collaborative and consensus-driven approach. Panel discussions during the 2014 and 2015 Society of Surgical Chairs mentorship sessions revealed that department chairs who model themselves after "the classic, all-knowing, Halstedian icon who leads unquestioned and unchallenged" may face significant challenges in navigating the current landscape of complex organizations, regulatory demands, hyperaccessibility, and electronic hypercommunication.[4] Key tenets of effective surgery leadership that were highlighted during these discussions included collaboration and cooperativity, humanized relationships and mentorship, and operational efficiency. Regardless of how they carry out their duties, surgical unit leaders must ensure the delivery of high-quality surgical care, the provision of undergraduate and graduate surgical education, and productive research.[5]

Contrary to these tenets and requirements, medical education focuses on the art rather than the business of medicine. Achievement is attained by showing up early (because "to be early is to be on time") and staying late. Success is measured by how well one displays the A's: availability, affability, and ability. Few tasks should be delegated and all of the most important data must be personally reviewed as physicians should "trust no one". Quality is ensured and leadership measured by setting and meeting the highest personal standards and achieving as an individual.[6,7]

Given the breadth of skills required to be a successful leader in academic surgery, the aim of this study was ascertain what types of academic and leadership experiences have contributed to the successes of current surgical chairpersons. Tanious et al. concluded from their review of publicly available data that there are no set characteristics which define a department of surgery chair, but that a few experiences are commonly seen in chairs of academic programs, including dual degrees, training at university-based residencies and fellowships, and high numbers of peer-reviewed publications.[8] We build upon this work through a survey-based study to collect data on both objective accomplishments as well as subjective perspectives of each individual chair's experiences.

METHODS

Survey Development and Participant Selection

A survey was distributed via electronic mail to members of the American College of Surgeons Society of Surgical Chairs using the organization's listserv on December 11, 2018,

with a follow-up reminder sent January 15, 2019 that had been previously validated.[9] Surveys were accepted until February 1, 2019. Surveys were completed anonymously without identifiable information collected. University of Cincinnati Institutional Review Board approval was obtained prior to initiation of the study. The survey included sections on participant demographics, medical and surgical training, career paths and positions held, research and publications, as well as subjective queries on the importance of various experiences and personal traits/skills leading to a chair position (Supplement A). The survey was developed using the University of Cincinnati Research Electronic Data Capture (REDCap) application, which is a secure web-based system designed to support data capture for research studies.

Statistical Analysis

Survey responses were analyzed using descriptive statistics. Continuous variables were described as estimates of central tendency (median) and interquartile range (IQR). Categorical variables were described as percentages (%). Categorical variables were compared using Pearson's chi-squared test or Fisher's exact test when appropriate, while continuous variables were compared through Wilcoxon rank-sum test. Variables with a *p*-value of less than 0.05 were determined to be statistically significant. Statistical analyses were performed via statistical programs SAS 9.4 (SAS Institute, Cary, NC, USA).

RESULTS

Cohort Characteristics

Of 191 members of the Society of Surgical Chairs at the time of survey distribution, 52 (27.2%) submitted a survey response. Of the survey participants, 6 (11.5%) were women (out of a total of 22 female chairs), 40 (76.9%) were Caucasian, and the majority became chair between the ages of 46 to 60 (n=39, 75%) (Table 1).

Education and Training

The most common medical schools attended included Harvard Medical School (n=4, 7.7%), Baylor College of Medicine (n=3, 5.7%), and Johns Hopkins School of Medicine (n=3, 5.7%). The most common residency programs where participants completed training were Johns Hopkins School of Medicine (n=3, 5.7%), Massachusetts General Hospital (n=3, 5.7%), and six programs each with two graduates (Beth Israel Deaconness Medical Center, New York University, University of Pittsburgh, University of Toronto, Washington University, and Yale University). Forty-one (78.8%) participants indicated they completed fellowship training, with the most common specialties including Cardiothoracic Surgery (n=9, 17.3%), Surgical Critical Care (n=8, 15.4%), Surgical Oncology (n=7, 13.5%), and Transplant Surgery (n=6, 11.5%), with the remainder listed in Table 2.

Fifteen (28.8%) participants indicated they had a non-medical advanced degree, with the most common being a Master of Business Administration (MBA, n=6, 11.5%), Doctor of Philosophy (PhD, n=2, 3.8%), Master of Public Health (MPH, n=2, 3.8%), and Master of Health Administration (MHA, n=2, 3.8%) (Table 2). Of note, a higher proportion of participants who became chair at or prior to age 50 obtained additional degrees (42.9%)

compared with those who became chair after age 50 (20.0%), though this was not statistically significant (p=0.08). Younger chairs also appeared to obtain a wider variety of degrees (Table 3).

Research and Publications

The median H-index[10] reported by 22 participants was 47 (range 10–120). Most common publications included research articles (median 126, range 5–500), book chapters (median 25, range 0–150), and review articles (median 15, range 0–100) (Table 4). The median number of industry grants obtained was 5 (range 0–43), while the number of federal grants obtained was 2 (0–38).

Career Paths and Positions Held

The majority of participants reported spending more than 25 years in academic practice (n=30, 57.7%) and no time in community or private (non-academic) practice (n=35, 67.3%) (Table 5). Thirty-six (69.2%) participants held prior educational leadership roles, including medical student, residency, or fellowship program directors, while 44 (84.6%) held prior clinical leadership positions, including division director, vice chair, or interim chair. Thirty (57.7%) participants previously held both types of leadership roles.

Participants identified becoming a chair as a goal at different points during their career, most commonly at the time they were at full professor (n=24, 46.2%) or associate professor level (n=14, 26.9%) (Table 6). A variety of individuals were influential in helping the participants make the decision to pursue a chair position, ranging from senior faculty mentors and other chairpersons (each n=15, 28.8%) to mentors during residency (n=8, 15.4%) to spouses (n=4, 7.8%).

Chair Experiences

At the time of assuming their chair roles, most participants were full professors (n=41, 78.8%). They were commonly known to the institution at which they became chair, having previously completed residency (n=11, 21.2%), held a faculty position (n=21, 40.4%), or been an interim chair (n=12, 23.1%). Thirty percent have been chair of more than one institution (n=16). Most survey participants report being satisfied in their current position as chairperson (n=47, 90.4%) (Table 7). The majority of participants have been chairs between 1–5 years (n=23, 44.2%) or 6–10 years (n=10, 19.2%) and expect to remain in a chair position for another 6–10 years (n=29, 55.8%) (Table 7). Common options after their current chair role included retirement (n=20, 38.5%), seeking another administrative position (n=17, 32.3%), or continuing their clinical and/or research practices (n=11, 21.2%) (Table 7).

Perspectives on Becoming a Successful Chair

When asked about the impact of academic experiences in becoming a successful chair, participants felt that scholarly productivity (n=32, 61.5%), fulfilling a resident education role (n=26, 50%), serving in a faculty development role (n=20, 38.5%), and experience with obtaining grants or funding (n=19, 36.5%) were very important (Table 8). In terms of leadership experiences, participants reported that being in a leadership role within their division (n=35, 67.3%), department (n=33, 63.5%), hospital (n=21, 40.4%), and within

national associations (n=20, 38.5%) were very important in becoming a successful chair (Table 8).

When asked to consider important personal traits or skills in becoming a successful chair, top selections included being effective at communication (n=37, 71.2%), collaborative (n=35, 67.3%), trustworthy (n=30, 57.7%), a problem-solver (n=27, 51.9%), effective decision-maker (n=22, 42.3%), and good listener (n=22, 42.3%) (Table 9).

Experiences and Perspectives Based on Gender

Female participants tended to become chairs at younger ages (all between 41–55) than their male counterparts (79.6% between 46–60), though this was not statistically significant (p=0.49). Of the 6 female participants, 5 completed a fellowship (vs. 35/45 males) and 1 obtained a non-medical advanced degree, a Master of Healthcare Management (vs. 14/45 males). All of the female participants had held a clinical leadership position and 50% had held an educational leadership position prior to becoming chair (vs. 82.2% and 71.1% in males, respectively). The female participants also tended to have fewer published research articles (93 [10–189] vs. 150 [5–500], p=0.30), review articles (2 [1–13] vs. 18 [0–100], p=0.01), and book chapters (7 [0–36] vs. 30 [0–150], p=0.04). Common traits considered important by both females and males included being collaborative, effective at communication, decision-making, and open-minded, while females also included being inspirational and having curiosity and males included being a motivator as important skills (Table 10).

DISCUSSION

In this study of surgery department chairpersons, the majority of respondents were male, Caucasian, and had become chairs between the ages of 46 to 60. Most respondents completed surgical subspecialty fellowship training, with a minority also obtaining non-medical advanced degrees, including MBAs, MPHs, MHAs, and PhDs. Participants reported scholarly productivity, obtaining grants or other funding, and fulfilling clinical and educational leadership roles as important experiences on the road to becoming a successful chair.

In the current era of academic medicine, becoming a successful departmental leader requires not only clinical and research competence and expertise, but also proficiency in strategic planning, financial management, personnel recruitment and development, as well as interpersonal skills and cultural awareness.[11–13] The development of key tenets, including collaboration and cooperativity, humanized relationships and mentorships, and operational efficiency, are instrumental in becoming effective leaders in surgery.[4] However, as evidenced by the influx of non-physician leadership in medical care, it has become evident that formal undergraduate and graduate medical education do little to prepare physicians for leadership positions in the current era.[5,14] Much of this education was previously learned through passive observation, which was often inconsistent and inefficient at best.[13]

Our current study supports the ongoing importance of these tenets, with participants reporting key traits including being collaborative, open-minded, and a good listener, all of

which contribute to the first tenet. Additionally, key experiences such as serving in a faculty development role assist in promoting humanized relationships. Lastly, obtaining financial management and administration skills provide a foundation for operational efficiency. Due to the difficulties of achieving mastery through passive observation, numerous programs now exist to assist physicians in learning the skills necessary to progress in a career in health care systems of ever increasing complexity through leadership courses and formal MBA, MPH, and other advanced degree programs.[7,13]

Challenges facing leaders in academic surgery in the current era also include the deficiencies in equity, diversity, and inclusion. Despite a doubling of women trainees in general surgery over the past couple decades, women made up only 25.0% of Assistant Professors, 19.2% of Associate Professors, and 9.8% of Full Professors in 2015.[15] Additionally, only 10% of Division Chiefs and 10% of Program Directors in 2011 were women.[16] A recent survey shows only 24 women chairing departments of surgery in the United States.[17] Similarly, there remains a deficiency in racial diversity along the rungs of the academic ladder with few applicants, trainees, and faculty from underrepresented minority groups.[18,19] The Association of Program Directors in Surgery (APDS) created a Diversity and Inclusion Task Force which demonstrated that between 2008–2018, women comprised only 25% and non-Caucasians 10% of all APDS leadership positions.[20] In our current study, these clinical and educational leadership positions were considered important stepping stones on the path to a chair position. Increasing diversity in surgical leadership needs to start with encouragement, mentorship, sponsorship, education in those areas not traditionally included in medical education, and promotion of minority representation at the trainee and junior faculty levels to improve equity in candidates for progressive leadership roles.[21]

Rochon et al. and Jonasson suggest that a restructuring of academic career paths to allow more flexibility during early career periods where there is often competing personal or family demands on the physician's time, as well as rethinking the academician's career in terms of a long-distance run rather than a sprint to the next rung on the academic ladder, may help with retention and advancement of not only women but all physician-scientists.[22,23] Additionally, institutional or national development programs for specific underrepresented groups, for example, the Women in Medicine and Science chapters, Executive Leadership in Academic Medicine program, or the University of California, San Diego Hispanic Center of Excellence, may provide crucial support and encouragement for participants' advancement and retention.[24–27] Other structured mentorship programs for trainees and junior faculty, such as Surgeons as Leaders offered by the American College of Surgeons, may lead to improved confidence in skills needed for academic success, as well as higher retention, resulting in cost savings in recruitment.[7,28] While we did find that fewer women who completed the survey had completed advanced degrees, we did not thoroughly evaluate participation in non-degree programs such as those listed above and this deserves further attention in future studies.

Development of academic physicians historically focused on the clinician-researcher-educator, with less emphasis (if any) on formal training in the administrative and leadership skills essential to success in leadership.[29] These skills may be obtained through advanced degrees, as many of the participants in the current study have pursued. However, these

formal degree programs are time-consuming and may not available to all academic physicians. Therefore, there has been a rise in brief programs designed for business or physician leadership development, conducted either by individual institutions or national organizations to build participant leadership competencies and facilitate career advancement. A systematic review reported three studies which showed that participants in these programs had higher rates of promotion within 2–3 years of completing the program.[30] However, these programs range widely in structure, learning modalities, content, and program evaluation, resulting in varying levels of subjective participant satisfaction and often unclear impact on objective individual benefits or institution-level outcomes.[31,32] In addition, these programs must incorporate training in administrative, financial, and regulatory skills, understanding the organizational structure, and address development of personal and interpersonal competencies.[33] Many of the important leadership skills identified in our current study fall under the interpersonal domain of leadership and leadership development programs and formal medical curricula may benefit from incorporating these into their curricula.

The American Surgical Association Task Force (appointed to address issues of equity, diversity, and inclusion in surgery) also identified leadership development as an integral component of faculty retention and engagement in departmental activities.[34] Tailoring leadership development programs to specific needs of surgical faculty may be more beneficial than generalized business or healthcare leadership programs.[35] In the study by Lieff et al., many chairs recognized the potential benefit from leadership development and suggested that “high potential” faculty should be encouraged to seek out these opportunities. [12] Others may argue that all faculty have potential and should be offered the opportunity to participate in these programs; the key is to identify the right phase of each faculty member’s career during which they would benefit the most from these programs. Dimick et al. implemented a Leadership Development Program available to all surgical faculty at the University of Michigan.[36] This program focuses on combining theory with practical information, feedback and coaching, with rigorous evaluation up to 5-years after program completion. The need for structured feedback is evident in all phases of an academician’s career, from early faculty to chairs. The Indiana University School of Medicine established a chair development series to support learning around six key leadership competencies, as well as to provide structured feedback regarding implementation of skills.[37]

With regards to our study, there are limitations which must be addressed. First, the subjective nature of the survey, while allowing insight into individual experiences, may limit the generalizability of the findings. Second, the limited response rate lends the study population to significant selection bias, potentially favoring responses by those who are more comfortable with technology and completing internet-based surveys. However, the composition of the respondents was representative of the Society of Surgical Chairs in terms of gender and race. Third, the survey was designed to create a cross-sectional picture of current chairpersons and does not address potential changes in leadership characteristics over an individual’s career or time spent as chair.

CONCLUSIONS

Becoming a surgical chair often involves not only clinical expertise, research prowess, and educational acumen, but also a variety of leadership competencies obtained through passive exposure and observation during prior experiences and, more recently and possibly more efficiently, from obtaining additional advanced degrees. Identification of the goal to become a leader in academic surgery during early career phases may allow individuals to diversify their experiences and education in order to develop a broad range of required leadership skills. Future studies may include evaluation of perspectives of women and underrepresented minority chairs to better understand potential unique challenges in these populations. Additionally, future steps should include the development of early career adjunct curricula that are available to all surgical trainees and junior faculty, including underrepresented minorities, in order to facilitate diversity in surgical leadership.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

Funding/ Support: The project described was supported by the National Center for Advancing Translational Sciences of the National Institutes of Health, under Award Number 5UL1TR001425-04. This award supports the maintenance of the REDCap system at the University of Cincinnati. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

REFERENCES

1. Kahn MJ, Maurer R, Wartman SA, Sachs BP. A case for change: disruption in academic medicine. Acad Med. 2014;89(9):1216–1219. [PubMed: 25006713]
2. Lieff SJ, Yammarino FJ. How to Lead the Way Through Complexity, Constraint, and Uncertainty in Academic Health Science Centers. Acad Med. 2017;92(5):614–621. [PubMed: 28441672]
3. Souba WW, Day DV. Leadership values in academic medicine. Acad Med. 2006;81(1):20–26. [PubMed: 16377814]
4. Rosengart TK, Kent KC, Bland KI, et al. Key Tenets of Effective Surgery Leadership: Perspectives From the Society of Surgical Chairs Mentorship Sessions. JAMA Surg. 2016;151(8):768–770. [PubMed: 27096328]
5. Patel VM, Warren O, Humphris P, et al. What does leadership in surgery entail? ANZ J Surg. 2010;80(12):876–883. [PubMed: 21114726]
6. Lee TH. Turning doctors into leaders. Harv Bus Rev. 2010;88(4):50–58. [PubMed: 20402055]
7. Prabhakaran S, Economopoulos KP, Grabo DJ, Sakran JV. Surgical leadership across generations. Bull Am Coll Surg. 2012;97(8):30–35.
8. Tanious A, McMullin H, Jokisch C, et al. Defining a Leader-Characteristics That Distinguish a Chair of Surgery. J Surg Res. 2019;242:332–335. [PubMed: 31129242]
9. Heitz C, Hamilton GC. The academic chair in emergency medicine: current demographics and survey results identifying the skills and characteristics desired for the role. Acad Emerg Med. 2011;18(9):981–987. [PubMed: 21883636]
10. Hirsch JE. An index to quantify an individual's scientific research output. Proc Natl Acad Sci U S A. 2005;102(46):16569–16572. [PubMed: 16275915]
11. Detsky AS. How to be a good academic leader. J Gen Intern Med. 2011;26(1):88–90. [PubMed: 20809156]

12. Lieff S, Banack JG, Baker L, et al. Understanding the needs of department chairs in academic medicine. Acad Med. 2013;88(7):960–966. [PubMed: 23702526]
13. Zheng F, Mouawad NJ, Glass NE, Hamed O. Advanced degrees for surgeons and their impact on leadership. Bull Am Coll Surg. 2012;97(8):19–23.
14. Gunderman R, Kanter SL. Perspective: Educating Physicians to Lead Hospitals. Academic Medicine. 2009;84(10).
15. Abelson JS, Chartrand G, Moo TA, Moore M, Yeo H. The climb to break the glass ceiling in surgery: trends in women progressing from medical school to surgical training and academic leadership from 1994 to 2015. Am J Surg. 2016;212(4):566–572 e561. [PubMed: 27649976]
16. Weiss A, Lee KC, Tapia V, et al. Equity in surgical leadership for women: more work to do. Am J Surg. 2014;208(3):494–498. [PubMed: 24933664]
17. Haskins J Where are all the women in surgery? https://www.aamc.org/news-insights/where-are-all-women-surgery. Accessed May 6, 2020.
18. Abelson JS, Symer MM, Yeo HL, et al. Surgical time out: Our counts are still short on racial diversity in academic surgery. Am J Surg. 2018;215(4):542–548. [PubMed: 28693843]
19. Jarman BT, Borgert AJ, Kallies KJ, et al. Underrepresented Minorities in General Surgery Residency: Analysis of Interviewed Applicants, Residents, and Core Teaching Faculty. Journal of the American College of Surgeons.
20. Arora TK, Dent D, Morris-Wiseman L, Nfonsam V. Diversity in the Last Decade of the Association of Program Directors in Surgery: A Descriptive Analysis of Leadership and Future Directions. J Surg Educ. 2019;76(6):e125–e131. [PubMed: 31495745]
21. Pories SE, Turner PL, Greenberg CC, Babu MA, Parangi S. Leadership in American Surgery: Women are Rising to the Top. Ann Surg. 2019;269(2):199–205. [PubMed: 30048312]
22. Rochon PA, Davidoff F, Levinson W. Women in Academic Medicine Leadership: Has Anything Changed in 25 Years? Acad Med. 2016;91(8):1053–1056. [PubMed: 27306972]
23. Jonasson O Women as leaders in organized surgery and surgical education. Has the time come? Arch Surg. 1993;128(6):618–621. [PubMed: 8503762]
24. Helitzer DL, Newbill SL, Morahan PS, et al. Perceptions of skill development of participants in three national career development programs for women faculty in academic medicine. Acad Med. 2014;89(6):896–903. [PubMed: 24871241]
25. Bauman MD, Howell LP, Villablanca AC. The Women in Medicine and Health Science program: an innovative initiative to support female faculty at the University of California Davis School of Medicine. Acad Med. 2014;89(11):1462–1466. [PubMed: 25006704]
26. Dannels SA, Yamagata H, McDade SA, et al. Evaluating a leadership program: a comparative, longitudinal study to assess the impact of the Executive Leadership in Academic Medicine (ELAM) Program for Women. Acad Med. 2008;83(5):488–495. [PubMed: 18448904]
27. Daley SP, Palermo AG, Nivet M, et al. Diversity in academic medicine no. 6 successful programs in minority faculty development: ingredients of success. Mt Sinai J Med. 2008;75(6):533–551. [PubMed: 19021192]
28. Wingard DL, Garman KA, Reznik V. Facilitating faculty success: outcomes and cost benefit of the UCSD National Center of Leadership in Academic Medicine. Acad Med. 2004;79(10 Suppl):S9–11. [PubMed: 15383376]
29. Fairchild DG, Benjamin EM, Gifford DR, Huot SJ. Physician leadership: enhancing the career development of academic physician administrators and leaders. Acad Med. 2004;79(3):214–218. [PubMed: 14985193]
30. Straus SE, Soobiah C, Levinson W. The impact of leadership training programs on physicians in academic medical centers: a systematic review. Acad Med. 2013;88(5):710–723. [PubMed: 23524921]
31. Frich JC, Brewster AL, Cherlin EJ, Bradley EH. Leadership development programs for physicians: a systematic review. J Gen Intern Med. 2015;30(5):656–674. [PubMed: 25527339]
32. Lucas R, Goldman EF, Scott AR, Dandar V. Leadership Development Programs at Academic Health Centers: Results of a National Survey. Acad Med. 2018;93(2):229–236. [PubMed: 28658016]

33. Gabel S Expanding the scope of leadership training in medicine. Acad Med. 2014;89(6):848–852. [PubMed: 24662199]

34. West MA, Hwang S, Maier RV, et al. Ensuring Equity, Diversity, and Inclusion in Academic Surgery: An American Surgical Association White Paper. Ann Surg. 2018;268(3):403–407. [PubMed: 30004923]

35. Jaffe GA, Pradarelli JC, Lemak CH, Mulholland MW, Dimick JB. Designing a leadership development program for surgeons. J Surg Res. 2016;200(1):53–58. [PubMed: 26323368]

36. Dimick JB, Mulholland MW. Design Principles for Building a Leadership Development Program in a Department of Surgery. Ann Surg. 2018;267(1):39–41. [PubMed: 28708634]

37. Palmer M, Hoffmann-Longtin K, Walvoord E, Bogdewic SP, Dankoski ME. A competency-based approach to recruiting, developing, and giving feedback to department chairs. Acad Med. 2015;90(4):425–430. [PubMed: 25607939]

TABLE 1.

Demographics of survey participants.

	N	%
Gender		
Female	6	11.5%
Male	45	86.5%
Race		
Caucasian	40	76.9%
African-American	3	5.8%
Asian-American	4	7.7%
Hispanic	3	5.8%
Did not answer	2	3.8%
Age at Becoming a Chairperson		
35–40	1	1.9%
41–45	9	17.3%
46–50	11	21.2%
51–55	15	28.8%
56–60	13	25.0%
61+	2	3.8%
Did not answer	1	1.9%

TABLE 2.

Education and training completed by survey participants.

What kind of fellowship training did you complete?		
Cardiothoracic Surgery	9	17.3%
Surgical Critical Care	8	15.4%
Surgical Oncology	7	13.5%
Transplant Surgery	6	11.5%
Colorectal Surgery	4	7.7%
Vascular Surgery	4	7.7%
Hepatobiliary Surgery	3	5.7%
Pediatric Surgery	2	3.8%
Other	5	9.5%
What degree(s) do you have?		
MD	51	98.1%
PhD	2	3.8%
Master of Business Administration	6	11.5%
Master of Health Administration	2	3.8%
Master of Public Health	2	3.8%
Master of Education	1	1.9%
Master of Management Studies	1	1.9%
Master of Public Administration	1	1.9%

TABLE 3.

Advanced degrees stratified by age at becoming chair.

	≤50 years of age (n=21)	>50 years of age (n=30)	
Overall	42.9%	20.0%	p = 0.08
PhD	4.8%	3.3%	
Master in Business Administration	9.5%	10.0%	
Master in Health Administration	0.0%	3.3%	
Master in Public Health	9.5%	0.0%	
Master in Education	4.8%	0.0%	
Master in Management Studies	4.8%	0.0%	
Master in Public Administration	4.8%	0.0%	

TABLE 4.

Publications by survey participants.

	Median	Range
Number of research articles you have published in peer-reviewed journals?	126	(5–500)
Number of review articles you have published in peer-reviewed journals?	15	(0–100)
Number of case reports you have published in peer-reviewed journals?	5	(0–80)
Number of editorials you have published in peer-reviewed journals?	4	(0–163)
Number of book chapters you have published?	25	(0–150)
Number of books you have edited?	2	(0–20)

TABLE 5.

Career paths and positions of survey participants.

Years in Academic Practice	N	%
0	0	0.0%
1–5	0	0.0%
6–10	1	1.9%
11–15	5	9.6%
16–20	8	15.4%
21–25	6	11.5%
26–30	15	28.8%
31+	15	28.8%
Did not answer	2	3.8%
Years in Community or Private (Non-Academic) Practice?		
0	35	67.3%
1–5	5	9.6%
6–10	2	3.8%
11–15	2	3.8%
16–20	0	0.0%
21–25	2	3.8%
26–30	0	0.0%
31+	1	1.9%
Did not answer	5	9.6%

TABLE 6.

Pursuing a chair position.

When did you identify becoming a Chair as a career goal?	N	%
During residency/fellowship	5	9.6%
At the Assistant Professor level	8	15.4%
At the Associate Professor level	14	26.9%
At the Full Professor level	24	46.2%
Did not answer	1	1.9%
Who is the primary individual you would identify as helping you make the decision to pursue a Chair position?		
Senior faculty mentor	15	28.8%
Another chairperson	15	28.8%
Mentor in residency	8	15.4%
Hospital leader	4	7.7%
Spouse	4	7.7%
Did not pursue, was asked to become Chair	3	5.7%
Mentor in fellowship	1	1.9%

TABLE 7.

Chair experiences of survey participants.

Number of Institutions as Chair	N	%
1	36	69.2%
2	11	21.2%
3	1	1.9%
4	4	7.7%
Years in Chair Position		
1–5	23	44.2%
6–10	10	19.2%
11–15	8	15.4%
16–20	6	11.5%
21–25	4	7.7%
26–30	1	1.9%
Years Expected to Remain in Chair Position		
1–2	3	5.8%
3–5	13	25.0%
6–10	29	55.8%
11–15	3	5.8%
16–20	0	0.0%
21 or more	2	3.8%
Did not answer	2	3.8%
How satisfied are you in your current position as Chairperson?		
Very satisfied	38	73.1%
Somewhat satisfied	9	17.3%
Neutral	2	3.8%
Somewhat dissatisfied	3	5.8%
Very dissatisfied	0	0.0%
What do you think you will do after your Chairpersonship?		
Retire	20	38.5%
Seek another Chairperson position	2	3.8%
Continue clinical and/or research practice	11	21.2%
Seek another administrative position	17	32.3%
Private business	1	1.9%
Unsure	1	1.9%

TABLE 8.

Perspectives of survey participants on importance of various academic and leadership experiences on becoming a successful chair.

Importance of Academic Experiences in Becoming a Successful Chair				
	Not Important	**Neutral**	**Somewhat Important**	**Very Important**
Basic science research	7 (13.5%)	18 (34.6%)	23 (44.2%)	4 (7.7%)
Clinical research	0 (0%)	4 (7.7%)	28 (53.8%)	20 (38.5%)
Scholarly productivity	0 (0%)	0 (0%)	20 (38.5)	32 (61.5%)
Experience with obtaining grants/funding	2 (3.8%)	9 (17.3%)	22 (42.3%)	19 (36.5%)
Serving in a faculty development role	2 (3.8%)	7 (13.5%)	23 (44.2%)	20 (38.5%)
Resident education role	1 (1.9%)	5 (9.6%)	20 (38.5%)	26 (50%)
Medical student education role	3 (5.8%)	13 (25.0%)	29 (55.8%)	7 (13.5%)
Lobbying/political process exposure	17 (32.7%)	21 (40.4%)	11 (21.2%)	3 (5.8%)
Business/financial training (e.g. MBA)	5 (9.6%)	20 (38.5%)	21 (40.4%)	6 (11.5%)
Other important academic experiences (please specify):				
Leadership and management roles	12 (22.8%)			
Strong mentorship	2 (3.8%)			
Business experience	1 (1.9%)			
Working at different institutions and healthcare jurisdictions	1 (1.9%)			
Importance of Leadership Experience in Becoming a Successful Chair				
	Not Important	**Neutral**	**Somewhat Important**	**Very Important**
Leadership role within division	0 (0%)	4 (7.7%)	12 (23.1%)	35 (67.3%)
Leadership role within department	0 (0%)	2 (3.8%)	16 (30.8%)	33 (63.5%)
Leadership role within hospital	0 (0%)	4 (7.7%)	26 (50.0%)	21 (40.4%)
Leadership role within medical school	2 (3.8%)	9 (17.3%)	29 (55.8%)	9 (17.3%)
Leadership role within community or local government	15 (28.8%)	25 (48.1%)	9 (17.3%)	1 (1.9%)
Leadership role within regional associations	5 (9.6%)	15 (28.8%)	25 (48.1%)	6 (11.5%)
Leadership role within national associations	4 (7.7%)	5 (9.6%)	22 (42.3%)	20 (38.5%)
Other important leadership experiences (please specify):				
IRB chair	1 (1.9%)			
Journal leadership	1 (1.9%)			
Leadership in philanthropy	1 (1.9%)			
Military	1 (1.9%)			

TABLE 9.

Important personal traits/skills in becoming a successful chair.

What are the top 5 traits/skills you consider most important in becoming a successful chair?	N	%
Effective at communication	37	71.2%
Collaborative	35	67.3%
Trustworthy	30	57.7%
Problem-solver	27	51.9%
Effective decision-maker	22	42.3%
Good listener	22	42.3%
Open-minded	16	30.8%
Motivator	13	25.0%
Reliability	10	19.2%
Optimism	9	17.3%
Self-control	9	17.3%
Effective mediator	8	15.4%
Empathetic	8	15.4%
Inspirational	6	11.5%
Social skills	6	11.5%
Charismatic	5	9.6%
Defined leadership style	5	9.6%
Sense of humor	5	9.6%
Tolerance/sensitivity (cultural, gender, etc)	5	9.6%
Willingness to hold unpopular positions	5	9.6%
Creativity	4	7.7%
Curiosity	4	7.7%
Pragmatism	3	5.8%
Teamwork, team development	1	1.9%
Integrity	1	1.9%
Idealism	0	0.0%

TABLE 10.

Gender-specific important personal traits/skills in becoming a successful chair.

Male	N	%	Female	N	%
Effective at communication	34	75.6%	**Collaborative**	5	83.3%
Collaborative	29	64.4%	**Open-minded**	4	66.7%
Trustworthy	27	60.0%	**Inspirational**	3	50.0%
Problem-solver	24	53.3%	**Curiosity**	2	33.3%
Good listener	20	44.4%	**Effective at communication**	2	33.3%
Effective decision-maker	19	42.2%	**Effective decision-maker**	2	33.3%
Motivator	12	26.7%	**Good listener**	2	33.3%
Open-minded	12	26.7%	**Optimism**	2	33.3%
Reliability	9	20.0%	**Problem-solver**	2	33.3%
Empathetic	8	17.8%	**Self-control**	2	33.3%
Optimism	7	15.6%	**Trustworthy**	2	33.3%
Self-control	7	15.6%	**Creativity**	1	16.7%
Effective mediator	6	13.3%	**Defined leadership style**	1	16.7%
Charismatic	5	11.1%	**Effective mediator**	1	16.7%
Tolerance/sensitivity (cultural, gender, etc)	5	11.1%	**Sense of humor**	1	16.7%
Social skills	5	11.1%	**Social skills**	1	16.7%
Willingness to hold unpopular positions	5	11.1%	**Charismatic**	0	0.0%
Sense of humor	4	8.9%	**Empathetic**	0	0.0%
Defined leadership style	3	6.7%	**Idealism**	0	0.0%
Inspirational	3	6.7%	**Motivator**	0	0.0%
Creativity	3	6.7%	**Pragmatism**	0	0.0%
Curiosity	2	4.4%	**Reliability**	0	0.0%
Pragmatism	2	4.4%	**Tolerance/sensitivity (cultural, gender, etc)**	0	0.0%
Teamwork, team development	1	2.2%	**Willingness to hold unpopular positions**	0	0.0%
Integrity	1	2.2%	**Teamwork, team development**	0	0.0%
Idealism	0	0.0%	**Integrity**	0	0.0%