Leader and Leadership Education and Development in Medical Education across the Professional Life-Cycle

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Abstract

Problem: Leader and Leadership Education and Development (LEAD) is of growing interest in medical education and is a critical element for success. Several programs world-wide in undergraduate medical education (UME) and graduate medical education (GME) include their own versions of LEAD, but these programs remain relatively unique to university and institution missions. Creating and using a common language across the life-cycle (spanning pre-UME, UME, GME, and beyond) and delivering appropriate curricula and assessments for each stage of the professional life-cycle is essential.

Approach: The purpose of the 2019 LEAD Summit and Working Group meeting was to share opinions, experiences, and current practices across the medical professional life-cycle. Attendees offered diverse perspectives relevant to leadership programs before, during, and after medical school.

Outcomes: Three themes emerged from the meeting: the importance of common language; relevant and effective curriculum; and meaningful assessment across the life-cycle. Additionally, integration should occur within each step of the life-cycle and across the life-cycle to enhance the learning experience. To achieve these goals requires the development of learners and faculty.

Next Steps: Leadership is valuable in medicine. If medical education programs do not value LEAD, then these programs will fail to equip graduates to be effective 21st Century medical professionals. The development of a common language, clear expectations within and among training programs, and accreditation from appropriate organizations would provide some quality control and encourage institutions to provide resources and buy-in from learners and faculty.
Keywords: Leadership Education and Development; Leaders; Leadership; Medical Leadership Education and Development; LEAD

Problem

Leader and Leadership Education and Development (LEAD) is of growing interest in medical education. The Association of American Medical Colleges (AAMC) has stated that leadership is "the most critical component for success" and medical education should include knowledge and skills relevant to effective leadership (Association of American Medical Colleges). Several programs world-wide in undergraduate medical education (UME) (Crites, Ebert and Schuster, 2008; Varkey et al., 2009; Quince et al., 2014; Webb et al., 2014; Stringfellow et al., 2015; Mafe, Menyah and Nkere, 2016; Anderson et al., 2017; Till, McKimm and Swanwick, 2017; Barry et al., 2018; Barry, Kleber and Grunberg, 2018; Grunberg et al., 2018) and graduate medical education (GME) (Hartzell et al., 2017; Lerman and Jameson, 2018; Sadowski et al., 2018) include their own versions of LEAD, but these programs remain relatively unique to each institution's missions. Additionally, many LEAD programs are not incorporated into the general medical curriculum, only reach a limited subset of the potential leaders in medicine, and are not coordinated across the professional life cycle.

Overview of Leader and Leadership Education and Development Summit and Working Group Meetings

The annual LEAD Summit and Working Group meetings were instituted in 2017 to provide a venue for faculty, staff, and learners from U.S. Schools of Medicine, uniformed service academies, and related professional organizations to come together to discuss LEAD programs, ideas about curriculum and assessment measures, and how to optimize and integrate programs within and among institutions. Each meeting has focused on different topics relevant to LEAD in medical education.

The inaugural 2017 LEAD Summit and Working Group meeting broadly discussed: curriculum content and delivery; purpose, goals, philosophy, and conceptual frameworks; assessment of learners, programs, and faculty; research and scholarship; challenges and obstacles (Grunberg et al., 2018). The 2018 LEAD Summit and Working Group meeting addressed what, when, and how of LEAD curricula and assessments (Barry, Kleber and Grunberg, 2018). LEAD across the professional life-cycle was the theme of the 2019 meeting.

Approach

The purpose of the 2019 LEAD Summit and Working Group meeting was to share opinions, experiences, and current practices regarding LEAD across the medical professional life-cycle. The meeting was attended by professionals with a wide range of knowledge and experience relevant to leadership programs before, during, and after medical school (see Table 1).

Table 1: List of attendees and their affiliations

| Attendee         | Affiliation                                  |
|------------------|----------------------------------------------|
| Anand, Shashi    | Icahn School of Medicine at Mount Sinai      |
| Barry, Erin*     | Uniformed Services University                |
| Bean, Eric       | University of South Florida, Lehigh Valley   |
| Clyne, Brian     | Brown University                             |
| Doty, Joe        | Duke University                              |
| Grunberg, Neil*  | Uniformed Services University                |
| Holliday, Allison| Harvard Medical School                       |
| Hudepohl, Nathan*| University of South Carolina                 |
Working groups consisted of five to eight attendees who represented different institutions/groups and perspectives across the professional life-cycle. The working group facilitators encouraged full participation and consideration of guided questions that were provided in advance (see Table 2 and 3 for working group questions for day 2). The first working group session (held on day 1) was for individual introductions, descriptions of programs, and thoughts about the value of a life-cycle approach to LEAD. On day 2, both working group sessions were 75 minutes each followed by a 45-minute large group plenary discussion. There were additional networking sessions throughout the day.

Table 2. List of questions focused around undergraduate medical education for facilitators to guide working group discussion

| Question                                                                 |
|--------------------------------------------------------------------------|
| Does your admissions process consider undergraduate leadership experiences and/or education? |
| Should medical schools consider (or require) previous leadership experiences/education? |
| Should undergraduate institutions provide these opportunities for pre-med students? |
| How should leadership experiences/education be assessed and weighted?    |
| What are your institution's philosophy, conceptual framework, curriculum, requirements, and assessment approaches for UME leader and leadership education and development? |
| Is your program required, recommended, optional?                         |
| Is your program across all four years, one year, a single course or elective, etc.? |
| How does your program address needs of a heterogeneous student population with regard to leadership background and life experiences? |
| Should leadership programs be integrated with other aspects of UME? If so, how? |
Table 3. List of questions focused around undergraduate medical education for facilitators to guide working group discussion

- What leadership knowledge, skills, and attitudes (KSAs) should be required of medical school graduates?
- Does your institution's UME community partner/coordinate with GME programs regarding leadership education and development?
- Does your GME program partner with the faculty development program at your institution to develop and implement leadership programs at the GME level?
- Should GME include (as requirements or options) leadership education and development?
- If so, what should the programs entail?
- If so, how should the programs be delivered, integrated, and assessed?

Outcomes

Three themes emerged from the 2019 LEAD Summit and Working Group meeting. These were: importance of common language, relevant and effective curriculum, and meaningful assessments across the life-cycle (medical school admissions to UME to GME and beyond). Additionally, integration should occur within each step of the life-cycle and across the life-cycle to enhance the learning experience. To achieve these goals requires the development of learners and faculty (see Table 4 for themes).

Table 4. Leadership themes throughout leader and leadership education and development within and between the life-cycle of medical education

| Integration (within each and between) with the use of reflection and feedback | Medical School Admissions | Undergraduate Medical Education | Graduate Medical Education and Beyond | Development of learners and faculty |
|---|---|---|---|---|
| Medical School Admissions | - Common language | - Common language | - Common language | |
| Undergraduate Medical Education | - Curriculum | - Curriculum | - Curriculum | |
| Graduate Medical Education and Beyond | - Assessment | - Assessment | - Assessment | |

Medical School Admissions

**Common language.** It is important to develop ways to assess leadership and followership experiences and potential within the medical school application and admissions process. To accomplish this goal, a common language regarding leadership and followership terms and elements is needed within and between programs and institutions. This common language also could be used during medical school admissions processes.

**Curriculum.** There currently is no particular pre-UME curriculum addressing leadership, followership, and team work. Experiences with these topics are varied and it is important to recognize that some applicant may not have had opportunities for formal leadership activities.
Assessment. Medical school admissions processes emphasize standardized test-taking skills and may undervalue other important qualities, such as leadership and followership skills. Applicants from socioeconomically disadvantaged groups may be excluded because of bias of standardized testing and limited opportunities to hold formal leadership positions that are reported on applications.

With regard to leadership and followership potential, it is valuable to consider traits such as humility, awareness of self, ability to reflect on experiences, vision, empathy, ethics, and professionalism. Multiple mini interviews/problem-based interviews might improve the assessment of leadership and followership potential of medical school applicants. This approach would allow interviewers to gain a deeper sense of the applicant's ability to reflect on past experiences and provide a sense of how the applicant used those experiences to improve and express their vision for the future. Event team-based interviews also would provide a way to consider how individual applicants perform with others and possibly allow for the assessment of humility and team attitudes. Some schools have used behavioral event interviews, but these seem to focus on leadership competency and not the applicant's potential. Further studies would be required to confirm these thoughts.

Undergraduate Medical Education

Common language. The development of a common framework and language for use with learners and faculty is extremely important. Common language could be extended to other institutions as well as to post-graduate education programs to help learners transition between medical school and graduate medical education. Common language should use words that are consistent with the learners' views as well as within the curriculum. For example, words such as "wellness" and "resilience" are related to leadership and followership and are important in the learner's development.

Curriculum. It is important to develop emotional intelligence, build empathy, encourage team building, and improve well-being of self and others. Near-peers and peer-peer support/coaching should be used. Additionally, regular, individual and team coaching/mentoring could improve each learner's experience by providing more specific guidance.

The lessons, examples, and experiences provided for learners should be relevant to their stage of education and development. Faculty need to find ways to make the lessons more intentional with the use of specific and applicable examples to help the learners integrate the material to all settings and experiences. UME curricula are already packed with required material and LEAD curricula should include all learners whenever possible. Finding ways to use every opportunity to create team-based activities and provide opportunities for feedback and reflection are extremely important. For instance, team-based learning occurs within the anatomy lab and skills such as team building, effective communication, and problem solving can be emphasized in these settings to underscore how these skills are relevant to situations outside of "leadership sessions." Integration within multiple aspects of UME provides opportunities for learners to practice and have their leadership skills assessed, while concurrently learning clinical skills (e.g., effectively communicating with a patient; running a code; performing a "time out" prior to surgery). The use of common language would help to underscore the value of leadership topics.

Assessment. Assessments must align with program goals. Use of self- and peer-assessments is an important way to build self and social awareness as well as develop appropriate feedback skills that can be used to lead up, down, and sideways on teams. Additionally, more research needs to be done regarding programmatic assessment of leader and leadership programs within medical education to determine the program's effectiveness. The focus throughout medical school in the United States is based on the learner's numerical performance coming into medical school (GPA and MCAT) and the first two steps of the United States Medical Licensing Examinations which are used to determine the learner's potential for success and residency matches. Leadership training initiatives may be
underemphasized because of the numerical focus on metrics. It is important to find ways to gain the learners’ buy-in for LEAD initiatives.

**Graduate Medical Education and Beyond**

*Common language.* Identification and use of common language can aid in the integration of LEAD between UME and GME programs to provide more continuity for continued education and development.

*Curriculum.* GME programs are filled with essential and required tasks and, therefore, LEAD efforts need to be integrated with other experiences. Additionally, it is important to reinforce key aspects of character, communication skills, and team building with opportunities for reflection within experiential learning opportunities. Reflection is an essential part of GME education and could be accomplished individually or within peer-peer group discussions. Adding leadership tracks to GME programs would emphasize to learners the importance of leadership knowledge and skills within these programs.

*Assessment.* A challenge for assessment within GME is that learners are accustomed to educational programs focused on numerical performance. Yet, once learners are within GME programs, there is less focus on numerical performance and more focus on performance of knowledge and skills, such as using entrustable professional activities. It is important for GME educators to find ways to guide these assessments and feedback in order to continually improve learner performance.

**Learner and Faculty Development through Integration**

*Common language.* The common language that is used within medical education, from admissions through GME, should be shared with the learners and faculty. It is important that everyone uses a common language to emphasize LEAD lessons in all areas of education. This language also allows faculty to better serve as role-models for learners. With the use of a common language, the transitions between undergraduate education to UME to GME and beyond may be easier as learners will be familiar with expectations of knowledge and skills.

*Curriculum.* Within any LEAD curricula, integration of the common language will help learners and faculty find ways to emphasize leadership and followership experiences. Faculty need to be aware of the full medical education curriculum to know where their pieces most effectively can align and integrate with leadership and followership lessons being taught elsewhere. This understanding of the curricula will help faculty tie lessons together and align experiences for learners to enhance their learning experience. It is important that this LEAD common language and curriculum are familiar to learners and faculty.

*Assessment.* Assessments must align with the program and curriculum goals. Learners should be aware of the goals of the assessments and faculty need to find ways to effectively communicate these goals. With effective integration, each step of the life-cycle can prepare the learners for what is expected now as well as what will be expected going forward.

**Next Steps**

All LEAD programs are unique, but all of these programs are focused on improving education and development of medical professionals. LEAD should be introduced on day one within UME. Leader and leadership education and training has value for the institution and the individual professionals. It may help to increase emotional intelligence, improve performance, reduce burn-out, and may result in increased patient safety.

It is important for each LEAD program – whether UME, GME, or beyond – to determine the goals for their
graduates. For example, is the program's goal for graduates to focus on and emphasize professional work or for graduates to be able to balance life, family, and work? This type of question can guide the program and allow faculty to model the goal behaviors and attitudes for the learners. As learners develop, it is important that the experiences provided match their level of development. Programs should train medical students (teaching them the knowledge and skills to prepare for the "known"), educate them (i.e., prepare for the "unknown"), and transition to coach physicians (by working on ways to improve through comparisons of their performance to norms).

Leadership is valuable in medicine and relevant to all. If medical education programs do not value LEAD, then these programs will fail to equip graduates to be effective 21st Century medical professionals. The development of a common language, expectations within and among training programs, and involvement of professional organization and accrediting bodies are essential. LEAD accreditation would provide a degree of quality control and pressure on institutions to provide resources and buy-in from learners and faculty.

Future LEAD Summit and Working Group Meetings
Future LEAD Summit and Working Group meetings will address how to: (1) improve the admissions processes to UME; (2) integrate curricula, faculty development, and create a common language; and (3) develop effective leader/follower/team assessments to be used in UME and GME.

Take Home Messages

- It is important to create a common language to use across the lifecycle, to develop and deliver relevant and effective curricula and meaningful assessments for each stage of the professional life-cycle.
- Development of learners and faculty at all stages of the professional lifecycle is important.
- Integration should occur within each step of the lifecycle as well as across the life-cycle to enhance the learning experience.

Notes On Contributors

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**Appendices**

None.

**Declarations**

The author has declared that there are no conflicts of interest.

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**Ethics Statement**

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