

**Teaching and Evaluating Emotional Intelligence in Healthcare to Promote Patient and  
Physician Well-being**

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On my honor as a University Student, I have neither given nor received unauthorized aid on this  
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## **Introduction**

Healthy physician-patient interactions are essential to a successful healthcare experience. Patients who trust and confide in their physicians are more likely to share important information, try new treatments, and have been shown to present better outcomes due to the psychosomatic benefits of having a positive attitude and strong support system (Hall, Dugan, Zheng, & Mishra, 2001). Unfortunately, not all physician-patient relationships are positive and can have negative effects on both the patient and the physician.

From the patient perspective, poor physician-patient relationships can lead to avoidance. Avoidance of medical care is most often attributed to traditional barriers such as cost, travel, and inability to take sick leave. While these do remain the most common reasons for care avoidance they are closely followed by social factors, namely that patients have negative perceptions of interacting with doctors based on past experiences. A study from the National Cancer Institute and the NIH found that approximately 33% of individuals who claimed to have avoided medical care cited interpersonal concerns as a reason for avoidance. These concerns included disliking how doctors communicate, “doctors often make you feel like you’re stupid”, feeling that doctors are impersonal, “paying more attention to computers”, and feeling unheard or that the doctors don’t take patient concerns seriously (Taber, Leyva, & Persoskie, 2015). These types of negative sentiments are especially prevalent in commonly stereotyped groups, such as overweight individuals (Alegria Drury & Louis, 2002). The high rate of reported negative interactions with physicians needs to be addressed as the populations who more often cite poor interactions are typically in greater need of medical intervention.

From the physician perspective, poor physician-patient relationships can stem from a variety of causes. Physicians are expected to continually handle a high stress work environment,

long hours (typically 40-60 hours per week), the emotional burden of dealing with sick patients, and clerical work per hospital policy (American Medical Association, 2015). Over time this burden often leads to burnout. Physicians struggling with burnout tend to feel overly exhausted, less accomplished, and may become more callous towards patients as they feel emotionally spent (West, Dyrbye, & Shanafelt, 2018). Without proper rest and recovery, the exhaustion physicians face can lead them to provide lower-quality care to their patients.

Emotional intelligence (EI), one's ability to recognize and process the emotions of themselves and others, has potential to improve patient-physician relationships on a large scale if provided as training to healthcare professionals. EI has become widely integrated into the worlds of business and education and likely would provide the same benefit to the healthcare field (Tucker, Sojka, Barone, & McCarthy, 2000). This research seeks to determine how EI is currently taught during medical school and/or residency (if at all), where in the medical education sequence an EI course could best be taught, and what interest there is for EI based on feedback from healthcare professionals.

### **Case Context - Emotional Intelligence**

Emotional intelligence is defined as “a set of skills hypothesized to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one's life” (Salovey & Mayer, 1990). Within this definition, different facets of emotional intelligence can be identified: understanding one's emotions, self-control against criticism, self-encouragement, emotional self-control, empathy, and understanding of other's emotions (Rego, Godinho, McQueen, & Cunha, 2010). All of these traits have clear roles in the human interactions of a

physician. The outward-oriented traits – emotional self-control, empathy, and understanding of other’s emotions – serve the purpose of bettering interactions between the physician and patient. Emotional self-control helps a physician express only desirable emotions when dealing with difficult patients. Empathy helps with identifying a patient’s feelings and responding in a sensitive manner, taking their perspective into account. Understanding of other’s emotions encourages an understanding of the values and concerns of patients, increasing compassion in the process. The inward-oriented traits – understanding one’s emotions, self-control against criticism, and self-encouragement – on the other hand, serve the purpose of helping the physician to regulate their own emotions and protect them from burnout. Understanding one’s own emotions increases ability to practice restraint when feeling negative emotions and to prevent feeling overwhelmed. Self-control against criticism mitigates feelings of discouragement when dealing with rude patients or coworkers. Self-encouragement increases perseverance when dealing with difficult situations and tough decision-making (Rego et al., 2010). All of these skills are teachable and would be beneficial if taught to physicians either during medical school or residency.

Existing research argues in favor of EI in healthcare but evidence that it is actively taught in medical school and during residency training is not clear. Medical and nursing schools have traditionally taught suppression of emotions, which may explain lack of evidence for EI instruction (McQueen, 2004). While this may protect the emotions of physicians and nurses in the short-term it prohibits trust and connection between provider and patient. Understanding and mastery of emotional intelligence skills will allow healthcare workers to extend empathy towards patients while maintaining their composure and protecting against personal emotional distress.

Ideally, EI training would take place primarily while an individual is still in their training process (either as a medical student or as a resident) and secondarily during on-the-job training (Mercer & Reynolds, 2002). A study from the Brighton & Sussex Medical School found that compassion can be taught both in class and on the job simply by making an effort to be aware of compassion expressed by others, which ultimately encourages oneself to express more compassion (Cathie, Whan, Montgomery, Martin, & Ramage, 2017). By extension, emotional intelligence can be taught and simply increasing awareness of EI skills can improve physician-patient interactions. This will ultimately cultivate greater intimacy between healthcare providers and their patients, which will result in better communication and patient outcomes (Rego et al., 2010).

Multiple options exist for where and when to incorporate EI training into the medical education sequence. Training could be added as one or more classes for students in their first two years of medical school. Once students start working in clinic during their third year, there is the possibility of performing training on the job with patients. On a graduate level, if a classroom/lecture setting is desired, training could be scheduled during grand rounds (a designated time for lecturers to address cohorts of residents) or if a clinic setting is preferred training could be done by a qualified attending physician.

### **The Morality of Empathy**

Emotional intelligence can be viewed through the empathy framework, the foundation of which is that empathy is neither a moral good nor bad but is neutral since it can be manipulated. Empathy itself is considered a facet of emotional intelligence and should emotional intelligence take a greater role in healthcare it should be done with the awareness that empathy must strive

toward moral good. Empathy itself can be broken into three components: emotional (sharing another's emotions), motivational (caring for another's welfare), and cognitive (placing oneself in another's shoes) (Decety & Cowell, 2014). Given the role of understanding and sharing emotions in empathy, bias can be introduced in that people are more willing to express empathy towards individuals with whom they are most similar. This is a natural tendency and can be seen in children as young as two years old by showing preference for family over non-family members, yet to live in a larger society requires abiding by a moral code in which this level of bias is less acceptable, particularly in a professional context (Decety & Cowell, 2014). Social structures must be in place to ensure ethical expression of empathy, whether that is through anti-discrimination laws or medical codes of conduct. It is important that empathy is taught as a practice in medical schools, not strictly as a result of emotion, in order that health care providers practice to better understand the struggle of others and thus express empathy with greater equality (Dinkins, 2011).

With the perspective that empathy is a practice, it is then reasonable to conclude that it can be learned and that one gets better with more experience. Fredrick Svenaeus argues that empathy is a necessary condition for phronesis, the "practical wisdom characterized by Aristotle as a kind of knowledge of how to act in situations that cannot be judged by applying algorithms, but only by thoroughly understanding the concrete situation at hand and judging what to aim for in this particular case" (Svenaeus, 2014). He argues that people (in our case a physician) need to first understand the feelings and situations of one struggling (i.e. a patient) in order to develop the practical wisdom needed to solve the problem. This ability to see and understand the needs of the patient are encapsulated in the quality of empathy, which serves as a moral motivation to act in a caring way. While Svenaeus' argument is one-directional, in that empathy leads to

phronesis, one could also argue that empathy comes from or is enhanced by gaining more practical wisdom through experience. Especially for those to whom empathy is not a primary natural response, the relationship may be more cyclical in that one learns empathy from practical experience and then is able to use and express that empathy in future experiences to gain more practical wisdom. In the case of physicians, this could look like a resident being guided by their attending physicians to understand the situations of their patients and learning how to express empathy for those types of situations. The resident will then have learned the empathy needed to have the appropriate practical wisdom in future situations.

The empathy framework can be further defined by juxtaposing it with care ethics. Care ethics is characterized as relational, epistemological, normative, and political. Relationally, empathy is limited in that traditionally empathy is a one-way street where empathy is from the helper to the helped while care ethics would only accept empathy if it were defined as a two-way street where the traditionally “helped” plays a role in their receiving empathy. Epistemologically, empathy is limited in that it is considered too indirect. The empathizer imagines what it is like to be in another’s shoes whereas care ethics would require there to be a more direct feeling of the other’s situation, not purely imaginative. Normatively, empathy has not been accepted because it is biased (people often empathize more easily with those who are similar and who they understand) so cannot be a normative good. Politically, empathy cannot be part of care ethics as it is too compliant to social norms and stereotypes and thus can be used to create political and social power differentials. From this we can define empathy as a one-way street in which there is a helper and one helped, where the helper must be cognizant to imagine themselves in the shoes of the one they are helping and to avoid bias in their expression of empathy.

## Research Question and Methods

It is critical that individuals in the medical field express interest in EI training and are willing to incorporate EI principles into their own practice in order for large-scale change to occur. Thus, my research will center around the question: how would EI training best be integrated and made desirable to the healthcare system? From this start, further questions for exploration will be: how (if at all) is EI currently taught in the medical field, where could it be implemented in the medical education sequence, what benefits does it present for patients and physicians, and do those in the medical field believe that EI training should be implemented?

To answer these questions, interviews were conducted with four physicians from UVA Health ranging from residents to attending physicians across multiple specialties (see Table 1). Questions were asked regarding understanding of EI (to gauge familiarity with the subject and whether any of the physicians were taught about it in school), self-perception of their average interactions with their patients (as a proxy for estimating EI), physician burnout, how their training addressed expressing emotions toward patients, and potential for EI training to be included in the medical education sequence. Questions varied between interviews, but all came from or were related to questions in Appendix A. Responses were analyzed to draw conclusions as to the need and/or interest in the addition of EI training.

<b>Physician</b>	<b>Specialty</b>	<b>Status of Practice</b>
1	Gastroenterology and Hepatology	Attending and Associate Professor
2	Palliative and Hospice Medicine	Professor of Medicine (MD MPH)
3	(i) Emergency Medicine (ii) Toxicology	(i) Attending Physician (ii) Professor
4	Cardiothoracic Surgery	Resident

Table 1. Specialty and status of practice of physicians interviewed from the UVA hospital.



Evidence of how EI is currently taught in medical school was collected through analysis of curriculums from five large medical schools across the United States. Curriculums from schools in five distinct regions of the U.S. were chosen: the University of Virginia (UVA, Mid-Atlantic), Harvard University (Northeast), Baylor University (South), the University of Southern California (USC, Pacific), and the University of Michigan (UMich, Midwest). This was done through the analysis of general curriculum timelines and course descriptions. Aspects of analysis included whether any classes were explicitly dedicated to emotional intelligence, how many classes focused on treatment of patients (bedside manner, taking a patient history, etc.), and how early in medical school students are required to take classes about the social aspects of medicine. Electives were not distinguished from required classes since not all schools provided detailed curriculum timelines to indicate which classes were required versus elective. For multi-part classes, each semester was counted separately.

When determining which classes pertained to EI, some level of uncertainty had to be allowed since each school provided a different level of information, some of which lacked detail. Harvard, UVA, and USC tended to provide more detail about their classes while Baylor and UMich provided little more than the titles of their classes. When deciding whether to include a class in the total count of EI-related or doctoring skills-based classes, if no course description or only a short course description was given, language used (e.g. in the title) was compared to language used in longer course descriptions. For example, no course description for UMich's doctoring course sequence could be found online, yet each of the eight classes were counted, since descriptions of doctoring classes by other schools such as Harvard indicated that doctoring classes focused on the patient-care skillset.

## Results and Analysis

The curriculum review and interviews demonstrate that emotional intelligence is, currently, not directly or widely taught in medical schools. Interpersonal skills such as expression of empathy and understanding of others were mentioned in some course descriptions but were not taught under the umbrella of emotional intelligence. In terms of classes which teach doctoring and bedside manner skills, the different schools offered between 3-9 classes, see Table 2, often including a multi-part (usually three part) sequence in clinical skills. The trend of few classes offered which teach doctoring skills (doctoring, meaning a variety of social skills vital to the medical field) was corroborated by the physician interviews. All indicated that the social skills of doctoring are generally not focused on in classes but instructed as a professional norm while on the job in either clinical rotations or residency.

<b>College</b>	<b>No. EI Classes by Semester</b>	<b>No. Doctoring Classes by Semester</b>	<b>Class Names</b>
University of Virginia	0	9	Foundations of Clinical Medicine I, II, and III, Patient Student Partnership I, II, and III, Classroom to Clinics, Bedside to Community, Advanced Clinical Elective (ACE)
Harvard University	0	6	Professional Development I and II, Essentials of the Profession I and II, Introduction to the Care of Patients, Making a Human Connection, Establishing Trust with Children

Baylor University	0	4	Patient, Physician, and Society I, II, and III, Intersession: Service Learning, Wellness and Narrative Medicine
University of Southern California	0	3	Introduction to Clinical Medicine I, II, and III
University of Michigan	0	8	Doctoring 1-8

Table 2. Emotional intelligence and doctoring skills in medical school curriculums

The medical school curriculum research results were as expected – no course descriptions mentioned emotional intelligence, and the ratio of clinical social skills classes to technical and academic classes was strongly skewed in favor of the latter. The University of Virginia offered the greatest number of socially oriented doctoring classes with nine available during four years of medical school. Of these, there were two sets of multi-part classes: Foundations of Clinical Medicine (FCM) and Patient Student Partnership (PSP), both of which are taught in three classes each over the course of four years (UVA, 2022). The FCM classes mainly focus on taking patient histories and physical examinations but also teach relationship building and coaches engaging with patients. The PSP classes aren't structured as traditional classes but are rather a longitudinal assignment in which students are partnered with one chronically ill patient whom they work with over the course of their four years to practice relationship building and professional identity development. The University of Michigan has the most similar program to UVA's, as it offers a longitudinal class, "doctoring," which spans all four years (UMich, 2022). Baylor University and USC have similar curriculums, with each respectively offering Patient, Physician, and Society and Introduction to Clinical Medicine, both of which are taught in three parts over the first 18 months of medical school (Baylor, 2021; USC, 2021). Harvard offers a total of eight class

relating to social clinical skills, none of which are particularly similar to the other four schools, but which focus more on professional development (Harvard, 2022).

Each of the physician interviews were similar in that 1) the physicians confirmed that emotional intelligence is not explicitly taught to medical students or residents, 2) that doctoring skills are generally taught while interacting with patients during clinical rotations in medical school and during residency, 3) that while the EI information may be useful, it must be clearly made appealing to students in order for them to care, and 4) that if EI is taught to medical students it needs to be done so by an MD. None of the physicians claimed to have taken specific classes teaching doctoring skills or bedside manner – some classes would have emphasis on patient care (e.g. doing interviews and taking histories) but none focusing on the physician-patient relationship or interactions. For most physicians, the emotional and social parts of doctoring were taught to them during clinical rotations and residency, in a group setting working with patients. As one doctor put it “[it was] assumed that you would pick up on the emotional aspects” (physician 2). Attending physicians, hereinafter referred to as “attendings,” teach and evaluate medical students and residents when working with patients, but these evaluations are performed once the patient interaction is over and it is up to the attending how much they want to weigh soft skills against hard skills. This leaves students usually more concerned with their technical performance rather than their social skills. Only physician 4 recalled a heavy emphasis on their social skills when being evaluated during clinical rotations. Of interest here is that physician 4 is a current resident, suggesting that the medical education system has changed in more recent years.

The most common concern expressed by the physicians was that EI training would not appear important to physicians, residents, and medical students, and therefore would not take

effect if introduced. Physicians as a whole are often overburdened and therefore are extremely hesitant about adding anything to their already busy schedules. The idea of taking time for EI training would likely be unappealing, thus somewhat of a marketing approach would be needed with the incorporation of EI training. One way each of the physicians thought to make the instruction compelling was to have it done by an MD, whether it be in a classroom setting or while working with patients. While many businesses bring in emotional intelligence researchers to do EI training, healthcare workers will be much more likely to take interest in EI if it is presented by one of their own. Furthermore, if taught in a classroom/lecture style, multiple physicians recommended advertising the lecture or class as something other than “emotional intelligence in medicine.” They instead recommended titles which point to the benefit the physician could expect to receive, such as “increasing joy in your practice” (physician 2) or a title indicating that EI skills could reduce chances of being sued (physician 3).

Physicians largely disagreed regarding where EI instruction should take place if added to the curriculum. Options included: 1) as a class during medical school, 2) during grand rounds (periodic, formal meetings in which attendings, residents, and medical students are present to listen to a lecture, often regarding clinical cases of specific patients or more general clinical developments), 3) residency bootcamp (a few weeks training between medical school and residency), 4) GME presentations (graduate medical education, presentations specifically for residents), and 5) as instruction from attendings during clinical rotations and residency. Two of the physicians advocated for grand rounds as the best format since this would reach the greatest number of people, including the attendings (physicians 1 and 4). However, physician 2 clearly believed this was the wrong format as it is usually presented in a scientific format rather than for social instruction. Most of the physicians agreed it would be beneficial to introduce medical

students to the concepts of EI early on, but not too early and not as a singular class, as the information would likely fall on deaf ears as students don't usually work with patients for the first two years. One physician advocated most for EI instruction during GME presentations as this would target a group who is most often working with patients while still in the learning phase. Most of the physicians agreed that it would be beneficial for attendings to have received EI instruction in order that they could incorporate it into teaching medical students and residents while working with patients. This would introduce some burden of additional instruction on attendings but if taught in a format such as grand rounds then it shouldn't overburden their schedules.

There was general agreement that EI skills have the potential to remediate both medical care avoidance and burnout. While EI skills can't get patients in the door who are already avoiding medical care, it could help to retain patients. Physician 4 explained "loss to follow up," the situation in which a patient receiving care fails to schedule or attend the requested follow up appointment, resulting in cessation of necessary care or participation in research (Dettori, 2011). Ideally, a physician with knowledge of EI skills would express the proper empathy, make themselves relatable enough, and be able to clearly communicate the importance of follow up appointments while fostering a positive experience which encourages them to come back. Physician 4 further commented that doctors and healthcare professionals are generally viewed as being impersonable, serious, or even elite, especially by those of poorer socioeconomic backgrounds. By making oneself more relatable (such as by discussing topics outside of medicine), the physician can form a bond with the patient which encourages them to come back but which also usually results in the patient being more open and honest during their appointment which increases quality of care (Mercer & Reynolds, 2002).

To the physician's benefit, EI skills have the potential to prevent burnout and make it easier to process difficult, emotional situations. Multiple physicians mentioned being taught how to be the bearer of bad news, but none mentioned being taught how to handle the bad news themselves. EI training could help physicians to recognize when the emotions of a situation are starting to bother them personally and help them recognize when to reach out for help. While EI wouldn't suffice for necessary mental health treatment, it could help individuals identify when to reach out. More so than EI as a solution to burnout, three of the four physicians are or were in a teaching position and cite that as one of the greatest reasons for avoiding serious burnout. The variety in their schedules from teaching part-time and working in clinic part-time allows the opportunity to change activities day to day and prevents from being in a high-pressure hospital setting full-time. Being able to teach and inspire new students was cited as adding more meaning to their careers beyond helping patients in a much less stressful setting. While teaching hospitals and teaching positions are not possible for all physicians, awareness of the importance of variety in life would like benefit many.

To hone in on the topic of empathy each of the physicians were asked about personal habits they have for expressing empathy and kindness to patients. Ways in which the physicians reported making themselves more relatable and methods to express empathy to patients included being intentional about understanding other walks of life (physician 1), reviewing notes and documentation the night before in order to be more conversational during appointments (physician 1), asking the "unscripted" questions (physician 2), circling back to hospital patients in the afternoon just to check on them (physician 2), and discussing non-medical topics such as family or sports (physicians 3 and 4).

## Discussion

Tying the results back to the morality of empathy, two of the doctors specifically mentioned an emphasis in the UVA hospital on recognizing biases in patient care (physicians 3 and 4) and in doing the curriculum research all five schools offered one or more courses on justice, equality, and/or empathy with regards to bias in medicine. While none of the interviewees were specifically asked about bias, the fact that they naturally brought it up in discussion indicates a cultural shift away from the natural tendency to express greater empathy to similar people (Decety & Cowell, 2014). Comments from physicians about making themselves relatable to patients indicates a striving toward moral empathy as it implies that the physicians are both attempting to better understand their patients and that they are able to place themselves in their patient's shoes, showing cognitive empathy (Decety & Cowell, 2014). Furthermore, the effort of doctors to try to make patients more comfortable such that they be willing to share more about themselves promotes a kind of two-way care pathway which would be more acceptable to the care ethics principles than a one-way patient-physician relationship (van Dijke, van Nistelrooij, Bos, & Duyndam, 2019).

Perhaps the greatest limitation to this research is the difficulty categorizing concepts under the umbrella of emotional intelligence. This research concludes that emotional intelligence is not taught in medical schools or during residency on any large scale, since no evidence of clearly labeled EI instruction was found in the curriculum research or from the physician interviews. However, that doesn't mean that emotional intelligence skills aren't taught, it just means that they aren't taught under the name or umbrella of emotional intelligence. "Empathy" was included in a couple course descriptions and was mentioned by doctors, meaning while it wasn't taught specifically as part of EI, it was taught to students nonetheless. For the sake of this



analysis, it would be unfair to claim that EI is being taught just because one facet of Salovey and Meyer's EI was mentioned, but that doesn't mean students are completely without instruction in some facets of EI. In more ideal research it would have been better to get full course descriptions for all classes and more interviews with UVA medical school staff who play a role in curriculum development in order to better judge the extent to which EI skills are taught in classes outside the framework of emotional intelligence.

If I were to perform this study again or continue the research, I would want to survey current medical students in order to analyze their knowledge of emotional intelligence and opinions on the addition of EI training. UVA's policy for surveying medical students did not allow for a survey to be done for this research but in the future could potentially be done with residents. Next time, I would plan to reach out to other medical schools in hopes of getting at least one to participate – likely from one of the schools whose curriculums is included in the analysis.

With regards to my engineering future, I will use the information I learned about emotional intelligence in my future work and everyday life. I personally believe there is a great benefit to having better emotional intelligence skills which can expand beyond a professional and academic setting. As a medical device engineer, I will need to incorporate empathy into my designs by considering the needs and wants of the user(s) and not just to take a strictly engineering perspective on my projects.

## **Conclusions**

While there is some evidence that compassionate doctoring skills are taught in classes and to some degree in clinical rotation and residency evaluations, emotional intelligence does not

appear to be explicitly taught in either setting. Medicine as an institution tends to be slow-moving and will likely take many years to see widespread changes in curriculum structure and content. It would be considerable progress to see individual medical schools incorporate a greater emphasis on emotional intelligence skills but perhaps the most effective way to see the desired change would be to change the requirements from the Liaison Committee on Medical Education (LCME), the accrediting organization for medical schools.

My suggestion based on this research would be to have the greatest emphasis on EI during residency, since this would target individuals who are consistently working with patients while also reaching them early on in their development within their specialization. There seem to be equal benefits to presenting EI training during Grand Rounds (since it is a protected education time and highly attended) and during GME meetings (since they seem to be a great way to target residents and could get their attendings interested). Training could broadly begin in medical school but emphasis during residency seems more important.

Ultimately, however, emotional intelligence is not what needs to be taught in medical schools as much as basic emotional management skills both toward patients and internally for physicians. EI provides a clear framework with both internal and external facets which is why I would make the recommendation toward focusing on EI specific skills, but any structured curriculum on the social skills of doctoring would be impactful. Potential future research could involve researching the details of doctoring courses at different medical schools, reaching out to professors of these classes, and finding schools which would allow medical students to be surveyed on their courses and their beliefs regarding the importance of social interactions with patients. This hope is that this and future research will result in a greater population of

compassionate, people-oriented physicians who recognize and prioritize the emotional experiences of their patients.

## References

- Alegria Drury, C. A., & Louis, M. (2002). Exploring the Association Between Body Weight, Stigma of Obesity, and Health Care Avoidance. *Journal of the American Academy of Nurse Practitioners*, 14(12), 554–561. <https://doi.org/10.1111/j.1745-7599.2002.tb00089.x>
- American Medical Association. (2015, January 06). How many hours are in the average physician workweek? Retrieved April 19, 2022, from <https://www.ama-assn.org/practice-management/physician-health/how-many-hours-are-average-physician-workweek>
- Baylor. (2021). M.D. Program Clinical Curriculum. Retrieved April 20, 2022, from <https://www.bcm.edu/education/school-of-medicine/m-d-program/curriculum/clinical-curriculum>
- Cathie, V., Whan, K., Montgomery, J., Martin, C., & Ramage, C. (2017). Can compassion be taught? A medical students' compassion discourse. *MedEdPublish*, 6. <https://doi.org/10.15694/mep.2017.000093>
- Decety, J., & Cowell, J. M. (2014). The complex relation between morality and empathy. *Trends in Cognitive Sciences*, 18(7), 337–339. <https://doi.org/10.1016/j.tics.2014.04.008>
- Dettori, J. R. (2011). Loss to follow-up. *Evidence-Based Spine-Care Journal*, 2(1), 7–10. <https://doi.org/10.1055/s-0030-1267080>
- Hall, M. A., Dugan, E., Zheng, B., & Mishra, A. K. (2001). Trust in Physicians and Medical Institutions: What Is It, Can It Be Measured, and Does It Matter? *The Milbank Quarterly*, 79(4), 613–639.
- Harvard. (2022). Harvard Medical School Course Catalog: 2021 - 2022. Retrieved April 20, 2022, from <https://medcatalog.harvard.edu/courselist.aspx?dep=200>

- McQueen, A. C. H. (2004). Emotional intelligence in nursing work. *Journal of Advanced Nursing*, 47(1), 101–108. <https://doi.org/10.1111/j.1365-2648.2004.03069.x>
- Mercer, S. W., & Reynolds, W. J. (2002). Empathy and quality of care. *British Journal of General Practice*, 4.
- Rego, A., Godinho, L., McQueen, A., & Cunha, M. P. (2010). Emotional intelligence and caring behaviour in nursing. *The Service Industries Journal*, 30(9), 1419–1437. <https://doi.org/10.1080/02642060802621486>
- Salovey, P., & Mayer, J. D. (1990). Emotional Intelligence. *Imagination, Cognition and Personality*, 9(3), 185–211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Svenaesus, F. (2014). Empathy as a necessary condition of phronesis: A line of thought for medical ethics. *Medicine, Health Care and Philosophy*, 17(2), 293–299. <https://doi.org/10.1007/s11019-013-9487-z>
- Taber, J. M., Leyva, B., & Persoskie, A. (2015). Why do People Avoid Medical Care? A Qualitative Study Using National Data. *Journal of General Internal Medicine*, 30(3), 290–297. <https://doi.org/10.1007/s11606-014-3089-1>
- Tucker, M. L., Sojka, J. Z., Barone, F. J., & McCarthy, A. M. (2000). Training Tomorrow's Leaders: Enhancing the Emotional Intelligence of Business Graduates. *Journal of Education for Business*, 75(6), 331–337. <https://doi.org/10.1080/08832320009599036>
- UMich. (2022, March 02). M.D. Program Curriculum Diagrams. Retrieved April 20, 2022, from <https://medicine.umich.edu/medschool/education/md-program/curriculum/diagrams>
- USC. (2021, September 17). Curriculum: Keck School of Medicine of USC. Retrieved April 20, 2022, from <https://keck.usc.edu/education/md-program/curriculum/>

UVA. (2022, February 04). UVA School of Medicine Longitudinal Curriculum. Retrieved April 20, 2022, from <https://med.virginia.edu/ume-curriculum/ume-md-curriculum/longitudinal-curriculum/>

van Dijke, J., van Nistelrooij, I., Bos, P., & Duyndam, J. (2019). Care ethics: An ethics of empathy? *Nursing Ethics*, 26(5), 1282–1291. <https://doi.org/10.1177/0969733018761172>

West, C. P., Dyrbye, L. N., & Shanafelt, T. D. (2018). Physician burnout: Contributors, consequences and solutions. *Journal of Internal Medicine*, 283(6), 516–529. <https://doi.org/10.1111/joim.12752>

## Appendices

### *Appendix A: Interview Questions*

#### Understanding of and exposure to EI

1. Have you been exposed to emotional intelligence training?
2. How comfortable are you with your understanding of EI?
3. Did you have specific classes dedicated to EI?
4. Was EI covered in any of your classes?

#### EI and empathy on the job

1. Do you believe EI training could help you provide better patient care?
2. To what degree do you allow emotions into your work?
3. Were you specifically trained not to let emotions affect your work?
4. Do you have a habit of reflecting on your interactions with patients?
5. Do you consider yourself to be an empathetic person?
6. Have you ever felt that you could not understand one of your patients?

#### Feasibility of integration

1. Can EI training feasibly be integrated into the medical education sequence?
2. Do you think EI training would be better in a classroom or on the job?
3. Where do you think EI training would best fit in the medical education sequence?
4. Would you be interested in EI training as a student (if you were a student)?

#### Burnout and personal motivation

1. Do you frequently feel burned out/overworked/overwhelmed?
2. Are you still happy with your choice of career?
3. Does stress impact your job performance?
4. Do you feel as excited about being in medicine as you were when you started? More? Less?
5. Do you consider your interpersonal skills one of your strengths?

### *Appendix B: Physician Responses to Major Questions*

<b>Question</b> (presented slightly differently to all physicians)	<b>Paraphrased Responses Based on Notes</b>
Were you taught about EI in school? If so, how?	<p>Physician 1</p> <ul style="list-style-type: none"> <li>• No specific emotional intelligence training in school</li> <li>• Being taught emotional intelligence is what you make of it, you choose how to interact with patients</li> </ul> <p>Physician 2</p> <ul style="list-style-type: none"> <li>• No emotional intelligence training in school</li> </ul>

	<ul style="list-style-type: none"> <li>• Instruction on patient interactions centered around performing interviews</li> </ul> <p>Physician 3</p> <ul style="list-style-type: none"> <li>• No emotional intelligence taught in school</li> </ul> <p>Physician 4</p> <ul style="list-style-type: none"> <li>• No emotional intelligence taught in school but social skills were emphasized in clinical rotations</li> </ul>
<p>Where would EI training best be added and how should it be presented?</p>	<p>Physician 1</p> <ul style="list-style-type: none"> <li>• Taught by an M.D.</li> <li>• Could be taught at Grand Rounds or during conferences</li> <li>• Classes should be implemented to teaching attendings</li> </ul> <p>Physician 2</p> <ul style="list-style-type: none"> <li>• Early in medical school would be too early</li> <li>• Best implemented after fourth year once students are matched with their residency program</li> <li>• “find the teachable moment”</li> <li>• Not during Grand Rounds</li> <li>• Taught by an M.D.</li> </ul> <p>Physician 3</p> <ul style="list-style-type: none"> <li>• Start EI training in the first two years</li> <li>• Attendings should receive training first and then share with residents</li> <li>• Show the benefit such as using EI training to prevent litigation -&gt; people don’t like to sue nice doctors</li> <li>• Have trusted people such as MDs do training</li> </ul> <p>Physician 4</p> <ul style="list-style-type: none"> <li>• EI training should be encouraged by LCME</li> <li>• Better to have training during Grand Rounds than GME meetings</li> <li>• Starting in residency would be too late</li> </ul>
<p>What practices do you have to relate to your patients and express empathy?</p>	<p>Physician 1</p> <ul style="list-style-type: none"> <li>• Take time the night before meetings to go over notes and start documentation to make more time for conversation during the appointment</li> <li>• Be cognizant of and work to understand different walks of life</li> </ul> <p>Physician 2</p> <ul style="list-style-type: none"> <li>• Stop by patients’ rooms in the afternoon without specific questions to ask just to see how they are doing</li> </ul> <p>Physician 3</p> <ul style="list-style-type: none"> <li>• Have discussion with patients outside of medical topics</li> <li>• Be cognizant of different backgrounds, ethnicities, and races</li> </ul>



	<p>Physician 4</p> <ul style="list-style-type: none"><li>• Make time to discuss topics outside of medicine with the patient</li><li>• Be sensitive to patient's concerns based on their background</li></ul>
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