

INTRODUCTION

Physicians undergo a massive transformation during their training to become healers. Unfortunately, job dissatisfaction and regret are all too common after the long, arduous process of becoming a physician.¹⁻³ Discussions of physician burnout and job dissatisfaction have historically focused on workplace pressures, the impact of managed care, and increased governmental oversight but fail to capture the perspective of the physician prior to facing these pressures.⁴⁻⁶ Most of these stressors occur after residency training and don't take into account the cumulative psychological effects of the medical education pipeline on individual physicians.⁷ Furthermore, proposed solutions to increase satisfaction frequently focus on extrinsic factors, such as institutional policies, evaluation activities, resource-allocation decisions, and institutional "slang."⁸

A series of influences that occur at every step in the premedical and medical training process may contribute to a final common pathway observed as mid-career burnout and job dissatisfaction. Identifying and addressing career expectations, personality-changing events in the educational process, and lifestyle stressors earlier in the pipeline may help prevent and reduce mid-career burnout and job dissatisfaction.⁹ Five essential phases that all physicians experience during the course of their medical education are presented. These phases do not necessarily occur in chronological order, can recur at different stages of training (medical school, residency, etc.), and are experienced by individual students with varying intensity. The intent is to highlight specific areas for improvement in the education pipeline, which may ultimately affect physician retention and mid-career burnout.

Phase 1: The Pre-Med Syndrome

Young medical students frequently share similar goals and ambitions. The most commonly described traits shared by premedical students are altruism, competitiveness, motivation, strong work ethic, prestige-seeking behavior and being goal-oriented.¹⁰⁻¹² Early in their premedical experiences, however, they begin to learn the extent of imperfections in the medical education system.

A number of frustrations face these bright, enthusiastic students before medical school even begins. The most historically trusted sources of information utterly fail the premedical student as they endeavor to learn more about their upcoming medical education.

First, institutions of higher learning remain overly focused on grade point average (GPA), despite the association between higher undergraduate GPAs and mere surface learning in the first year of medical school.¹³

Second, the overemphasis of rote memorization by a preponderance of undergraduate premedical professors, the so-called “MCAT Myth”, has been disproved by the mathematical application of Bloom’s Taxonomy.¹⁴ Rather, the emphasis needs to be on the interrelatedness of scientific concepts, critical thinking, and higher order learning techniques. It is unclear if the students are getting this message.

Third, “the annual ‘*U.S. News & World Report*’ ranking of U.S. medical schools is ill-conceived, unscientific, poorly conducted, ignores the value of school accreditation, judges medical school quality from a narrow, elitist perspective, does not consider social

and professional outcomes in program quality calculations, and fails to meet basic standards of journalistic ethics”.¹⁵

The challenges faced by these future physicians can be categorized as follows:

1. **Academic Preparation.** Realizing that their undergraduate premedical and Medical College Assessment Test (MCAT) preparation may not actually predict how competent they will be as physicians can be disheartening.^{14,16-17}
2. **Premedical Advising.** Many students encounter bad advice from premedical advisers, though wonderful guidance has been published for decades.^{18,19} Many students have no premedical academic adviser at all.²⁰
3. **Admissions Criteria.** The transition period of medical schools’ changing admissions criteria and interview processes can leave the premedical student confused about what is important in their preparation. The paradigm is shifting in premedical curriculum, which seeks to broaden one’s humanities background and foster empathetic relationships, but it is taking a surprisingly long time.²¹⁻²³
4. **Selection Bias.** Learning that affirmative action exists without understanding the need for diversity can be a shock, especially when struggling applicants see minorities gain acceptance with lower test scores.²⁴⁻²⁷

These system-level messages contradict students’ altruistic nature and may begin to substantially change their attitude and priorities from the premedical stereotype before medical school even starts. This helps to explain why the majority of students matriculating into medical school already have a well-established ethical framework that is difficult to mold.²⁸

Phase 2: Adaptation – Acquiring An Effective Mindset

The volume of information in medical school is overwhelming, especially in the first year before students learn to manage higher order learning strategies. Not everyone adapts, however, and this may explain why the largest attrition rates (up to 12.6%) occur during the first half of medical school.³⁹⁻³² More research is needed to elucidate study techniques that may prepare first-year medical students in advance.

The emotional impact of learning life-saving information that is too vast to memorize affects everyone differently. There is too much information given in medical school for total recall, yet every detail might one day help someone. Students are forced to move on to other information despite imperfect memorization, even if it means a patient might someday die because of their lack of knowledge. For the first time in their medical education, idealistic altruism is challenged and the student realizes the necessity of compromise. This dilemma results in an increased emphasis on self-interest and, hopefully, a more realistic view of the value of their best effort being good enough albeit imperfect. Further adding to this “shock stage” of maturation is one’s own internalization of ethical dilemmas and personal inadequacies, which rise to the surface under such pressure and bring out mood disorders in vulnerable students.³³

The literature does provide specific insights into dilemmas faced by certain subpopulations of medical students as they traverse the medical education pipeline. For example, gays, lesbians, students with learning disabilities and those with physical handicaps have been shown to have trouble adapting to condescending messages that pervade the “hidden curriculum”.³⁴⁻³⁶ These insights point to the fact that social isolation

can come from training in an imperfect medical education system. Perhaps, unelucidated dilemmas faced by a majority of medical students force some of them to drop out every year. Sadly, the literature is weak in this area and more research needs to be done to increase medical student retention.^{9,30-31,37}

Phase 3: Assimilation – Getting Used To It

Despite the various sources of stress, the process of medical education becomes strangely routine.³⁸ Though students may have lingering feelings that their lifestyle is unhealthy, they make mental bribes to keep going or use an assortment of coping skills to continue on their quest for medical education.³³

Eustress, distress, fatigue, burnout, and mood disorders can be viewed as a continuum, not always as clearly segregated entities. Stress management training and prevention programs have been described with some success, but licensing authorities and a new era of accountability strongly discourage physicians from seeking help.³⁹⁻⁴² It is a “sink or swim” mentality for most students, unless they are in a health-friendly training environment.^{43,44} Extensive obstacles must be overcome before the average hospital training site is converted into a model for wellness.^{42,45}

Phase 4: The Let-Down – Disappointment With The Health Care System, Colleagues, And Themselves

Although disappointment is not unique to the field of medicine, the ultra-idealistic nature of premedical students may predispose physicians-in-training to a heightened sense of disillusionment.^{10,12,46} For example, physicians-in-training may

reasonably expect their colleagues to perform their duties with integrity; however, this is frequently not the case.^{18,36,47-49}

One category of causes for disappointment is regularly witnessed during residency training. According to the Accreditation Council for Graduate Medical Education (ACGME), 95.5 % of residents remained in their training during the 2006-2007 academic years. While less than 1% (296 residents) of residents get “dismissed” annually, an additional 3,096 (8.5%) residents voluntarily choose to withdraw or transfer out of their programs.⁵⁰ Further complicating the training landscape is the fact that some residency programs repeatedly fire one or more of their residents every year. Because hostility, unethical conduct, and poor role modeling lack an organized or centralized grievance board, it is difficult to ascertain complete explanations for these statistics.^{45,49}

Arguably, the biggest impact on morale among residents is the fact that there is no recourse for the resident. The ACGME policy is to not get involved in disputes between residents and residency programs, except for issues directly involving noncompliance with their duty hour restrictions and training requirements.⁵¹ Fortunately, some hospitals have house officer committees that may help defend mistreated residents, but their impact on attrition is unclear. The impact of losing one’s career after such an arduous and lengthy pipeline is stressful. To add insult to injury, the peer-reviewed literature refers to them as “problem residents”. Again, the majority of these individuals were, at one time, altruistic and enthusiastic physicians-in-training.⁵²

The ‘Let-Down’ phase of disappointment extends beyond the walls of one’s institution to the global health care system. Bureaucracy and corporate pressures too frequently become the bane of daily existence.^{39,53} Physician shortages, medically

underserved populations, looming health care reform and pay-for-performance changes have made the practice of medicine very different from when most physicians began their careers.⁵⁴

In the midst of the uncertainty about health care reform, many young doctors are placing demands on their careers to wrest their lifestyle preferences more commonly than in the past.^{44,55} It is unclear what impact these changes are having on the priorities and career expectations of physicians-in-training.

Phase 5: Reemerging Priorities – Becoming Intentional About Personal And Professional Development.

Work-life balance has been an increasing priority for physicians in recent decades.^{44,55} The current generation is ever more intentional about their life ambitions and less willing to make certain lifestyle sacrifices that physicians took for granted not long ago. This is actually good for our society because of the economic and national health implications of mid-career burnout.²⁹⁻³¹ During times of stress, whether it is at home or in the workplace, balance is required for longevity of psychosocial well-being.⁴⁰ Therefore, having health-conscious physicians who exercise self-care is good for their families, patients, and country.³⁸ Physicians themselves must initiate this personal development because the health care marketplace, which increasingly influences educational institutions, is certainly not doing it for them.^{42,44}

In addition to asserting personal goals, the maturing physician strikes a balance with professional development as well. One of the first ways this happens is in the adoption of certain lifelong learning practices. Medical schools produce physicians who

understand the dynamic nature of medical information and the need for independent investigative knowledge of evidence-based medicine (EBM). However, the literature shows us that medical residents often do not practice EMB research.⁵⁶ This is likely due to the incessant, stressful demands on them and the distraction of survival instincts such as sleep deprivation.⁵⁶⁻⁵⁸

Once the physician-in-training navigates the formal educational system, the last challenge is to develop principles of lifelong learning, professionalism, and ethical soundness. Unfortunately, physicians’ abilities to assess their own competence fall short and certification boards have not yet implemented oversight of physician assessment.⁵⁹⁻⁶¹

SUMMARY

It may be more useful to view stress, distress, fatigue, and burnout on a continuum. Research is needed to determine if these conditions are independent risk factors for frank mood disorders. Too often, the physician-in-training experiences specific shifts in their attitudes and priorities from that of the enthusiastic, altruistic premedical student to the burned out, dissatisfied physician later in life. Surveying and truly listening to the physicians-in-training will give further insight into how the system can best support their needs (not the other way around) and, therefore, support the patients and the health care system at large. Finally, addressing these specific pivot points may help inform physician wellness initiatives and may result in increased job satisfaction and retention.

During the maturation of young physicians, challenges are overcome, disappointments are met and priorities reemerge. The impact of medical education on the

physician’s personal development involves identifying and labeling one’s emotions, understanding human suffering in an intimate way, and the beginning of self-initiated professional development.

Though effective models of teaching and assessing professionalism exist, budding physicians often fend for themselves to navigate frequently hostile training environments. Yet, we are seeing a shift occurring among the next generation of doctors. With the system-wide changes occurring in the healthcare marketplace, an increasing number of new physicians place a higher priority on maintaining a balance between their personal and professional lives.

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Table 1

Medical student experiences that affect their altruistic personalities during the course of their medical education.

Phase 1: The Pre-Med Syndrome

- Irrelevant leadership in the literature
- Resentment and misunderstanding about affirmative action
- Frustration because premedical curriculum doesn't predict success as a physician
- Misdirection by or absence of premedical advisors

Phase 2: Adapting to the Environment

- Needing to balance self-interest with patient care
- Confronting one's own imperfections
- Fear of not learning enough and causing the patient harm
- Discouragement for seeking help for depression and substance abuse

Phase 4: The Let-Down

- Being insulted, unappreciated and offended by unethical conduct
- Lack of role models to emulate
- Fear of losing career
- Abandonment by system when disputes arise with residency programs