

REVIEWS

Educating for Empathy

A Review

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OBJECTIVE: Empathy in the medical setting is appreciation of the patient's emotions and expression of that awareness to the patient. Named as an essential learning objective by the American Association of Medical Colleges, empathy is believed to significantly influence patient satisfaction, adherence to medical recommendations, clinical outcomes, and professional satisfaction. The objective of this study was to identify effective strategies to enhance empathy in undergraduate medical students.

DATA SOURCES: We searched PubMed for studies that address the effectiveness of strategies for teaching empathy to medical students. We identified 13 peer-reviewed, English language, qualitative and quantitative studies reporting primary data on interventions that aim to foster empathy in undergraduate medical students, using Medical Subject Heading terms *education*, *medical*, *undergraduate* or *student*, *medical* crossed with *empathy*.

RESULTS: These studies indicate that empathy may be amenable to positive change with a range of interventional strategies. Communication skill workshops addressing the behavioral dimension of empathy show greatest quantitative impact on participants. However, current studies are challenged by varying definitions of empathy, small sample sizes, lack of adequate control groups, and variation among existing empathy measurement instruments.

CONCLUSION: Given the methodological limitations of the available studies, and uncertainty about which dimensions of empathy should be addressed, larger studies using validated measurement tools are recommended.

KEY WORDS: undergraduate medical education; medical student; empathy; review.

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Medical educators have an interest in promoting empathy in their trainees. The Association of American Medical Colleges states in their Learning Objectives for Medical School Education,¹ "physicians must be compassionate and empathetic in caring for patients." As a component of the physician-patient relationship, empathy affects both diagnosis and patient care. Patients who feel listened to are more likely to fully explain their symptoms and to provide pertinent details. Emotional as well as intellectual engagement may help physicians attend to aspects of patients' health that might otherwise go

unnoticed.² Physician empathy may also significantly influence patient satisfaction,³⁻⁶ adherence to medical recommendations,^{4,6-8} and medical-legal risk.⁹⁻¹¹ Effective communication¹² and a "warm, empathetic" style¹³ have been shown to improve clinical outcomes. Physicians' professional satisfaction may also be correlated to empathy.^{3,14}

It is disheartening, then, that empathy declines during medical training. Studies demonstrate that by some measures, empathy declines during undergraduate medical education^{15,16} and residency.^{17,18}

What Is Clinical Empathy?

The vernacular definition of empathy, understanding or appreciating how someone else feels, has been expanded in the clinical context to include emotive, moral, cognitive, and behavioral dimensions. These aspects are more fully described as follows: (1) *emotive*, the ability to imagine patients' emotions and perspectives; (2) *moral*, the physician's internal motivation to empathize; (3) *cognitive*, the intellectual ability to identify and understand patients' emotions and perspectives; and (4) *behavioral*, the ability to convey understanding of those emotions and perspectives back to the patient.¹⁹⁻²² The authors who explore these separate dimensions of empathy stress that emotional engagement, not just intellectual understanding, is crucial for effective empathy.

Larson and Yao²³ have enriched this definition of clinical empathy by viewing it as a form of "emotional labor" which requires both "deep acting," or intentional modification of one's true emotions, and "surface acting," the deliberate display of emotions such as enthusiasm or concern that one does not actually feel. Surface acting is the opposite of emotional engagement, suggesting that clinical empathy requires flexibility to suit varying patients and circumstances.

All 4 dimensions of empathy may work together to benefit patients. For example, a physician could cognitively perceive a patient's anxiety and communicate this by saying "I see you are anxious," yet have the statement fall flat. But if the physician adds the desire to empathize, and becomes emotionally engaged by imagining what the patient's anxiety must feel like, his facial expression and tone of voice are more likely to make the patient feel understood, not merely labeled. In turn, the patient's sense of being truly understood is likely to encourage further disclosure and foster trust. In other words, all dimensions of clinical empathy may be required for physicians to be effectively empathetic.

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Table 1. A Comparison of Empathy Measurement Tools

	IRI ²⁶	ECRS ^{27, 28}	BEES ^{29, 30}	AES ³¹	HRS ^{32, 33}	ESWIM ⁴¹
Type of test	Written self-evaluation	Written self-evaluation	Written self-evaluation	Assessment of an interaction by trained observer	Assessment of an interaction by trained observer	Written self-evaluation
Specific to medicine	No	No	No	No	Yes	Yes
Validated	Yes	Yes	Yes	Yes	Yes, for entire instrument; no for empathy components	No

Interpersonal Reactivity Index (IRI): 28-item test, self-scored on 5-point scale. Sample item: "I would describe myself as a pretty soft-hearted person."

Empathy Construct Rating Scale (ECRS): 100-item test, self-scored or used to rate another person on 6-point scale. Sample item: "Seems to understand another person's state of being."

Balanced Emotional Empathy Scale (BEES): 30-item test, self-scored on 9-point scale. Sample item: "I cannot feel much sorrow for those who are responsible for their own misery."

Accurate Empathy Scale (AES): 9 stages of empathy, defined using excerpts from psychotherapy transcripts, scored by trained observer. Sample stage: "Therapist accurately responds to all of the client's more readily discernible feelings. He also shows awareness of many less evident feelings and experiences, but he tends to be somewhat inaccurate in his understanding of these . . ."

History-taking Rating Scale (HRS): 5 items of this 16-item scale were used. Items scored by trained observer on a 4-point scale using specific criteria. Sample item: "Empathy: the student's expressed understanding of what the patient is feeling and communicating."

Empathy, Spirituality, and Wellness in Medicine survey (ESWIM): 44-item test, self-scored on 5-point scale. Sample item: "I am a good listener."

Empathy Versus Sympathy

Confusion of empathy with sympathy is a conceptual difficulty encountered by those interested in clinical empathy. Sympathy is defined as experiencing another person's emotions, as opposed to appreciating or imagining those emotions. Some authors state that sympathy is wholly distinct from empathy.^{20,21,24} These authors note that physicians who sympathize with patients share their suffering, which could lead to lack of objectivity and emotional fatigue, whereas empathy has a uniformly positive impact on physician-patient interactions. One the other hand, other authors imply that they consider sympathy to be the same as the emotional component of empathy. For example, 1 author²⁵ writes that his students found that "increased empathy for patients . . . being able to be at one with the patient and be in the patient's shoes" was the most valuable outcome of taking a literature course. Here, "I can imagine my patients' emotions" and "I share my patients' emotions" are not distinguished.

Can Empathy Be Measured?

The multidimensional nature of clinical empathy makes it difficult to measure. Each empathy measurement tool used to evaluate educational interventions in this review has shortcomings. Most of the studies used pencil-and-paper self-evaluations such as the interpersonal reactivity index (IRI),²⁶ the Empathy Construct Rating Scale (ECRS),^{27,28} and the Balanced Emotional Empathy Scale.^{29,30} While these are validated instruments, they are not specific to medicine. Other studies in this review used trained observers to assess empathy, using tools such as the Accurate Empathy Scale (AES)³¹ and the items from the History-taking Rating Scale (HRS)^{32,33} to rate students' empathy. These too are validated, but measure only expressions of empathy, not whether the patient's

emotions were correctly identified. Several studies used uniquely created measurement tools, scoring students' written statements or observed behavior. None of these tools were validated. Finally, some interventions were evaluated by qualitative analysis of individual or group comments. The well-known and validated Jefferson Scale of Physician Empathy²⁴ has also been used to assess physician empathy but was not employed in any studies meeting criteria for this article. Table 1 compares empathy measurement tools used in the articles included in this review, and gives sample items.

Educators should use effective educational strategies if they wish to promote empathy in medical students. This review addresses the following question: What focused educational interventions effectively foster empathy in undergraduate medical students?

METHODS

We searched PubMed for primary-data studies of educational strategies to increase empathy in undergraduate medical students. We limited the search to English language studies, but did not place a limit on time since publication. A search, which crossed *empathy* with Medical Subject Heading terms *education*, *medical*, *undergraduate* or *student*, *medical* yielded 129 articles. One author (K.S.) reviewed all abstracts. Thirteen of these were research reports that described and evaluated an educational intervention aimed at increasing empathy in undergraduate medical students. These articles were reviewed by both authors.

RESULTS

Educators employed a variety of strategies to enhance medical student empathy. Tables 2 and 3 list the studies, their study design, participants, intervention, outcome measure(s), and

Table 2. Studies Reporting a Quantitative Increase in Student Empathy

Source	Design and participants	Intervention	Outcome measure	Durability of change	Effect size* of statistically significant changes
Fine and Therrien ³⁴	Prospective controlled study of 43 self-selected preclinical students; students taking training later formed control group	Interpersonal skill workshop given in 12 h over 1 semester	Modified AES (written, not validated)	Not tested	Statistically significant changes reported from pre- to post intervention and from control to intervention group. Not enough data to calculate effect size
Sanson-Fischer and Poole ³⁵	Prospective controlled study of 112 preclinical students; 23 students in upcoming class formed control group	Audiotape-led communication skill workshop, given in 16 h	AES (observed, validated)	Not tested	Pre- to post intervention, 9.1 Control to intervention, 6.1
Poole and Sanson-Fischer ³⁷	Longitudinal controlled study of 45 students in their final clinical year who had the intervention during their preclinical training; unclear how controls were chosen	Audiotape-led communication skill workshop, given in 16 h	AES (observed, validated)	Tested at 3 y	Pre- to postintervention: 17.8 immediately 6.5 at 3 years Control to intervention: 2.1 at 3 years
Kramer et al. ³⁶	Randomized-controlled study of 40 students in first clinical year	Interpersonal skill workshop given in 5 h over 5 wk	10 min observation of 2 interviews (observed, not validated)	Tested at 6 and 12 mo	Pre- to postintervention: 2.0 immediately 2.4 at 6 months 1.3 at 12 months Control to intervention: 2.0 immediately 2.1 at 6 months 1.9 at 12 months
Evans et al. ³²	Randomized-controlled study of 55 students in their first clinical year	Communication skill lectures and workshop given in 11 h	IRI (written, validated), AES (observed, validated), HRS empathy items (observed, not validated)	Not tested	Pre- to postintervention, 0.45 on HRS Control to intervention, 1.6 on HRS No change on IRI or AES
Winefield and Chur-Hansen ³⁸	Pre-post comparison of 107 preclinical students	Communication skill workshop given in approximately 3 h	Written empathy test (not validated, see text)	Not tested	Pre- to postintervention, 1.7
Henry-Tillman et al. ³⁹	Pre-post comparison of 87 preclinical students; 59 other students were assigned to intervention but did not complete it	Student accompanies and assists 1 patient during a clinic visit	Written survey (not validated)	Not tested	No significant change
Shapiro et al. ⁴⁰	Modified cohort controlled study of 22 self-selected preclinical students; randomized to experimental and control groups	Literature and medicine course given in 8 h over 4 mo	ECRS (written, validated), BEES (written, validated)	Not tested	Pre- to postintervention on BEES, 0.59 No change on ECRS
DiLalla and et al. ⁴¹	Cross-sectional survey of 1181 students and physicians at various levels of training and practice	Empathy, spirituality, and wellness courses of unspecified length	ESWIM (written, not validated)	Not specified, variable	Empathy score higher for students who attended wellness courses, or attended Empathy and Spirituality courses. "Effect sizes were small" per authors. Not enough data to re-calculate

*Effect size interpretation: 0.1 is small, negligible practical importance 0.5 is medium, moderate practical importance ≥ 0.8 is large, crucial practical importance.⁴⁵

AES, accurate empathy scale; HRS, history-taking rating scale; ECRS, empathy construct rating scale; ESWIM, empathy, spirituality, and wellness in medicine survey; BEES, balanced emotional empathy scale; IRI, interpersonal reactivity index.

Table 3. Studies Reporting a Qualitative Increase in Student Empathy

Source	Design and Participants	Intervention	Assessment Technique	Durability of Change	Increased Empathy Reported
Lancaster et al. ²⁵	Case study of 5 self-selected students in first clinical year	Literature and medicine course, given in 16 h over 4 wk	Qualitative analysis of written responses to course questions	Not tested	Yes
Henry-Tillman et al. ³⁹	Pre-post comparison of 87 preclinical students; 59 other students were assigned to intervention but did not complete it	Accompany and assist patient during 1 clinic visit, duration not specified	Qualitative analysis of group discussion	Not tested	Yes
Wilkes et al. ⁴²	Case study of 9 self-selected preclinical students	Student hospitalization experience lasting 24 to 30 h consecutively	Qualitative analysis of verbal responses	Not tested	Yes
Shapiro and Hunt ⁴³	Case study of 69 self-selected students, training level not reported	Attend theatrical performance, duration not specified	Informal feedback	Not tested	Yes
Shapiro et al. ⁴⁰	Modified cohort controlled study of 22 self-selected preclinical students, randomized to experimental and control groups	Literature and medicine course, given in 8 h over 4 mo	Qualitative group interview	Not tested	Yes
DasGupta and Charan ⁴⁴	Case study of 11 self-selected preclinical students	Reflective writing seminar, given over 6 wk, hours not specified	Qualitative analysis of written course evaluations	Not tested	Yes

effect size of any significant findings. Table 2 presents the 9 studies that reported quantitative outcomes.^{32,34-41} Table 3 presents the 6 studies that reported qualitative outcomes.^{25,39,40,42-44} Two studies^{39,40} measured both quantitative and qualitative outcomes and are therefore included in both tables.

Authors of all reviewed studies attributed their intervention with increasing student empathy. Seven of the 8 studies that reported quantitative outcomes pre- and postintervention found statistically significant ($P < .05$) increases postintervention.^{32,34-38,40} All 5 studies that reported quantitative outcomes for both control and intervention groups found significant differences favoring the intervention group.^{32,34-37} Most effect sizes were large (see Table 2). Effect sizes were calculated using the method of Hojat and Xu.⁴⁵

Communication Skills Training for Empathy

Six of the 13 studies focused on the behavioral dimension of empathy, approaching empathy as a communication technique.^{32,34-38} These studies used lectures, small group workshops, audiotapes, or videotapes to teach communication skills intended to convey empathy. All reported significant increase in empathy from pre- to postintervention, and the 5 studies using control groups showed significantly higher scores favoring the intervention group. This success is further reinforced by 2 studies demonstrating continued increased empathy compared with control at 6 and 12 months³⁶ and at 3 years.³⁷

Participants in communication skills training ranged from first-year undergraduate medical students to students in their final year of clinical training, indicating that empathy is amenable to change regardless of clinical experience.

Four^{32,35-37} of the 6 studies that used communication skills training as their educational intervention measured empathy by observing subjects' behavior with real patients. The tool used most frequently to score these observations was the AES.³¹ Although this instrument has been validated, it is not specific to medicine. To address this shortcoming, Fine and Therrien³⁴ used a modified version of the AES more appropriate to the medical setting. However, this author scored students' written responses using her "modified AES," making it an unvalidated, paper-and-pencil measurement tool.

The other study in this group that used a written rather than observed measurement tool was conducted by Winefield.³⁸ Preclinical medical students took a nonvalidated, written empathy test before and after participation in communication skills training. This test asked students to "fill in what you regard as an appropriate verbal response" to 10 trigger statements, such as "I try so hard to please everybody, but it always seems to go wrong. Nobody seems to care whether I'm around or not." Responses to this written test were then coded and issued a score.

Concerned with the ability to accurately measure changes in empathy with 1 type of measurement tool, Evans et al.³² administered both written and observed empathy tests to a group of medical students completing their first year of clinical training. These students participated in lectures and workshops to improve communication skills. Before and following this intervention, students took the IRI,²⁶ a written self-evaluation of empathy. Each student also interviewed a patient on videotape, and this interview was evaluated with 2 observational measurement tools, the AES and the HRS.³³ Of these 3 measurement instruments, only the 5 items which address empathy on the HRS detected significant improvement in empathy following training. Although the HRS is a validated tool for history-taking communication skill in general, using a subset of items to measure empathy has not been validated.

Narrative and Empathy

Educators have employed theater, literature, and writing as educational strategies to foster medical student empathy. The underlying logic is that by immersing themselves in emotional accounts of illness, students will expand their capacity to adopt the patient's perspective during clinical work. This approach focuses on the emotive and cognitive dimensions of empathy. Participants in 4 studies enrolled in medical literature courses, participated in reflective writing exercises, or attended theatrical performances.^{25,40,43,44} Each of these studies examined a small number of volunteers (see Table 3).

Among these studies, only Shapiro et al.⁴⁰ used quantitative measures or a control group to substantiate the utility of narrative in fostering empathy. Preclinical students participated in an 8-week elective literature course, with wait-listed students serving as the control group. Pre- and postintervention, students performed written self-evaluations using the ECRS^{27,28} and Balanced Emotional Empathy Scale (BEES).^{29,30} The BEES is designed to assess the emotive component of empathy, and the ECRS is intended to evaluate cognitive, emotive, behavioral, and moral dimensions of empathy. Only the BEES showed a statistically significant increase in empathy from pre- to posttraining. Data for experimental versus control group is not given. Qualitative analysis revealed that students' understanding of the patient's perspective became more complex and detailed following the intervention.

The 3 other studies that describe using narrative to teach empathy evaluated the intervention's effectiveness with qualitative analysis only. Shapiro and Hunt⁴³ reported using theatrical performances to foster empathy. Informal verbal feedback and written self-evaluations were collected from audience members following performances about AIDS and ovarian cancer. Participants reported increased empathy and understanding of the illness experience. Lancaster's²⁵ analysis of a 4-week literature and medicine course used a nominal group technique to show that enrolled students gained empathy. This finding is consistent with DasGupta and Charan,⁴⁴ who found that following a 6-week seminar requiring reflective writing about personal experiences with illness, students self-reported greater empathy for patients.

Empathy from Experiential Learning

Two studies describe an approach to promoting empathy in which students experience medical care from a patient's perspective. Like interventions employing narrative, the underlying logic here is that students will adopt the patient's perspective more readily if they have experienced illness as a patient. Wilkes et al.⁴² directed an intervention in which healthy preclinical medical students were admitted to a teaching hospital with fake diagnoses, remaining hospitalized for 24 to 30 hours. The residents caring for them believed they were real patients. Students reported confidence that this experience would help them be more empathetic toward patients.

Henry-Tillman³⁹ conducted an educational intervention in which preclinical students accompanied and assisted patients during clinic visits. Although a pre- and postintervention survey showed no significant change, analysis of small-group discussions following the intervention showed 70% of students felt empathy for the patient they accompanied. The investiga-

tors do not define empathy explicitly, but their questions indicate that they focused on its emotional component.

Empathy from Self-Care

Medical training and practice are stressful, and personal stress may be a barrier to empathy. Therefore, some have hypothesized that coursework addressing physician wellness might foster empathy. Physician wellness is broadly construed as attention to health and happiness via time spent with family and friends, exercise, healthful nutrition, hobbies, and/or spiritual activity. In a large, cross-sectional survey, DiLalla et al.⁴¹ investigated whether prior education in empathy, spirituality, or wellness during medical school was correlated with higher empathy scores, as measured by an unvalidated self-reported rating scale. This study was unique in its design, large number of participants, and that it includes multiple educational interventions. The major result was that participants who had chosen to attend sessions on wellness, or sessions on both empathy and spirituality, had higher empathy scores. Those who had attended spirituality but not empathy sessions had lower empathy scores.

DiLalla's study was consistent with other reports¹⁵⁻¹⁸ in finding a decline in empathy as individuals advance through medical training. This survey of 1,181 premedical students, medical students, residents, clinical faculty, and alumni found that empathy was highest in premedical and first-year medical students, decreased in second- and fourth-year students, and was lowest in residents. Medical alumni scored lower than first-year medical students but higher than medical residents. Similarly, Kramer's³⁶ study of communication skill training reported that teaching physicians scored lower on empathic interviewing behaviors than medical students. Students in the control group of this study, who received no empathy training, demonstrated a decline in empathic behaviors after 6 weeks of clinical training in pediatrics, as well as at 6- and 12-month follow-up.

COMMENT

These reports of educational interventions to promote medical student empathy suffer from many limitations: lack of conceptual clarity, small sample sizes, lack of comparison groups, brief and heterogeneous interventions, rarity of long-term assessment for durability of effect, and reliance on self-assessment rather than objective measures of empathy. In spite of these limitations, studies in this review suggest that focused educational interventions may be successful at fostering undergraduate medical student empathy. All but 1 study reported significant improvements from pre- to postintervention and as compared with controls, the changes proved durable, and the effect sizes were generally large. However, the fact that all published studies show a positive effect of the strategy employed may indicate publication bias.

The shortcomings of the assessment tools used in these studies are a major limitation. First, only 4 of the 13 studies used observed measures of empathy, and only 3 of those were validated measures. In his investigation of empathy tools, Jarski et al.⁴⁶ reports that "empathy self-assessed by the students themselves as having that trait did not correlate significantly with any of the behavior-based measures" which casts doubt on all assessments based on self-reported empathy. Secondly, no studies in this review measured patients' perceptions or

used standardized patients to assess physician empathy. For empathy to be effective, it must be perceived by the patient.⁴⁷ Whether patients perceive a trainee as empathetic should be an important standard for these interventions. Mercer and Reynolds⁴⁸ has developed a promising empathy tool for measuring patients' perceptions. It asks patients to rate their physician on 10 aspects of the medical interaction, such as "How was the doctor at . . . showing care and compassion . . . seeming genuinely concerned, connecting with you on a human level; not being indifferent or 'detached'?" This new, validated instrument has a broad definition of empathy and may play an important role in future empathy research. It has not yet been used in studies of medical students or in assessing whether empathy-enhancing interventions are effective.

Individual patient characteristics are ignored by these studies. No study addressed whether the patient's age, gender, ethnicity, disease state, or severity of illness might impact the student's ability to be empathetic. Several authors note that female students score higher on empathy scales^{24,38,40,41,49,50} but do not delve further into whether the gender of the patient matters. No author examined whether congruence between the student and patient in age, gender, ethnicity, or socioeconomic status might affect empathy, though these seem likely to have a major impact.

The lack of conceptual clarity about empathy also limits these studies. Many authors emphasize that clinical empathy is multidimensional, requiring the interaction of emotive, moral (which we would rename *motivational*), cognitive, and behavioral dimensions.^{19-22,24} Yet only 3 of the reviewed studies^{32,40,44} make this explicit in their teaching philosophy or evaluation strategies. Similarly, while the distinction between empathy and sympathy is discussed by various authors interested in promoting empathy,^{20,21,24} none of the authors who examined specific educational interventions discuss efforts to make this distinction clear to the students, instructors, or evaluators participating in their studies. Further, students are unlikely to make this distinction on self-evaluation, and observers are unlikely to determine whether a subject displays sympathy or the emotional dimension of empathy when evaluating a brief interaction with a patient. However, as sympathy and empathy may be correlated,²⁴ the conceptual confusion between these terms may not have practical importance.

Results of 2 studies in this review^{36,41} are consistent with other research that finds a decline in empathy during medical education and practice. Future research on educational interventions to foster empathy may benefit from a greater understanding of this decline: its causes, prevalence, mitigating factors, and other features.

We believe that a specific research agenda regarding empathy for medical students should begin by re-examining the underlying motivations for promoting clinical empathy in medical practice. While there are suggestions that physician empathy is correlated with increased patient satisfaction, adherence to medical recommendations, clinical outcomes, and professional satisfaction,^{2-11,13,14} this body of evidence is hardly conclusive. Using a validated, medicine-specific measurement tool that assesses the cognitive and motivational dimensions of physician empathy such as the Jefferson Scale of Physician Empathy,⁵¹ and a tool that evaluates empathetic behaviors as perceived by patients such as Mercer's Consultation and Relational Empathy Measure,⁴⁸ researchers could tease out what components of physician empathy im-

prove patient satisfaction, clinical outcomes, and/or physician well-being. Such studies examining empathy in practice would allow educators to understand whether they should focus on emotive, motivational, cognitive, or behavioral dimensions of empathy when teaching. Additionally, such studies might show that efforts to teach empathy should be targeted to specific students or toward specific challenging clinical situations. For example, a disparity in age or socioeconomic status between physician and patient might be a situation that requires special attention to empathy.

The studies reviewed here reveal that brief, targeted interventions can have major and lasting impact on student's ability to display empathy in patient interactions. This information alone is sufficient, in our opinion, to encourage educators to incorporate empathy into medical student courses devoted to communication skills and professionalism. For example, many schools have a session that addresses "giving bad news." Teaching about and practicing empathetic behaviors would enhance such a session. Likewise, many schools have begun teaching students how to disclose medical errors productively, and empathy might be a helpful educational construct for this topic.

CONCLUSION

Medical schools have adopted a variety of strategies to enhance empathy in undergraduate medical students. Studies indicate that empathy may be amenable to positive change with a range of interventions. However, current studies are challenged by varying definitions of empathy, small sample sizes, lack of adequate control groups, and inadequacy of existing empathy measurement instruments. Better understanding of how empathy improves patient care could point toward effective educational strategies, which should then be tested in larger studies using appropriate controls and measuring sustained change with validated instruments.

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