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Review Article

Medical leadership: An important and required competency for medical students

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Abstract

Good medical leadership is the key to building high-quality healthcare. However, in the development of medical careers, the teaching of leadership has traditionally not equaled that of technical and academic competencies. As a result of changes in personal standards, the quality of medical leadership has led to variations between different organizations, as well as occasional catastrophic failure in the standard of care provided for patients. Leaders in the medical profession have called for reform in healthcare in response to challenges in the system and improvements in public health. Furthermore, there has been an increased drive to see leadership education for doctors starting earlier, and continuing throughout their careers so that they can take on more important leadership roles throughout the healthcare system. Being a physician requires not only management and leadership but also the need to transfer competencies to communication and critical thinking. These attributes can be obtained through experience in teamwork under the supervision of teaching staff. Therefore, medical students are expected to develop skills to deal with and resolve conflicts, learn to share leadership, prepare others to help and replace them, take mutual responsibility and discuss their performance.

Keywords: *Future physicians, Leadership, Medical education, Mentoring*

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Introduction

Facing the challenges of modern healthcare, experts and organizations are demanding physicians have the higher capability for leadership [1]. Regardless of professional ethics or their field of specialization, physicians play a leading role in the healthcare team and are considered to be ultimately responsible for the overall outcome of patient care [1,2]. All doctors can take a macroscopic view of healthcare provision and resource allocation and understand the political, economic, social, and technological drivers for change that will influence this view throughout their careers. They need to be supported by well-developed systems, clear reports, and lines of responsibility, as well as an organizational culture that provides good information and encourages them as a means of improving performance [3]. Leadership and management skills are required to ensure the provision of high-quality patient care [4]. Active participation of clinicians in leadership and management appears beneficial and positive associations have been found between doctors appointed to hospital boards of directors and clinical outcomes and overall performance [4]. Clinical quality depends on interprofessional teamwork, and therefore, leadership and management skills are needed at all levels. Worldwide, healthcare systems are rapidly changing enterprises facing many challenges, such as financial constraints, greater demand for accountability, increasing regulation, and changes in patient populations [5]. This is especially true with the aging population in Taiwan.

A report by the Institute of Medicine recommended that academic health centers "develop leaders at all levels who can manage the organizational and system changes necessary to improve health through innovation in health professions education, patient care, and research" [6]. These leaders need to help "define the future, align people with a vision, and remove obstacles to allow people to see this vision" [6]. The Association of American Medical Colleges (AAMC) has called for "new roles for physician leaders" and a "focus on organizational leadership in a new era of healthcare" [7,8]. In graduate medical education, the Accreditation Council for Graduate Medical Education requires residents to demonstrate the ability to "work effectively as a member or leader of a healthcare team or other professional group." [7,9] The Royal College of Physicians and Surgeons of Canada's CanMEDS physician competency

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framework includes "Manager" as one of the essential roles of physicians [7,10]. Leadership has become an essential competency for medical students. As described by the AAMC, medical graduates are expected to "provide leadership skills that enhance team functioning, the learning environment, and/or the healthcare delivery system." Many schools lack formal leadership programs, which may reflect the time constraints of existing curricula, limited resources, beliefs that leadership cannot be taught, lack of consensus on leadership content, and other factors [7]. Recently, the Leadership and Innovation in Medical Education had the vision to create longitudinal, integrated leadership development programs for students [7]. These programs initiated more formal, evidence-based training to prepare students as healthcare leaders. The cognitive needs and challenges facing students in the Taiwan health system have increased with the evolution of medical education from a 7-year system plus 1 year of postgraduate residency to a 6 year system plus 2 years of postgraduate residency. Although this is a big change, there is still no formal curriculum to teach students medical leadership in undergraduate medical education (UME). Therefore, all of these challenges indicate that the medical education system should identify effective ways to train medical students to be future physician leaders.

Definition of Leadership

The concept of leadership overlaps with two similar terms, management and administration. The former is used widely in Europe and Africa, while the latter is preferred in the USA, Canada, and Australia. Some leadership researchers distinguish them and have suggested leadership is synonymous with change, while management and administration are considered maintenance. The terms "leadership" and "management" are sometimes used interchangeably, but within the healthcare literature, they tend to describe different approaches to how change can be achieved.

Management is sometimes viewed as a derogatory term, especially in the public sector, while leading discourse provides a more attractive narrative for professionals, enabling policymakers to incorporate professionals into the activities desired, such as service reform [11]. Although many writers in the past have made a clear distinction between leadership and management, this approach tends to reinforce the discrepancies between the two sets of activities, and management is seen in some ways as a secondary factor in leadership, thus promoting the idea that it is more preferable to be a leader than a manager [1]. Definitions of leadership are many and contested, but most commentators agree that *leaders* motivate, inspire, and align strategy to establish direction for individuals and the systems in which they work, and *managers* are process driven and use problem-solving to direct individuals and resources to achieve goals already established by leadership [11]. While Vroom and Jago defined leadership as a "process of motivating people to work together collaboratively to accomplish great things" [12], leadership is a process, not a property of a person. It involves motivating, resulting in collaboration in pursuit of a common goal to achieve the great things that are in the minds of both leader and followers [12]. Leaders face many challenges in healthcare and medical education institutions. Medical, educational leaders are asked to be educational visionaries, instructional and curriculum leaders, assessment experts, community builders, public relations experts, budget analysts, facility managers, special programs administrators and expert overseers of legal, contractual and policy mandates and initiatives [13]. In addition, medical school leaders are confronted with many concerns such as financial stability, curriculum development, research support, and accreditation standards [13].

Leadership Theories and Development Methods

There are three major leadership theories: transformational, situational, and servant leadership [7]. The theory of transformational leadership contends that leaders stimulate others to transcend their self-interest to reach higher-order goals or visions [14]. This approach emphasizes the ability to motivate others by raising awareness of idealized goals and through role modeling. In the transformational model, leaders release human potential through empowerment and the development of followers. In situational leadership theory, effective leadership depends on choosing the correct leadership style that is appropriate for the followers or group background. Situational leaders shift flexibly among four behaviors: directing, coaching, supporting, and delegating, in response to follower readiness [15]. The theory of servant leadership argues that the influence of the leader comes from the need to serve others. Characteristic behaviors of servant leaders include listening, empathizing, accepting stewardship, and actively developing others' potential [16]. As with all forms of leadership, effective physician leadership may require a correct combination of personality traits, modifiable behaviors, and context [7].

Whether leaders are born or whether they can be made is still a debate. While Kotter [17] argues that leadership is made up of a series of definable skills that can and should be taught, others argue that there should be a prerequisite for natural leadership. All professionals can develop their own ability to lead others and can learn some skills and behaviors which are essential for effective leadership at whatever level they work. The approach adopted and implemented for leadership development is extensive, from one-to-one coaching, mentoring, action learning, and seminars to self-directed learning using books and audio recordings. Many doctors attend medical management and leadership courses at some point in their careers. However what are the competencies they should learn? They should be clear about what goal they are seeking to achieve. The following pages summarize a review by Warren and Carnall [3] on the most frequently used leadership-development methodologies within leadership programs. The first is *mentoring*, which is defined as "off-line help by one person to another in making significant transitions in knowledge, work, and thinking" [18] and also as "a form of human development where one person invests time, energy and personal know-how in helping another person grow and improve to become the best that he/she can become" [19]. Mentoring within medicine is traditionally an informal process; however, the increase in clinical, research and administrative needs, and the modernization of medical career pathways have eroded somewhat the opportunities for

these mentoring-mentee relationships to be established. If mentoring is used as a leadership development tool, we should be aware of its potential limitations and consider adopting a more formal process to establish mentor-mentee pairings [3]. Patients frequently discussed in mentoring sessions include: (1) Career aspirations and career planning over the short-, medium-, and long-term; (2) management of difficulties within professional and personal relationships; (3) delivery of previously agreed goals; (4) project management and leadership challenges currently facing the mentee; (5) the impact and management of political factors in delivering healthcare; and (6) personal life issues and events [3].

The second leadership-development methodology is *coaching*, which is aimed at performance enhancement in a specific area. It is goal-orientated and often a relatively short-term process. There is still insufficient research looking at what happens in the coaching process that can support leadership development, when it is successful, why it is successful in some settings, and what sort of leaders benefit most from coaching. Junior doctors have little chance to access this leadership development resource, although more organizations provide coaching for more senior clinical or medical doctors when appointed to new leadership roles [3].

The third methodology is *action learning*, which is based on the concept that leadership knowledge, skills, and attitudes can be developed through joint solutions to problems in the workplace, during real-life projects, and by observation and cooperation with others. In general, an action learning set consists of six to eight individuals with common goals or interests, accompanied by experienced counselors. Participants request time slots to raise the issue they wish to solve and then seek a solution through any mixture of open questions, appreciative enquiry, role play, and alternative perspectives. The aim is to help and empower the individuals in question to reach their conclusions [3].

The fourth methodology is *networking*, which can play an important role in leadership development and may be sustained longer than coaching or even mentoring. Networking involves the creation of interdependent, often mutually beneficial, relationships. It can be formal, such as by participating in a national group or as an active member of a society, or informal, through getting to know, interacting with and then working with others who share similar goals or interests. Two types of networking can occur within leadership development schemes, peer networking, and networking with senior leaders. Peer networking is establishing a personal network of like-minded individuals who can support, encourage, and offer opportunities for each other not only to learn and develop but also to take on new roles or leadership positions. This can play a significant role in reducing isolation and make individuals feel like they are part of the team or movement. Networking with senior leaders can provide opportunities to experience and witness interactions and events which individuals usually do not encounter. Senior leaders often provide extensive contacts which further the network's aims and offer a more diverse range of perspectives, views, and information [3].

The last methodology is experiential learning, which can take many forms, including entirely new jobs, secondments to other organizations, or part-time roles in ongoing clinical work. If real learning about leadership and the management of others is to occur, at least some of it should be experimental. The real challenge in the form of stretch assignments can provide important opportunities for development, requiring individuals to work outside their comfort zone and learn new skills to achieve the desired results. However, not all stretch assignments require stepping out of clinical work; much can be learned by balancing clinical work and contributing to other projects or by working in another capacity part time [3]. Lectures and lecture-based programs will only provide theoretical knowledge, leadership, such as in clinical medicine, is best learned through practical experience. It requires experimentation, application, and deliberate practice.

Different leadership methodologies can be developed. One person may find more relationships than others, but mentoring relationships, strong professional networks, and experiential learning are all excellent ways for future medical leaders to begin to develop necessary skills and experience.

Competencies of Leadership

Most modern leadership models are organized by a wide range of fields, divided into competencies that describe the specific knowledge, skills, or attitudes learners need [7]. The National Center for Healthcare Leadership's Health Leadership Competency Model uses three domains– transformation, execution, and people, and is further defined by twenty-six leadership competencies [20]. The United Kingdom's Healthcare Leadership Model includes nine domains with detailed descriptions of leadership competencies within each domain [21]. The Medical Leadership Competency Framework (MLCF) developed by the National Health Service, describes five domains: setting direction, demonstrating personal qualities, working with others, managing services, and improving services [22]. The MLCF is the most comprehensive and detailed medical leadership education model found in the literature. It describes the leadership competencies all doctors need to develop, which are incorporated into undergraduate and postgraduate curricula and the assessment process. All doctors should use these guides improve their quality of service in a profession, practice, or organization. The MLCF outlines the competencies expected of practicing clinicians. The MLCF component consists of five domains of competence with four sub-competencies in each domain: (1) Demonstrating personal qualities, (2) working with others, (3) managing services, (4) improving services, and (5) setting direction [7].

Medical students receive leadership curricula at different levels of education. An analysis by Webb *et al*. showed most leadership curricula (46%) were provided in both the preclinical and clinical years, and less commonly in only the preclinical (17%) or clinical years (29%) [5]. Most curricula did not provide for demonstration of changes in student behavior or quantitative results. Hunziker *et al*. showed that focused leadership training significantly

improved the student's cardiopulmonary resuscitation skills by faster preparation for CPR, faster initiation of CPR, and more appropriate chest compression rate for manual time to measure [23]. Gonsenhauser *et al*. showed that leadership and teamwork training resulted in improvements in four different surgical services according to the World Health Organization Surgical Safety Checklist [24]. The leadership competencies and the skills on which they focus are different. In their book, Crossing the Quality Chasm, the Institute of Medicine has suggested that leadership training focus on communication, teamwork and interprofessionalism, group development and dynamics, and patient safety and quality improvement [25]. It is possible for schools to develop their leadership curricula and identify the skills and competencies they will focus on.

Why Medical Students Need Leadership Training

Leadership and management abilities are recognized as key areas in postgraduate medical education. However, to be effective, engagement needs to start earlier in medical training. Medical education at the undergraduate level focuses on the diagnosis and management of disease, with little emphasis on the systems issues surrounding healthcare delivery and outcomes, or the team collaboration required to achieve safe and high-quality healthcare [2]. Leadership and management education are not well developed at the undergraduate level and there is limited literature on how to incorporate them into the undergraduate curriculum [4]. One survey showed that 85% of medical students thought that they should be taught leadership, communication, teamwork, and quality improvement skills in medical school [4]. Goleman reported the key qualities of participants in determining leadership include the quality of emotional intelligence, which includes self-awareness, empathy, cultural sensitivity, professionalism, motivation, inspiring commitment, confidence, and creativity [26]. Varkey *et al*. described communication, conflict resolution, time management, negotiation, delegation, teamwork, and community service as the key skills identified by the study participants as necessary outcomes for UME leadership training [2]. There was a strong preference for experiential learning and mentoring by leaders as methods of developing future leaders. An explicit leadership curriculum including role play, team training, community experiences, student leadership opportunities, participation in quality improvement projects, and mentored leadership development plans are potential ways to enhance UME leadership training [2]. Quince *et al*. reported that topics suggested by students included structure of the National Health Services, team working skills, decision-making and negotiating skills [4]. Patient safety was seen as particularly important. The involvement of clinicians in leadership and management has a beneficial effect on healthcare services, along with the quality of patient care [4]. If more of tomorrow's doctors are going to engage in leadership and management, it is necessary to educate today's medical students.

Summary

Healthcare is changing rapidly, and it is critical for physicians to develop leadership skills to help guide this change. To meet this need, well-designed and well-evaluated leadership curricula are necessary. Leadership curricula at the UME level focuses on a wide range of competencies but are often not intended to be consistent with existing leadership competency frameworks. Any effort to expand leadership training at the UME level requires recognition that there is little room for adding content to medical school curricula. Integrating leadership training into longitudinal curricula should be done by using areas of training that overlap with existing curricular content. Future physician leaders need to be trained throughout the field of education and in lifelong learning. UME provides an ideal environment for laying the foundation for leadership competencies, such as system thinking training, team collaboration, communication skills, quality improvement, and insurance systems. Further research is necessary to study optimal teaching and assessment methods in UME leadership curricula. There is also a need for in-depth qualitative and quantitative studies to characterize the most appropriate leadership competencies in each year of UME and the impact of such a curriculum on future leadership outcomes.

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Conflicts of interest

There are no conflicts of interest.

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