2020

Leadership Training in Graduate Medical Education: Time for a Requirement?

Mark W. True

Irene Folaron

Jeffrey A. Colburn

Jana L. Wardian PhD

Joshua S. Hawley-Molloy

See next page for additional authors

Authors

Mark W. True, Irene Folaron, Jeffrey A. Colburn, Jana L. Wardian PhD, Joshua S. Hawley-Molloy, and Joshua D. Hartzell

Leadership Training in Graduate Medical Education: Time for a Requirement?

Colonel Mark W. True, USAF, MC; Lt Col Irene Folaron, USAF, MC†; Maj Jeffrey A. Colburn, USAF, MC‡; Jana L. Wardian§; COL Joshua S. Hawley-Molloy, MC, USA‖; LTC (P) Joshua D. Hartzell, MC, USA¶*

ABSTRACT

Introduction

The need for all physicians to function as leaders in their various roles is becoming more widely recognized. There are increasing opportunities for physicians at all levels including Graduate Medical Education (GME) to gain leadership skills, but most of these opportunities are only for those interested. Although not an Accreditation Council for Graduate Medical Education (ACGME) requirement, some US graduate medical education programs have incorporated leadership training into their curricula. Interestingly, the Royal College of Physicians and Surgeons of Canada adopted the Leader role in its 2015 CanMEDS physician training model and requires leadership training. We sought to understand the value of a leadership training program in residency in our institution.

Materials and Methods

Our 2017 pilot leadership training program for senior military internal medicine residents consisted of four one-hour sessions of mini-lectures, self-assessments, case discussions, and small group activities. The themes were: Introduction to Leadership, Emotional Intelligence, Teambuilding, and Conflict Management. Participants were given an 18-question survey (14 Likert scale multiple-choice questions and 4 open-ended response questions) to provide feedback about the course. The Brooke Army Medical Center Institutional Review Board approved this project as a Quality Improvement effort.

Results

The survey response rate was 48.1% (26 of 54). The majority of respondents (84.6%) agreed the leadership training sessions were helpful and relevant. Following the sessions, 80.8% saw a greater role for physicians to function as leaders. Most (88.4%) agreed that these sessions helped them understand the importance of their roles as leaders, with 80.8% feeling more empowered to be leaders in their areas, 76.9% gaining a better understanding of their own strengths and weaknesses as leaders, and 80.8% feeling better prepared to meet challenges in the future. After exposure to leadership training, 73.1% indicated a plan to pursue additional leadership development opportunities. All respondents agreed that internists should be able to lead and manage a clinical team, and every respondent agreed that leadership principles should be taught in residency.

Conclusions

This pilot project supports the premise that leadership training should be integrated into GME. Initial results suggest training can improve leadership skills and inspire trainees to seek additional leadership education. Moreover, much like the published literature, residents believe they should learn about leadership during residency. While more effort is needed to determine the best approach to deliver and evaluate this content, it appears even small interventions can make a difference. Next steps for this program include developing assessment tools for observation of leadership behaviors during routine GME activities, which would allow for reinforcement of the principles being taught. Additionally, our experience has led our institution to make leadership training a requirement in all of our GME programs, and we look forward to reporting future progress. Finally, an ACGME requirement to incorporate leadership training into GME programs nationwide would prove useful, as doing so would reinforce its importance, accelerate implementation, and expand knowledge of best approaches on a national level.

*Interim Dean/Designated Institutional Official, San Antonio Uniformed Services Health Education Consortium (SAUSHEC), 3551 Roger Brooke Drive, Joint Base San Antonio – Ft Sam Houston, TX 78234.

†Program Director, Endocrinology Fellowship, SAUSHEC, 3551 Roger Brooke Drive, Joint Base San Antonio – Ft Sam Houston, TX 78234.

‡Associate Program Director, Endocrinology Fellowship, SAUSHEC, 3551 Roger Brooke Drive, Joint Base San Antonio – Ft Sam Houston, TX 78234.

§Diabetes Center of Excellence, Wilford Hall Ambulatory Surgical Center, 1100 Wilford Hall Loop, Joint Base San Antonio – Lackland, TX 78236.

‖Program Director, Internal Medicine Residency, SAUSHEC, 3551 Roger Brooke Drive, Joint Base San Antonio – Ft Sam Houston, TX 78234.

¶Assistant Dean for Faculty Development, 4601 Jones Bridge Road, Uniformed Services University, Bethesda, MD 20814.

The views expressed herein are those of the authors and do not reflect the official policy or position of Brooke Army Medical Center, the Uniformed Services University of the Health Sciences, the US Army Medical Department, the US Army Office of the Surgeon General, the Department of the Army, the Department of the Air Force, the Department of Defense or the US Government.

doi:10.1093/milmed/usz140

INTRODUCTION

Effective leadership is essential to the success of any organization. Much rides on the shoulder of the leader. Accordingly, there is an emerging recognition of the need for physician leadership within healthcare in order to meet the increasing demands of the complex landscape of team-based medical practice.[1–7] Graduate Medical Education (GME) in the United States has traditionally focused on how the individual physician delivers patient care, but good leadership skills can optimize the overall patient care experience, from leading a multidisciplinary team to managing a clinical practice. Improved patient outcomes, more effective healthcare systems, and even greater physician well-being with reduced burnout are some of the many proposed benefits of a workforce of physicians capable of leading others.[8,9] While leadership training is not required by the Accreditation Council of Graduate Medical Education (ACGME), the Royal College of Physicians and Surgeons of Canada[10] has made it a requirement, with its CanMEDS Physician Competency Framework identifying the Leader role as an essential component of successful physician practice. Additionally, some US-based residency programs,[11–13] have recognized the value of leadership training and have incorporated it into their curricula. Recent systematic reviews show a growing trend in publications on GME leadership but best practices remain ill defined.[14,15] In our initiative, we aimed to assess resident attitudes toward leadership training after implementing a pilot leadership curriculum.

METHODS

In 2017, we implemented a pilot leadership training program with military PGY-2 and PGY-3 internal medicine residents at the San Antonio Uniformed Services Health Education Consortium. We partnered with Walter Reed National Military Medical Center, using components of their LEAD 2.0 curriculum for residents.[7] This program was designed in succession after the Uniformed Services University (USU) LEAD curriculum for medical students.[13] For our program, we developed and delivered a total of four one-hour sessions during the weekly academic conference. The sessions included:

- Introduction to Leadership: This session consisted of a lecture that explained the importance of physician leadership in the context of the national physician shortage and increased team-based care delivery. There were interactive small group discussions inviting the residents' definitions of leadership and important characteristics of leaders. Leadership was contrasted with the concept of management, in which leadership is primarily an activity of stepping outside of the sphere of daily activity in order to generate vision, direction and change for the group, whereas management is primarily directing the group to effectively and efficiently execute predefined tasks. The presenter then described several different leadership styles (authoritative, affiliative, democratic, coaching, pacesetting, and coercive/commanding), any of which may be appropriate depending on the particular situation. The session ended in a faculty-moderated small group case discussion in which a young physician must take corrective action with an underperforming medical assistant, and participants were asked to describe pros and cons of various leadership styles.
- Emotional Intelligence (EI) – This session consisted of a lecture defining EI, describing its importance, and explaining the five EI components of self-awareness, self-regulation, self-motivation, empathy and effective relationships. Interspersed in the lecture were two case-based studies, the first of which involved a young physician struggling with self-regulation of his emotions in response to a patient conflict. The second case involved a physician who effectively managed a relationship with a subordinate employee who had made an administrative error of financial consequence to the physician. Additionally, the audience reviewed a video clip with a task of identifying different EI components.
- Teambuilding – The group was first divided into teams of five members in order to perform the Marshmallow Challenge team exercise.[16] In this activity, each team was given 20 pieces of dry spaghetti, one yard of string, one yard of tape, and a marshmallow, with an 18-minute task to build a free-standing structure with the marshmallow on top. The exercise was used to illustrate fundamental elements of team dynamics followed by a debrief that highlighted similarities to team-based aspects of health care. A lecture then explained the advantages and challenges of working on teams, the normal stages of team formation, qualities of effective and ineffective teams, and practical tips on how to build highly functioning teams.
- Conflict Management – This session consisted of residents taking a conflict style self-assessment questionnaire,[17] followed by a lecture describing the inevitability of conflict and explaining five common approaches to conflict (avoiding, accommodating, compromising, competing and collaborating). The purpose of this session, in essence an introduction to negotiation skills, was to help individuals understand their own tendencies in the face of conflict and recognize the value of different methods of addressing it. The session culminated with a case study with role play to resolve a common medical conflict between an inpatient resident team who wants timely execution of patient orders from an overworked, understaffed nursing team.

When all four sessions were completed, residents were invited to participate in a 14-question, five-point Likert scale survey (1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree) about the leadership course, followed by four open-ended questions. These questions included 1) What was the most valuable part of these sessions?; 2) How could these sessions be improved?; 3) Is 4

one-hour sessions the right amount of content?; and 4) What do you recommend as next steps?

We used SPSS version 22 to analyze means and standard deviations for questions related to rating sessions and resident views. Responses from the open-ended questions were used to better understand survey responses. The Brooke Army Medical Center Institutional Review Board approved our project as a Quality Improvement effort.

RESULTS

The survey response rate was 48.1% (26 of 54). While not every resident participated in every session, those who attended rated the sessions high with a range of 3.89 to 4.05 on a 5-point scale (Table I). Every resident (100%) agreed that leadership principles should be taught in residency and that internists need to be able to manage a full clinical staff (Fig. 1). Most residents (88.4%) agreed that these sessions helped them understand the importance of their personal roles as leaders, with 80.8% feeling more empowered to be leaders and 73.1% planning to pursue additional leadership development. Following the sessions, 80.8% saw a greater role for physicians to function as leaders.

The open-ended comments were mostly positive, with many individuals describing the value of having time set aside to discuss leadership principles in the context of scenarios encountered during residency. Several appreciated the opportunity for introspection about their own style of leadership and approach to conflict, while most found the case studies and group discussions to be helpful. Regarding improvement areas, most communicated a desire for less lecture and even more interactivity including small group discussion, integration of scenarios, and role playing with an emphasis on practical application of principles. Most felt the four hour total was appropriate, although a few suggested ways to make it more concise. Fourteen residents communicated ideas for next steps including case-based exercises throughout the academic year, consideration of a longitudinal curriculum relevant to successive years of residency, and involvement of other health professions disciplines.

DISCUSSION

Residents overwhelmingly found value in our short curriculum, unanimously agreeing that leadership principles should be taught in residency. These sessions occurred in the last hour of weekly academic conference, bookended by lectures and busy clinical duties. Despite how these factors might have dampened enthusiasm for additional training, most found the content and timing to be appropriate, leading to changes in their perception of the importance of leadership and a

TABLE I. Leadership Curriculum Class Session Means and Standard Deviations

Class Session	Mean (SD)
Session 1 (Introduction to Leadership) was useful. ($n = 19$)	3.89 (0.81)
Session 2 (Emotional Intelligence) was useful. ($n = 21$)	4.05 (0.81)
Session 3 (Teambuilding and Teamwork) was useful. ($n = 20$)	4.05 (0.76)
Session 4 (Conflict Management) was useful. ($n = 24$)	3.92 (1.02)

Responses were recorded on a 5-point Likert scale where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree.

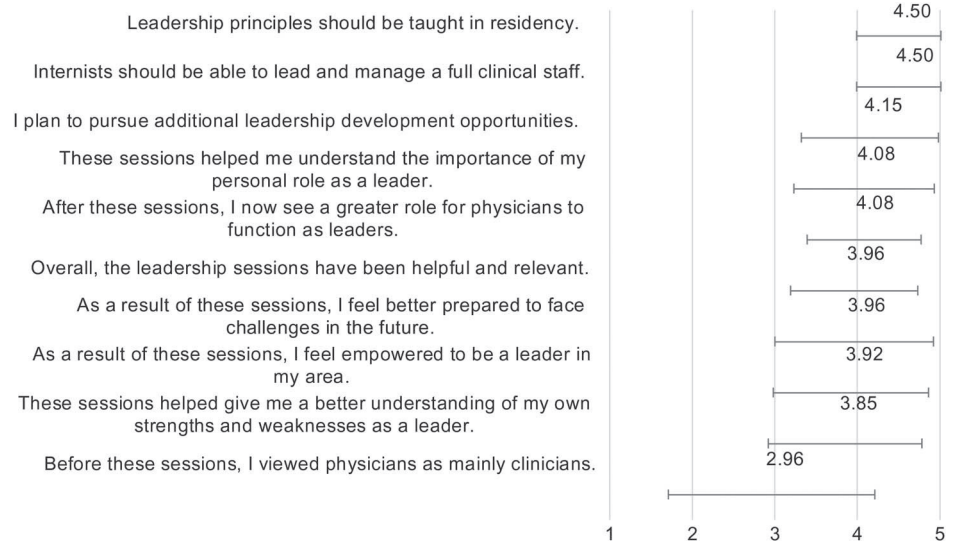
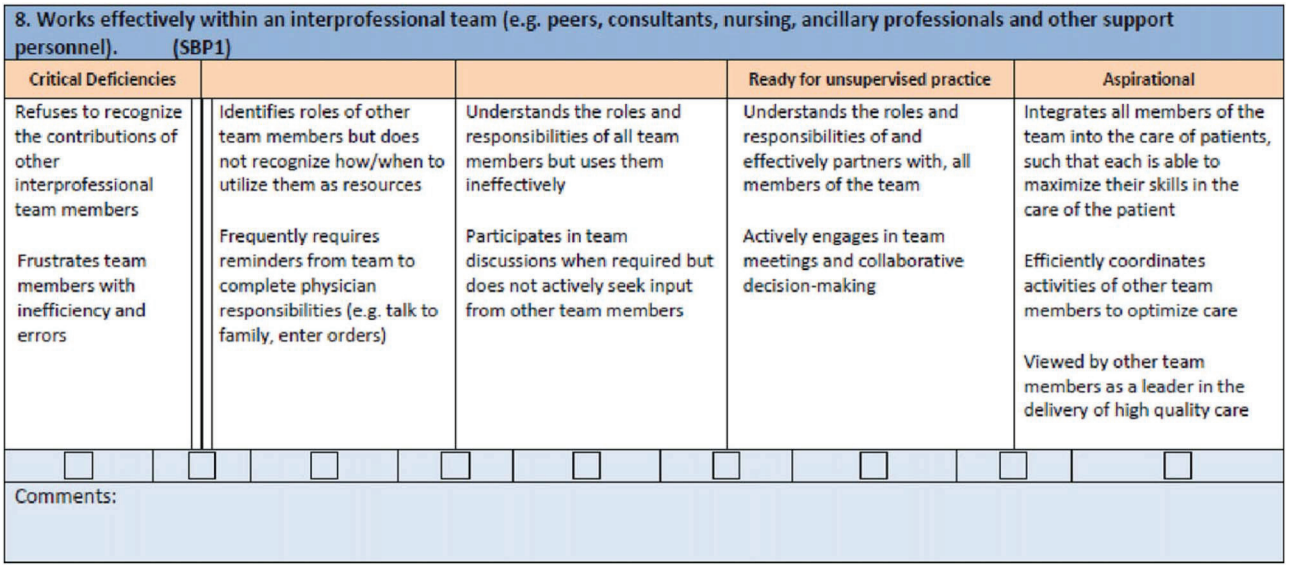


FIGURE 1. Resident perceptions of leadership curriculum (means and standard Deviation). Responses were recorded on a 5-point Likert scale where 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4= Agree; 5=Strongly Agree.



8. Works effectively within an interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and other support personnel). (SBP1)				
Critical Deficiencies			Ready for unsupervised practice	Aspirational
Refuses to recognize the contributions of other interprofessional team members Frustrates team members with inefficiency and errors	Identifies roles of other team members but does not recognize how/when to utilize them as resources Frequently requires reminders from team to complete physician responsibilities (e.g. talk to family, enter orders)	Understands the roles and responsibilities of all team members but uses them ineffectively Participates in team discussions when required but does not actively seek input from other team members	Understands the roles and responsibilities of and effectively partners with, all members of the team Actively engages in team meetings and collaborative decision-making	Integrates all members of the team into the care of patients, such that each is able to maximize their skills in the care of the patient Efficiently coordinates activities of other team members to optimize care Viewed by other team members as a leader in the delivery of high quality care
☐	☐	☐	☐	☐
Comments:				

FIGURE 2. ACGME Internal Medicine Residency Milestone #8. This ACGME Milestone exemplifies the prevailing approach to physician leadership in US GME programs. It categorizes basic leadership behaviors in the aspirational category (level 5 at the far right), rather than essential in physicians being ready for unsupervised practice (level 4). (© The Accreditation Council for Graduate Medical Education and The American Board of Internal Medicine. Reproduced with permission).

commitment to further leadership development. These results signal a remarkable attitudinal change, given that the trainees participated in only four hours of training. The timing, dose, content, and delivery of this short program were agreeable to the trainees, and suggests that leadership training may be incorporated alongside other educational requirements and duties of residents. The most disagreement was with the statement "Before these sessions, I viewed physicians as mainly clinicians," likely indicating a prior appreciation of a physician's broader role as a leader. Individuals provided constructive comments about how the delivery or content could be more effective, favoring less lecture and more scenario-based interactive sessions. These findings are consistent with recent publications suggesting residents prefer these educational strategies.[7,14] Overall, the question seems not whether to do leadership training, but how best to do it.

As it stands, most GME programs do not have a leadership curriculum, largely because it has never been required. The current ACGME approach only gives a nod to the importance of leadership.[14,15] Although there are some exceptions,[18,19] the majority of ACGME milestones that mention leadership do so in the aspirational category only, not as a core element expected of physicians.[20,21] For example, ACGME's Internal Medicine Milestone #8 (Fig. 2) describes resident behaviors related to the ability to work effectively within an interprofessional team. In this particular category, a physician is determined to be ready for unsupervised practice (i.e., a passing level 4) if one "actively engages in team meetings and collaborative decision-making." However, being "viewed by other team members as a leader in the delivery of high quality care" is not expected but rather is described as an aspirational behavior (level 5), i.e., beyond what is required.[20] We suggest that this type of categorization fails to emphasize the importance of physician leadership. In reality, all physicians should be viewed as leaders in the delivery of high quality care, but one can appreciate the challenge in having this expectation if the national accreditation system does not require it. While there is a diversity of opinions regarding the content, timing and format of leadership training,[14,15] our pilot project effectively delivered a concise set of leadership topics, obtained Kirkpatrick level one data (reactions),[22] and demonstrated that even small interventions can make an impact and inspire learners to want to learn more.

A large part of the problem is a misunderstanding of the term "leadership." A paradigm shift is clearly needed, in which we collectively demystify the concept of leadership to be more inclusive of everyday physician activities, rather than just associated with larger positions of traditional authority.[23] The current paradigm of "clinical skills first, followed by leadership if interested" is reinforced by the ACGME inclusion of leadership skills primarily in aspirational milestones. While there is growing interest in leadership curricula in GME, most residency programs have yet to incorporate leadership education.[14,15] Unfortunately, many programs that do exist are only targeted at Chief Residents or a select group of residents.[14] While valuable, these offerings miss the concept that all physicians are called upon to lead in clinical practice, but currently without any training. It is time for a new paradigm that recognizes that all physicians need good leadership skills, and inclusion of leadership behaviors in the ACGME milestone construct would represent a major step in driving adoption of leadership

training into our GME programs. As mentioned previously, the Canadian accreditation system has already taken this step by codifying an emphasis on the Leader role in its CanMEDS framework.[10]

Future directions and areas of research include developing and studying assessment tools for observation of leadership behaviors during routine GME activities, which would allow for reinforcement of the principles being taught. Attending physicians need to be brought in to this arena, such that they are knowledgeable of core leadership principles to the point where they can evaluate residents in real-world scenarios where these principles are applied. There are many current residency practices that are easily translatable into leadership training activities. For example, senior residents regularly function as leaders of inpatient teams consisting of junior residents and medical students. The scope of the evaluation for senior residents could be expanded to include a focus on leadership. Having the attending physician observe how the senior resident communicates expectations, structures the team's daily activities, establishes the environment for learning, provides feedback and develops the skills of junior members are easily accomplishable with a slight change in perspective regarding what should be evaluated. Another example is leadership of a quality improvement project, which is essentially a change management effort. In addition to teaching quality improvement principles, having the faculty assess how the resident recognizes the need for an improvement, builds a plan, generates interest, communicates goals and executes the project are all items that could be taught and evaluated as a leadership training exercise. These two examples illustrate that the activities for leadership development already exist in our GME programs. All that is needed is an adjustment in focus. Additionally, the advent of new technologies, such as telehealth and remote health monitoring, which leads to a migration away from the traditional face-to-face physician-patient visit as the primary mode of care delivery, demands that we refocus the physician's role as a team leader of many professionals involved in the delivery of patient care. We must prepare our trainees to enter this new environment of medical practice. Of course, beyond the four subjects we taught in our short curriculum, there are additional subjects that could be taught, to include advanced negotiation skills, change management, effective communication, high-impact meetings, etc., all of which could be studied further for potential implementation. The primary goal in our project was to deliver a short course of essential leadership topics in a limited time frame in order to communicate the importance of physician leadership and assess the overall value of our approach. Ultimately, we believe with others that "success will come when trainees see leadership as an essential part of their development as a doctor, not just a career option after they become one."[23]

We acknowledge some limitations. Although a 48.1% survey response rate is considered by many to be successful in an era of survey fatigue, it is possible that only those who found value in the sessions actually completed the surveys, tending to artificially elevate our perception of their value. However, in multiple conversations with program residents and faculty outside of the survey, we received no indication to suggest this. This program was also given to military residents who may be predisposed to finding value in leadership training by virtue of being in an organization that traditionally values leadership. Our results may not have been as strikingly in favor of leadership training if our program had been delivered to a civilian residency, although there is evidence in the literature that suggests consistency of results in civilian settings. For example, the Massachusetts General Hospital internal medicine residency reported similar findings as ours with a leadership training program, citing that 100% of their participants found that "the leadership course provided content that is relevant to my practice of clinical medicine."[11] Another limitation of our program was its small scope, delivered by a single instructor with facilitators to 54 internal medicine residents, such that our findings may not be generalizable to other specialties. For example, physicians with more technical skills-based work may not be as receptive to these sessions; however, working as team leader in the operating room seems paramount to effective patient care. Our discussions across specialties and institutions have found uniform interest in moving forward with broader programs. Therefore, our institution is now making leadership training a requirement in our GME programs.

CONCLUSION

This project supports the premise that leadership training should be integrated into GME.

An ACGME requirement to incorporate leadership training into GME programs would reinforce its importance, accelerate implementation, and expand knowledge of best approaches.

PRIOR PRESENTATION

Accreditation Council of Graduate Medical Education (ACGME) Annual Educational Conference, March 2018. San Antonio Military Health System (SAMHS) and Universities Research Forum (SURF), June 2018; Military Health System Research Symposium (MHSRS), August 2018.

REFERENCES

1. Rotenstein LS, Sadun R, Jena AB: "Why Doctors Need Leadership Training," Harvard Business Review, 17 Oct 2018 https://hbr.org/2018/10/why-doctors-need-leadership-training, accessed 6 Jun 2019.
2. Stoller JK: Developing physician leaders: a perspective on rationale, current experience, and needs. Chest 2018; 154(1): 16–20.
3. Dinchen J, Correa R, Schultz H, et al: The need for a leadership curriculum for residents. J Grad Med Educ 2015; 7(2): 307–309.
4. Blumenthal DM, Bernard K, Bohnen J, et al: Addressing the leadership gap in medicine: residents' need for systematic leadership development training. Acad Med 2012; 87(4): 513–522.

5. True MW, Folaron I, Wardian JL, et al: Leadership training in endocrinology fellowship? A survey of program directors and recent graduates. J Endocr Soc 2017; 1(3): 174–185.
6. Arroliga AC, Huber C, Myers JD, et al: Leadership in health care for the 21st century: challenges and opportunities. Am J Med 2014; 127(3): 246–249.
7. Hartzell JD, Yu CE, Cohee BM, Nelson MR, Wilson RL: Moving beyond accidental leadership: a graduate medical education leadership curriculum needs assessment. Mil Med 2017; 182(7): e1815–e1822.
8. Angood P, Birk S: The Value of Physician Leadership. Physician Exec 2014; 40(3): 6–20.
9. Shanafelt TD, Noseworthy HJ: Executive Leadership and Physician Well-Being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. Mayo Clin Proc 2017; 92(1): 129–146.
10. Royal College of Physicians and Surgeons of Canada.: CanMEDS: better standards, better physicians, better care. Available at: http://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e. Accessed 6 Jun 2019.
11. Blumenthal DM, Bernard K, Fraser TN, et al: Implementing a pilot leadership course for internal medicine residents: design considerations, participant impressions, and lessons learned. BMC Med Educ 2014; 14: 257.
12. Moore JM, Wininger DA, Martin B: Leadership for all: an internal medicine residency leadership development program. J Grad Med Educ 2016; 8(4): 587–591.
13. O' Connor FG, Grunberg N, Kellerman AL, Schoomaker E: Leadership education and development at the Uniformed Services University. Mil Med 2015; 180(4 Supp): 147–152.
14. Sadowski B, Cantrell S, Barelski A, O'Mally PG, Hartzell JD: Leadership training in graduate medical education: a systematic review. J Grad Med Educ 2018; 10(2): 134–148.
15. Sultan N, Torti J, Haddara W, Inayat A, Inayat H, Lingard L: Leadership development in postgraduate medical education: a systematic review of the literature. Acad Med 2018[Epub ahead of print].
16. Marshmallow Challenge, Available at: https://www.ted.com/talks/tom_wujec_build_a_tower, Accessed 6 Jun 2019.
17. Thomas-Kilmann Conflict Mode Instrument (TKI), Available at: http://www.kilmanndiagnostics.com/overview-thomas-kilmann-conflict-mode-instrument-tki, Accessed 6 Jun 2019.
18. Accreditation Council for Graduate Medical Education and American Board of Emergency Medicine: The Emergency Medicine Milestone Project. July 2015. Subcompetency no. 23. Available at: http://www.acgme.org/Portals/0/PDFs/Milestones/EmergencyMedicineMilestones.pdf Accessed 6 Jun 2019.
19. Rosenman ED, Branzetti JB, Fernandez R: Assessing team leadership in emergency medicine: the milestones and beyond. J Grad Med Educ 2016; 8(3): 332–340.
20. Accreditation Council for Graduate Medical Education and American Board of Internal Medicine: The Internal Medicine Milestone Project. July 2015. Subcompetencies nos. 8, 9, and 13. Available at: http://www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineMilestones.pdf Accessed 6 Jun 2019.
21. Accreditation Council for Graduate Medical Education and American Board of Internal Medicine: The Internal Medicine Subspecialties Milestone Project. July 2015. Subcompetencies nos. 9, 10, and 14. Available at: http://www.acgme.org/Portals/0/PDFs/Milestones/InternalMedicineSubspecialtyMilestones.pdf Accessed 6 Jun 2019.
22. Kirkpatrick DL: Evaluation of training. In: Training and Development Handbook: A Guide to Human Resource Development, 2nd ed., pp 18.1–18.27. Edited by Craig RL New York, NY, McGraw-Hill, 1976.
23. Dhaliwal G, Sehgal NL: Demystify leadership in order to cultivate it. Acad Med 2014; 89(11): 1441.