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Abstract

The overwhelming consensus in healthcare research over the past two decades supports that healthcare providers demonstrating empathy is an integral component of quality of care and health outcomes. The benefits of empathy in patient-provider relationships range from stronger immune responses from patients to a lowered burden on the healthcare system to fewer malpractice lawsuits against providers. Even with this research suggesting that providers should be empathetic throughout patient interactions, there are barriers to implementation. The barrier that my research will focus on is time–specifically how time constraints throughout professional schooling prevent a broad education that would teach providers how to best demonstrate empathy to patients. My work focuses on a literature review to understand why empathy should be studied as the marker for success in patient-provider relationships and how empathy competency is being taught and subsequently measured in clinical practice. I, then, investigate time as the inescapable barrier to empathy education. With this foundational knowledge, I propose a recommendation that focuses on integrating empathy education, focusing on empathy as an attainable, measurable skill, into the pre-medical curriculum at universities.

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Introduction

In 2002, Dr. Stewart Mercer wrote an article on the possible role that empathy could have in improving the quality of care during clinical encounters.[1] The intent of his writing was to raise awareness for the necessity of researching the role of empathy in patient-provider interactions. He explained how empathy is often cited as an important part of effective communication. He also cites a lack of research on empathy's role in patient-provider interactions.[1] He asserts that empathy, which he strongly argues could be effectively taught to providers, improves the quality of care.[1] Quality of care is a measurement of the impact that health services have on desired health outcomes; to truly be quality healthcare, the World Health Organization outlines that health services must exhibit evidence-based care, avoid unnecessary harm to patients, and be people-centered, meaning that care is individualized based on one's needs, values, and preferences.[2]

Dr. Mercer's article did not strive to quantitatively determine the effects of empathy for patients. Instead, it was meant to "provoke thought, reflection, and debate" within the scientific community about whether empathy played a role in the quality of care.[1] Dr. Mercer's work identified gaps in the research between what was assumed versus what is needed. The assumption was that empathy plays an important role in healthcare. The need was how to actually implement empathetic care. Evidence-based education and assessment models have since become the implementation strategies.

The consensus across the research, since Dr. Mercer's article, is that empathy in patient-provider relationships corresponds to a higher quality of care, which leads to better health outcomes, specifically stronger immune responses, shorter hospital stays, reduced symptoms of asthma and colds, and stronger placebo effects for patients.[3] A

driving factor of these better health outcomes is a positive patient-provider relationship.[4] Providers with higher empathy scores are able to build positive relationships with their patients, which increases trust and communication–allowing for the development of a mutually-accepted treatment plan.[4]

The process leading to a care plan that is championed by both patient and provider is coined "shared decision-making" or SDM.[5] During SDM, there is a two-way flow of information between the patient and provider; the provider offers information on diagnosis, prognosis, and treatment while the patient offers information about their understanding, goals, and concerns. SDM has been associated with lower anxiety and regrets from patients about their treatment plans, better health outcomes, and greater patient satisfaction.[6]

These benefits of SDM tie directly to the benefits of empathy in patient-provider relationships. Empathetic communication facilitates patients and providers working as peers when coming to a mutually-accepted treatment plan. In general, empathetic communication is understood as one's information or standing not being seen as greater than the other's. While SDM can seem like it should be an automatic part of all patient-provider interactions, it often requires a conscious effort on the part of providers to implement SDM strategies. Providers report that the barriers to implementation of SDM are time constraints and a lack of applicability due to patient characteristics or clinical situation.[7] While acknowledging that these are legitimate barriers, they should not be reasons SDM is not implemented because the positive impact of SDM directly corresponds with the positive impact empathy has on patients. These barriers must be

noted to create processes and educational models that allow for the widespread implementation of SDM.

The benefits of utilizing empathy in patient-provider relationships do not fall on the patient alone though. Physicians that are noted as having empathetic tendencies are less likely to be sued for malpractice.[8] In 1997, a research study was conducted on whether time spent empathetically communicating (i.e. asking for patients' opinions, seeking patient understanding, and having two-way dialogue) corresponded with fewer malpractice claims. The study found that family physicians who had no malpractice claims spent a total of 18.3 minutes per visit displaying empathetic communication, but physicians with two or more claims only spent a total of 15 minutes displaying the same behaviors.[9] For the patient and provider, there are benefits to the provider demonstrating empathetic behaviors in clinical interactions.

A focus of healthcare research during the early 2000s and 2010s was to determine if empathy actually made a difference in clinical encounters. Today, there is sufficient evidence to indicate it does; empathy, from healthcare providers, has been found to significantly contribute to the positivity of interactions with patients, the success of treatment plans, and the well-being of patients.[3,4] The research focus must now shift towards the implementation of empathy within care, including:

- How it can be taught,
- How it can be measured, and
- How to overcome barriers to implementation.

Compared to other fields, research in the healthcare environment is unique in its definition and recognition of empathy —though similarities in definitions do exist across

professions and sectors of society. In everyday conversations, empathy is often used to describe the natural disposition of someone.[13] For example, one may say, "My mother is the most empathetic person I know." While this is an accurate use of the word, it offers little sustenance if someone is trying to understand how to develop empathy skills. In order to do that, empathy must be dissected methodically. Dr. Janice Morse broke the concept of empathy into four components: emotive, moral, cognitive, and behavioral.[14]

Component	Dr. Morse's Definition	Explanation
Emotive	"The ability to subjectively experience and share in another's psychological state or intrinsic feelings"	Feeling someone's sadness with them.
Moral	"An internal altruistic force that motivates the practice of empathy"	Selfless concern for others' wellbeing.
Cognitive	"The helper's intellectual ability to identify and understand another person's feelings and perspective from an objective stance"	Ability to know that someone is feeling sadness.
Behavioral	"Communicative response to convey understanding of another's perspective"	Outwardly expressing your understanding of what they are experiencing–through words or nonverbal cues.

Table 1. Components of Empathy, based on Dr. Janice Morse's writing.[1]

In contrast to everyday uses, clinical empathy, the empathy used by healthcare professionals when engaging with patients and their loved ones, is defined as "the ability to understand the personal experience of the patient without bonding with them."[10] Clinical empathy is different from other understandings of the word in the sense that it is truly a "detached" concern for a patient.[11] The healthcare system's "overarching norm of detachment"[12] may seem counterintuitive based on what we consider mainstream empathy, yet it is important in clinical settings because a provider can continue to provide

care even when faced with sights of death and suffering. In the early 1900s, William Osler, who is considered the father of modern medicine, wrote of the importance of detachment of emotions, saying that one must be emotionally distant so that "his blood vessels don't constrict and his heart rate remains steady when he sees terrible sights."[11] A physician must feel and express empathy towards their patient, but they do so with the goal of being called to heal the person's ailment—not to just understand their suffering.

Since Dr. Mercer's call to investigate the impact of empathy in clinical settings, research has been conducted on how to define the quality of care, the importance of empathy on quality of care, and how to define clinical empathy. Once the body of research supported the importance of clinical empathy, research could shift to how to assure that empathy is present in all clinical encounters–through creating empathetic practices or moving away from empathy-hindering practices. A literature review of current research will give a foundational understanding of how clinical empathy is taught to physicians, how physicians' levels of empathy are measured, and the identification of barriers to the implementation of empathetic practices in patient-provider interactions.

Methods

To find literature relevant to empathy education and implementation, an initial database search was completed using the terms "empathy in medicine," "clinical empathy," "increasing clinical empathy," and "empathy education." Peer-reviewed articles and chapters of books that contained these phrases and seemed to provide information that could be relevant were noted. Subsequently, the snowball method was used to find related articles. After the collection of articles seemed to be exhausted, the articles were categorized into the following: defining empathy, the importance of

empathy in clinical settings, how empathy is taught, how empathy is measured, barriers to empathy, and solutions to such barriers. These categorizations were based on the predetermined flow of the paper. Phrase-specific searches were conducted to find any missing support throughout the writing process. In addition to peer-reviewed articles, web pages from universities, medical schools, and governments were used.

Literature Review

The aforementioned research in the introduction can be summarized by stating that the medical community recognizes that empathy in patient-provider relationships benefits both parties. Simply acknowledging that empathy is needed is not enough; the medical community must find a way to ensure it is implemented throughout all interactions. There are ways to measure, quantitatively and qualitatively, the extent to which empathy is present in patient-provider interactions.[9,15] Determining whether empathy is present or not by quantitative or qualitative measures helps identify doctors who could use further interventions to help them improve their empathy, especially as rated by their patients.[16] However, this is a band-aid solution that tries to identify a lack of empathy once doctors are already practicing. Another approach would be to address the root of the issue by educating and assessing empathy before doctors ever enter practice. To do that, empathy education must become a cornerstone of medical education. Just as with all skills in medicine, empathy must be taught, practiced, and developed.

It should be noted, though, that some academics do not consider empathy a skill. Instead, they argue it is a gift or trait.[17] This implies that empathy is inherent. Believing empathy to be a trait, a person may believe that an empathetic doctor is born—not trained. The American College of Surgeons, though, argues against the idea that

competent doctors are predisposed. In their section on surgical traits, they write, "First and foremost, surgeons are trained, not born… Intelligence, professionalism, conscientiousness, creativity, courage, and perseverance on behalf of your patients are critical factors, and they outweigh the small differences in dexterity among most medical students. Becoming a good surgeon is a lifelong process."[18] They point out that certain traits may be helpful in the process of becoming a surgeon, but the training and refinement of skills create a good surgeon. In the same way, certain traits may help one become an empathetic doctor, whereas empathy education and practice create a highly empathetic doctor.[19] A philosopher or psychologist may find importance in further discussing the natural, unpracticed empathy of the world. This discussion, however, is not productive in creating ways to increase empathy in clinical practice through education because it would, instead, support a solution of only recruiting doctors that naturally have empathetic personalities, determined through tests like the NEO-Personality Inventory-Revised. The Neo-Personality Inventory-Revised is a personality inventory test that uses 240 items on a 5-point Likert scale to measure the taker's scores in Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness.[20] In contrast, viewing empathy as a skill allows for solutions that increase empathy in all doctors, regardless of natural tendencies. For this paper, empathy will be defined as a skill.

Before delving into how empathy is taught at various institutions, one must first determine if empathy can even be taught to the degree that leads to positive, significant changes. One longitudinal study at Monash University in Australia focused on whether an individual's empathy levels could improve throughout their time in schooling. The

measurement of empathy that was utilized was the Jefferson Scale of Empathy–Health

Professionals, which is a 20-question survey that uses a Likert scale to score one's

tendency to be empathetic in clinical settings. The researchers' findings indicated that the

nursing, midwifery, and emergency service students developed higher levels of

empathetic tendencies the further along in schooling they were.[21] The limitation of this

study, though, is that the students experienced clinical and educational experiences

between their annual tests, which means that it cannot be determined whether clinical

experiences or education from a more traditional avenue affected this change.[21]

Regardless, the findings of this study indicate that empathy levels can be increased

throughout one's life; this supports the assumption of this paper that empathy is a skill.

Empathy levels can also be tested before and after a short-term intervention,

rather than throughout a longitudinal study. A Brazilian study focused on whether

simulated medical consultations over four weeks could increase student empathy.[22]

Medical students in their fourth and sixth years of schooling participated in four weekly

meetings, during which they took turns consulting simulated patients and debriefing the

interaction together afterward.[22] During the debriefs, students and facilitators discussed

the feelings and interactions of the patients and providers.[22] Like with the Australian

study, a 20-question Likert scale pertinent to a medical context was administered before

and after the simulated consultations; for both the fourth-year and sixth-year students,

their empathy level scores increased by a statistically significant amount.[22] This study

also supports that empathy is a developable skill.

The previous two studies focused on self-reported empathy levels, which may

cause someone to question whether empathy is truly being learned or whether the

participants are now just self-reporting attributes that they know connect to empathy. One way to counteract this question is by reporting that the participants in the Brazilian study were never told that the researchers were investigating levels of empathy.[22] This prevented the participants from answering the questionnaire with the goal of achieving high empathy scores. Another way to disprove the line of thinking in this question is to show that intervention leads to observers or objective assessors reporting the provider having increased empathy. Such studies are described below.

Wanting to determine whether a brief, computerized intervention could improve how oncologists respond to negative emotions from their patients, researchers conducted a randomized trial at cancer centers in North Carolina and Pennsylvania.[23] All participating oncologists were recorded in baseline interactions with patients that had advanced diseases, which would increase the likelihood that the patients would express negative emotions during their appointments. Then, all oncologists viewed a lecture on communication skills before a balanced-randomly selected experimental group received a tailored, computerized intervention that used footage from their baseline recording to give suggestions on where empathetic communication could be implemented.[23] Finally, all oncologists met with new patients, and the visits were recorded.

This study had two measures of empathy; the visits were coded and assessed for empathy communication and patients were interviewed after their visits.[23] Based on the coding of the recordings, oncologists in the tailored intervention group used a greater number of empathetic statements and "continuers" to empathetic opportunities—meaning the provider named, understood, respected, supported, or explored (NURSE) negative emotional responses from the patient—than the control group did after the intervention.

Patients in the tailored intervention group also perceived greater empathy from their oncologists than those in the control group.[23] With just a 1-hour computerized, tailored intervention, a 2-fold increase in empathetic statements was found.[23] This study highly supports that empathy can be taught. Furthermore, it suggests that empathy can be taught using brief, inexpensive interventions.

Coding the interactions between providers and patients is an objective way to determine if empathy is being increased after the intervention. In the study with the oncologists, coding of real patient interactions was used. A similar study was conducted to code virtual and simulated patient interactions. In this study, it was found that medical students that interacted with empathy-feedback virtual patients, meaning the students were given an after-visit report that contained the empathetic statements they used and suggestions for possible improvements in the future, showed higher empathy in follow-up simulated patient interviews than medical students that did not have empathy-feedback from their virtual patients.[24] The empathy levels were rated by trained assessors based on coding and by the perceptions of the simulated patients.[24] The findings of this study are relevant because it supports that empathy can be taught using low-cost, virtual interactions that provide immediate feedback to participants.

The above studies use a variety of educational models, data collection, and participants. However, the similarities in results support the conclusion that empathy can be taught, specifically meaning that an individual's empathy levels increase after an intervention. This foundational understanding is needed to begin a conversation on how medical schools are currently teaching empathy to their students. There is no unity in how medical schools in the United States currently teach empathy to students. This is

mostly because American medical schools do not have a common curriculum.[25] Instilling

a common curriculum or common requirements for graduation could be based on the

United Kingdom's General Medical Council Model, which mandates certain

requirements. One of which requires all graduating medical students to demonstrate

empathy and compassion to patients.[26]

Given the sheer number of medical schools, not every school's curriculum can be

represented in this paper. Instead, general categories of empathy education methods will

be discussed, following the categorizations outlined in "Teaching Empathy to Medical

Students: An Updated, Systematic Review."[27] These include patient narrative and

creative arts, communication skills training, experiential learning, and empathy-focused

training.[27] It should be noted that other interventions exist, such as drama, writing,

problem-based learning, patient interviews, and interprofessional skills training; however,

these will not be further discussed.[27] The interventions discussed in this paper were

selected based on the availability of studies and the methodology used. Empathy-focused

training interventions will be further discussed in subsequent sections of this paper.

Outside of the medical community, the humanities, specifically literature, have

been utilized as a tool to increase the empathy of students.[28] Exploring whether this same

impact could be found in medical students, a study was conducted to measure the

empathy levels of students before and after participating in classes that discussed poetry

relating to patients and providers. It was found that empathy levels improved

significantly after the medical students participated in class; furthermore, they reported

having an increased understanding of patients' perspectives after the course.[28] This study

is promising because it suggests that clinical empathy levels could be improved using methods that are already developed in other disciplines.

Another tool for empathy education is workshops that emphasize increasing communication skills. While testing empathy levels for an experimental group that participated in a 25-hour workshop on communication skills, researchers found increased self-reported empathy levels in those who attended the workshop. There was an increase in 68.9% of participants in the experimental group, but there was no significant increase in empathy levels for the control group.[29] Although the statistical difference for this intervention was slight, there still was a positive increase in empathy scores–indicating that this intervention could be used to increase empathy in clinical settings.

A final, unique intervention is the aging game. In this intervention, medical students are given different hindrances as they try to navigate the different living experiences of older patients. For example, they must wear heavy rubber gloves (to simulate decreased mobility) and filmy goggles (to simulate cataracts) while trying to manage opening and taking a variety of medicines.[30] The Maxwell and Sullivan self-assessment questionnaire was used to measure empathy levels before and after the intervention. It should be noted that this measurement is unvalidated, but it was utilized because it is the only one designed for the specific purpose of measuring empathy and attitudes toward the elderly.[30] There was a statistically significant increase in self-reported empathy towards elderly patients following the aging game.[30] This is a highly promising intervention because of the direct focus on empathy towards a specific subset of patients. Furthermore, the interactiveness of this "game" could help with the longevity

of increases in empathy, but further research must be conducted using longitudinal assessments.

Each of the example studies above showcases a different way in which an intervention corresponded with a positive increase in empathy measures of medical students. This body of evidence supports the conclusion that empathy can be taught, specifically meaning that empathy levels are not stagnant and can be increased through various intervention models.

Empathy levels, regardless of whether testing is done before or after the intervention, can be evaluated from three different perspectives: self-rating, patient-rating, and observer-rating.[31] They are defined below.

1. Self-rating is a first-person assessment that is completed using standardized questionnaires completed by the provider.

2. Patient-rating is a second-person assessment completed using questionnaires given to patients about the empathy they perceived from their providers.

3. Observer-rating is a third-person assessment that is completed by using observations of patient-provider interactions.[31]

When testing eleven current empathy measures, only three measure score as high quality when considering validity, reliability, setting, domain, and practicality or application; these are JSE, CARE, and TES.[32] The JSE, or Jefferson Scale of Empathy, is a 20-point questionnaire that uses a 7-point Likert scale to measure the cognitive aspect of empathy, specifically perspective-taking and cognitive care.[32] It is a self-rating perspective. Consisting of 10 questions that use a 5-point Likert scale, CARE,

Consultation and Relational Empathy Measurement, is used to evaluate providers'

empathetic engagement from the perspective of clients, meaning a patient-rating

perspective.[32] The TES, or Therapist Empathy Scale, is a 9-question measurement with a

7-point Likert scale that is completed by an external observer; this is an example of

observer-rating.[32]

While each of the aforementioned tests has validity and reliability, they are not

universally useful. This means that the structure of each test may lead to either ease or

ineffectiveness in use. For example, self-rating perspectives, like the JSE, are very cheap

and quick to use. They could possibly be useful in medical school applications since they

would give a reading on a very large sample size. Medical schools do not have the

resources to use second and third-person assessments for every applicant. However, there

is a possibility that a sector of the population could fake the test by answering what they

predict researchers or medical school admissions counselors want to see.[31] Issues with

patient-rating assessment include patient characteristics altering their perception of their

provider's empathy. For example, patients with low educational statuses perceive their

physician as more trustworthy and empathetic, compared to patients with higher

education statuses, and females perceive their physician as less trustworthy and

empathetic, compared to male patients.[33] Patient-rating perspectives are helpful, though,

because the patients are the largest shareholder in empathy because their quality of care

and health outcomes are dependent on how they perceive empathy. Observer-rating

systems allow for coding processes of empathetic language that can be used to give

individualized training to providers and medical students, but researchers have raised

concerns that observer-rating systems have a risk of misinterpretations.[23,32] Each of these

perspectives offers insights into providers' empathy levels; however, they do have shortcomings that prevent them from being used in isolation.

The medical community utilizes all of these perspectives to evaluate empathy levels. In addition, there has not been consistent agreement among researchers about which perspective most accurately represents a provider's empathy. This is largely due to common methodological flaws in experiments regarding empathy, such as no control group, small sample sizes at singular institutions, no pre-intervention testing, no subsequent retesting, and no random assignment of groups.[27,34] Another major limitation is that the majority of empathy studies utilize self-rating assessments, and there is little known about how self-rated empathy compares to ratings by patients or observers.[34] Until further research is done, there is insufficient evidence placing one perspective of empathy as being the best predictor of actual provider levels. For this reason and because of the difficulties with implementing different perspectives within certain situations, current researchers must consider and utilize a variety of empathy tests.

The information covered to this point may lead one to believe that empathy is being effectively taught and measured. The studies covered indicate that existing interventions lead to positive effects in measured empathy.[22,23,24] Yet, there is also evidence that there are low levels of empathy detected in clinical settings and that empathy declines throughout a provider's training. Low levels of empathy in clinical settings can be seen through empirical studies, patient ratings, and malpractice suits citing empathy deficits.[36] In addition, Jefferson Medical College found a significant decline in empathy during the third year of medical school, as determined by students' scores from their self-rated Jefferson Scale of Physician Empathy, mentioned previously.[35] One of the

first studies mentioned during this literature review highlighted an Australian university that found increased levels of empathy throughout schooling.[21] Further research must be conducted to determine the factors which allow some health-focused students at some universities to have increased empathy while others have decreased empathy. Possible reasons for this difference are the genders of the students, the field of medicine for which they are studying, educational methods and ideologies, or the curriculum at each school.[21]

One may ask, "How can low or declining levels of empathy still exist when there is peer-reviewed research for successful interventions?" The answer is the existence of barriers to the implementation of empathetic practices in patient-provider interactions.

These barriers are, most of the time, not individual failings. An individual's barrier to empathy would be a disregard for the well-being of others or an inability to connect with patients under any circumstances.[36] Given the rigorous screening process to be accepted into medical school, it is unlikely that a doctor would exhibit a complete disregard for others. Furthermore, doctors recognize the importance of empathetic care. In a study investigating whether patients say there is a lack of compassionate care in the American healthcare system, 76% of responding physicians reported that they believed compassionate care was "very important" to successful medical treatment, and 71% of responding physicians believed that good communication and emotional support can affect whether a patient lives or dies.[37]

The barriers most often cited in the literature are not due to an individual's fault; instead, cited factors are most often long work hours, pressure to meet productivity goals, and an inability to spend the needed time with patients, often due to understaffing and an

increased workload.[36] The true barriers to empathy in clinical interactions result from systemic issues in how the healthcare system values the patient-provider relationship.

The current standard of medicine in the United States expects providers to be objective obtainers of tests and treatments to passive patients, who are seen as unknowledgeable about their condition.[38] These expectations are coupled with time pressures, meaning that providers, under the stress of needing to quickly meet guidelines for diagnosis and treatment, have little time to empathetically engage with their patients, especially through shared decision-making (SDM). Providers that spend additional time engaging with their patients are seen as inefficient—despite mounting evidence that empathy in patient-provider relationships leads to improved health outcomes.[3] When studying the current paradigm of healthcare, time can be thought of as the overarching barrier to empathy. Time can be discussed in terms of too long work hours, too little time spent with patients, or too much pressure to treat patient interactions like checklists. Regardless, time is a root of barriers that are preventing providers from creating positive relationships with patients, which would allow for better health outcomes and the empowering of patients through SDM.

Another way to look at barriers to empathy, other than time constraints in clinical interactions, is through the lens of burnout. Burnout, which is categorized as a lack of enthusiasm for work, depersonalization, and a decreased sense of personal accomplishment, is experienced by many doctors.[39] Although the effects of burnout can spill over into one's personal life, these effects are directly related to one's professional life, which is what differentiates the syndrome from depression.[40] One study found that high scores from self-administered measures of burnout, specifically the Maslach

Burnout Inventory, corresponded with low scores from self-administered measures of empathy, specifically the Jefferson Scale of Physician Empathy-Student Version.[41] This means that when doctors notice and report that they are experiencing burnout, they are also noticing and reporting lower levels of empathy.

Similar findings were supported when all medical students in Minnesota were studied. This study also used the Maslach Burnout Inventory to measure students' burnout levels. However, this study used the Interpersonal Reactivity Index, which is also a self-administered test using a Likert scale, to measure empathy. Researchers also used a linear analog self-assessment scale to measure one's quality of life. They found that burnout inversely correlated with empathy, but a high quality of life correlated with higher levels of empathy.[40] Efforts to increase the quality of life for providers and medical students would lower their distress, which leads to burnout; these changes in quality of life and distress levels would both correspond with higher empathy levels. Therefore, if the healthcare system wants to increase empathy present in clinical interactions, then the well-being of providers must be improved.

Further analysis of barriers to empathy will suggest that the culture of medicine and burnout are a result of the time pressures placed upon providers in the current, American healthcare model.

Analysis

While the literature reviewed focuses on burnout and the culture of the medical system today as barriers to empathy, the author of this paper proposes that these two barriers are actually effects of a greater barrier to empathy: time. Analysis of the current

literature will exhibit time as the barrier that is underlying other prominent proposed barriers.

Time is an all-encompassing barrier to empathy implementation, meaning that a lack of excess time prevents the development of empathy skills and time pressures often lead to the removal of empathy during patient-provider interactions. This paper defines time as an immovable barrier, meaning that no interventions will increase the time available to a medical student or provider. Their time in a day or a patient's room can be used strategically or in a new way, but nothing will allow time to become an unending resource. For this reason, time can be considered the ultimate barrier to empathy. It can be handled, but it can never be truly overcome.

Burnout was previously proposed in this paper as a substantial barrier to empathy. Referencing "Burnout in Medical School: A Medical Student's Perspective," burnout can be tied directly to time pressures on medical students. Entering medical school, students report mental health statuses that are similar to their peers, but their mental health severely deteriorates throughout their schooling. A multi-institutional survey found that at least half of medical students suffer from burnout, which often develops into comorbid mental health conditions.[42,43,44] American medical students spend the same time in schooling as their predecessors; however, that time is filled with more learning and activities. In part, this is due to an increasing field of knowledge that must be ascertained by the students. It is also due to increasing expectations of students to engage in extracurriculars and research; if they do not, they are perceived as having deficiencies.[45] Even as expectations of learning and involvement increase, the time spent in medical

schooling remains unchanged, so students are forced to undervalue their well-being and personal lives in the pursuit of their degree.

By simply considering measurable factors of well-being, such as time spent with loved ones, in correlation to empathy levels, one might determine poor well-being as a barrier to empathy. While possibly true, an analysis of this issue showcases that time is still the greatest barrier to empathy. A frameshift is needed to address the root of the issue: time that is unable to be spent on activities that promote well-being due to recent, added medical school stress blocks the development and implementation of empathy.

For their degree, medical students graduate with a mean debt of $200,000.[46] Stressed with the sheer volume of debt, medical students can feel pressure to reach for competitive specialties with higher pay, but this comes at the expense of risking further burnout as they overload themselves to fill their resume.[45] Trying to give students resources to counteract this burnout, medical schools often produce counterproductive results by implementing wellness programs. While well-intentioned, these programs absorb even more of students' time and often offer suggestions that place implicit blame on the students. For example, students are told to engage in relaxing activities, which can be perceived by students as saying their inability to cope is the cause of their burnout.[45]

Instead of trying to add to a student's already jammed schedule, medical schools and the healthcare system should work to change the culture of schooling. Fortunately, positive changes are currently being made. The USMLE Step 1, an important test for determining where one will place for residency and for what specialty, changed in 2022 to become pass/fail. Some medical schools are implementing a similar pass/fail system.[45] Studies show that schools with a tiered or lettered grading system have higher levels of

burnout than schools that utilize a pass/fail system.[45] The culture of schooling can further be changed through initiatives that work to reduce unnecessary stressors, improve mentoring, reduce stigma, and create opportunities for students to find purpose throughout their years in medical school.[47] The key to success in cultural changes is that these changes cannot further add to the stress of students, which often means that additional programming is not the best solution. Instead, the current programming, including curriculum and wellness programs, needs to be redesigned to teach the necessary skills without added stress.

As previously discussed, burnout results from a student's time being overtaken to the point where they cannot maintain wellness and relationships that contribute to a good quality of life. The concern with these high levels of burnout in medical students, which correspond with low levels of empathy, is that newly graduated physicians will be entering clinical practice with lowered empathy levels. Any clinical barriers to empathy will be mounted upon an already existing lack of empathy. While clinical barriers must also be solved, their solution alone cannot overcome the damage to empathy that is currently being experienced throughout medical school.

Once medical students enter practice, their time constraints do not end. Now, instead of expanding curriculum and pressure with extracurricular activities, their time issues result from an operationalization of medicine[48] This concept means that interactions between patients and providers have become checklists rather than interpersonal connections.[49] Doctors, needing to document large amounts of information per visit, rush through explanations of diagnoses and treatments.[50] This does now allow for communication or shared decision-making between patients and providers, which has

the positive impacts on health outcomes mentioned in the introduction.[6] Furthermore, healthcare is viewed as a business, so visits are shortened to allow doctors to see more patients. Again, shorter visits prevent empathetic interactions.[38]

Just as with the issues of burnout in medical school, solutions are focused on changing the culture of the healthcare system. Instead of seeing patient interactions as a way to gather documentation, order tests, and complete checklists, visits need to be rebranded as conversations between providers and patients. Throughout these conversations, physicians need to work to understand their patients beyond their diagnosis, communicate this understanding to the patient for verification, and implement treatments that acknowledge this understanding.[48] These check-ins with patients can easily be added to the conversation. For example, a physician could say, "My understanding is that you are struggling with getting your medications refilled each month because you do not have reliable transportation. Would changing to a three-month supply at each refill help your situation?" This allows the patient to be an informed participant in their care and feel validated by their provider.

Other interventions focus on freeing the time spent during the visit so that empathetic communication can occur. Examples of this are utilizing technology or office staff to gather background information on patients before the provider enters the room. Another example would be having patients and providers look at the computer screen together while information is being entered; this allows patients to feel part of their care team.[38] Both of these interventions do not absorb any more of the provider's time. This has a dual purpose of helping to prevent burnout and allowing doctors to engage in empathy.

Many of the interventions that were discussed in the literature review show very promising results that empathy can be taught and increased. However, the major downside to these interventions, which was not previously addressed, is that they are often time-consuming. Whether completed during medical school, residency, or continual learning, these programs are additions to the curriculum—adding further time pressures on students and physicians. These added pressures' consequences will vary greatly, unfortunately, due to the lack of common curriculum throughout medical education in the United States.[25] One could argue, as well as design a study to test, whether the benefits of empathy interventions outweigh their negative consequences on burnout and well-being. To a certain extent, empathy interventions need to occur as part of continuing medical education, especially interventions that can give individualized feedback to providers, so some negative consequences may be unavoidable. However, actions to reduce any unnecessary stress to participants in empathy education should be taken.

To be clear, this analysis of the literature is not suggesting that current findings on barriers to empathy are inaccurate or misleading. Barriers, such as long work hours, pressure to meet productivity goals, and an inability to spend desired time with patients, certainly exist.[36] The goal of this analysis is to propose that time underlies each of these researched barriers. The relevance of this is that an understanding of time as a rooted barrier would be beneficial when considering solutions. Rather than creating solutions that just address one barrier, solutions should focus on addressing time since it covers so many other, more specific barriers. Burnout and the culture of medical schools and the healthcare system are two categories of barriers, contained within the larger domain of time, that could be addressed to have positive outcomes on empathy.

Implementation

Throughout the analysis, some suggestions to increase empathy without adding other stressors have been provided, such as switching medical schools to a strict pass/fail option or utilizing technology to gather patients' background information.[38,45] However, just as with the different measures of empathy, it can be beneficial to have a variety of methods to test. While individual solutions can help alleviate barriers to empathy, a varied approach could increase levels of success. The implications of this paper offer a new suggestion that does not disregard the positive impacts of existing solutions; instead, it merely offers a novel perspective that can be implemented alongside existing interventions.

Since medical providers and medical students face barriers to empathy education and implementation due to time, a proposed solution is to incorporate empathy education into the premedical curriculum. This likely would benefit the empathy levels of medical students throughout schooling. More research needs to be conducted on pre-admission empathy levels, but the implementation proposal by the author is based on their literature review, including a national study that compared empathy levels for medical students, at both MD and DO schools, throughout their four years. The study found a statistically significant decline in empathy scores between preclinical students (years 1 and 2) and clinical students (years 3 and 4).[51] The data seems to suggest that, given the current environment of medical education, the decline is inescapable across all institutions. Even if the decline is inescapable, any interventions prior to medical school, which increase the baseline empathy scores, would correspond with ending empathy scores that are higher than currently observed. Another benefit of this proposal would be fewer interventions

needed throughout medical school. This is important because of addressed burnout that is caused by the limited time filled with seemingly unending activities to try to match into one's dream residency program. These same time constraints are not present in undergraduate schooling, so the author proposes implementing empathy education in the undergraduate curriculum could have the added benefit of reducing programming that adds to medical school burnout.

After the literature review and analysis, the author of this paper suggests that the University of Dayton could spearhead a research program to study the impacts that undergraduate empathy education has on longitudinal measures of empathy. The University of Dayton offers a premedicine major, which is an interdisciplinary curriculum of study. The goal of this major is to provide a diverse education to undergraduate students that plan to attend healthcare schools after graduation while ensuring they complete the courses that healthcare schools require. The program values a comprehensive approach to pre-healthcare education while maintaining the flexibility of the curriculum.[52] Alongside the major, the premedical program allows students and professors to work together to help the student succeed.

Included in the premedicine major is an introductory course that all students take.[52] At the beginning of that course, students could take the Jefferson Scale of Empathy-Student Version. Throughout the course, empathy education, such as through the age game or communication skills workshops, could be implemented. At the end of the course, as well as for the years that the student attends the University of Dayton and their future medical school, the test could be re-taken. Scores could be compared longitudinally to see if the course correlates with a positive, sustained increase in

empathy, or they could be compared among peers to see if the Dayton students rank higher in empathy levels than other medical students not having prior engagement in these course teachings.

Another approach, instead of utilizing a variety of interventions throughout the course, would be to base the curriculum on empathy-focused intervention research. A six-week research project was conducted in Virginia, using the CARE assessment tool, to measure the impact that group trainings on empathy and connected skills, such as active listening and communications skills, alongside hands-on experience has on self-assessed and patient-assessed empathy levels.[53] The study found that group-based facilitated learning led to increased empathy levels, but the sample size and methodology prevented statistical significance from being determined.[53]

Some limitations to the direct application of a similar intervention at the University of Dayton. Namely, this intervention followed a weekly schedule where didactic instruction was given at the beginning of each week before the medical students worked their family medicine clerkships for the remainder of the week.[53] The premedical course at Dayton meets once a week. A possible adaptation would be using a biweekly schedule of the curriculum. One week would focus on the group discussions, roleplay, and learning that occurred during the original study's dyadic sessions; during the other week, students could be transported to local clinical settings to witness empathy in practice in order to be able to discuss their observations the following week. Basing the curriculum on existing research could make implementation of empathy education in the premedical curriculum more manageable.

The University of Dayton is a wonderful candidate for a pilot program on empathy education in the premedical program because of its Catholic and Marianist traditions. As a university, Dayton is "dedicated to excellence in creating new knowledge, integrating this knowledge across disciplinary boundaries, and applying it creatively to meet human needs."[54] This commitment would encompass research into how empathy education to undergraduates can help bring a renewed level of empathy into medical schools and clinical settings. As a Catholic university, Dayton is committed to the dignity of the human person[54] When recognizing the full dignity of each person, one would be called to act in an empathetic manner and see the perspectives of others. As a Marianist university, Dayton is committed to service through learning and leadership.[54] As volunteers in an unprecedented research study, Dayton students would lead healthcare education towards more human-focused practices that allow empathy to be woven into the forefront of patient-provider interactions.

Another reason that the University of Dayton is a promising candidate for this type of program is the University's Institute of Applied Creating for Transformation's partnership with Education Design Lab. Through this partnership, the University offers students the ability to earn micro-credentials for different employable skills (including empathy), after demonstrating mastery of sub-competencies for that skill throughout the course.[55] The framework of this program could be used to implement clinically-relevant empathy interventions. Earning these micro-credentials increases the empathy knowledge of students while also giving them an advantage in application processes because they have demonstrated mastery of a fundamental skill in medical training.

If the statistics support the hypothesis that empathy education in premedical curriculum leads to sustained, higher empathy in medical students, the program could be implemented across a larger scale. Medical schools could also adopt an empathy education course as part of their prerequisites to encourage universities and colleges to develop and teach empathy on their campus. Further research for this hypothesis and proposal is recommended.

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