



Beyond empathy training for practitioners: Cultivating empathic healthcare systems and leadership

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Abstract

Empathic care benefits patients and practitioners, and empathy training for practitioners can enhance empathy. However, practitioners do not operate in a vacuum. For empathy to thrive, healthcare consultations must be situated in a nurturing milieu, guided by empathic, compassionate leaders. Empathy will be suppressed, or even reversed if practitioners are burned out and working in an unpleasant, under-resourced environment with increasingly poorly served and dissatisfied patients. Efforts to enhance empathy must therefore go beyond training practitioners to address system-level factors that foster empathy. These include patient education, cultivating empathic leadership, customer service training for reception staff, valuing cleaning and all ancillary staff, creating healing spaces, and using appropriate, efficiency saving technology to reduce the administrative burden on healthcare practitioners. We divide these elements into environmental factors, organisational factors, job factors, and individual characteristics.

KEYWORDS

burnout, empathy, hospital design, patient education, value-based healthcare, workload

1 | BEYOND EMPATHY TRAINING FOR PRACTITIONERS

The Ockenden, Francis, and Kirkup reports into the fatal tragedies within NHS hospitals concluded that lack of empathy contributed to hundreds of avoidable deaths,^{1–3} and similar findings were reported in the US.⁴ Lack of empathy can also increase the risk of medical errors,⁵ and patient complaints.⁶ Empathic care—which is often defined as an ability to understand the patient communicate understanding, and take therapeutic action⁷—reduces patient pain, improves satisfaction with care,⁸ and is associated with lower mortality.⁹ Empathy also protects practitioners against burnout,¹⁰ and is taken to be a core professional competency.¹¹ The 2023 NHS Long Term Workforce

Plan noted the need for a compassionate and inclusive culture to solve the problem with poor retention.¹²

Unfortunately, the extent to which patients report their practitioners to display empathy varies widely,¹³ and empathy often declines throughout medical school.¹⁴ The good news is that empathy can be taught,^{15,16} Teaching empathy is valuable, yet, adding an empathy training course to the busy schedule of a burned out,¹⁷ and bullied¹⁸ practitioner, who is fearful of complaints,¹⁹ focused on targets,²⁰ and forced to deal with inefficient bureaucracy²¹ could even backfire by increasing their stress. Stress stifles the ability to relate, understand, and empathise.²² Empathy is further inhibited by increasingly dissatisfied patients²³ who may have been greeted by an unwelcoming receptionist²⁴ and made to wait for their appointment for an unacceptably long time.

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In short, healthcare practitioners do not operate in a vacuum,²⁵ so promoting empathy training for practitioners will not suffice: empathic systems are required. Kerasidou and colleagues defined these as “systems or institutions as systems and institutions that are structured and organised in such way as to create conditions that facilitate empathetic interactions.”²⁵ Their proposal is to structure systems so that decision-making at all levels promotes empathy. They also call for more research to establish the factors that promote and hinder empathy. Here, we describe concrete, evidence-based empathy-enhancing system-level factors that can be used as a blueprint for creating empathic systems (see Figure 1). Systems include a broad range of interrelated factors, so it is useful to consider them in a single overview.

Borrowing from the Human Factors Approach, we divide these elements into external environmental factors, organisational factors, physical environment, job factors, and individual characteristics (see Table 1).²⁶

2 | (EXTERNAL) ENVIRONMENTAL FACTORS

The external environment refers to the external conditions and surroundings in which work takes place.

2.1 | Aligning system goals with patient outcomes

Most doctors are intrinsically motivated to help patients,²⁷ yet the systems in which they work can discourage this. The “fee for service”

TABLE 1 Factors that influence empathic systems.

(External) environmental factors	Aligning system goals with patient outcomes Empathy-focused medical and continuing professional education
Organisational factors	Fostering a culture of empathy Encouraging the moral era of medicine Making empathy an authentic and lived organisational value Empathic Leadership Patient involvement Balance the right to complain with the opportunity to praise Valued ancillary staff Teamwork, intra- and inter-professionalism
Physical and technical environment	Physical and psychological healing spaces Technology as a tool that lowers administrative burden Intelligent artificial intelligent technology
Job factors	Sensible Workload Time
Individual characteristics	Self-empathy: wellbeing for all staff

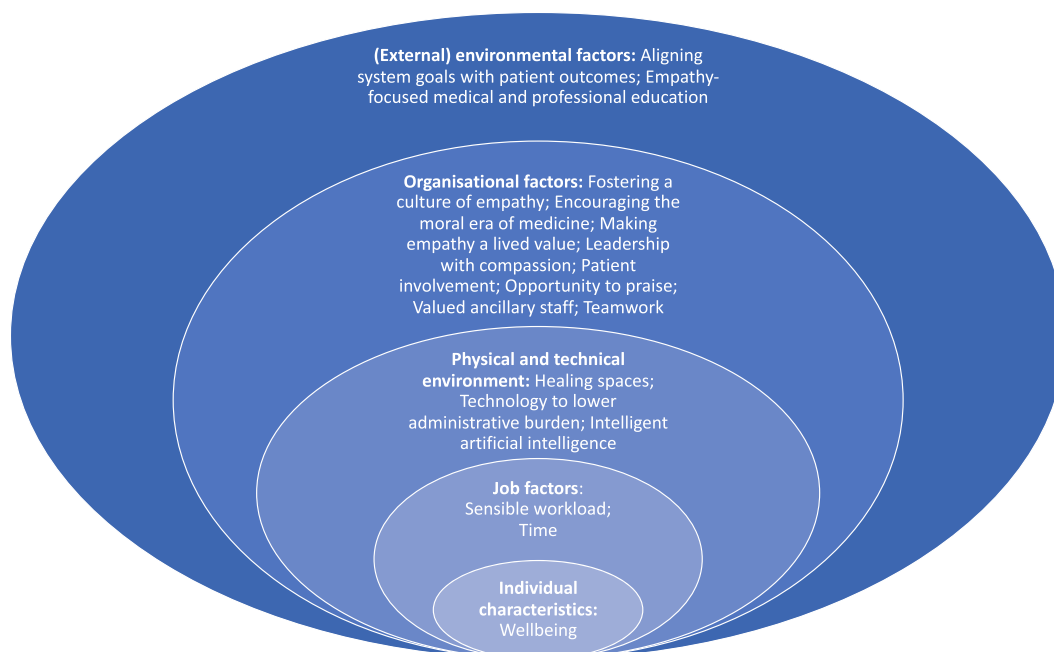


FIGURE 1 Human factors for creating empathic systems.



can create perverse incentives to give as many tests and treatments as possible, some of which may be unnecessary.²⁸ In countries with nationalised health care as in the UK, doctors receive a per-capita payment but also receive a substantial portion of their income by participating in a national pay-for-performance scheme, the quality outcomes framework (QOF), which was introduced in 2004. QOF includes a variety of measurable 'indicators' (targets) linked to chronic disease management and organisational processes.²⁹ The processes and targets are designed to improve patient outcomes, and sometimes do.³⁰ However, results have been mixed and there have been some unintended consequences such as loss of continuity of care,²⁰ and a negative impact on medical professionalism and clinical autonomy.³¹ Also, the QOF does not seem to have led to significant reductions in mortality,³² yet has added more bureaucracy and paperwork as well as patient appointments. Based on the mixed evidence of its value to patients and the additional administrative load it entails, we are not surprised that it has been abandoned in Scotland in favour of another form of quality assurance.³³ However, the new quality assurance method may have worsened things.³⁴ However, removing the QOF does not seem to have solved the problems as outcomes have worsened. We propose a "value-based" model that aligns practitioner with patient interests, whereby remuneration is linked directly to patient outcomes rather than volume of tests, treatments, or patients seen.³⁵ When incentives are linked directly to patient outcomes, continuity of care and spending more time with patients—and alongside these, empathy—are likely to improve.

2.2 | Empathic medical and continuing professional education

Medical students must be primed to encourage a culture of empathy, and this education must continue in order for healthcare systems to encourage empathy. Unfortunately, medical student empathy appears to decline as they progress.³⁶ The "hidden curriculum"—a term originally coined by Hafferty and Franks,³⁷ and expanded since,³⁸ is a complex mix of unspoken beliefs, covert rules, and tacit standards for everyday practice. It appears to be a potent cause for a decline in medical student empathy.³⁶ A stressful workplace environment, undue focus on the biomedical model, and inadequate role models leads to maladaptive coping strategies such as cynicism, professional distancing, and eventually to burnout.^{39,40} A similar pattern is emerging in postgraduate medical training, where empathy seems to decline even further.^{41,42} The increased levels of burnout is leading to the medical profession leaving in droves.⁴³ To reverse this trend, empathy and compassion need to be viewed as key to professionalism, alongside integrity, honesty and a commitment to person centred care within medical education. This requires empathic role models, empathic communication skills teaching, a nurturing learning environment, and institutional values and priorities demonstrating a commitment to empathic care.⁴⁴

3 | ORGANISATIONAL FACTORS

3.1 | Fostering a culture of empathy

Empathic systems are "systems and institutions that are structured and organised in such a way as to create conditions that facilitate empathetic interactions in a nonarbitrary way throughout the whole service."²⁵ Promoting empathy as a value can be effective, but only if they are lived from top to bottom or they will be useless or even backfire by causing cynicism.⁴⁵ For the value to be meaningful, the system goals need to be aligned directly to patient outcomes. For an organisation to nurture empathy, it needs to enable joy and meaning in work. This entails mutual respect, civility, transparency, and the safety of the workforce, making those in the system feel valued and appreciated,⁴⁶ and a culture of empathy that pervades decision-making at all levels.⁴⁷

3.2 | Encouraging the moral era of medicine

None of the suggestions listed here will be achievable without a shift in culture. In 2016 Donald Berwick outlined three eras in medicine: health as a self-regulating profession (era 1); practitioners being held accountable by external controls (era 2); and the 'moral era' with greater transparency, civility, and the rejection of greed (era 3).⁴⁸ He remarked how healthcare systems were still in 'era 2' with emphasis on 'accountability, scrutiny, measurement, incentives and markets' leading to 'ravenous inspection and control'.⁴⁸ Era 2 can be traced back to the advent of New Public Management in public sector organisations. Empirical evidence shows that this has led to increased bureaucracy, top-down control and surveillance that has caused a raft of negative psychosocial and organisational effects without significant improvements in efficiency and efficacy.⁴⁹ Scandals in NHS hospitals in the UK show that the relentless drive for financial and efficiency targets created cultures and systems inimical to empathic care.⁵⁰⁻⁵² To solve this, Berwick proposes that we move to the moral era, and recommends 9 actions to bring this about: (1) stop excessive measurement; (2) abandon complex incentives; (3) reduce the focus on finance but increase attention to quality of care; (4) reduce professional prerogative; (5) recommit to improvement science; (6) embrace transparency; (7) protect civility; (8) really listen (especially to the poor, the disadvantaged, and the excluded); and (9) reject greed because it erodes trust.

3.3 | Making empathy an authentic and lived organisational value

Evolving beyond era 2 will be promoted by making empathy an explicit lived value of healthcare organisations. The fact that empathy often declines throughout medical school³⁶ and among newly qualified doctors⁵³ suggests that empathy must be more highly valued. A reason for the decline is that technical skill and the

biomedical model of disease are promoted over and above broader factors promoted by the biopsychosocial model of disease.³⁶ Illustrating this point, one of us was challenged at a recent conference to contemplate “whether we wanted a good doctor or a nice doctor.” The evidence cited in this paper demonstrates that outside exceptional cases, a good doctor (that optimises patient outcomes) is a kind doctor (being kind and empathic also improves patient outcomes).

3.4 | Leadership with compassion and empathy

Managing large and changing budgets, dealing with political pressures, and challenges inherent in managing teams is inherently stressful and can squeeze out empathy, even from leaders who are committed to being empathic.⁵⁴ Yet, authoritarian and rigid leadership that uses punishments and rewards can generate a culture of fear, disunity,⁵⁵ stress,⁵⁶ and reduced empathy. Unfortunately, various reports reveal that the authoritarian model of leadership is prevalent.^{1,2} Organisation-wide compassionate, empathic leadership programmes can improve staff wellbeing and promote empathy.^{55,57}

3.5 | Patient involvement

The paternalistic era of medicine placed clear responsibilities on patients. Paragraph 6 of the American Medical Association “Code of Medical Ethics” states: “The obedience of a patient to the prescriptions of his physician should be prompt and implicit. He should never permit his own crude opinions as to their fitness, to influence his attention to them.”⁵⁸ Now, the focus has shifted to patient *rights*, including the right to free care, dignity, and respect.^{59–61} These patient rights are often described without reference to any responsibilities. We support patients’ rights and we agree that the patronising commands to patients in the paternalistic era are unpalatable now. But we may have thrown the baby out with the bathwater. An unintended consequence of the shift away from responsibilities is the decline in the salience of the patients’ role. Addressing this, new ways of conceiving patient roles are emerging.⁶² Sometimes, patients are now described as “consumers” or rational self-interested individuals who can choose which treatment is best for them, provided they are free from coercion, and adequately informed. This has been criticised as overly consumerist,⁶³ and could exacerbate the problem of overtreatment.

We recommend transcending the duties/rights dichotomy to focus on patient education and engagement. This might be enhanced by doing away with the word “patient,” “which conveys passive suffering, although finding an alternative is not easy.”⁶⁴ It is probably simpler just to talk about “a person with [for example] Type 2 diabetes.” Independently of the term chosen, people can participate in their care from the moment they think of making an appointment, during the visit to the doctor, and beyond. For example, while sitting in the waiting room they should be asked to answer several

questions: What is bothering them most? When did it start? What have they tried? What do they hope the health service can do? What would be a good outcome? This deliberative model leads to a more dialogical, values-based and equal relationship, which is more suitable in a contemporary society where all patients have access to information at their fingertips.⁶³ A systematic review of 48 studies found that sincere (not tokenistic) efforts to engage patients enhance quality of care.⁶⁵ Patient involvement can also improve empathy.⁶⁶ People who are more actively involved in their own self-care are more likely to engage in behaviours that will reduce the burden on healthcare systems.^{67,68}

3.6 | Balance the right to complain with the opportunity to praise

The types, causes, and conceptualisations of patient complaints have been studied extensively.⁶⁹ Patients’ right to complain can lead to improvements, are often encouraged, and have become common.^{70,71} Paradoxically, fear of complaints is likely to increase the risk of practitioner burnout,⁷² which itself increases medical errors and complaints.⁷³ Without taking away patients’ right to complain, healthcare organisations should encourage patients to express gratitude about exceptional care by encouraging praise towards clinicians and other healthcare staff.^{74,75}

3.7 | Valued ancillary staff

Reception staff are usually patients’ first point of contact with a healthcare organisation. They can influence patient outcomes by prioritising appointments, communicating test results, facilitating repeat prescriptions,⁷⁶ and implementing improved systems.⁷⁷ Unfortunately, a King’s Fund report found that poor communication from reception staff (perhaps exacerbated by inefficient administrative procedures) was common.²¹ Reception staff are important parts of the healthcare team and can be trained in customer service to improve patient experience and outcomes.⁷⁸ The role of reception staff in promoting a culture of empathy needs to be more valued, and supported.

Domestic staff in hospitals spend 10 to 20 min per day per patient room, and contribute to creating an empathic environment.⁷⁹ Cleanliness reduces the risk of infections,⁸⁰ improves perceived quality,⁸¹ and increases patient satisfaction with care.⁸² Domestic staff themselves believe (in our view, correctly), that they play a therapeutic role by acting as a bridge between the patients and healthcare practitioners.⁸³ Formally acknowledging this role will improve healthcare, and likely make patients more positively disposed to engaging in empathic conversations with their practitioners. Porters, healthcare assistants, and even security guards are all likely to have a therapeutic and empathy-enhancing effect.^{84–86} Porters⁸⁷ and security guards⁸⁸ have identified the need for training in communication skills; this can only have an empathy-enhancing



effect. Unfortunately, many cleaners, porters, and healthcare assistants feel under-appreciated,⁸⁹ and treated without dignity.^{84,85,90} The failure to appreciate support staff and recognise their role in patient care is a moral failing and a missed golden opportunity to enhance quality of care, and of empathy in particular. Ancillary staff are core members of a healthcare delivery team, and ancillary roles can no longer be viewed as costs to be cut,⁹¹ but as a valuable resource that improves patient outcomes.⁸⁴

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3.8 | Teamwork, intra- and inter-professionalism

Effective and safe patient care often requires teamwork within and between healthcare professions.⁹² Failure to collaborate effectively has been repeatedly documented as harmful,^{93,94} and is hindered by poor leadership, lack of collaboration, and lack of coordination.⁹⁵ Because of its importance, policy makers around the world have called for improved interprofessional working and teamwork between members of the same profession.^{96–98} A variety of facilitated interprofessional activities have been shown to improve continuity of care and collaborative working.⁹³ An innovative interprofessional workshop in Canada demonstrated that interprofessional teamwork can lead to important system-level empathy enhancements within healthcare settings.⁹⁹

4 | PHYSICAL AND TECHNICAL ENVIRONMENT

4.1 | Physical and psychological healing spaces

Every day, millions of people spend minutes or hours in waiting rooms around the world. Yet, the experience of waiting and the nature of waiting rooms has been largely neglected.¹⁰⁰ Healing or reflective spaces are also needed for healthcare staff - this was of particular importance during the COVID pandemic,¹⁰¹ and studies show that improved hospital break areas reduced staff stress.¹⁰² Spaces can also be psychological, and psychological safety research has revealed offers a method that helps organisations achieve desired outcomes in challenging contexts by optimising the use of diverse skills and strengthening teams.¹⁰³ The Balint Method,¹⁰⁴ and Schwartz Rounds¹⁰⁵ are also ways to provide safe psychological spaces to debrief and discuss difficult cases. They can improve wellbeing, connectedness and patient care.

4.2 | Technology as a tool that lowers administrative burden

Healthcare practitioners need to spend some of their time documenting what they have done using “electronic patient records” (EPRs) or “electronic health record systems” (EHRs). These are required to look up clinical data, order tests, and undertake other administrative tasks. Like most technology, wisdom is required to ensure it doesn't cause more harm than good, and the way EHRs are currently used may cause more problems than they solve. They are often insufficiently person-centred and perpetuate a disease-focused, biomedical model of practice.¹⁰⁶ In fact, many are unfit for purpose: a survey of 192 healthcare organisations in the UK (mostly NHS organisations) reported that none of the 25 different electronic health record systems met the industry standard of usability.¹⁰⁷ In general, clunky administrative processes have an adverse effect on both practitioner and patient wellbeing.^{72,90} Many healthcare practitioners in the UK, US, and elsewhere spend half of their time doing administrative work taking them away from direct patient care,¹⁰⁸ and a King's Fund report found that inefficient administrative procedures increased patient complaints.²¹ Moreover, there is variability in the usage of EHR systems,^{109,110} which leads to different risks and benefits.¹¹¹ Worse, patients are often seen by multiple healthcare organisations, each with a different system.¹¹² The different systems are likely to lack full compatibility and could increase the risk of errors.¹¹³ If EHRs are here to stay, the focus must be on reducing variation in different EHRs to promote the most efficient, effective, and person-centred ones. An alternative system could involve patients to hold their own electronic records, although research in this area is scanty and results so far are not encouraging.¹¹⁴

4.3 | Intelligent artificial intelligence

Computers have assisted practitioners by improving patient care since at least de Dombal's trials of computer aided diagnosis over 50 years ago.¹¹⁵ The march of technology has accelerated to the point where computer-aided technology in the form of care-bots and chat-bots have started to actually replace human carers. For example, Asimo is a robot that helps people with disabilities feed themselves,¹¹⁶ Pepper organises singsongs, makes gin and tonics, and can mirror your tone of voice when speaking to you,¹¹⁷ and a chatbot called Woebot uses artificial intelligence to offer tips it claims can reduce depression, anxiety, and other psychological problems.¹¹⁸ Artificial intelligence has recently boosted the abilities of these computer-aided technologies to do what was previously considered to be the domain of humans.¹¹⁹

These technologies—which have become part of most healthcare systems—have the power to both enhance and reduce empathy. They can reduce empathy in at least two ways. Firstly, if not deployed wisely, then like electronic records (which were also intended to enhance patient care), they can take practitioners' attention away

from treating patients with empathy. Secondly, insofar as they replace human practitioners, it seems unlikely that they will be as empathic as humans. While not inconceivable, it is hard to imagine a robot having an understanding gaze, giving a gentle touch, let alone intuitively come up with a solution to a complex health problem after listening deeply. Paradoxically, in trials, some technologies have proven to be more empathic than human practitioners.¹²⁰ Famously (albeit within a select and arguably biased sample) ChatGPT even provided responses that were allegedly more empathic than human doctors.¹²¹ We accept that some exceptionally well-trained care or chat-bots could display empathic behaviour and should be encouraged to do so. However, we do not believe that contemporary comparisons of technologies with human practitioners are fair. Practitioners who are starved of time, burned out and working in under-resourced unempathic organisations are prevented from providing the empathy that (good) humans can. We hypothesise that practitioners working within empathic systems, who are given enough time with patients, and where continuity of care is promoted, will be rated much more empathic than care- or chat-bots. We go further than this. Since technologies can memorise facts and do many technical things better than humans but that humans are better at empathy, there should be a radical shift in medical education and training towards empathy. Only focusing on empathy, can human practitioners play to their strengths.

5 | JOB FACTORS

5.1 | Sensible workload

Increased workload increases productivity up to a point, beyond which productivity not only falls but patient safety,¹²² and practitioner wellbeing both plummet.^{123,124} As a result, empathy also drops.¹²⁵ As has been pithily expressed: “we must expect in a chronically understaffed, exhausting and efficiency-obsessed system of healthcare, the ‘collapse of compassion’.”¹²⁶ We often hear that it is impossible to reduce workload because healthcare requires more person-hours, not fewer. In response, *failure* to address the problems caused by unreasonable workloads leads to burnout, absenteeism, presenteeism (showing up but under-performing),^{127,128} doctors and nurses leaving the profession in droves,¹²⁹ and the subsequent costly need to train new staff. We therefore postulate that sensible workloads are likely to result in a net cost saving and an increase in productivity. In addition to a sensible workload, taking “micro-breaks” that integrate recovery activities (such as stepping outside for a breath of fresh air) can improve wellbeing and productivity.¹³⁰

5.2 | Time

Spending more time with patients would benefit both practitioners and patients.¹³ Even an additional minute has been shown to enhance empathy,^{131,132} while reducing burnout.³⁹ Allowing extra

time with patients could lead to fewer patients treated per day resulting in reduced paperwork required of doctors and increased patient satisfaction. Importantly, additional time spent with patients is likely to be cost-effective.¹³² GPs might sometimes be able to prevent a hospital referral if they spent additional time with a patient, but with the increased workload, this is difficult to achieve.^{133,134}

6 | INDIVIDUAL CHARACTERISTICS

6.1 | Self-empathy: Wellbeing for all staff

Stress inhibits empathy by causing people to focus on their own survival, and inhibits the ability to think about others' needs let alone empathise with them effectively.¹³⁵ Unfortunately, stress levels are high among healthcare practitioners,¹³⁶ managers,¹³⁷ reception staff,⁷⁶ and cleaners.¹³⁸ Worse, stress levels may be rising.¹⁷ Beyond a certain threshold, stress causes them to leave the profession which abruptly ends all opportunities for communication, including empathic communication.

Mindfulness training is part of the solution to reducing stress,¹³⁹ but is not a panacea. Lengthy and compulsory (online) training courses may have no effect or, by increasing practitioner workload, could have the paradoxical effect of increasing stress. Practitioner burnout has many causes and interventions to address the problem must also be multi-faceted.¹⁴⁰ Other approaches must include encouraging exercise, offering positive psychology interventions,¹⁴¹ self-compassion training,¹⁴² promoting altruism,⁶⁸ and supplying nutritious food.¹⁴³ Certainly, focusing only on individuals, rather than the systems they work in gives the mistaken impression that burnout is the individuals' fault, and could give rise to suspicion and cynicism towards managers who promote individual-level interventions.

A great side-effect of improving wellbeing for healthcare practitioners is that practitioners can then act as wellbeing role models for patients and the general population, leading to improved population health. Practitioners who engage in healthy behaviours are more likely to provide lifestyle advice to patients.¹⁴⁴

7 | RECOMMENDATIONS

Fertile ground must be prepared for empathy between patients and practitioners to thrive, or indeed to exist at all. A range of human factors ranging from promoting empathic leadership and valuing cleaning staff to replacing empathy draining with efficient technology and healing spaces can be promoted to create empathic healthcare systems. Future research should identify build the evidence-base on patient and practitioner health on the factors outlined here: additional evidence-based factors should also be identified and researched. Preliminary evidence outlined here suggests that empathic systems can, and therefore should, be built.

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CONFLICT OF INTEREST STATEMENT

None of the authors have conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

REFERENCES

- Ockenden D. *Ockenden report: findings, conclusions and essential actions from the independent review of maternity services at the Shrewsbury and Telford Hospital NHS Trust*. 2022. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1064302/Final-Ockenden-Report-web-accessible.pdf
- Francis R. *Report of the mid Staffordshire NHS Foundation Trust Public Inquiry*. 2013. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/279115/0898_i.pdf
- Maternity and neonatal services in East Kent: 'Reading the signals' report (GOV.UK) (2022).
- The Joint Commission. Sentinel Event Data: 2022 Annual review. Accessed 14 September, 2023. https://www.jointcommission.org/-/media/tjc/documents/resources/patient-safety-topics/sentinel-event/03162023_sentinel-event-annual-review_final.pdf
- Ha JF, Longnecker N. Doctor-patient communication: a review. *Ochsner J*. 2010;10(1):38-43.
- Hannan J, Sanchez G, Musser ED, et al. Role of empathy in the perception of medical errors in patient encounters: a preliminary study. *BMC Res Notes*. 2019;12(1):327. doi:10.1186/s13104-019-4365-2
- Mercer SW, Reynolds WJ. Empathy and quality of care. *Br J Gen Pract*. 2002;52:suppl S9 12.
- Howick J, Moscrop A, Mebius A, et al. Effects of empathic and positive communication in healthcare consultations: a systematic review and meta-analysis. *J R Soc Med*. 2018;111(7):240-252. doi:10.1177/0141076818769477
- Dambha-Miller H, Feldman AL, Kinmonth AL, Griffin SJ. Association between primary care practitioner empathy and risk of cardiovascular events and all-cause mortality among patients with type 2 diabetes: a population-based prospective cohort study. *Ann Family Med*. 2019;17(4):311-318. doi:10.1370/afm.2421
- Wilkinson H, Whittington R, Perry L, Eames C. Examining the relationship between burnout and empathy in healthcare professionals: a systematic review. *Burnout Res*. 2017;6:18-29. doi:10.1016/j.burn.2017.06.003
- GMC. Communication and interpersonal skills. General medical council. Accessed 3 April, 2018. <https://www.gmc-uk.org/education/postgraduate/30972.asp>
- NHS Long term workforce plan. (NHS England) (2023).
- Howick J, Steinkopf L, Ulyte A, Roberts N, Meissner K. How empathic is your healthcare practitioner? A systematic review and meta-analysis of patient surveys. *BMC Med Educ*. 2017;17(1):136. doi:10.1186/s12909-017-0967-3
- Andersen FA, Johansen ASB, Søndergaard J, Andersen CM, Assing Hvidt E. Revisiting the trajectory of medical students' empathy, and impact of gender, specialty preferences and nationality: a systematic review. *BMC Med Educ*. 2020;20(1):52. doi:10.1186/s12909-020-1964-5
- Winter R, Issa E, Roberts N, Norman RI, Howick J. Assessing the effect of empathy-enhancing interventions in health education and training: a systematic review of randomised controlled trials. *BMJ Open*. 2020;10(9):e036471. doi:10.1136/bmjopen-2019-036471
- Oxford Empathy Programme. *Oxford Empathy Programme International Colloquium*. Nuffield Department of Primary Care Health Sciences. Accessed 19 February, 2018. <https://www.phc.ox.ac.uk/events/oxford-empathy-programme-international-colloquium>
- Rotenstein LS, Torre M, Ramos MA, et al. Prevalence of burnout among physicians: a systematic review. *JAMA*. 2018;320(11):1131-1150. doi:10.1001/jama.2018.12777
- Lever I, Dyball D, Greenberg N, Stevelink SAM. Health consequences of bullying in the healthcare workplace: a systematic review. *J Adv Nurs*. 2019;75(12):3195-3209. doi:10.1111/jan.13986
- Moore PJ. Medical malpractice: the effect of doctor-patient relations on medical patient perceptions and malpractice intentions. *West J Med*. Oct 2000;173(4):244-250.
- Roland M, Guthrie B. Quality and outcomes framework: what have we learnt? *BMJ*. 2016;354:i4060. doi:10.1136/bmj.i4060
- The King's Fund. Admin matters: the impact of NHS administration on patient care. The King's Fund. Accessed 26 January 2023; <https://www.kingsfund.org.uk/publications/admin-matters-nhs-patient-care>
- Azulay H, Guy N, Pertzov Y, Israel S. Empathy modulates the effect of stress reactivity on generous giving. *Front Neurosci*. 2022;16:814789. doi:10.3389/fnins.2022.814789
- Wellings D, Appleby J. Public satisfaction with the NHS falls to a 25-year low. The King's Fund. Accessed 26 January, 2023. <https://www.kingsfund.org.uk/blog/2022/03/public-satisfaction-nhs-falls-25-year-low>
- Vargas EA, Mahalingam R, Marshall RA. Witnessed incivility and perceptions of patients and visitors in hospitals. *J Patient Exp*. 2021;8:23743735211028092. doi:10.1177/23743735211028092
- Kerasidou A, Bærøe K, Berger Z, Caruso Brown AE. The need for empathetic healthcare systems. *J Med Ethics*. 2020;47(12):e27. doi:10.1136/medethics-2019-105921
- Henriksen K, Dayton E, Keyes MA, Carayon P, Hughes R. Understanding adverse events: a human factors framework patient safety and quality: an evidence-based handbook for nurses. *Adv Patient Saf*. 2008.
- Marshall M. It's about more than money: financial incentives and internal motivation. *Qual Saf Health Care*. 2005;14(1):4-5. doi:10.1136/qshc.2004.013193
- Uusitalo S, Howick J. Philosophy of too much medicine conference report. *J Eval Clin Pract*. 2018;24(5):1011-1012. doi:10.1111/jep.13000
- Digital N. Quality and outcomes framework. *NHS Digital*. 2022. <https://qof.digital.nhs.uk/>
- Ahmed K, Hashim S, Khankhara M, et al. What drives general practitioners in the UK to improve the quality of care? A systematic literature review. *BMJ Open Qual*. 2021;10(1):e001127. doi:10.1136/bmjopen-2020-001127
- Lester H, Matharu T, Mohammed MA, Lester D, Foskett-Tharby R. Implementation of pay for performance in primary care: a qualitative study 8 years after introduction. *Br J Gen Pract*. 2013;63(611):e408-e415. doi:10.3399/bjgp13X668203
- Ryan AM, Krinsky S, Kontopantelis E, Doran T. Long-term evidence for the effect of pay-for-performance in primary care on mortality in the UK: a population study. *Lancet*. 2016;388(10041):268-274. doi:10.1016/S0140-6736(16)00276-2
- Ashworth M, Gulliford M. Funding for general practice in the next decade: life after QOF. *Br J Gen Pract*. 2017;67(654):4-5. doi:10.3399/bjgp17X688477



34. Morales DR, Minchin M, Kontopantelis E, Roland M, Sutton M, Guthrie B. Estimated impact from the withdrawal of primary care financial incentives on selected indicators of quality of care in Scotland: controlled interrupted time series analysis. *BMJ*. 2023 Mar 22;380:e072098. doi:10.1136/bmj-2022-072098
35. Teisberg E, Wallace S, O'Hara S. Defining and implementing value-based health care: a strategic framework. *Acad Med*. 2020;95(5):682-685. doi:10.1097/ACM.0000000000003122
36. Howick J, Dudko M, Feng SN, et al. Why might medical student empathy change throughout medical school? A systematic review and thematic synthesis of qualitative studies. *BMC Med Educ*. 2023;23(1):270. doi:10.1186/s12909-023-04165-9
37. Hafferty FW, Franks R. The hidden curriculum, ethics teaching, and the structure of medical education. *Acad Med*. 1994;69(11):861-871. doi:10.1097/00001888-199411000-00001
38. Lawrence C, Mhlaba T, Stewart KA, Moletsane R, Gaede B, Moshabela M. The hidden curricula of medical education: a scoping review. *Acad Med*. 2018;93(4):648-656. doi:10.1097/ACM.0000000000002004
39. Thiriaux B, Birault F, Jaafari N. Empathy is a protective factor of burnout in physicians: new neuro-phenomenological hypotheses regarding empathy and sympathy in care relationship. *Front Psychol*. 2016;7(763). doi:10.3389/Fpsyg.2016.00763
40. Howick J, Ahmed A, Dudko M, et al. Why might medical student empathy change throughout medical school? Protocol for a systematic review and thematic synthesis of qualitative studies. *BMJ Open*. 2022;12(11):e067157. doi:10.1136/bmjopen-2022-067157
41. Crump WJ, Ziegler C, Fricker S. Empathy and burnout during residency: which changes first. *Fam Med*. 2022;54(8):640-643. doi:10.22454/FamMed.2022.150120
42. Crump WJ, Ziegler C, Fricker S. Does empathy really decline during residency training? A longitudinal look at changes in measured empathy in a community program. *J Reg Med Campuses*. 2021;4(8):640. doi:10.24926/jrmc.v4i4X.4206
43. Ellis R. Over 333,000 Healthcare Workers Left Jobs in 2021, Report Says. <https://www.webmd.com/a-to-z-guides/news/20221024/over-333000-healthcare-workers-left-jobs-in-2021-report-says>
44. West CP, Shanafelt TD. The influence of personal and environmental factors on professionalism in medical education. *BMC Med Educ*. 2007;7:29. doi:10.1186/1472-6920-7-29
45. Carucci R. How corporate values get hijacked and misused. *Harvard business review*. Harvard Business Publishing; 2017.
46. Sikka R, Morath JM, Leape L. The quadruple aim: care, health, cost and meaning in work. *BMJ Qual Saf*. 2015;24(10):608-610. doi:10.1136/bmjqs-2015-004160
47. *Organizational culture and leadership*. Version Fifth edition. John Wiley and Sons, Incorporated; 2016.
48. Berwick DM. Era 3 for medicine and health care. *JAMA*. 2016;315(13):1329-1330. doi:10.1001/jama.2016.1509
49. Diefenbach T. New public management in public sector organizations: the dark sides of managerialistic 'enlightenment'. *Pub Adm*. 2009;87(4):892-909.
50. Newdick C, Danbury C. Culture, compassion and clinical neglect: probity in the NHS after mid staffordshire. *J Med Ethics*. 2015;41(12):956-962. doi:10.1136/medethics-2012-101048
51. Holmes D. Mid staffordshire scandal highlights NHS cultural crisis. *Lancet*. 2013;381(9866):521-522. doi:10.1016/s0140-6736(13)60264-0
52. Zulueta P. Reflecting on the Francis report: how we can develop more human systems of care. *Nurs Ethics*. 2013;20(7):838-840. doi:10.1177/0969733013498744
53. Stratta EC, Riding DM, Baker P. Ethical erosion in newly qualified doctors: perceptions of empathy decline. *Int J Med Educ*. 2016;7:286-292. doi:10.5116/ijme.57b8.48e4
54. Parand A, Dopson S, Renz A, Vincent C. The role of hospital managers in quality and patient safety: a systematic review. *BMJ Open*. 2014;4(9):e005055. doi:10.1136/bmjopen-2014-005055
55. de Zulueta PC. Developing compassionate leadership in health care: an integrative review. *J Healthcare Leadership*. 2016;8:1-10. doi:10.2147/JHL.S93724
56. Webster V, Brough P, Daly K. Fight, flight or freeze: common responses for follower coping with toxic leadership. *Stress Health*. 2016;32(4):346-354. doi:10.1002/smi.2626
57. West M. Compassionate leadership: sustaining wisdom, *Humanity and presence in health and social care*. Swirling Leaf Press; 2021.
58. American Medical Association. *Code of medical ethics*. AMA Press; 1847.
59. Kilbride MK, Joffe S. The new age of patient autonomy: implications for the patient-physician relationship. *JAMA*. 2018;320(19):1973-1974. doi:10.1001/jama.2018.14382
60. European Charter of Patients' Rights (European Union) (2002).
61. American Medical Association. Code of medical ethics. 30 October, 2019. <https://www.ama-assn.org/about/publications-newsletters/ama-principles-medical-ethics>
62. Costa DSJ, Mercieca-Bebber R, Tesson S, Seidler Z, Lopez AL. Patient, client, consumer, survivor or other alternatives? A scoping review of preferred terms for labelling individuals who access healthcare across settings. *BMJ Open*. 2019;9(3):e025166. doi:10.1136/bmjopen-2018-025166
63. Emanuel EJ. Four models of the physician-patient relationship. *JAMA*. 1992;267(16):2221-2226.
64. Neuberger J, Tallis R. Do we need a new word for patients? *BMJ*. 1999;318(7200):1756-1758. doi:10.1136/bmj.318.7200.1756
65. Bombard Y, Baker GR, Orlando E, et al. Engaging patients to improve quality of care: a systematic review. *Implement Sci*. 2018;13(1):98. doi:10.1186/s13012-018-0784-z
66. Aguirre S, Jogerst KM, Ginsberg Z, et al. Patient suggestions to improve emergency physician empathy and communication. *J Patient Exp*. 2021;8:2374373521996981. doi:10.1177/2374373521996981
67. Gray M. Tackling overmedicalisation: give people the opportunity to learn about self-care. *BMJ*. 2023;381:p1379. doi:10.1136/bmj.p1379
68. Howick J. *Doctor you: revealing the science of self-healing*. Hodder & Stoughton; 2017.
69. Reader TW, Gillespie A, Roberts J. Patient complaints in healthcare systems: a systematic review and coding taxonomy. *BMJ Qual Saf*. Aug 2014;23(8):678-689. doi:10.1136/bmjqs-2013-002437
70. O'Dowd E, Lydon S, Madden C, O'Connor P. A systematic review of patient complaints about general practice. *Fam Pract*. 2020;37(3):297-305. doi:10.1093/fampra/cmz082
71. O'dowd E, Lydon S, O'connor P. The adaptation of the 'healthcare complaints analysis tool' for general practice. *Fam Pract*. 2021;38(6):712-717. doi:10.1093/fampra/cmab040
72. Patel RS, Bachu R, Adikey A, Malik M, Shah M. Factors related to physician burnout and its consequences: a review. *Behav Sci*. 2018;8(11):98. doi:10.3390/bs8110098
73. Shanafelt TD, Gorringer G, Menaker R, et al. Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clin Proc*. 2015;90(4):432-440. doi:10.1016/j.mayocp.2015.01.012
74. Riskin A, Bamberger P, Erez A, et al. Expressions of gratitude and medical team performance. *Pediatrics*. 2019;143(4):e20182043. doi:10.1542/peds.2018-2043
75. Aparicio M, Centeno C, Robinson CA, Arantzamendi M. Palliative professionals' experiences of receiving gratitude: a transformative and protective resource. *Qual Health Res*. 2022;32(7):1126-1138. doi:10.1177/10497323221097247
76. Litchfield I, Gale N, Burrows M, Greenfield S. The future role of receptionists in primary care. *Br J Gen Pract*. 2017;67(664):523-524. doi:10.3399/bjgp17X693401



77. Brant HD, Atherton H, Bikker A, et al. Receptionists' role in new approaches to consultations in primary care: a focused ethnographic study. *Br J Gen Pract*. 2018;68(672):e478-e486. doi:10.3399/bjgp18X697505
78. Litchfield I, Burrows M, Gale N, Greenfield S. Understanding the invisible workforce: lessons for general practice from a survey of receptionists. *BMC Primary Care*. 2022;23(1):230. doi:10.1186/s12875-022-01842-4
79. Schwartz B. *Why we work*. TED Books, Simon & Schuster; 2015:96.
80. Cross S, Gon G, Morrison E, et al. An invisible workforce: the neglected role of cleaners in patient safety on maternity units. *Glob Health Action*. 2019;12(1):1480085. doi:10.1080/16549716.2018.1480085
81. Press Ganey. *Emerging best practices in response to evolving patient perceptions of clean*. Press Ganey; Accessed 26 January 2023. https://www.compassonehealthcare.com/files/4416/7329/7612/2022_C1H_CaseStudy_Emerging_Best_Practices_in_Response_to_Evolving_Patient_Perceptions_of_Clean-CPX.pdf
82. Healthcare Facilities Today. Perception of hospital cleanliness can impact patient satisfaction. Healthcare facilities today. Accessed 26 January, 2023. <https://www.healthcarefaciliestoday.com/posts/Perception-of-hospital-cleanliness-can-impact-patient-satisfaction-943>
83. Vance N, Ackerman-Barger K, Murray-García J, Cothran FA. "More than just cleaning": a qualitative descriptive study of hospital cleaning staff as patient caregivers. *Int J Nurs Stud Adv*. 2022;4:100097. doi:10.1016/j.ijnsa.2022.100097
84. Toynbee P I was an outsourced Carillion hospital worker. Here's what I learned. *The Guardian*. <https://www.theguardian.com/commentisfree/2018/jan/18/outsourced-carillion-hospital-state-treasury-work>
85. Toynbee P. Quality care means valuing care assistants, porters, and cleaners too. *Qual Saf Health Care*. 2003;12(1):i13-i15. doi:10.1136/qhc.12.suppl_1.i13
86. Jansen BW, Brazil K, Passmore P, et al. Exploring healthcare assistants' role and experience in pain assessment and management for people with advanced dementia towards the end of life: a qualitative study. *BMC Palliat Care*. 2017;16(1):6. doi:10.1186/s12904-017-0184-1
87. Ashton C, Manthorpe J. The views of domestic staff and porters when supporting patients with dementia in the acute hospital: an exploratory qualitative study. *Dementia*. 2019;18(3):1128-1145. doi:10.1177/1471301217707085
88. Rinkoo AV, Mishra S, Rahesuddin, Nabi T, Chandra V, Chandra H. Gauging skills of hospital security personnel: a statistically-driven, questionnaire-based approach. *Int J Health Sci*. 2013;7(1):45-51. doi:10.12816/0006019
89. Ng QX, Yau CE, Yaow CYL, et al. Impact of COVID-19 on environmental services workers in healthcare settings: a scoping review. *J Hosp Infect*. 2022;130:95-103. doi:10.1016/j.jhin.2022.09.001
90. Department of Health and Social Care. *The Cavendish Review: an independent review into healthcare assistants and support workers in the NHS and social care settings*. 2013. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/236212/Cavendish_Review.pdf
91. Peters A, Otter J, Moldovan A, Parneix P, Voss A, Pittet D. Keeping hospitals clean and safe without breaking the bank; summary of the healthcare cleaning forum 2018. *Antimicrob Resist Infect Control*. 2018;7(132). doi:10.1186/s13756-018-0420-3
92. Zajac S, Woods A, Tannenbaum S, Salas E, Holladay CL. Overcoming challenges to teamwork in healthcare: a team effectiveness framework and evidence-based guidance. *Front Commun*. 2021;6:6. doi:10.3389/fcomm.2021.606445
93. Reeves S, Pelone F, Harrison R, Goldman J, Zwarenstein M. Interprofessional collaboration to improve professional practice and healthcare outcomes. *Cochrane Database Syst Rev*. 2017;6(6):000072. doi:10.1002/14651858.CD000072.pub3
94. van Leijen-Zeelenberg JE, van Raak AJA, Duimel-Peeters IGP, Kroese MEAL, Brink PRG, Vrijhoef HJM. Interprofessional communication failures in acute care chains: how can we identify the causes? *J Interprof Care*. 2015;29(4):320-330. doi:10.3109/13561820.2014.1003802
95. O'Connor P, O'dea A, Lydon S, et al. A mixed-methods study of the causes and impact of poor teamwork between junior doctors and nurses. *Int J Qual Health Care*. 2016;28(3):339-345. doi:10.1093/intqhc/mzw036
96. UK Department of Health. The new NHS: modern and dependable https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/266003/newnhs.pdf
97. Medicine Io. *Interprofessional Education for Collaboration: Learning how to improve health from interprofessional models across the continuum of education to practice: Workshop summary*. The National Academies Press; 2013.
98. Health Canada. First ministers' accord on health care renewal. Accessed 14 September, 2023. <https://www.canada.ca/en/health-canada/services/health-care-system/health-care-system-delivery/federal-provincial-territorial-collaboration/2003-first-ministers-accord-health-care-renewal/2003-first-ministers-health-accord.html>
99. Kang ES, Di Genova T, Howick J, Gottesman R. Adding a dose of empathy to healthcare: what can healthcare systems do? *J Eval Clin Pract*. 2022;28(3):475-482. doi:10.1111/jep.13664
100. Clapton G, Reid L. Neglected spaces: UK general practice surgery waiting rooms. *BJGP Open*. 2017;1(1):bjgpopen17X100641. doi:10.3399/bjgpopen17X100641
101. Kerasidou A, Horn R. Making space for empathy: supporting doctors in the emotional labour of clinical care. *BMC Med Ethics*. 2016;17:8. doi:10.1186/s12910-016-0091-7
102. Nejati A, Shepley M, Rodiek S, Lee C, Varni J. Restorative design features for hospital staff break areas: a multi-method study. *HERD*. 2016;9(2):16-35. doi:10.1177/1937586715592632
103. Edmondson AC, Bransby DP. Psychological safety comes of age: observed themes in an established literature. *Ann Rev Org Psychol Org Behav*. 2023;10:55-78.
104. Balint M. *The doctor, his patient and the illness*. Pitman Medical; 1960.
105. Maben J, Taylor C, Dawson J, et al. A realist informed mixed-methods evaluation of Schwartz Center Rounds((R)) in England. *Health Services and Delivery Research*. 2018.
106. Donnelly WJ. Viewpoint: patient-centered medical care requires a patient-centered medical record. *Acad Med*. 2005;80(1):33-38. doi:10.1097/00001888-200501000-00009
107. Bloom BM, Pott J, Thomas S, Gaunt DR, Hughes TC. Usability of electronic health record systems in UK EDs. *Emerg Med J*. 2021;38(6):410-415. doi:10.1136/emered-2020-210401
108. Jokes E, Abu-Hanna A, Cornet R, de Keizer N. Time spent on dedicated patient care and documentation tasks before and after the introduction of a structured and standardized electronic health record. *Appl Clin Inform*. 2018;9(1):046-053. doi:10.1055/s-0037-1615747
109. Martin PM, Sbaffi L. Electronic health record and problem lists in leeds, United Kingdom: variability of general practitioners' views. *Health Inform J*. 2020;26(3):1898-1911. doi:10.1177/1460458219895184
110. Lau F, Price M, Boyd J, Partridge C, Bell H, Raworth R. Impact of electronic medical record on physician practice in office settings: a systematic review. *BMC Med Inform Decis Mak*. 2012;12:10. doi:10.1186/1472-6947-12-10

111. Morrison Z, Fernando B, Kalra D, Cresswell K, Sheikh A. National evaluation of the benefits and risks of greater structuring and coding of the electronic health record: exploratory qualitative investigation. *J Am Med Inform Assoc.* 2014;21(3):492-500. doi:10.1136/amiajnl-2013-001666
112. Warren LR, Clarke J, Arora S, Darzi A. Improving data sharing between acute hospitals in England: an overview of health record system distribution and retrospective observational analysis of inter-hospital transitions of care. *BMJ Open.* 2019;9(12):e031637. doi:10.1136/bmjopen-2019-031637
113. Cook L, Espinoza J, Weiskopf NG, et al. Issues with variability in electronic health record data about race and ethnicity: descriptive analysis of The National COVID Cohort Collaborative Data Enclave. *JMIR Med Inform.* 2022;10(9):e39235. doi:10.2196/39235
114. Ko H, Turner T, Jones C, Hill C. Patient-held medical records for patients with chronic disease: a systematic review. *Qual Saf Health Care.* 2010;19(5):41. doi:10.1136/qshc.2009.037531
115. de Dombal FT, Leaper DJ, Staniland JR, McCann AP, Horrocks JC. Computer-aided diagnosis of acute abdominal pain. *BMJ.* 1972;2(5804):9-13.
116. Honda Motor Company. The ASIMO Technical Robotics Manual – ASIMO History and Specifications. Accessed 30 September, 2020. <http://asimo.honda.com/Abstract-Technical-Information>
117. Schüssler S, Zuschneegg J, Paletta L, et al. Effects of a humanoid socially assistive robot versus tablet training on psychosocial and physical outcomes of persons with dementia: protocol for a mixed methods study. *JMIR Res Protoc.* 2020;9(2):e14927. doi:10.2196/14927
118. Fitzpatrick KK, Darcy A, Vierhile M. Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): a randomized controlled trial. *JMIR Ment Health.* 2017;4(2):e19. doi:10.2196/mental.7785
119. Ali R, Tang OY, Connolly ID, et al. Performance of ChatGPT, GPT-4, and google bard on a neurosurgery oral boards preparation question bank. *Neurosurgery.* 2023;93:1353. doi:10.1227/neu.0000000000002551
120. Morrow E, Zidaru T, Ross F, et al. Artificial intelligence technologies and compassion in healthcare: a systematic scoping review. *Front Psychol.* 2023;13:971044. doi:10.3389/fpsyg.2022.971044
121. Ayers JW, Poliak A, Dredze M, et al. Comparing physician and artificial intelligence chatbot responses to patient questions posted to a public social media forum. *JAMA Intern Med.* 2023;183(6):589-596. doi:10.1001/jamainternmed.2023.1838
122. Hayashi R, Fujita S, Iida S, Nagai Y, Shimamori Y, Hasegawa T. Relationship of patient safety culture with factors influencing working environment such as working hours, the number of night shifts, and the number of days off among healthcare workers in Japan: a cross-sectional study. *BMC Health Serv Res.* 2020;20(1):310. doi:10.1186/s12913-020-05114-8
123. Voglino G, Savatteri A, Gualano MR, et al. How the reduction of working hours could influence health outcomes: a systematic review of published studies. *BMJ Open.* 2022;12(4):e051131. doi:10.1136/bmjopen-2021-051131
124. Rotenstein LS, Brown R, Sinsky C, Linzer M. The association of work overload with burnout and intent to leave the job across the healthcare workforce during COVID-19. *J Gen Intern Med.* 2023;38:1-8. doi:10.1007/s11606-023-08153-z
125. Delgado N, Delgado J, Betancort M, Bonache H, Harris LT. What is the link between different components of empathy and burnout in healthcare professionals? A systematic review and meta-analysis. *Psychol Res Behav Manag.* 2023;16:447-463. doi:10.2147/PRBM.538427
126. Rydon-Grange M. Psychological perspective on compassion in modern healthcare settings. *J Med Ethics.* 2018;44(11):729-733. doi:10.1136/medethics-2017-104698
127. Mathieu C, Gilbreath B. Measuring presenteeism from work stress: the job stress-related presenteeism scale. *J Occup Environ Med.* 2023;65(3):210-216. doi:10.1097/JOM.0000000000002753
128. Brouwer W, Verbooy K, Hoefman R, van Exel J. Production losses due to absenteeism and presenteeism: the influence of compensation mechanisms and multiplier effects. *Pharmacoeconomics.* 2023;41:1103-1115. doi:10.1007/s40273-023-01253-y
129. Bruyneel A, Bouckaert N, Maertens de Noordhout C, et al. Association of burnout and intention-to-leave the profession with work environment: a nationwide cross-sectional study among Belgian intensive care nurses after two years of pandemic. *Int J Nurs Stud.* 2023;137:104385. doi:10.1016/j.ijnurstu.2022.104385
130. Albulescu P, Macsinga I, Rusu A, Sulea C, Bodnaru A, Tulbure BT. "Give me a break!" A systematic review and meta-analysis on the efficacy of micro-breaks for increasing well-being and performance. *PLoS one.* 2022;17(8):e0272460. doi:10.1371/journal.pone.0272460
131. Fogarty LA, Curbow BA, Wingard JR, McDonnell K, Somerfield MR. Can 40 seconds of compassion reduce patient anxiety? *J Clin Oncol.* 1999;17(1):371.
132. Howick J, Mittoo S, Abel L, Halpern J, Mercer S. A price tag on clinical empathy? Factors influencing its cost-effectiveness. *J R Soc Med.* 2020;113(10):389-393. doi:10.1177/0141076820945272
133. British Medical Association. Pressures in general practice data analysis. Accessed May 23, 2023. <https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/pressures-in-general-practice-data-analysis>
134. Royal College of General Practitioners. Fit for the future: GP Pressures 2023. Royal College of General Practitioners. Accessed May 23, 2023. <https://www.rcgp.org.uk/getmedia/f16447b1-699c-4420-8ebe-0239a978c179/gp-pressures-2023.pdf>
135. Selye H. The stress of life. McGraw-Hill; 1976.
136. Couarraze S, Delamarre L, Marhar F, et al. The major worldwide stress of healthcare professionals during the first wave of the COVID-19 pandemic - the international COVISTRESS survey. *PLoS One.* 2021;16(10):e0257840. doi:10.1371/journal.pone.0257840
137. Membrive-Jimenez MJ, Pradas-Hernandez L, Suleiman-Martos N, et al. Burnout in nursing managers: a systematic review and meta-analysis of related factors, levels and prevalence. *Int J Environ Res Pub Health.* 2020;17(11):3983. doi:10.3390/ijerph17113983
138. Valera-Hernández MF, Arenas-Pérez L, Fernandez-Capriles I, Omaña-Paipilla F, Palencia-Sánchez F, Cadena-Camargo Y. Forgotten heroes: experiences of health care support workers regarding burnout and resilience during pandemic, a qualitative approach. *J Occup Environ Med.* 2022;64(12):e839-e844. doi:10.1097/JOM.0000000000002717
139. Krasner MS. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA.* 2009;302(12):1284-1293. doi:10.1001/jama.2009.1384
140. Wiederhold BK, Cipresso P, Pizzioli D, Wiederhold M, Riva G. Intervention for physician burnout: a systematic review. *Open Med.* 2018;13:34. doi:10.1515/med-2018-0039
141. Bolier L, Haverman M, Westerhof GJ, Riper H, Smit F, Bohlmeijer E. Positive psychology interventions: a meta-analysis of randomized controlled studies. *BMC Pub Health.* 2013;13:119. doi:10.1186/1471-2458-13-119
142. Kotera Y, Van Gordon W. Effects of self-compassion training on work-related well-being: a systematic review. *Front Psychol.* 2021;12:630798. doi:10.3389/fpsyg.2021.630798
143. Department of Healthc and Social Care. Report of the Independent Review of NHS Hospital Food. 2020. <https://assets.publishing>



[service.gov.uk/government/uploads/system/uploads/attachment_data/file/929234/independent-review-of-nhs-hospital-food-report.pdf](https://www.service.gov.uk/government/uploads/system/uploads/attachment_data/file/929234/independent-review-of-nhs-hospital-food-report.pdf)

144. Belfrage ASV, Grotmol KS, Tyssen R, et al. Factors influencing doctors' counselling on patients' lifestyle habits: a cohort study. *BJGP Open*. 2018;2(3):bjgpopen18X101607. doi:10.3399/bjgpopen18X101607

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