Mentoring

Making the Transition From Mentee to Mentor

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The concept of mentoring originated at least as long ago as early Greek civilization. In Greek mythology, when Odysseus left for the Trojan War, he placed Mentor in charge of his palace and, more important, the care and upbringing of his son Telemachus. Mentoring often involves multiple individuals; it is of interest that some scholars argue that Mentor was ineffective and that it was Athena, when she disguised herself as Mentor, who provided the guidance that Telemachus needed in times of crisis. The term "mentor" as a trusted counselor or guide has become not only a description but also a goal. The widespread use of the term gained traction with the 1699 publication of a book by Francis Fenelon, *Les Aventures de Télémaque*.

The journey that we have followed in this series of career development articles in *Circulation* should have as its apogee the transition of trainees from mentees to mentors. Guidance for trainees on selecting a mentor has been given by Bettmann[1] in his article, "Choosing a Research Project and Research Mentor."

Elements of Mentoring

Mentoring is best described as a series of complex interactions between 2 individuals who have as their primary purpose the growth of the mentee, although this process often results in the personal and professional growth of both parties. Mentoring can involve a transfer of knowledge, of patterns of behavior, of skills, and of an approach to an accumulated body of information. It sets the stage for mentees to approach, define, and mold their future and to develop networks of peers, coinvestigators, and colleagues.[2–4]

In some ways, mentoring is not unlike parenting, prompting several observations: No one is born with the natural ability to become a parent; parenting skills must be learned through an iterative process in which there is both learning and teaching; the process includes aspects of both knowledge and behavior; and the concept is essential for the upbringing of future generations. Finally and perhaps most important, mentoring requires dedication to the process, which includes substantial investments of time, energy, and resources—physical, emotional, and intellectual.

Mentoring can and should facilitate the development of personal learning networks. Such networks are lifelong resources for continued career development, collaboration, and personal and professional growth. Like parents, mentors are any or all of the following: supervisors, administrators, coaches, role models, teachers, and friends. Depending on the stage of the mentor/mentee relationship, the description of the role will differ. It must be remembered that mentoring is not confined just to people of different generations, eg, a trained funded investigator and a newly appointed junior staff or senior fellow. Throughout the course of a career, there are opportunities for mentoring at multiple levels, including peer mentoring.[5] All of these opportunities allow growth for both individuals.

Steps in the Development of a Mentor

The development of a successful mentor usually consists of an incremental approach of several stages. The important elements to be achieved by mentors are the transfer of important physician competencies that they have developed over their careers to their mentees. Recently, 6 major "competencies" have been defined by 3 major accrediting bodies (Accreditation Council for Graduate Medical Education, American Board of Internal Medicine, and American Board of Medical Specialties) that need to be met to ensure the continued development of a mature, competent physician.[6] These include medical knowledge, patient care, interpersonal skills and communication, professionalism, practice-based learning and improvement, and systems-based practice. However, most mentors are not able to immediately transfer all these competencies to potential mentees in their early stages of mentorship.

In the initial stages of the development of a mentor, simple transfer of information is the goal. This may be reflected by the cardiovascular trainee who "teaches" the house staff or nursing staff about various aspects of that particular subspecialty interest. As the mentors develop, they step beyond the transfer of information and promote the development of clinical decision making or other thought processes by their mentees. This aspect is frequently achieved through a Socratic approach or an open discussion of patient care during

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rounds. A similar process is developed in "teaching" procedural skills, in which didactic transfer of information regarding the procedure is performed in the early stages of mentorship; however, actually allowing a mentee to develop the skills of a procedure can be accomplished only by seasoned experienced mentors. In the setting of basic research or translational research, the transfer of knowledge regarding protocol design, grant writing, and interpretation of scientific data is a basic stage for mentors. More mature mentors promote reflection and thoughtful insight for future research areas by mentees.

In the later stages of mentor development, the competencies of patient care, communication, and professionalism can be transferred to mentees. The attainment and transfer of these competencies require experience and developed self-confidence from mentors and are achieved only with time. Medicine was founded on the concept of an apprenticeship; thus, in the field of clinical patient care, the mentor must be an experienced clinician who has already developed these subtle but important attributes. Many times, this can occur only via a "role model" approach in which mentors are able to demonstrate and promote these competencies by example. In the research realm, direct communication to mentees via written critiques of protocols, specific feedback about presentations, and review of the results and particulars of an experiment is a necessary component of mentorship.

The practice of medicine can no longer be achieved by a single physician working alone. Consistent high-quality patient care can be accomplished only by a team-based approach in which systems need to be put into place to ensure the highest safety and quality of care. It is up to mentors to promote this concept of team-based care and continuous improvement to their mentees.

Successful Mentoring

The most important metric of successful mentoring is the success of the mentee. For this reason, some senior investigators with well-established research records may not be excellent mentors because they are either too engaged with their own research or unable to commit the necessary intellectual or emotional resources. Some potential mentors may not be able to provide grant support and laboratory space for mentees. This consideration may vary in relevance, depending on the mentor/mentee relationship, eg, basic science, clinical, or administrative. The crucial issue is that mentoring, like all relationships, requires time; if mentors do not have time and resources to devote, there can be no mentoring relationship.

Another essential component of mentoring relationships concerns mentees asking questions and mentors being open to exploring issues from multiple angles. Young physicians in training often ask questions of a profound nature, at times without realizing it, that call established truths and beliefs into question. Successful mentors encourage questions, are open to questions, evaluate the reasons for questions, and are prepared to consider new options rather than disregard questions out of hand. The mentoring relationship must extend beyond the concept of "ex cathedra," wherein mentors speak and mentees scribe.

The history of medicine is replete with examples in which gospel truth was overturned. The process starts with a question that goes against the grain or may seem naïve. For example, the knowledge that 1) ventricular tachycardia or fibrillation can be fatal, 2) ventricular premature contractions may initiate ventricular tachycardia or fibrillation, and 3) drugs to decrease ventricular premature contractions are available led to the prevailing wisdom that antiarrhythmic drugs would prevent death. Yet, the established wisdom was overturned when the Cardiac Arrhythmia Suppression Trial found that antiarrhythmic drugs increased fatalities.[7] Successful mentors must be able to listen to the observations of their mentees, however incongruent they may seem with known facts.

Mentoring is a 2-way street with transmission of experience from mentors to mentees, as well as explanation of new technology by mentees to mentors. In the process, both parties enlarge their capabilities.

Mentors are often considered role models. Mentors may be highly skilled technically, may be very creative in approaching problems, both technical and cognitive, or may have excellent interpersonal skills with patients, families, committees, and peers. Some mentors may function at a high level on academic committees. Given the importance of such interactions to an academic career, mentees can learn much from watching the approach that mentors take.

Another important role that mentors take on at some time during the mentoring relationship, often at the beginning, is that of boss or supervisor. According to Eric Foss, CEO of Pepsi Bottling, "Great bosses are the accelerator of high potential employees. Bad bosses are the biggest decelerator. Bosses should be great coaches and motivators . . .. Leaders should have a teachable point of view and share that point of view."[8]

The American Heart Association's Website provides opportunities for minority and international physicians to seek either mentors or mentees.[9] The AHA site also includes a mentoring handbook that is a valuable resource.[10] That publication reviews the multiple facets of being both a mentor and a mentee (the Table). It quotes Morris Zelditch on the attributes of a good mentor: "Mentors are advisors, people with career experience willing to share their knowledge; supporters, people who give emotional and moral encouragement; tutors, people who give specific feedback on one's performance; masters, in the sense of employers to whom one is apprenticed; sponsors, sources of information about and aid in obtaining opportunities; and models of identity, of the kind of person one should be . . .." In addition, the publication identifies some characteristics of mentoring gone wrong: "The 'bad' mentor (sometimes referred to as a tor-mentor) misinterprets the mentee's potential, fails to define appropriate professional and personal limits, and may even take credit for the mentee's work. Other attributes of the bad mentor include inappropriate praise or criticism, disregard for the mentee's opinions, and other types of unethical and, rarely, immoral behavior. Major negative qualities include exploitation, secrecy, and dishonesty."

An important issue deals with the expectations of both the mentor and the mentee. Early on in the relationship, these

Table. Rules and Tips for Mentors

Respect your mentee; do not infantilize her or him
Listen to the opinion of your mentee; imaginative, creative ideas often come from junior colleagues
Act responsibly; your actions could destroy your mentee's academic career
Maintain cultural and gender sensitivity toward your mentee; strenuously avoid open or covert sexual connections with your mentee
Help to protect your mentee from excessive institutional demands such as participation in an excessive number of committees, but simultaneously expose your mentee to other faculty
Provide your mentee with advice about "career-enhancing" and "career-killing" initiatives
Help your mentee to navigate the shoals of institutional and professional politics
Inspire your mentee to overcome negative aspects of the work environment
Help your mentee to develop effective oral and written communication skills
Challenge your mentee to maintain professional and personal flexibility and fluidity
Inspire and challenge your mentee to become the very best professional that she or he can be
Assist your mentee in finding appropriate professional employment
Assist your mentee on the road to independence
Rejoice in the successes of your mentee; these triumphs can only enhance your own standing

Source: the AHA.[10]

expectations should be openly discussed. Although sensitivities can be commonplace, candid discussion can often alleviate many of them. Depending on the styles of the individuals involved, written guidelines for the relationship may be important. Feedback should be given that is constructive but also sensitive.

On occasion, the mentor/mentee relationship may be either nonproductive or dysfunctional. There are a number of reasons for this, which vary across a wide spectrum from a lack of communication to a lack of time, disparate professional interests, or markedly different personal styles. It must be remembered that in many respects the mentee is a "vulnerable person" because the mentor is by definition the established person. If the relationship is not working out productively, it is important to discuss it. In this setting, the mentee may want to involve a senior individual, eg, the chair of the department or another very well-established, respected individual, before face-to-face discussions with the mentor. Nonconfrontational, open, and candid discussions, although uncomfortable, are very important. If the relationship is to be severed, it should be done expeditiously. It is extremely important that acrimonious or contentious issues not be discussed with others.

Mentoring Styles

Mentoring styles may vary greatly depending on the individuals involved, the setting in which the mentoring occurs, eg, basic laboratory versus clinical science experiences, whether the persons involved are physicians or paramedical personnel, and the goals of the mentoring. Styles also vary depending on the stage of the career of both individuals; the expectations and style a mentor applies to a junior faculty may differ from those for a medical student. There are several possible models.

In the first model, the mentor questions the mentee about a broad and diverse group of topics relating to specific clinical or research matters or to the broader field as a whole. This style of mentoring creates an environment that exposes the mentee to new knowledge and to the uncertainties of accepted knowledge; it also expects answers from the mentee, which are then followed up with additional questions.[11] Such a mentoring style brings with it the responsibility of the mentee to embrace a broad platform of ideas, the stimulation to observe the patterns of patient and peer interaction, and the challenge to accept that not all lessons that are well accepted are valid.

A second model involves a mentor who mentors by assigning specific tasks. The task may be to design a new experimental process, to design an approach to a new aspect of patient care, or to identify a new approach to delivery of that care. This model requires mentors to understand their mentees' capabilities, to be prepared to spend considerable time as a sounding board for new approaches, and to have the ability to try some of the approaches that mentees develop.

A third approach has been used since the founding of modern American scientific tradition. Lewis Agassiz, a renowned teacher and a founding member of the National Academy of Sciences in the mid-1800s, had a specific unique approach.[12] Agassiz's field was the study of fish; he would assign his students the task of spending several hours observing and describing a fish. He would then meet with the students, learn their observations, and send them away to observe and describe the fish more fully (one can only imagine the ambiance of dead fish, formalin, and closed windows without air conditioning in summertime). This very effective process achieved its aim of having students express their own ideas rather than be directed toward a specific line of thought.

The process of mentoring thus involves several essential steps, including learning effective communication, identifying the needs of the learner, observing what works in different settings, acquiring techniques that are effective, and paying attention to technical details. That process changes over time as mentees grow in the relationship.

There are other considerations regarding mentoring styles. They may relate to the group being mentored or to the sex or minority status of the mentee. Although the literature about mentoring is significant, it has limitations. It is widely dispersed across disciplines from nursing[13] to law[14,15] to engineering.[16] Within medicine, mentoring programs exist to meet the needs of a variety of therapeutic areas,[17,18] of women,[19] and of minorities.[20] Virtually all of the available data about mentoring in these situations are qualitative[21–23]; the need for quantitative data points out a fruitful area for research.

Advancing to Mentoring

Teaching is one of the first aspects of mentoring. It involves the transmission of knowledge gained to others. Young house officers often find that their first such opportunities develop by interacting with and teaching nurses, allied health person-

nel, and less experienced physicians through training programs at their institutions. These opportunities, whether structured or unstructured, are invaluable. Having the opportunity to observe their audience, these young house officers can begin to assess the concept of learner needs and how and whether they are meeting those needs. They learn that the needs of an overall audience may differ from the needs of individuals within that audience. For example, teaching at the bedside is very different from delivering a lecture before several thousand attendees at a national meeting, yet the assignment may be to transmit the same information.

Informal teaching sessions also provide opportunities to increase expertise in presenting information. House officers learn the appropriate use of such important elements as eye contact, audiovisual tools, humor, projection of voice, and body language; although difficult to quantify, these aspects are important to the career development of younger staff who will become mentors.

Observing the mentoring styles of others by listening to lectures, observing small-group discussions, and talking with fellow house officers about their mentors also contributes valuable lessons as young physicians advance in their careers.

Timing of Becoming a Mentor

An extremely important issue is the timing of transition from mentees to mentors. As the mentoring process comes to its natural conclusion, former mentees must direct their attention to their developing careers.[24] The importance of networking gains ascendancy during this period. Establishing durable beneficial contacts is very important for establishing a career. These contacts may include peers from within and outside an individual's own institution, more experienced physicians/scientists, fellows, and students. These contacts are important for scientific interaction and both professional and personal development.[25]

Because mentoring is time intensive, young investigators put in the position of mentoring before their careers are established may find that the activity required adversely affects their own personal development. Several metrics may be applied to help define whether prospective mentors' careers are well enough established that they can support the role; these metrics may include academic rank, number and quality of publications, possession of good clinical skills, and peer recognition.

Matching New Mentors With Mentees

Selection of mentees varies from institution to institution.[26] In some institutions, as new fellows enter a training program, they are assigned supervisors who are expected to function as mentors. In other institutions, mentors may identify individuals with considerable promise who could benefit from mentoring by them. In yet another scenario, young physicians may identify individuals who are role models to be emulated and may initiate a dialog that results in a formal mentoring relationship. Finally, in other settings, an institution may identify young physicians in training or young staff physicians who are not meeting expectations or standards; in this setting, the institution may assign more experienced physicians to advise and mentor these individuals as a means of correcting deficiencies.

Transition From Mentees to Colleagues

As the careers of mentees advance, their independence becomes an important consideration. In technical fields, the ability to perform complex procedures on their own may define independence. In basic and translational science, independence might be achieved when mentees are able to obtain grants as principal investigators. Advancing from having little independence to acquiring increasing autonomy is a sign of progress in mentees.[27] An integral part of the mentoring process is the identification of unique areas of interest and expertise for mentees to pursue; this is driven by mentees who use their mentors as a resource. The goal should never be to clone mentors.[28]

The sensitive but important issue of competition must also be considered. Mentees must not become mere extensions of their mentors' careers; if this occurs, they may become competitors for grants, procedures, administrative duties, or accolades rather than inheritors of accumulated knowledge and wisdom.

In the process of being mentored, mentees should be able to build on and expand the careers of their mentors. In interventional cardiology, a broad-based interventionalist mentoring a young staff person may encourage that individual to become very skilled in a specialized area of treatment, eg, chronic total occlusion, adding a new dimension to the practice or to the field. In a basic research laboratory, a mentor focused on the development and testing of brain natriuretic peptide for the treatment of congestive heart failure might encourage a mentee to develop new assays or animal models for congestive heart failure.

There is no set time limit to mentoring. At some point and as illustrated in the examples given above, the relationship undergoes a transition as mentees seek guidance less often and mentors gain a level of comfort with their mentees moving forward independently. Ideally, mentees and mentors establish a somewhat different relationship as colleagues, working together on projects of mutual interest. During the transition from being mentored to mentoring, there might be a struggle for independence by the mentee, which can be very disruptive and result in cessation of any further relationship. Open communication is incredibly important in this regard. It is also incumbent on mentors to feel secure enough to accept that the best metric for the performance of mentoring is how many mentees succeed on their own.

Importance of Mentoring

Mentoring exposes both mentors and mentees to new knowledge and new technology. This concept is vividly exemplified by the current generation in which young physicians grew up with computers, text messaging, and Webcasts, whereas older physician mentors grew up before such electronics became ubiquitous. In this setting, mentors can share their experiences with earlier generations of groundbreaking data, approaches, and technologies while learning newer paradigm-shifting technologies from their mentees.

Many of today's mentors grew up under a system of care that has become so ingrained that it forms the backbone of a specific approach. Early in the last century, Dr James B. Herrick wrote that "medicine needs periodic overhauling" to accommodate new data and new approaches.[29] Mentoring is a cornerstone in that process of reinvention. It remains an invigorating process that is the apogee of all that medicine defines as the future of the art and science of medicine. As such, the "overhauling" remains even more relevant today than during Herrick's time.

Disclosures

None.

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