NEW EDUCATIONAL METHOD

Charting a Course for Leader and Leadership Education and Development in American Medical Schools [version 1]

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Abstract

This article was migrated. The article was marked as recommended.

Problem: Leadership has been identified as an essential component for success in medicine. Many medical schools have initiated Leader and Leadership Education and Development (LEAD) programs to develop physician leaders. Currently, there is no consensus whether teaching leadership is important, who to teach, what topics to teach, and where leadership fits into the curriculum during medical school.

Approach: To address these issues, the Uniformed Services University of the Health Sciences (USU) LEAD team convened an inaugural Medical Student LEAD Summit and Working Group Meeting on April 4, 2017. Participants came from public and private U.S. medical schools engaged in LEAD programs, military service academies, the Veterans Administration, and the Association of American Medical Colleges. The purpose of this meeting was to share opinions, experiences, and current practices regarding medical student LEAD.

Outcomes: Participants overwhelmingly agreed that: (1) providing LEAD is an essential component of undergraduate medical education; (2) there currently is no single best LEAD program for all medical schools; (3) a clear purpose, goal, philosophy, and conceptual framework consistent with the mission and vision of each institution is needed; (4) assessment of students, programs, faculty must be incorporated; and (5) research and scholarship are essential for LEAD programs.

Next Steps: Based on the positive feedback and interest from participants, the USU LEAD team will host a second Summit in April 2018 to follow up with the inaugural participants and to include...
representatives from additional institutions who are currently conducting or interested in starting their own medical school LEAD programs.

**Keywords**
Leadership Education and Development, Leaders, Leadership, Medical Leadership Education and Development, LEAD
Problem
The Association of American Medical Colleges (AAMC) lists leadership as an essential component for success in medicine. In recent years, several medical schools have added Leader and Leadership Education and Development (LEAD) programs to their curriculum. Currently there is no consensus about whether to require LEAD curricula in undergraduate medical education and, if so, who to teach (i.e., some vs. all students), what topics to teach, where leadership best fits into the curriculum. As the “leadership academy” of the Military Health System, the Uniformed Services University of the Health Sciences (USU) has been tasked with developing medical students as leaders since its inception. To strengthen, invigorate, and enhance LEAD programs, USU hosted a meeting for medical schools and service academies to share approaches to leader and leadership education. This paper summarizes the purpose and outcomes of a meeting that was held to share approaches and curriculum relevant to leader and leadership education in medical schools.

Approach
The Inaugural Medical Student Leader and Leadership Education and Development (LEAD) Summit and Working Group Meeting took place on April 4, 2017, at the USU’s campus in Bethesda, Maryland. The purpose of this meeting was to share opinions, experiences, and current practices regarding medical student LEAD. The short-term goal was to create a network of professionals interested in medical student LEAD. The long-term goals were to share concepts, curricula, and programs, and to identify and develop best practices for medical student LEAD through collaboration and scholarly activities.

Participants included individuals actively engaged in leadership education. Most participants came from public and private U.S. medical schools engaged in LEAD programs for medical students. Because the military service academies emphasize leadership education, educators from the United States Air Force Academy (USAFA), United States Military Academy (USMA), and United States Naval Academy participated. Representatives from the Veterans Administration (VA) and the Association of American Medical Colleges (AAMC) also participated. See Table 1 for a list of participants.

The meeting began with a brief plenary session to explain the background, purpose, and structure of the meeting followed by working group sessions and group discussions. For the first working group session, participants were divided into five groups based on their preferences indicated prior to the meeting and to have groups composed of participants from different institutions. The five topics for the working groups were: (1) curriculum content and delivery; (2) purpose, goals, philosophy, conceptual framework; (3) assessment of students, programs, and faculty; (4) research and scholarship; and (5) challenges and obstacles. After this session, participants reconvened and shared what was discussed, followed by an open discussion. A second working group was then held with participants joining the discussion group of their choice. As before, after the session, participants returned to summarize the deliberations followed by an open discussion. In addition, there was a featured discussant and panel discussion regarding specific LEAD program.

Outcomes
Overview
Participants overwhelmingly agreed that medical students need LEAD; it is an essential component of undergraduate medical education; and there currently is no single best LEAD program for all medical schools.

Curriculum Content and Delivery
With regard to leadership curriculum for medical students, participants determined that there currently is no consensus about specific content and delivery, due in large part to the uniqueness of each medical school. Participants discussed the importance of life cycle leadership development (undergraduate medical education, graduate medical education, faculty development). It is important to include and distinguish education about leadership, leaders, managers, and followers; to teach leadership in pre-clerkship courses and clerkship rotations; to include individual, team-based, and experiential learning; and to incorporate real world examples and relevant issues and applications. Participants agreed that it is important to include near-peer and peer-peer education as well as experience giving and receiving feedback. It would be valuable to establish and align competencies with the entire curriculum and its goals; to include student projects; and to incorporate mentoring and coaching.

Purpose, Goals, Philosophy, Conceptual Framework
Participants agreed that it is important for LEAD programs to have a clear purpose, goal, philosophy, and conceptual framework consistent with the mission and vision of each institution. Further, it is important to distinguish between leaders (human capital) and leadership (social capital) and to understand that students need to acquire knowledge, attitudes, and skills as leaders, managers, and followers. Discussions addressed the value of fostering professional identity as leaders (in addition to identities as physicians) and to understand the different cultures within which leaders must act.
Assessment of Students, Programs, and Faculty

Assessments can measure individual leaders’ strengths and weaknesses, evaluate the program, track student progress, and evaluate faculty. Therefore, it is important to determine what, when, who, where, and how to assess the impact of leader education and leadership development programs; how best to provide feedback based on assessment information; and to collaborate across institutions to establish norms in assessment and performance. Participants agreed that assessment is important but that currently there is no consensus about leader and leadership assessment. Design of assessment cannot be done without first developing a conceptual framework and associated curriculum.

Research and Scholarship

Participants agreed that LEAD programs should be based on sound theories, concepts, principles, and evidence. Therefore, research and scholarship should address topics discussed by the other working groups. Potential activities

| Participants                  | Institution                                             |
|-------------------------------|---------------------------------------------------------|
| Anita Navarro, EdD            | Association of American Medical Colleges                |
| Brian Clyne, MD               | Brown University                                       |
| Nathan Hudepohl, MD, MS, MPH  | Brown University                                       |
| Joe Doty, PhD                 | Duke University                                        |
| Dean Taylor, MD               | Duke University                                        |
| Kathleen Calabrese, MD        | George Washington University                            |
| Terry Kind, MD                | George Washington University                            |
| Michael O’Leary, PhD          | Georgetown University                                  |
| Stephen Bohan, MD             | Harvard University                                     |
| Nancy Hueppchen, MD, MSc      | John Hopkins University                                |
| Mark Warner, MD               | Mayo Clinic                                             |
| Kristi-Jo Tutela-Dane, JD     | New York University                                     |
| Jennie Lou, MD, MSc           | Nova Southeastern University                            |
| Dean Winslow, MD              | Stanford University                                     |
| Erin Barry, MS                | Uniformed Services University                           |
| Neil Grunberg, PhD            | Uniformed Services University                           |
| Joshua Hartzell, MD, FACP, FIDSA | Uniformed Services University                       |
| Hannah Kleber, BS             | Uniformed Services University                           |
| John McManigle, MD            | Uniformed Services University                           |
| Francis O’Connor, MD, MPH     | Uniformed Services University                           |
| Eric Schoomaker, MD, PhD      | Uniformed Services University                           |
| Matthew D’Angelo, CRNA, DNP   | Uniformed Services University; Graduate School of Nursing |
| Diane Seibert, PhD            | Uniformed Services University; Graduate School of Nursing |
| James Dobbs, PhD              | United States Air Force Academy                        |
| Matthew Clark, PhD, PMP       | United States Military Academy                          |
| Melinda Kalainoff, PhD        | United States Military Academy                          |
| Melanie Dodge, MBA            | United States Military Academy - Preparatory School     |
| Arthur Gibb, III, PhD         | United States Naval Academy                             |
| Charles Callahan, DO          | University of Maryland                                  |
| David Fessell, MD             | University of Michigan                                  |
| Joann Quinn, PhD              | University of South Florida                             |
| Suzanne Templer, DO           | University of South Florida - Lehigh Valley             |
| Ron Massey, MPA               | Veterans Affairs                                        |
| Angela Yarnell, PhD           | Walter Reed Army Institute of Research                  |
include: outcomes research based on program goals; determination of optimal pedagogical teaching strategies to teach about leadership; and reliable and valid assessment of knowledge, skills, and attitudes relevant to effective leadership. It also is important to incorporate scholarship that studies, evaluates, and integrates relevant information about LEAD for medical students from relevant fields including psychology, sociology, business, anthropology, as well as studies of various leader types, styles, and effectiveness.

Challenges and Obstacles
Participants agreed that adequate resources (e.g., personnel, time, funds) are key and essential to establish and deliver meaningful LEAD programs in medical schools and that buy-in is critical from the institution, administration, faculty, and students. It is important to determine how best to train and recruit appropriate teachers and facilitators; to use experiential applications and involve project work; to recognize that time to teach leadership is limited and, therefore, must be optimally effective and time-efficient.

Featured Discussant
Between the working group/plenary discussion sessions, Dr. Michael O’Leary (Faculty member, Georgetown University McDonough School of Business and Presidential Leadership Scholars Program) spoke to the group about big picture ideas regarding how to build successful LEAD programs. Dr. O’Leary indicated a need to consider identity, inspiration, ability, and approach. It is important for students to understand who they are and know their knowledge base (Identity). He suggested that students should develop “muscle memory” with regard to leadership to be learned via relevant examples and experiential learning that is flexible and tailored to their needs to get them to understand why it is important and emulate good examples (Inspiration). Students need to understand what they need to know now and educators must remember that students do not need to know everything now (Ability). He suggested that educators focus more deeply, with more flexibility, and with meaningful, “at scale” examples (Approach). This approach meets students at their level and teaches them in the best way possible, to include using technology and peer/near-peer students as co-teachers wherever possible.

Panel Discussion Regarding Specific LEAD Programs
Representatives from five schools made brief presentations describing their LEAD programs. Key points from each presentation are listed below.

Brown University. Brown School of Medicine (SOM) selects student groups for their leadership program which consists of 15, two-hour sessions that include leadership interviews with faculty to get advice and reflect; case-based discussions; leadership action session projects; and student presentations to community leaders (field work with real connections). This program focuses on general and targeted needs assessment (e.g., what would a 2nd year student on the wards look like and teach those skills that are needed; https://vivo.brown.edu/display/bclyne).

University of Michigan. University of Michigan SOM’s program includes required and optional components throughout the four years of education for all students. These components include life coaching sessions in year 1, conversations with leaders throughout the year, and sessions in which students discuss their core challenges in life (facilitators also share their stories). There is a leadership tool that students can use to track their experiences with prompts for self-reflection about their experiences and improvisation sessions dealing with hypothetical cases (https://medicine.umich.edu/med-school/education/md-program/curriculum/longitudinal-learning/leadership-program).

Duke University. The Feagin Leadership Program (24 Scholars/year in four, 6-person teams) is a nine-month leadership immersion program for 3rd year students, MD-PhD students, and residents and fellows from all specialties. It involves competitive selection to participate; didactic sessions, individual coaches, team experiences, mentoring, peer-peer learning; leadership coaches; and a capstone event for participants to present their team projects. Duke has created a Healthcare Leadership Model (focused on Patient-Centeredness) and developed a LEAD Curriculum that is threaded through all four years of medical school. The curriculum is based on the Healthcare Leadership Model (emotional intelligence, teamwork, selfless service, integrity, critical thinking), includes near-peer learning, and provides opportunity to pursue a Certificate in Leadership Development (https://www.feaginleadership.org/).

University of South Florida. The USF SOM Scholarly Excellence Leadership Experiences Collaborative Training (SELECT) program educates 50 students/year. Students complete assessments of emotional intelligence, empathy, burnout, conflict, and personality for professional development. The program involves coaching sessions (8 students with 2 faculty) with the same coaches for all four years; comprehensive exams (one formative, one summative) each year; and a summer immersion course. During their 3rd year clinical rotations held at Lehigh Valley, PA, students engage in 1-on-1 sessions with coaching faculty to discuss plans to be more successful, class topics, and developing a professional development plan (http://health.usf.edu/medicine/mdprogram/select).
Uniformed Services University. USU’s LEAD program is required for all medical students and is provided across all four years. It includes plenary sessions, small groups, and applications in medical field settings based on the FourCe-PITO conceptual framework that includes: Character, Competence, Context, Communication across four levels of psychosocial interaction - Personal, Interpersonal, Team, Organizational. Topics include: principles and types of leadership; personality; emotional and social intelligence; effective communication; leaders, managers, followers; team building; self and peer assessment; and performance under stress. There are optional leadership capstone projects for 3rd and 4th year medical students and ongoing scholarly projects regarding relevant concepts and assessment (https://www.usuh.edu/usulead).

Next steps
After the Summit, a survey was sent to participants regarding reactions and suggestions for future sessions. Respondents suggested the creation of a shared, electronic, resource platform to post ideas and curricula. Respondents also indicated a desire for follow-up meetings to include: annual meetings; each of the five topics focused upon separately; or a focus on curriculum, details about existing programs, and assessment. Interest also was expressed to continue networking and to engage in collaborative studies and program development.

Based on the success and interest of this inaugural meeting, the USU LEAD team will host a Summit in April 2018 to follow up with the inaugural participants and to include representatives from additional institutions who are conducting or interested in starting medical school LEAD programs. The 2018 meeting will focus on curriculum and assessment.

Take Home Messages
- Medical Education should include leadership education and development
- There currently is no single best established curriculum for medical leadership education
- It is important to consider: (1) curriculum content and delivery; (2) purpose, goals, philosophy, conceptual framework; (3) assessment of students, programs, and faculty; (4) research and scholarship; and (5) challenges and obstacles
- Working group meetings focused on medical leadership education and development are valuable

Notes On Contributors
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Declarations
The author has declared that there are no conflicts of interest.

Acknowledgments
Conflicts of Interest: I declare that the authors have no conflicts of interest

Disclaimer: The opinions and assertions contained herein are the sole ones of the authors and are not to be construed as reflecting the views of the Uniformed Services University of the Health Sciences or the Department of Defense.

Acknowledgments: We thank all participants in the Summit and the administration and staff of USU. We also thank Arthur L. Kellermann, MD, MPH, Dean, Hebert School of Medicine, for his valuable input and support.
Leadership education is important for medical students and doctors. The paper describes an Inaugural Medical Student Leader and Leadership Education and Development (LEAD) Summit and Working Group Meeting held in April 2017 in the United States (US). The meetings are planned to be an annual affair with the next one scheduled for April 2018. I agree with the other reviewers about the focus of the paper being US-centric but the authors have clearly mentioned this in the title of their paper which provides readers an idea of what to expect from the paper. As mentioned by the other reviewers the authors have not placed their manuscript within the context of current literature on the subject and no references have been provided. This manuscript is a description of a new educational method or tool and more details about leadership education implementation can be provided. The examples of programs at specific medical schools with links to the descriptions on the website will be useful. Leadership is an interdisciplinary area and I am interested in knowing which combination/group of faculty members are best suited to facilitate learning of the subject. Also the areas of leadership which are most important and relevant may vary between countries, regions and will also vary according to the type of institution or level of care provided. For many developing countries primary health care is vitally important and most doctors are trained for their role as leaders of a primary health care facility. Similar to what has been done in the US other countries could conduct a similar meeting to address the leadership curriculum issues of importance in their setting.

**Competing Interests:** No conflicts of interest were disclosed.
Gert Van Zyl
University of the Free State

This review has been migrated. The reviewer awarded 4 stars out of 5

Well written paper and to the point with confirmation of a number of facts on leadership and leadership education. A piece of research faculties can use in their undergraduate programmes but also link up with faculty development plans for senior academics and also to prepare staff identified for succession planning. The importance of the concept of mentoring and coaching on undergraduate level, but also on higher levels, is confirmed.

**Competing Interests:** No conflicts of interest were disclosed.

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Judy McKimm
Swansea University

This review has been migrated. The reviewer awarded 3 stars out of 5

This paper provides a useful description of a leadership summit and introduces some case studies of leadership development programmes in medical education. I think this is an interesting introduction for those who are new to Leadership development however the paper is unreferenced and as such, does not locate the summit and case examples within the international literature on leadership development at both undergraduate and postgraduate levels. I think it would be a nice follow up to explore international examples (such as the UK Medical Leadership competency framework) and work being carried out to develop a ‘core curriculum’ in Leadership for undergraduates. It would also be good to locate this work within the Leadership literature and to clearly distinguish and define terms (Leadership, Management and followership) as these can be contested. However, I found this a really good summary of work going on in the US in Leadership development.

**Competing Interests:** No conflicts of interest were disclosed.
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Johnny Lyon Maris
Southampton GP Education Unit

This review has been migrated. The reviewer awarded 4 stars out of 5

Leadership in education and medicine is an important and under-explored curriculum area. The authors describe leadership programmes in their institutions and sum up key areas. The article is well written as a description of an intercollegiate committee and comparison of leadership programmes, It is useful for other academic institutions who wish to review their curriculum.

**Competing Interests:** No conflicts of interest were disclosed.

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Trevor Gibbs
AMEE

This review has been migrated. The reviewer awarded 4 stars out of 5

Although this paper is rather US-centric, I think that there is a lot to be learned by others. I am not sure that the findings are that unusual but I like the way that the summit has brought together some very important elements / steps within curriculum leadership. I liked the examples provided by some of the schools involved. All in all I feel that its apparent simplicity makes it an interesting and valuable paper I think that this is a useful paper for those involved in the area of leadership education and development and I look forward to see how this group develops and hopefully in their dissemination of their work together.

**Competing Interests:** No conflicts of interest were disclosed.