Do plastic surgery division heads and program directors have the necessary tools to provide effective leadership?

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BACKGROUND: Effective leadership is imperative in a changing health care landscape driven by increasing expectations in a setting of rising fiscal pressures. Because evidence suggests that leadership abilities are not simply innate but, rather, effective leadership can be learned, it is prudent for plastic surgeons to evaluate the training and challenges of their leaders because there may be opportunities for further growth and support.
OBJECTIVE: To investigate the practice profiles, education/training, responsibilities and challenges of leaders within academic plastic surgery.
METHODS: Following research ethics board approval, an anonymous online survey was sent to division heads and program directors from all university-affiliated plastic surgery divisions in Canada. Survey themes included demographics, education/training, job responsibilities and challenges.
RESULTS: A response rate of 74% was achieved. The majority of respondents were male (94%), promoted to their current position at a mean age of 48 years, did not have a leadership-focused degree (88%), directly manage 30 people (14 staff, 16 faculty) and were not provided with a job description (65%). Respondents worked an average of 65 h per week, of which 18% was devoted to their leadership role, 59% clinically and the remainder on teaching and research. A discrepancy existed between time spent on their leadership role (18%) and related compensation (10%). Time management (47%) and managing conflict (24%) were described as the greatest leadership challenges by respondents.
CONCLUSIONS: Several gaps were identified among leaders in plastic surgery including predominance of male sex, limitations in formal leadership training and requisite skill set, as well as compensation and human resources management (emotional intelligence). Leadership and managerial skills are key core competencies, not only for trainees, but certainly for those in a position of leadership. The present study provides evidence that academic departments, universities and medical centres may benefit by re-evaluating how they train, promote and support their leaders in plastic surgery.

Key Words: *Leadership; Management; Plastic surgery; Skill set*

Les chefs et les directeurs de programme des services de chirurgie plastique ont-ils les outils nécessaires pour assumer un leadership efficace?

HISTORIQUE : Il est essentiel d'assumer un leadership efficace dans un paysage de la santé en mutation animé par des attentes toujours plus nombreuses, dans un contexte de pressions financières grandissantes. Selon les données probantes, les capacités de leadership ne sont pas innées, mais un leadership efficace peut être acquis. Ainsi, il est prudent pour les plasticiens d'évaluer la formation et les difficultés de leurs leaders, car ils profiteraient peut-être d'occasions de perfectionnement et de soutien.
OBJECTIF : Examiner les profils de pratique, la formation, les responsabilités et les difficultés des leaders dans le milieu de la chirurgie plastique universitaire.
MÉTHODOLOGIE : Après avoir été approuvé par un comité d'éthique de la recherche, un sondage virtuel anonyme a été expédié aux chefs et directeurs de programme de tous les services de chirurgie plastique associés à une université au Canada. Ce sondage portait sur la démographie, la formation, de même que les responsabilités et les difficultés liées à l'emploi.
RÉSULTATS : Le sondage a suscité un taux de réponse de 74 %. La majorité des répondants étaient des hommes (94 %) promus dans leur fonction à un âge moyen de 48 ans, qui n'avaient pas de diplôme lié au leadership (88 %), géraient directement 30 personnes (14 membres du personnel, 16 professeurs) et n'avaient pas de description de tâches (65 %). Les répondants travaillaient en moyenne 65 heures par semaine, dont 18 % étaient consacrées à leur rôle de leadership, 59 % aux tâches cliniques et le reste à l'enseignement et à la recherche. Ils remarquaient un écart entre le temps consacré à leur rôle de leadership (18 %) et la rémunération s'y rapportant (10 %). Ils décrivaient la gestion du temps (47 %) et des conflits (24 %) comme leurs plus grosses difficultés de leadership.
CONCLUSIONS : Les chercheurs ont constaté plusieurs lacunes chez les leaders en chirurgie plastique, y compris la prédominance du sexe masculin, les limites de la formation officielle et des compétences en leadership, la rémunération et la gestion des ressources humaines (intelligence émotionnelle). Le leadership et les connaissances en gestion sont des compétences de base essentielles, non seulement pour les stagiaires, mais aussi pour les personnes en position d'autorité. La présente étude démontre qu'il serait bénéfique aux services universitaires, aux universités et aux centres médicaux de réévaluer leur mode de formation, de promotion et de soutien des leaders en chirurgie plastique.

A competent manager is an individual who produces predictability and order through planning and organization, whereas an effective leader is someone who stimulates change through motivation and alignment of people through inspiring a new direction and purpose (1). Academic medical centres have evolved immensely over the past generation (2). While the traditional pillars of academic medicine rested on excellence in clinical care, research and teaching, in the current paradigm, over and above this foundation, the success of academic departments and medical centres hinge on quality, outcomes and fiscal prudence for which effective leadership and management skills are paramount.

This point is especially germane in the setting of the fiscal 'crunch' that medicine also must be accountable for because health care in the United States currently accounts for almost 18% of gross domestic product (GDP), while in Canada, almost 12% of GDP (3). Furthermore, the corporate suites of medical centres cannot manage the stewardship of this financial burden alone because it has been estimated that although physician salaries/compensation consume 12% to 16% of direct health care costs, the decisions physicians make comprise 70% to 80% of indirect health care costs (4).

Although trained for a career in plastic surgery, academic surgeons must also become proficient in the arenas of teaching and research,

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TABLE 1
Demographics and training of division heads and program directors in Canadian plastic surgery (n=17)

Current leadership role	
Division head	10 (59)
Program director	6 (35)
Unspecified	1 (6)
Sex	
Male	16 (94)
Female	1 (6)
Age, years, mean	53
Ethnicity	
East Asian	0 (0)
South Asian	0 (0)
Caucasian	16 (94)
African	0 (0)
First Nations	1 (6)
Other	0 (0)
Marital status	
Married	15 (88)
Single	1 (6)
Divorced	1 (6)
Height, cm, mean	177.8 (5 ft 10 in)
Years in practice, mean	21
Years current position held, mean	5.5
Academic rank	
Assistant professor	2 (12)
Associate professor	12 (75)
Full professor	3 (13)
Promoted from within	
Yes	16 (94)
No	1 (6)
RCPSC certified	
Yes	16 (94)
No	1 (6)
Academic appointment	
Clinical	11 (65)
Geographic full-time	6 (35)
Residency location	
Canada	16 (94)
United States	1 (12)
Other	0 (0)
Advanced degree	
None	10 (59)
MBA/MPH/MHCM/MHA	2 (12)
MSc/PhD/MEd/Other	5 (29)
Publications (journals), mean	28
Nonmedical publications	
None	10 (59)
Leadership	3 (18)
Education	4 (24)
Business	0 (0)

Data presented as n (%) unless otherwise indicated. RCPSC Royal College of Physicians and Surgeons of Canada

mostly without formal training in these areas. When an academic surgeon assumes a leadership role, the requisite skill set includes business acumen, including negotiation, accounting, human resource management, strategy and finance, among others. What is currently unknown is the level of qualifications/experience, knowledge and skills present leaders have. There is a limited body of information on this subject in the plastic surgery literature (5). The purpose of the present study was to qualitatively and quantitatively investigate the practice profiles, education/training, responsibilities and challenges of leaders within academic plastic surgery. Leaders in similar positions of influence within the corporate world are often formally trained and appraised on their proficiency in these areas before promotion. Whether the same is true in plastic surgery is uncertain.

METHODS

An online survey was designed by a team of four plastic surgeons, a research coordinator, a business school professor, a hospital administrator and a medical student, all of whom were affiliated with the University of British Columbia (UBC, Vancouver, British Columbia). The survey questions were not validated, but several were based on a previous American study (5). UBC Clinical Research Ethics Board approval was granted to conduct the present study (#H11-00540).

Division heads and program directors from 15 university-affiliated Canadian plastic surgery divisions were e-mailed invitations to participate in the anonymous survey. The addresses of these individuals were obtained from their division websites. Respondents were asked numerous questions regarding demographics, training, job responsibilities and challenges. These data were analyzed using basic summary statistics.

RESULTS

Of the 23 division heads and program directors with valid e-mail addresses, 17 responded to the survey, corresponding to a response rate of 74%. Completing the survey were 10 division heads, six program directors and one respondent who did not specify their role (Table 1). Most respondents were male (94%), Caucasian (94%) and had a mean age of 53 years. The majority were married (88%), had three children and the mean height of male respondents was 177.8 cm (5 ft 10 in).

Respondents were in practice for a mean of 21 years, were promoted to their current leadership role at 48 years of age and have held their position for >5 years (Table 1). Associate professor was the most common academic rank (75%), followed by full and assistant professors. The majority were promoted from within their divisions on a permanent basis (as opposed to an interim basis), were certified by the Royal College of Physicians and Surgeons of Canada, completed their residency training in Canada and 62% had a clinical appointment compared with 38% who were hired as geographical full-time faculty. Many respondents had completed more than one fellowship, most commonly obtained in the United States (65%), followed by Canada, 'other' and the United Kingdom.

The majority (59%) of respondents did not have an advanced degree, such as a Master's or PhD, while 12% had a leadership-related degree (MBA, MPH, MHCM or MHA) and 29% had a nonleadership based advanced degree (PhD, MSc, MEd or other) (Table 1). The average number of published journal articles was 28, although only 18% of respondents had published an article related to leadership.

While the job requirements of division heads are complex and require them to directly manage an average of 14 staff members (trainees, support staff) and 16 faculty surgeons (Table 2), only 35% of respondents had received a job description. Practice characteristics, stratified according to percentage of time spent working, are as follows: time spent clinically (59%), leadership role (18%), research (11%), teaching (9%) and medical practice administration (3%). Respondents worked an average of 65 h per week, spent approximately three weeks per year at meetings and four weeks per year on vacation. Interestingly, while leaders earned 10% of their total income from their leadership position, their leadership role consumed 18% of their time (Table 2).

The majority of respondents indicated their most important professional or academic characteristic leading to their leadership position was excellence in patient care (76%), followed by teaching excellence (12%) and having advanced training (12%) (Table 3). In contrast, there was more variability in personal characteristics that were selected, with work ethic being most common (35%), followed by

TABLE 2
Characteristics of leadership position and clinical practice

Faculty members in division, n, mean	16
Staff (trainees, others) directly manage, n, mean	14
Provided with job description, n (%)	
Yes	6 (35)
No	11 (65)
Leadership skills	
Accounting	12
Budgeting	47
Contracts	41
Accreditation	59
Financial analysis	12
Fundraising	59
Human resources	65
Leadership	82
Negotiation	53
Promotion marketing	41
Recruitment retention of faculty	65
Recruitment retention of staff	65
Resident selection	71
Setting division mission/vision	71
Strategy	65
Advising/mentoring residents	82
Advising/mentoring faculty	71
Support staff	47
Other	0
Percentage of practice devoted to:	
Leadership role	18
Clinical	59
Research	11
Teaching	9
Administration (own practice)	3
Meetings, weeks/year, n, mean	3.2
Vacation, weeks/year, n, mean	4.3
Hours/week, mean	65
Percentage of income from leadership role	10

Data presented as % unless otherwise indicated

TABLE 3
Personal characteristics, challenges and formal leadership training (n=17)

Most important academic characteristic leading to leadership position	
Teaching excellence	
Research productivity	2 (12)
Training (eg, advanced degrees)	0 (0)
Patient care excellence	2 (12)
Administrative ability	13 (76)
Other	0 (0)
Most important personal characteristic leading to leadership position	
Inspirational/motivating	1 (6)
Forward thinking	1 (6)
Goal orientated	2 (12)
Personal values	3 (17)
Trustworthiness	0 (0)
Team orientated	2 (12)
Friendship	0 (0)
Personality	2 (12)
Work ethic	6 (35)
Other	0 (0)
Greatest challenge	
Time management	8 (50)
Conflict	4 (24)
System issues	4 (24)
Other	1 (6)
Taken a leadership course	
Yes	10 (59)
No	7 (41)
Leadership course helpful	
Yes	8 (80)
No	2 (20)

Data presented as n (%)

personal values (17%), being goal or team oriented (12% each), and personality (12%). Time management was the greatest challenge faced by 48% of respondents, followed by health care system issues (24%), managing conflict (24%) and other (6%). More than one-half of all respondents had taken a leadership course and, of those who did, 80% found it to be useful.

DISCUSSION

> Leadership is the art of getting someone else to do something you want done because he wants to do it – *General Dwight Eisenhower* (6)

In the current academic organizational structure, the lines can appear to be blurred as it pertains to leadership versus management. A competent leader goes beyond simple managerial competencies of planning, organizing and designating specific systems and structures, rather, striving to motivate those that they lead to exceed their own expectations as well as those of the organization, anticipating and adapting to a changing landscape, and having the emotional intelligence to manage people and creating a vision for the organization (7). Due to a changed landscape in surgery caused by a variety of factors (2), a broader skill set than traditionally expected is requisite to be able to handle this set of challenges.

'Glass ceiling'

On review of the demographic composition of current leaders in plastic surgery, it is overwhelmingly male dominated. We found that men comprised 94% of leadership positions. Interestingly, the composition of medical school classes in Canada illustrates that although there is a demographic shift in the postgraduate classroom, in which from 2001 to 2011 there were 35% women and 65% men (8), these data have not yet translated to women assuming such positions. This trend is not simply found in medicine but, rather, also a consistent theme in the for-profit world and is referred to as the 'glass ceiling'. This concept is defined as, despite increased entry into fields historically held by men, women do not assume the top leadership positions in equal proportions (9). There are several variables that have been attributed to this phenomenon, including a limited number of female role models and mentors, traditional gender roles and sex discrimination in the medical environment (9). Although these barriers exist, optimism remains that, in the coming decades, this balance will shift to reflect the current medical school demographic.

Who are we promoting to leadership roles and are they equipped for success?

Although the current batch of plastic surgery leaders have a proven track record of academic success (mean of 28 publications), there were few publications in health care business or management (18%), and few leaders had an advanced business or management degree (12%). Subjectively, an overwhelming majority of leaders believed they were promoted to their leadership position based on their past academic or clinical background, rather than their leadership skills or specialized leadership training. Most (94%) leaders were promoted

from within their own departmental ranks, which has been suggested to be an important characteristic of a successful organization (1). Although 59% of leaders had taken a previous leadership course and 80% of those taking such a course believed it to be helpful, there was a significant gap as it pertained to the requisite skill set for these leaders. Whereas >50% of respondents had leadership-related responsibilities that included marketing (fundraising, accreditation), accounting, finance, human resources, leadership, negotiation, mentorship, recruitment and strategy, only 35% received a job description for the same.

Finally, our data suggest that a discrepancy exists between the amount of time leaders spend on their leadership position (18%) and the amount of compensation that is derived from their position (10%). Over and above the prestige associated with these positions, a more equitable compensation framework or a pay-for-performance scheme could be designed to incentivize leaders; incentivization would offer both greater accountability as well as productivity. These data suggest that more can be done to support leaders with resources, education, mentorship and remuneration so they are not set up to fail.

Leadership challenges

Surgeons have traditionally been described as being impatient, aggressive and arrogant (10,11). In medical school and surgical residency, trainees are taught to think independently and 'steer the ship' in an operating room setting; however, these characteristics do not engender much goodwill from administrators in a boardroom setting and, in fact, go against the trend of team-based decision making that occurs in the business/management world. As such, it is no surprise that leaders in the present study (Table 3) found their greatest challenges in association with managing time, managing in a changing administrative/health care environment and managing conflict. The management of these types of problems require excellent communication skills as well as emotional intelligence. As Souba (2) describes, academic medical centres have evolved to a paradigm of preventive, coordinated, evidence- and team-based care at a patient level and from physician-led to team-led decision making, with cost, operational efficiency and quality/safety outcomes driving these decisions at a system level. In medical school, students are taught how to make independent decisions in an effort to manage a patient's problem, which is completely against the grain of how decisions are made in a boardroom setting. The skills of transparency, collaboration and teamwork are critical to the success of leaders and by proxy their departments and medical centres.

As such, leaders must use a different skill set to be able to navigate these challenging waters. Although a formal appraisal of emotional intelligence was not performed in the present study, the trends – as they pertain to greatest challenges leaders face – resemble a formal study of this subject (12). Goleman (13) describes emotional intelligence as the ability or skill to identify, assess and manage the emotions of oneself, others and groups. These are not innate talents but learned capabilities that can be developed to enhance performance in the realms of self-awareness, self-management, social awareness and relationship management. For example, in the scenario in which the need arises to manage the challenging circumstance of the disruptive physician, a more tactical and diplomatic approach may be necessary rather than the traditional characteristics of the arrogant, impatient or aggressive surgeon.

Increasing leadership capacity in an effort to optimize health care value?

It has been argued that individuals in leadership roles are simply 'caretakers' of the position and 'conduits' of information, with the important decisions having been made in the corporate suites of medical centres. Furthermore, the data presented herein may indicate that there is a lack of institutional interest in having true leaders fill these positions. However, not only would this be a narrow-minded view of medical leadership, it would also be a cost-ineffective perspective. In Canada, health care spending represents approximately 11.6% of GDP (14). Whereas 14% to 16% of this amount can be attributed to direct physician compensation, 80% of entire health care spending costs are related indirectly to decisions physicians make (ie, ordering tests, scheduling a surgery) (4). Porter (15) described a value model in health care in which value = outcomes divided by cost. In this basic equation, by either enhancing outcomes or limiting cost, the value of a specific process is increased. Given the vast impact on both indirect and direct costs held by physicians, empowering and affecting physician decision making would influence value in health care both on the cost as well as outcome sides of the equation. Table 2 outlines the skill set leaders in plastic surgery require and, to this end, growing this skill set would be prudent because better informed and educated leaders would have the potential to make better informed and educated decisions.

How do we get there? Does every medical student need an MBA?

A significant body of literature would suggest that leadership skills can be acquired (16-18). More simply, as Vince Lombardi famously articulated, "Leaders aren't born, they are made. And they are made just like anything else, through hard work. And that's the price we'll have to pay to achieve that goal, or any goal" (6,18). Clearly, not every medical student needs an MBA or advanced managerial degree. In the same vein, not every medical student would require a Master's degree in epidemiology or education, yet many of our current faculty hold these types of advanced degrees to gain subspecialized knowledge to succeed in research or teaching. Not only are there system benefits to improving this capacity, but also personal benefits; surgeons who have acquired the skills necessary to lead tend to be more satisfied (19). Furthermore, both the Accreditation Council for Graduate Medical Education in the United States and the Royal College of Physicians and Surgeons in Canada both suggest that cultivating managerial skills and a broader awareness of the health system are core competencies that successful trainees should acquire by the end of their training.

At present in North America, there are several options to gain advanced executive education in management and leadership. Courses are currently offered via subspecialty professional organizations (ie, American Society of Plastic Surgeons), universities (ie, MD/MBA programs [20]), postgraduate medical education departments (21-24) and broader medical associations (American Medical Association, Canadian Medical Association). None of these aforementioned examples incorporate a coordinated, collaborative approach to building leadership capacity and are, in large part, siloed. An example of a cohesive and integrated method to developing a curriculum to enhance this skill set can be found by the National Health Service in the United Kingdom. A partnership between the National Health Service and the Academy of Medical Royal Colleges developed the 'Enhancing Engagement in Medical Leadership Project' (25), which sets a mandate for the cultivation of key medical leadership competencies via a set curriculum at the undergraduate (medical student) level, the postgraduate (residency) level as well as for practicing consultants. Whereas the minority of leaders in the present study had an advanced management/business degree (12%), almost 60% of respondents had taken a leadership course and, of those taking such a course, 80% found it to be valuable. Although not all medical students need an MBA, some form of advanced executive training in a coordinated, cohesive and integrated manner would be prudent.

Limitations

The primary limitation of the present study was its observational and cross-sectional sampling. Although a significant response rate was achieved, the study sample was of a relatively small group. As such, this limits meaningful statistical analysis. Furthermore, the goals and responsibilities for division heads compared with program directors may be quite different in nature; the present analysis did not discern between the two groups. Furthermore, we did not include data for hospital/medical centre/health authority leaders, only university-based

positions. The use of a nonvalidated survey is another limitation. Nonetheless, despite these limitations, there are few alternative means to gather such information and these data may pave the way for future mentoring/coaching, recruitment, succession planning and the ultimate success for leaders in our specialty.

CONCLUSIONS

Academic plastic surgeons must increasingly be able to manage a range of challenges and be proficient in a variety of skills that were not traditionally recognized within their leadership job description. Evidence suggests that leadership skills can be acquired and, just as continuing medical education is critical to competency in the clinical realm, lifelong learning in the discipline of leadership would enhance the quality and ultimate value of performance associated with a leadership role. Based on our findings, academic departments, universities and medical centres would benefit by re-evaluating and redesigning how they train, promote and support their leaders in plastic surgery from both a human resources as well as overall organizational strategy perspective.

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