Tips for teaching leadership in graduate medical education

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Medicine is facing many challenges as the health care system and medical education attempt to address the quadruple aim—enhancing the patient experience, improving population health, reducing cost, and improving the work life of providers.[1,2] Physician leadership at all levels is an important part of meeting these challenges, and has been a focus of Alpha Omega Alpha Honor Medical Society (AΩA) for decades.[3,4] Physicians must have the ability to lead when necessary, work in teams, and follow others in certain circumstances. Moreover, physician leaders, based on their unique knowledge and experience, are needed to serve as leaders from the front line to improve the medical education and health care systems.

Leadership programs are common and have demonstrated positive impact on knowledge and skill acquisition.[5] Four of the authors had the opportunity to learn and lead through the AΩA Fellows in Leadership program, which led to personal experiences with teaching leadership at the graduate medical education level, and in hiring new physicians who have recently completed their residency and/or fellowship.

The AΩA Fellow in Leadership program is a year-long, intensive program building on physicians' expertise developed during medical school, residency/fellowship, and practice experiences. It is based on the concept that great leadership is experiential, and is developed through education, training, role modeling, mentoring, coaching, and reflection. Leadership in medicine is based on the concepts of servant leadership and must be grounded in core professional beliefs and values with an obligation and commitment to serve and care for people, especially the suffering.

Servant leaders and their teams dedicate themselves to a higher purpose. They create a shared vision based on inspiration, commitment, and values. They inspire others to use their knowledge, experience, and talent independently and inter-dependently to serve others effectively. They are focused on leading and making decisions based on what is the right thing to do for patients, team, and community. They learn and practice the work of leading and leadership recognizing that this involves an inward journey of self-discovery and self-development.

The four authors who are AΩA Fellows were the leaders of an ongoing project in their respective organizations, and are committed to life-long learning beyond their Fellowship experience.

There is growing interest in leadership training at the medical school and at the graduate medical education (GME) level, but there is a paucity of literature to guide GME program directors and others. As a result, many programs develop their own curricula from scratch.[5,6]

These tips have been tried, challenged, and refined based on the experiences of the authors, and their expertise as program directors, leaders, and a hospital CEO.

Introducing leadership education to residents has unique challenges in terms of timing and placement in an already dense curriculum. The Accreditation Council for Graduate Medical Education offers one program, and it is only for chief residents.

The most effective ways to implement GME leadership training remain undefined. Papers addressing staff physician leadership training provide insights into possible ways, but these may not always transfer to GME; however, recent needs assessments[7,8] point toward possible solutions. One recent systematic review of GME physician leadership programs,[5] and subsequent publications[9,10] have offered other models to consider.

Based on the experiences of the aforementioned four AΩA Fellows in Leadership,[11] and colleagues, who developed leadership programs at their institutions, we have developed the following tips based on our experiences to assist program directors and others in implementing leadership programs and/or enhance existing leadership teaching and development activities. While the tips are geared toward GME, they are applicable to leadership development at all levels in medical education.

These tips have been tried, challenged, and refined based on the experiences of the authors, and their expertise as program directors, leaders, and a hospital CEO.

Define curricular goals

The first step in curriculum development is to analyze the problem that an educational intervention seeks to address. The need may derive from existing evidence, expert opinion, or personal observations. Kern, et al., offers a model for curriculum planning that begins with a general needs assessment, identifying the gap between the current approach and ideal approach.[12] This is followed by a targeted needs assessment of prospective learners in their specific environment.[12] Ideally, this process yields clear and relevant curricular goals.

While it sounds straightforward, determining goals for a GME leadership program has unique challenges, since there is no consensus on what effective health care leadership should be, and there is little quality evidence to guide educators. This has been the experience of several of the authors.

However, as leaders, we have learned that programs need to make the distinction between leadership and management. Existing programs emphasize a range of knowledge, skills, and/or behaviors—from quality improvement, financial and business acumen, clinical leadership, academic development, health policy, and others.[5,7,13,14] Published needs assessments about GME leadership programs[7,8] should serve as a starting point for programs and as a guide to develop local needs assessments.

Utilize educational theory and conceptual frameworks

Many leadership curricula lack a structured framework and foundation in educational theory,[5,15] which can result in an unclear focus. Choosing a physician leadership framework will provide structure to the curriculum. An example is the CanMeds framework that organizes content into the seven roles of a physician including that of leader.[16] Leadership concepts fit into these roles as a scaffold for structuring the curriculum.

Once an overarching framework is determined, attention to educational theory allows the curriculum to be developed using principles to maximize the learners' and faculty's time. Observed examples of applying educational theory to inform leadership curricula include constructivism and experiential learning.

Constructivism posits that the learner constructs his/her learning.[17] This does not mean a teacher avoids didactics, but realizes that learning is constructed from a learner's previous knowledge, which include facts, personal experiences and cultural factors. Kolb's theory of experiential learning[17] suggests planning activities that intentionally provide concrete experience (a participant's personal experience, and new experiences) on which learners can build and reflect. It would be reasonable, at the level of graduate medical education, to combine these theories, creating a curriculum built on previous knowledge with elements of reflection, theory, and practice.

Deliberate practice theory[17] helps learners understand that they are "practicing leadership." The benefit to grounding curriculum in the theory is that it explicitly leads to choosing the educational methodologies, which is the fourth step in Kern's (1998) framework.

Identify core topics

We have found that programs should identify core topics that align with the goals of their program. Identification of topics can be approached in one of two ways: via a static curriculum; or an educational plan tailored to the individual learner. The first approach may be more suitable for entry level learners or in programs with constrained resources. Advantages of this approach include the ability to streamline curriculum development and teaching, and ease of comparison between learners given the static curriculum. Disadvantages include reduced ability to tailor educational material to the wide variety of learners who typically present to leadership training at the graduate level.

Several have identified specific competencies and various ways of organizing programs designed for residents.[7,9,18,19] Two recent systematic reviews[5,15] of leadership programs identified core topics that were taught, and an international working group is working to define competencies.[19]

Common Leadership Topics and Methods of Teaching

Leadership Topics	Methods of Teaching
Business of medicine	Book club
Conflict resolution	Case studies
Delegation	Lecture
Developing others (mentoring)	Leadership projects
Emotional intelligence	Panel discussion
Ethics/professionalism	Reflective journals
Feedback	Role play
Leadership styles	Self-assessments
Models of leadership	Simulation
Negotiation	Small group exercises
Quality improvement/change management	Team building exercises
Team work	Video review (TED talks, YouTube, movie clips)

There is no shortage of topics that could be taught, so programs should be explicit in choosing topics to ensure they meet the intended curricular goals.

Use interactive instructional strategies

Instructional strategies allow learners to interact with and apply the material in accordance with Adult Learning Theory.[20] According to Bonwell, active learning should involve "students doing things and thinking about what they are doing."[21] To the extent possible, based on the audience size and environment, educational sessions should encourage action, application, participation, and higher order thinking skills. Examples we have used include pair or group discussions, point-counterpoint debates, role playing, panel discussions, brief writing exercises, simulations, communication exercises, team challenges, case analyses, video review, and reflective writing.

Few studies have examined the effectiveness of instructional strategies in leadership education. Jenkins sought to identify the "signature pedagogies," used in undergraduate leadership programs, concluding that case studies and facilitated class discussions were the two most common instructional strategies.[22] Steinert's systematic review for faculty leadership curricula recommends incorporating a variety of active strategies.[15]

Published and empirical evidence suggests that enhanced interaction can address different student learning

styles, motivate learners, improve satisfaction, and enhance problem-solving ability.[21]

Self-assessment and reflective practice

The importance of self-reflection and improving emotional intelligence has been demonstrated both at the attending physician level as well as in GME.[23,24] As cultivated in the AΩA Fellows in Leadership program, The use of self-assessments allows participants to gain insights into potential strengths and weaknesses, and subsequently make improvements.[25] Assessments should be coupled with mentoring or coaching to help participants more fully evaluate the results and consider ways to improve.[23,26] There are numerous self-assessment tools for multiple leadership competencies. Despite availability, some of these instruments are quite costly, especially if purchasing for large groups. Moreover, some instruments must be expertly interpreted and are meant to be used as part of a coaching process. The instrument that is used should be determined based on local resources and needs.

The leadership curriculum should be sequenced in a manner that is developmentally appropriate and takes advantage of the experiences of the residents.

Integrate into existing curriculum

The leadership curriculum should be sequenced in a manner that is developmentally appropriate and takes advantage of the experiences of the residents. Meaningful sequencing of any curriculum allows learners to find personal and life relevance as a means of maximizing learning, changing behavior, and having impact. Sequencing integrates the educational theory.

Taking advantage of prior learner experience is part of Kolb's theory of collating multiple tips together.[17,27] This can most effectively be done by developing an explicit curricular map[28] for all competencies and core content. Our experience has demonstrated that junior residents in their first months of GME training will likely have greater benefit from team training and advanced communication exercises, while senior residents may benefit from organizational and change management skills.

Cultivate a diverse faculty pool

Leadership in health care has unique challenges and a distinctive culture, and there is value in learning across contexts from experts who can provide a different perspective. Many programs utilize departmental or hospital leadership to emphasize the importance of the program and capitalize on these individuals' leadership expertise. If the hospital has a faculty leadership program, then these faculty are resources to teach residents. In addition, many hospitals have specialists in organizational development who have expertise in leadership and can also serve as faculty.

Outside consultants are another option to be considered if programs have available funding.[29] We have found that residencies that are near business schools or other professional schools have an opportunity to partner with these schools to have their faculty teach leadership to residents.[5]

It is also good for programs to consider nursing, dental, or other professional leadership as speakers to demonstrate the importance of interprofessional collaboration.

Provide faculty development

Any new curriculum requires knowledgeable and confident faculty to teach the content in the designated methodologies, and assess the learner. In creating a leadership curriculum, there may be faculty who never received training in leadership principles, meaning faculty development may need to include leadership content in addition to the training and practice of educational methods. For example, we have found that faculty may need instruction in team building strategies and facilitation of small group discussion and individual reflection. Additionally, faculty development may be needed to assess and improve faculty attitudes regarding the need for leadership training for every resident.

Make use of mentors and coaches

Mentoring and coaching promote professional and personal development and growth.[30] While there are differences between the two—mentors focus on developing

an individual holistically over time, while coaches focus on helping performance of a specific task in a more time-dependent setting–combined, they can have an incredible impact on the success of a leadership curriculum.

All of us have been mentors and coaches who facilitate and guide residents through a learning and development cycle by promoting reflection (e.g., reflection-on-action and reflection-in-action) and conceptualization of new information and experiences, enabling the resident to refine behaviors and experiment with new experiences.[27,31] Furthermore, mentors and coaches can help lead to increased learning and personal and professional development.[31] Combining leadership projects and mentoring has been demonstrated to be an effective strategy for teaching leadership.[29,32]

Programs must create a culture of leadership where it is continually reinforced throughout the curriculum and by faculty.

Prioritize project work as an experientially-based teaching method

Project work allows for, and requires, application of leadership skills. Authentic projects require the implementation of executive skills such as sharing a vision, change management, running a meeting, delegating tasks, and overcoming obstacles through a team approach.[6,29] Projects provide an opportunity for enhancing self-awareness and self-development that can occur with experiential learning.[5] The studies[29,32-34] that were able to successfully demonstrate improvement in organizational outcomes used learning methods that included projects with multidisciplinary aspects.

Many residencies require trainees to conduct quality improvement projects, providing an opportune area to implement leadership training.

Evaluate the effectiveness of the curriculum

The leadership curriculum should be evaluated in order to make decisions about effectiveness. Evaluation should be done both in the short- and long-term to determine lasting impact.[5] While many of these skills are being utilized during residency, the real measure of success may be the leadership ability and opportunities of residents following completion of training.

Most published studies have used the traditional or modified Kirkpatrick Criteria[5,35,36] to measure outcomes. Participant satisfaction, knowledge acquisition, and behavioral change can be assessed through surveys. Ideally, behavioral change and knowledge would not be solely self-assessed, but examined via pre- and post-tests, 360 evaluations, and supervisor assessments. To facilitate the best response rate, surveys should be delivered while participants are still in class. While electronic surveys are easy to tally, paper surveys may still be the most likely to be completed.

Surveys should be designed with best practices in mind,[37] which will facilitate dissemination of results. Surveys provide quantitative data about the programs, but may miss the true impact. The use of qualitative methods (e.g., focus groups) should also be considered (Steinert, et al., 2012) as they afford the opportunity of capturing the leadership stories and may be able to provide rich data (Russon and Reinelt 2004) about the impact on both participants and the system.[15,38]

Few studies have examined stage III (behavioral change) and stage IV (system change) Kirkpatrick level outcomes.[5,15] Programs should attempt to examine what impact the curriculum or course has on the system (potentially through project outcomes). Most residents will be able to present process changes, and subjective evaluations of the impact and barriers.

Tracking future leadership roles assumed by graduates who participate in the curriculum may be another marker of effectiveness.

Build or reinforce a sustainable leadership culture

A leadership curriculum provides a foundation of leadership skills, but a successful leader engages in continuous lifelong learning. Fostering a lasting leadership mindset requires reinforcing and building a sustainable, supportive culture. Characteristics of a supportive culture include overarching themes such as reinforcing interdisciplinary collaboration, achieving goals through teams, high level mentorship, encouraging openness to trying new things, and recognizing failure as a learning opportunity.

When implementing a longitudinal curriculum, consider supplementing it with regular dissemination of

articles about leadership from sources such as the *Harvard Business Review*, asking the Grand Rounds speaker to engage residents in discussion over a leadership breakfast, and starting a book club that focuses on leadership. Regular team presentations on progress and challenges, similar to clinical rounds are another opportunity for leadership discussion. These supplementary activities will reinforce the leadership culture that is being developed with a formal curriculum.

The culture of leadership

Leadership education is an important component of resident education. As Ron Robinson, MD, CEO of two rural community hospitals has stated, "When I am looking to hire a young physician, I always look at the leadership training and experiences they have had throughout their medical education, especially in residency. The physicians who have experienced some leadership training tend to be more prepared for the leadership roles that may be thrust upon them, especially in a small rural hospital."

The contents and methods of GME leadership training are numerous and as each of us has done, programs should consider the best fit within the context of their residency. Programs must create a culture of leadership where it is continually reinforced throughout the curriculum and by faculty. This will ultimately develop a culture of leadership and develop a community of practice for medical residents.

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