We are IntechOpen, the world’s leading publisher of Open Access books
Built by scientists, for scientists

6,500
Open access books available

177,000
International authors and editors

195M
Downloads

154
Countries delivered to

TOP 1%
Our authors are among the most cited scientists

12.2%
Contributors from top 500 universities

WEB OF SCIENCE™
Selection of our books indexed in the Book Citation Index in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com
Chapter

Introductory Chapter: Medical Education at the Crossroads - Things Are Not How They Used to Be, Things Are Not as They Seem

Michael S. Firstenberg and Stanislaw P. Stawicki

“When you come to a fork in the road, take it!”
Yogi Berra

1. Introduction

Contemporary medical education (ME) is transforming rapidly. The old paradigms are being re-shaped, stakeholder expectations are being re-formulated, and the view of ME morphing into a truly life-long pursuit is becoming increasingly dominant [1–3]. The historical models of medical education were based on learning the core topics that related to various basic sciences – physiology, immunology, biochemistry, anatomy, pharmacology, pathophysiology, etc. – and how they apply to different disease states with regard to the diagnosis and management of clinical problems [4]. Students were provided with a foundation that subsequently served
Medical Education for the 21st Century

as a springboard to build upon as their skills evolved into the art and practice of “histories and physicals.” Finally, students learned to construct a “differential diagnosis” and implement a treatment plan based upon the best available literature, in an evidence-based fashion.

While such a basic foundation still exists, contemporary medical schools are continuing to search for better, more innovative methods to teach and objectively test core knowledge, including its application(s) to patient care [5, 6]. Without a doubt the evolution of ME, as emphasized throughout this text, continues to take center stage, with an increasing focus on evidence-based methods, adoption of technological advances and interactive simulation, social media platforms, and renewed emphasis on “soft skills” such as emotional and coping intelligence [7–11]. In addition to the key conceptual framework of the “art of medicine” as historically lectured, taught, and applied, the education of a contemporary physician is much more complex (and substantially more expensive) than at any other time in the past. Moreover, the overall complexity of the ME process continues to increase, without any signs of slowing. See Figure 1 for key concepts featured in this chapter as well as throughout the current book.

2. Emotional intelligence in the context of healthcare team structure and function

In the past, the physician was often viewed as the leader of the healthcare team – directing the care of patients via providing guidance, orders, tests, procedures, and coordinating care with consultants and colleagues. However, more and more the role of a physician, especially in a leadership position, is to facilitate healthcare team integration and operation [12]. The concept of teamwork is a crucial component of being a successful physician (regardless of how defined) [13, 14]. Physicians must now learn how to lead, manage, and navigate a full spectrum of healthcare provider interactions, within diverse teams, ensuring that each team member contributes optimally to the overall care of a given patient.

Medical students are increasingly exposed to this complex environment. The ability to establish appropriate expectations, along with directed educational efforts that prepare one for team-based participation, will become critical within the evolving ME environment. Examples of team-based approaches are many, so we will limit our discussion here to some of the better-known instances. Such well-established team approaches include “Cancer/Tumor Boards”, “Cardiovascular Taskforces”, and “Critical Care/Intensive Care Unit Teams.” In such multi-disciplinary environments, the physician is expected to not only help develop, but also champion, and run – often on a daily basis – such team(s) and recognize the unique value that each participating member contributes. The growing population of non-physician providers such as Physician Assistants and Advanced Nurse Practitioners is becoming increasingly recognized as valued participants in the health care team. Thus, current medical educational initiatives must provide the foundation for understanding, appreciation, and mutual respect, with a continued focus on professionalism, division of roles, and responsibilities that each team participant brings to the bedside [15, 16].

3. Work-life integration/balance and burnout

The practice of medicine can be both highly demanding and unforgiving to healthcare providers. Moreover, such demands can be both physical and
emotional [17, 18]. Healthcare systems are fundamentally and primarily set up to provide services to our patients, and within such a framework it is easy for the individual provider to “forget” about his or her own well-being. Consequently, it is becoming more appreciated that endless work, without the opportunities to step away from the bedside – again, both emotionally and physically – can lead to burn-out and imbalances in work-life integration [19]. The unhealthy consequences on both the physician and the patient are certainly of big concern, and while the topic is far beyond the scope of the current text, the ability to understand, appreciate, and integrate these concepts will be critical to the long-term professional and personal success and fulfillment that a career in medicine brings. Learning appropriate coping techniques and related skills early in one’s training can be invaluable, but must also be balanced with the respect for other stakeholders (including work partners, colleagues, various team members, and most importantly – the patients) and hospital administration. The ability to draw boundaries and function within a system that respects such boundaries may be very important “first steps,” but the life skills needed to prevent burnout must be viewed as a component of continuing medical education as the techniques and adaptive traits learned early in a medical career might not effectively apply later on, as roles and responsibilities also evolve and change [20, 21].

4. Modern didactics: increasing quantity and accretion knowledge

Without a doubt, the traditional methods of teaching and learning medicine have changed substantially over the past 10–20 years, particularly since the beginning of the digital age [22, 23]. The historical models of a lecture hall filled with students taking notes while listening to a professor, endless reading of papers and textbooks, the hands-on experiences of an anatomy lab, and even the early bedside training experiences have transitioned toward evolving concepts of how to best “teach” and how to best “learn” – including the need for simulation labs, being able to integrate and analyze content from multiple (and sometimes unreliable, inaccurate, or outdated) sources, non-traditional media (i.e. social media platforms, online content, curated videos, computer-based applications, and learning tools) and the endless peer-reviewed, non-peer-reviewed, biased, for-profit, industry-sponsored content that is ubiquitously available to all. One emerging term utilized to describe this transformation is “connectivism” – it reflects well the blend of key components of the modern educational information flow ecosystem [23]. A strong foundation established early during the ME process will help the student decide how to use such content and, just as importantly, how not to.

5. Managing conflicting practice management structure, function, and economics

To ensure its long-term viability and sustainability, medicine is a business. In fact, it is a very big, multi-sectoral business, constituting a substantial proportion of the national gross domestic product (regardless of the country or region of the globe). Various contributors to the overall “business of medicine” include pharmaceutical manufacturers, research and development, clinics and hospitals, integrated health networks, outpatient/home services, and insurance providers [24–28]. While most students are familiar with the debt component of their medical education – few understand the very complex issues that pertain to the different compensation, reimbursement, and practice models that exist. Of importance, there is a gradual
evolution from fee-for-service to pay-for-performance models. A broad-based understanding of related concepts and issues, along with how modern employment models are structured and/or function, is critical. In other words, being a competent doctor is no longer just about being a caring and compassionate individual, who is well-versed in the healing arts. An entire new skill set of an effective healthcare provider now requires one to be a well-informed and shrewd business person (or at least possess the awareness of the “business issues” involved in healthcare and the need for appropriate expertise within the greater healthcare team).

6. Diversity, equity, and inclusion

Along with a better understanding of the educational process, including more refined theories and their practical implementations, increasing awareness of the importance of diversity, equity, and inclusion (DEI) brought much-needed reforms that focused on optimization of outcomes while providing highly individualized approaches and emphasis on “building on one’s strengths” [29–32]. Such concepts are becoming more and more important as physicians need to understand, appreciate, and converse with an extremely broad range of demographics and individual identities. Respect for others is a cornerstone of being a good doctor, but learning and appreciating the cultural dynamics in a rapidly changing social milieu is especially important in that inadvertent missteps might not be understood, could be taken out of context, and in some cases may not be tolerated (including various hardwired disciplinary policies and procedures) [33–35]. There is no room in society for racism, disrespect for gender or cultural identities that might be different from one’s own, or biases that might impact the ability of the physician to be a leader in championing the health and overall wellbeing of a team, a community, and of society as a whole. Such foundations must be emphasized in medical school, especially when it is still common for students to have only a limited amount of exposure to meaningful diversity and inclusion initiatives. In addition, the overall complexity of the issue is further compounded by variables such as medical student age, maturity, and geo-social, cultural, and economic upbringing.

7. Strong foundation

The current book is designed to provide both a strong foundation and a helpful resource for those interested in exploring ME from diverse perspectives – as educators, students, and administrators. Topics discussed are diverse, including curriculum building, nursing staff integration into teaching programs, student-guided learning, surgical education, learning through art, creation of learner support structures, the importance of mentorship, emotional intelligence, and empathy, as well as many other topics and concepts.

8. Synthesis and conclusion

The rate of change in modern ME continues to increase, and the corresponding rate of evolution within the ME system is approaching levels that exceed our ability to meaningfully adapt. Nonetheless, we must strive to be active – not passive – participants in this evolutionary process of growth and transformation. We must remember that the tools available to help with this process are in constant evolution – a concept that can be both good (immediate availability of knowledge to all)
and bad (biased, conflicting agendas, non-peer-reviewed content) – and therefore significant level of mastery is required. Furthermore, comprehensive medical education is no longer limited to learning about the normal and abnormal structure and function of the human body and how to treat disease, but also the complex social challenges that patients face, how to effectively function in a healthcare environment and team, and the importance of a solid foundation in various business aspects of healthcare. The challenges facing the current generation of students may seem overwhelming to medical students of the past, but the tools and opportunities for success – as outlined in this text – when used properly are all geared towards facilitating the educational process to be more efficient and effective in ways that were never available in the past. In brief, now is a great time to be a medical student – and probably more so than ever before!
References


[17] DeCaporale-Ryan L et al. The undiagnosed pandemic: Burnout and


