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## The role of humanism in medical practice and medical education - A narrative review and bibliometric analysis

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### Abstract

*In a context marked by clinical complexity and systemic pressures, the integration of the humanities into medical professional education is becoming increasingly relevant. This paper explores, through a narrative review and a bibliometric analysis of the literature (2000-2025, PubMed), the contributions of the humanities to medical education, clinical practice and public health. Findings reveal thematic recurrence around five major areas: narrative medicine and empathy, ethical and moral reasoning, cultural competence, clinical communication and professional well-being. Results show that students' exposure to literature, philosophy, arts and social sciences significantly improves empathy, critical reflection, emotional resilience and understanding of the patient experience. The bibliometric analysis also confirmed the coherence and interdependence of these themes, highlighting an emerging core of interdisciplinary research between narrative medicine, clinical ethics and global health. Key recommendations include: the systematic introduction of humanities courses in the medical curriculum, the development of integrated thematic modules throughout clinical training, institutional support for continuing reflective education, and the encouragement of collaboration between medical and humanities disciplines. In conclusion, the humanities provide an essential underpinning for the preparation of competent, empathic and competent medical professionals adapted to contemporary challenges. An integrative educational approach, centred on the human dimensions of practice, is fundamental for a more ethical, equitable and sustainable health system.*

**Keywords:** humanities, empathy, narrative medicine, burnout, holistic care, professionalism, medical education, interdisciplinarity, patient-centred care.

### Introduction

Humanism plays an essential role in medical practice and medical education by promoting a holistic approach to health care that emphasizes empathy, ethical considerations, and understanding patients as individuals with unique experiences and environments. Integrating humanistic principles into the medical curriculum can

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improve the quality of patient care and enhances the doctor-patient relationship, which is crucial in today's healthcare environment.

Humanism in medicine is a conceptual paradigm that privileges the relational, ethical and cultural dimension of care, in opposition (but also complementary) to purely biomedical approaches. Underpinning this model is the idea that human health and suffering cannot be fully understood and treated without taking into account the subjective experience, social context and personal meanings of the patient (Rita Charon, 2006). This theoretical framework is supported by the theory of narrative medicine, which proposes that the medical act should be based not only on the interpretation of symptoms, but also on active listening and understanding of the patient's story, seen as a complex, biographical and not only biological being (R. Charon, 2001; Greenhalgh, 1999).

In educational terms, the humanistic approach is based on the model of reflective pedagogy and trans-disciplinary education, according to which professional training should not only target technical skills, but also critical thinking, emotional intelligence, ethical awareness and cultural competence (Shapiro et al., 2009). These components are essential for the development of a reflective professional, able to manage uncertainty, complexity and moral dilemmas in clinical practice.

Another relevant theoretical source is medical sociology, which explains how health and illness are influenced by structural factors such as socioeconomic status, education, gender, race and access to services (Cockerham, 2017). From this perspective, humanistic practice implies an active awareness of the social determinants of health and a social responsibility of the physician to support equity in care and health policy.

The integration of humanities (literature, ethics, philosophy, arts) in medical education is supported by the integrative medicine model, which promotes the connection between science and humanity. These disciplines provide cognitive and affective tools for the development of empathy, introspection and moral discernment (Kumagai & Wear, 2014). In this context, concepts such as professional compassion (Sinclair et al., 2017) and moral intelligence become central axes of medical education.

More recently, theories of student-centred learning and transformational education support the idea that learning experiences should generate not only the accumulation of knowledge, but also changes in attitudes, values, and perspectives - goals perfectly aligned with the integration of humanism in the training of physicians (Mezirow, 2000; Frenk et al., 2010).

Overall, the theoretical framework underpinning this article brings together narrative, ethico-philosophical, socio-medical and educational perspectives to demonstrate that humanism is not a decorative addition to modern medicine, but an

essential component for the training of competent, ethical and empathic professionals capable of practicing medicine adapted to the complexity of patients' real lives.

A significant aspect of humanism in medical education is the incorporation of the humanities, which include disciplines such as literature, sociology, philosophy and ethics. This interdisciplinary approach has been advocated as a means of cultivating empathy and critical thinking among medical students. Research indicates that programs that focus on narrative medicine and arts-based therapies can significantly enhance the empathic engagement of medical professionals, particularly in areas such as palliative care (Ong et al., 2024; Wangding et al., 2024). Such initiatives not only enhance students' emotional intelligence, but also prepare them to manage the nuanced realities of patient interactions (Lee et al., 2024; Yang et al., 2024).

The emphasis on human rights and social justice in medical education has been emphasized as essential for the development of compassionate healthcare providers. Curricula that incorporate discussions of human rights and mental health have been shown to positively influence medical students' attitudes toward vulnerable populations (Agudelo-Hernández et al., 2024; Dhara & Fraser, 2024). This focus on social support is essential in addressing systemic inequities in health care, as it encourages future physicians to consider the broader social determinants of health that affect patients (Razack et al., 2024; Voeller & Pohl, 2024).

The role of humanism extends beyond education to clinical practice, where it is essential for promoting a patient-centred approach. Studies have shown that when health care providers engage with patients as whole people, rather than just cases, it leads to improved care outcomes and higher patient satisfaction (Szczepek, et al., 2024). This shift towards more humanistic practice is increasingly recognized as necessary to combat the dehumanization often seen in modern medical settings, where the emphasis on technical competence can overshadow the importance of compassionate and individualized care (Zhang & Liu, 2024; Lee et al., 2024).

The integration of humanities into medical education has been linked to addressing issues such as burnout among health professionals. By promoting a deeper connection with the human aspects of medicine, such programs can help alleviate the feelings of alienation and disillusionment that often accompany clinical practice (Zhai et al., 2024; Jayasinghe, 2024). Cultivating a supportive and empathic healthcare environment not only benefits patients, but also contributes to the well-being of healthcare providers themselves.

Narrative reviews contribute significantly to the study of humanism in medicine by synthesizing research on narrative competence, educational interventions and the emotional dimensions of medical practice. They provide an integrative framework for understanding how storytelling and narrative techniques can enhance professional

training and patient care, promoting humanistic values in medical education. Narrative workshops, for example, have demonstrated effectiveness in developing empathy and critical reflection among medical students (Pattanaik et al., 2024; Jerjes, 2024). Programs focused on narrative competence are associated with better clinical outcomes and a more humane approach to healthcare (Qimeng et al., 2024; Tsevat et al., 2024).

Bibliometric analysis supports this by identifying emerging themes, influential authors, and the growing recognition of the humanities in medical practice. Recent studies confirm the link between humanities training and the development of empathy and effective communication in the doctor-patient relationship (Drie, 2024; Clark, 2024). Interdisciplinary works, such as Yogesh Kashikar's (2024), analysis of John Keats' poetry, highlight the value of literature in cultivating compassion and deep understanding in medicine.

In this context, the software VOSviewer (Van Eck & Waltman) becomes an essential tool for visualizing bibliometric networks, facilitating the analysis of co-authorship, citation networks, and thematic co-occurrence (Virani & Rautela, 2024; Yu et al., 2024; Peng et al., 2024). Its graphical capabilities allow identification of critical connections in the literature, clarifying research structure and future directions (Aksoy, 2024; Geng et al., 2024; Ahiase et al., 2024; Widiyanto et al., 2024).

## Objectives

The primary objective was to examine the concept of humanism in relation to medical practice and education; secondarily, we sought to identify the components with significant impact on patient-centred care and how the humanities should be included in the training of medical professionals. The ultimate aim of the narrative review was to obtain a comprehensive perspective on the importance of humanities in medicine. The bibliometric analysis, used as an independent method, was intended to confirm the findings based on the qualitative analysis and to outline as clear a picture as possible of the field under investigation.

## Materials and methods

This paper uses a narrative synthesis of the scientific literature to analyse the integration of humanism and narrative medicine in medical professional training. The synthesis was structured thematically along the following axes: humanistic educational interventions, effects on empathy and medical professionalism, and the role of bibliometric analysis in evaluating this emerging field.

**Database and rationale of choice.** The PubMed database was exclusively used to identify relevant studies, given: its rigorous, biomedical and interdisciplinary nature; its

indexing of prestigious journals and peer-reviewed articles; its focus on areas such as medical education, public health, bioethics and applied medical humanities. This choice ensured consistency of sources and direct relevance to the proposed theme. Articles published between January 2000 and January 2025 were included to capture both the initial conceptual developments of narrative medicine and recent applications and consolidations - particularly those influenced by the COVID-19 pandemic and digital developments.

**Inclusion and exclusion criteria.** Inclusion: articles in English, with full text available; published in scientific journals with an impact factor or with recognition in the academic community; addressing: narrative medicine, medical humanism, medical humanistic education, empathy, professionalism, bibliometric analysis in the medical field; types of papers: original studies, systematic or narrative reviews, qualitative or mixed research. Exclusion: editorials without analytical content; clinical studies without humanistic or narrative component; papers in languages other than English; articles without full access to content.

**Selection and evaluation process.** Articles were initially selected based on title and abstract, followed by a full reading to assess theoretical and methodological relevance. Only papers explicitly addressing the impact or integration of the humanities in medical education and practice were retained. The quality of sources was assessed according to: journal status (impact factor, indexing); article typology (rigorous reviews, validated research); thematic relevance and contribution to the field. A total of 112 articles were selected, 55 of which were published in the last 10 years. Of all these articles, a total of 28 were reviews (systematic, narrative or scoping). The bibliometric data from the set of scientific papers were extracted into a specific PubMed file and entered for analysis in the VOSviewer version 1.6.20 programme. The network image of concepts and terms was analysed separately.

**Structuring the narrative synthesis.** The synthesis was organized thematically, according to an inductive logic, around the following dimensions: the formation of empathy and reflection through narrative interventions - e.g. DasGupta & Charon (2004) and Shapiro & Rucker (2003); the role of bibliometric analyses in mapping contributions in the field - e.g. Smydra et al. (2022) and Coronado-Vázquez et al. (2023); developing medical professionalism through humanities education - e.g. Doukas et al. (2012) and Petrou et al. (2021).

This approach allowed a complex and contextualized understanding of how narrative medicine contributes to the formation of a more humane and patient-conscious medical practice.

## Results and discussion

### 1. The role of humanities integration in contemporary medical practice

The integration of the humanities - such as literature, philosophy, the arts or medical sociology - is increasingly recognized as the foundation for a holistic medical practice. In the context of the complexity of human health, which involves not only biological dimensions, but also psychological, social and cultural aspects, these disciplines bring an essential added value to the understanding and care of the patient. The organization of the review along the axes presented has followed a logical approach of argumentation and the themes covered in the sections (e.g. empathy, critical thinking, professional ethics) prove to be a constant presence, influencing medical education and professional practice from many perspectives.

One of the central benefits is improved clinical communication: training in narrative medicine fosters a deep relationship with patients' experiences, allowing for personalization of interventions and increased quality of care (Drie, 2024; Cerceo, 2023). At the same time, the humanities provide a framework for dealing with uncertainties and ethical dilemmas in medical practice. Studies from anthropology and medical ethics develop the ability of future physicians to critically and empathically reflect on clinical decisions, contributing to principled care (Ofri, 2017; Chrousos et al. 2019). The importance of these components is also highlighted in promoting the emotional well-being of physicians. Contact with literature, art or reflective writing helps prevent burnout and cultivates professional resilience (Ofri, 2017; Cerceo, 2023). Another major contributor is cultural competence training - vital in a globalized medical system. Courses that address cultural differences and social justice prepare students to provide equitable and context-sensitive patient care (Cerceo, 2023; Thacker et al., 2021).

The humanities also encourage ethical reasoning and the development of moral courage needed to support patients in challenging contexts (Chrousos et al., 2019). Through the art of storytelling and reflection on suffering, students gain a better understanding of the lived experience of illness, which strengthens empathy and trust in the doctor-patient relationship (Drie, 2024; Cerceo, 2023; Thacker et al., 2021). This integration aligns with new trends in medical education, which emphasize interdisciplinary and patient-centred approaches in line with the ethical and social requirements of the profession (Thacker et al., 2021). The narrative review indicates that the humanities are not a decorative addition, but an essential component of professional training. They provide tools for communication, reflection, resilience, and equity - essential attributes for physicians practicing in an increasingly complex and human-centred world. Integration of the humanities into medical practice is increasingly recognized as essential to promote a more holistic approach to healthcare. This need



stems from the complex nature of human health, which encompasses not only biological factors but also psychological, social and cultural dimensions. The humanities, which encompass disciplines such as literature, philosophy and the arts, offer critical perspectives that enhance the practice of medicine by promoting empathy, ethical reflection and effective communication between healthcare providers and patients. Uncovering the social dimensions of disease and integrating other aspects of patients' social lives is the focus of a subspecialty, medical sociology.

As well as promoting communication and cultural competence, the humanities encourage critical thinking and ethical reasoning. Medical practice often involves making difficult decisions that require careful consideration of ethical principles and the potential impact on patients' lives. The humanities provide a rich context for exploring these ethical dilemmas, allowing medical students to engage with philosophical texts and case studies that challenge their assumptions and beliefs (Chrousos et al., 2019). This reflective practice is essential for developing the moral courage needed to advocate for patients and to navigate the complex world of modern healthcare in which the professional is faced with management and moral vulnerability.

From a personal perspective, I believe that integrating the humanities into medical practice is no longer an intellectual luxury, but a practical and ethical necessity. Modern medicine, despite impressive technological advances, is sometimes in danger of losing the very humanity that should underpin it. Each patient is more than a diagnosis - he or she is a person with a story, with suffering that cannot be quantified in biological parameters alone. For me, the strongest argument in favour of the humanities is their ability to make clinicians more empathetic and more aware of the complexity of the clinical relationship. Literature, philosophy, art - they all open windows to understanding otherness and developing deep listening. It is disturbing to realize that sometimes a simple act of authentic presence and attentive listening can have a greater therapeutic impact than a flawless technical intervention. At the same time, I believe that the benefits are not one-sided. It is not only the patient who gains from this approach, but also the practitioner, who has the opportunity to preserve his inner balance, the meaning of his work and the joy of practicing. I have often felt the tendency in medical circles to turn medicine into a succession of standardized procedures. In this context, humanism functions as a breathing space and a space for reflection, an antidote to burnout and professional dehumanization. Moreover, the humanistic approach also brings to the fore a social responsibility of the medical profession. In a world marked by inequality, discrimination and inequitable access to care, a deep understanding of the patient's cultural, economic and emotional context is a prerequisite for justice and ethics. Medical sociology, for example, provides highly relevant reading grids for understanding the reality behind symptoms. In short, I am convinced that medicine cannot remain a complete science if it

ignores its humanistic, reflective and moral side. And medical education has a responsibility to train not only competent clinicians, but people capable of accompanying other human beings in the fragility of suffering. The integration of the humanities is not just an aesthetic addition to the curriculum, but a foundation for truly healing medical practice.

## **2. The rationale for a return to humanism in medicine**

The return to humanism in medicine reflects recognition of the limitations of the purely biomedical model, which often ignores the emotional, social and ethical aspects of patient care. The integration of the humanities (literature, philosophy, arts) offers a more empathic and reflective approach, indispensable in an increasingly technological and depersonalized medical system (Oyebode, 2009; Özçakir & Bilgel, 2018). This reorientation is based on the need to understand patients as complex beings with unique stories. Studies show that humanistic training develops empathy and compassion - essential skills for doctor-patient relationships (Kekeghe, 2021; Anderson & Schiedermayer, 2003).

At the same time, the humanities support the formation of critical thinking and ethical reasoning, preparing students to respond to moral dilemmas and advocate for patient's well-being in a responsible manner (Jakušvaitė & Blaževičienė, 2007; Shapiro et al., 2009; Doukas et al., 2010). Effective communication skills are another major benefit. Studies show that humanistic training enhances expression and active listening, fundamental in patient-centred care (Wang, 2011; Gull, 2005; DasGupta, 2007). The shift towards humanism is also supported by changes in society: patients increasingly seek empathy, understanding and treatments offered with respect (Fairchild, 2020; Ataya et al., 2022). Thus, medicine is reaffirmed not just as a science, but as a deeply human endeavour (Knight, 2006). In addition, technological advances have facilitated the integration of the humanities through innovative, interactive and digital teaching methods relevant to current generations of students (Kemp & Day, 2014; Dennhardt et al., 2016). Narrative revision leads to the idea that the return to humanism is driven by the need for more personal, ethical care that is more connected to the lived experience of the patient. This shift provides the framework for training physicians capable of meeting today's demands with integrity and compassion.

The return to humanism in medicine is influenced by a wider societal shift towards valuing compassion and empathy in healthcare. As patients increasingly seek not only treatment but also understanding and support, the demand for healthcare providers who can offer a humane approach has increased (Fairchild, 2020). This societal expectation aligns with the tenets of medical humanism, which emphasizes the importance of treating patients with dignity and respect (Ataya et al., 2022). The humanistic sciences serve as a vital resource in cultivating these values, reinforcing the idea that medicine is not just a



technical profession, but a deeply human endeavour (Knight, 2006). The integration of the humanities into medical education has been facilitated by technological advances that enable innovative teaching methods. Digital platforms and technology-enhanced learning environments have made it easier to incorporate humanities-based resources into the medical curriculum (Kemp & Day, 2014). This adaptability is crucial for engaging a new generation of medical students who are accustomed to interactive and multimedia learning experiences. By harnessing technology, educators can create engaging learning experiences that emphasize the relevance of the humanities in understanding the complexities of medical practice (Dennhardt et al., 2016).

From my perspective, what we today call the return of humanism in medicine is not just an educational trend or a theoretical current, but a cry for rebalancing in the face of a medicine that was at one point in danger of becoming overly technical and dehumanized. I felt this rupture in multiple contexts - in dry medical interactions, in hospitals dominated by metrics and protocols, where the patient's story often became a collateral detail. It seems particularly relevant to me that this reorientation towards humanism has not only come "from above" - from educators or philosophers of medicine - but also from the patients themselves, who increasingly demand not just effective treatments, but genuine relationships and deep understanding. In an era of personalized medicine, it is ironic but also encouraging that it is precisely the human dimension - empathy, listening, context - that is becoming the new standard of excellence. I believe, from personal experience and observations in the medical field, that the humanities offer the physician something that no software or algorithm can replace: the ability to feel, interpret and respond nuanced to suffering. This is not learned through clinical guidelines, but through contact with human stories - from literature, art or real life. The study of ethics, for example, not only engages critical thinking, but also forces us to take a deep moral responsibility towards the patient. Another aspect that I consider essential is the impact of humanism on clinical communication. In an increasingly rushed medical system, the ability to communicate clearly, but also with empathy, can make the difference between a patient being listened to and one lost in the numbers. Personally, I have found that genuine empathy - not mimicry - is formed through the exercise of introspection and by cultivating a sense of otherness, which the humanities really foster. I am glad to see that, through technology, these values can be transmitted more effectively to new generations. The resurgence of humanism, accompanied by pedagogical innovation, makes it possible to train a modern but deeply human doctor, able to manage ethical dilemmas, respect diversity and maintain a living connection with the patient - as a person, not just as a clinical case. I believe that this revival of humanism in medicine is not a nostalgic return to the past, but a necessary evolution - a moral and emotional adaptation to the complexity of today's world. Tomorrow's medicine will need doctors

who think technologically but feel deeply. And this balance cannot be achieved without a sincere return to humanity.

### **3. Humanities elements revalued in medical student training**

Modern medical training urgently needs a humanistic approach to support the development of empathy, critical thinking and effective communication. The integration of humanities (literature, philosophy, arts, sociology) provides students with essential frameworks for a holistic understanding of the patient. A central element is narrative medicine, which values the patient's story in the therapeutic process. Through exposure to personal narratives and literature, students develop their ability to empathize and understand the complexity of the illness experience (Tseng et al., 2016; Coronado-Vázquez et al., 2023). Critical thinking and ethical reasoning, supported by courses in medical philosophy and ethics, enable future physicians to approach moral dilemmas and complex clinical decisions with responsibility and professionalism (Hartanti et al., 2019; Carrese et al., 2015).

The visual arts and creative expression contribute to the development of clinical observation and emotional intelligence, while providing space for reflection and professional stress management (Haidet et al., 2016; Meacham et al., 2022). The humanities also support cultural competence, indispensable in the globalized context of medicine. Understanding the social and cultural context of the patient helps to provide equitable and respectful care (Coronado-Vázquez et al., 2023; L. Chen et al., 2023). Empathetic communication is another major benefit: reflective dialog and active listening are essential tools for building trust and patient satisfaction (Rabow et al., 2010; Howick et al., 2021). Last but not least, exposure to the humanities contributes to reducing burnout, supporting the emotional well-being and resilience of students and professionals (Quinlan, 2021; Kemp & Day, 2014). Overall, humanistic elements such as narrative, ethics, art, culture and communication need to be strengthened in the medical curriculum to train professionals who are able to respond humanely and effectively to the complex needs of patients.

Moreover, the humanities can play a vital role in promoting cultural competence among medical students. An understanding of the social determinants of health and the cultural contexts in which patients live is essential for the provision of equitable care. Courses that explore topics such as medical anthropology and sociology can help students appreciate the diverse backgrounds of their patients and the impact of culture on health behaviours (Coronado-Vázquez et al., 2023). This cultural awareness is crucial for addressing health disparities and ensuring that care is respectful and responsive to patients' values and beliefs (L. Chen et al., 2023).

In my opinion, the training of future physicians must keep pace with the human complexity of the patient - not just with technological advances. That is why

reintroducing elements from the humanities into medical education is not only useful, but profoundly necessary. We are not talking about a decorative addition to a clinical curriculum, but about a reconfiguration of the vision of the medical act. I have noticed, in interactions with students and professionals, how often there is a sense that medicine is becoming a technical routine, where the human is left at the door. But when medicine is completely divorced from the patient's story, it risks losing its vocation. In this context, the power of narrative seems to me to be one of the most precious tools of the future doctor. Listening carefully to the patient's story not only improves the diagnosis, but creates a therapeutic alliance based on trust and meaning. Another point I consider vital is the cultivation of critical thinking and applied ethics. Medicine is rarely black and white. More often than not, it unfolds in shades of grey - dilemmas, uncertainties, limits. What makes the difference at these times is not pure science, but well-formed moral judgment. Learning to think ethically, to confront difficult questions and not run away from ambiguity, is an essential feature of professional maturity. Integrating the arts and creative expression into medical training - although sometimes viewed with scepticism - offers a profoundly humanizing dimension. Careful observation of a work of art or interpretation of a literary text can bring about that keen, detail-oriented eye that is essential in clinical practice. Moreover, it encourages introspection and emotional regulation, crucial factors in preventing burnout. I am also impressed by the perspective of social sciences in shaping cultural competence. Globalized medicine forces us to understand human diversity - not just as difference in symptoms, but as difference in meaning. Sociology, medical anthropology, studies of health inequalities - all contribute to the training of physicians capable of practicing fair, sensitive and equitable care. And perhaps most importantly: the humanities can teach us how to remain whole as humans in the face of constant suffering. Herein lies one of their greatest gifts - the ability to sustain emotional resilience and the joy of practicing medicine in an authentic way. A medical education that revalue the narrative, ethical, cultural and artistic dimensions not only produces better clinicians, but also more whole people. And this balance between science and humanity is the key to sustainable and meaningful medical practice.

#### **4. Integrating humanistic components into medical training stages**

The gradual integration of the humanities into medical training is essential for the cultivation of empathic, ethical and effective professionals who are able to respond to both the technical and human dimensions of patient care.

**a. Preclinical education.** In the early years of study, courses in literature, philosophy and social sciences can stimulate critical thinking, empathy and ethical sensitivity. Early exposure to humanistic values fosters pro-social and patient-centred attitudes (Kemp & Day, 2014; Acharya et al., 2020).

**b. Early medical education.** In the preclinical phase, humanistic components can accompany biomedical sciences through reflective writing, narrative communication, and applied ethics, contributing to the development of the capacity for authentic connection with patients (Houston, 2018; Tseng et al., 2016).

**c. Clinical preparation.** During practicum training, the application of humanistic principles in dealing with patients strengthens empathy, communication, and ethical decision-making. Interprofessional programs and direct contact with patients' narratives support the integration of humanistic competencies in the real-life context of care (Wang, 2011; Taylor, Lehmann, & Chisolm, 2018).

**d. Continuing medical education.** Humanistic learning should continue after graduation, through workshops and continuous professional reflection, helping to combat burnout and maintain patient-centred practice (Dennhardt et al., 2016; Özçakir & Bilgel, 2018).

**e. Institutional commitment.** A sustainable curriculum requires clear institutional support: investment in humanities courses, inter-disciplinary collaborations, and firm integration of these values into educational goals. Observed benefits include enhanced empathy, improved communication, and professional resilience (Lyon et al., 2013; Kekeghe, 2021).

The integration of humanism throughout the entire educational journey - from the beginning of studies to professional life - supports the development of competent, empathic physicians who are attuned to the social and emotional complexities of modern care.

Looking at this staged structuring of the integration of humanism in contemporary medicine, it seems essential to emphasize that the timing is not singular, but that each educational stage offers a unique opportunity for the formation of a mature relationship between the physician and the human dimension of care. In the early years - in the preclinical stage - I believe it is crucial that future physicians learn to see the patient beyond anatomy and physiology. Here, the introduction of literature, philosophy or ethics courses can sow not only empathy, but also curiosity for human complexity. In my experience, a student exposed early to these perspectives tends to be more open, balanced, and thoughtful in later interactions with patients. When it comes to the first two years of medicine, the so-called early medical education phase, the humanistic component becomes more practical. Not only critical thinking, but also the sense of language and silence, the ability to communicate without judgment - these are skills that are formed slowly, through guided reflection. I think these skills should be formed as systematically as clinical skills, not left to chance. The clinical training part is, in my opinion, a turning point. This is where the difference is made between theoretical knowledge of compassion and its concrete manifestation in a hospital ward. This is where

one really feels whether narrative medicine or ethical reflection has taken root. From this perspective, connecting the humanistic components with daily practice is essential. Otherwise, only nice but sterile ideals remain. With regard to continuing medical education, I sincerely believe that humanism is not “taught” once, but it is nurtured, it is cultivated. Practitioners need spaces for reflection, not just clinical updates. Ethics workshops, supervision groups, narrative medicine in continuing education - all of these can become a form of emotional professional hygiene, absolutely necessary in a system marked by overwork and burnout. And without real institutional commitment, all these initiatives risk remaining insular. We have seen promising programs fail precisely because they were not supported by a coherent curricular vision or academic leadership. What is needed is investment, pedagogical courage and cross-disciplinary collaboration, otherwise humanism will remain just a neat concept in faculty brochures. Mainstreaming humanities is not a one-off intervention, but a red thread that must run through all medical training. This is the only way to train professionals who are both sure-handed and warm-hearted. And this rare and precious balance is what makes medicine not only a science but also a human art.

### **5. The humanities' response to future public health challenges**

The humanities provide an essential framework for addressing the increasingly complex challenges of public health, helping to understand the social, cultural and ethical dimensions of health and to develop effective, equitable and sustainable interventions.

**a. Social determinants of health.** Through sociology and anthropology, the humanities facilitate understanding of the impact of social factors (such as poverty, education or cultural norms) on health. This type of analysis supports more equitable public policies and interventions tailored to the real needs of populations (Azari & Lomazzi, 2023).

**b. Communication and public engagement.** Narrative techniques offered by the humanities improve health communication, essential in crises such as the COVID-19 pandemic. Adapting messages to cultural and linguistic diversity, also supported by AI tools, can increase trust and adherence to health advice (Saffran, 2014; Turner et al., 2014).

**c. Ethics and human rights.** Integrating human rights principles into public health supports equitable, legitimate and transparent interventions, especially in critical contexts such as pandemic constraints. Ethical foundations strengthen accountability and support for vulnerable populations (Gostin et al., 2020).

**d. Interdisciplinary collaboration.** Humanism favours dialog between fields - medicine, ethics, culture - in support of integrated solutions. Examples such as the “One Health” model demonstrate the value of humanistic perspectives in tackling complex problems such as zoonotic diseases or the climate crisis (Ryu et al., 2017).

**e. Training public health leaders.** Integrating humanism into the training of specialists develops essential skills such as critical thinking, ethical reasoning and cultural competence that are necessary for the leadership of contemporary health systems (Koo & Lapp, 2014).

**f. Emerging threats.** Humanistic approaches offer a more nuanced understanding of factors contributing to phenomena such as antimicrobial resistance. In this regard, “One Health” integrates the social and cultural dimensions essential for prevention and tailored response (Koo & Lapp, 2014).

The humanities make essential contributions to public health by exploring social determinants, strengthening communication, reinforcing ethics, supporting intersectoral collaboration, and preparing tomorrow's leaders. These contributions are fundamental to shaping people-centred, resilient and equitable health systems.

I believe that, in a present marked by recurrent health crises and an increasingly uncertain future, the role of the humanities in public health is becoming not only useful but indispensable. Public health can no longer be conceived strictly as a discipline of biostatistics and preventive policies - it must be rethought as a discipline of deep understanding of the human in social and historical context. In my view, one of the most valuable contributions of the humanities is the ability to reveal the hidden causalities of disease - those social, cultural or ethical determinants that explain why some populations are consistently more vulnerable. It is not enough to count cases; we need to understand the stories behind them. This is where the humanities have a powerful voice: teaching us to listen, to contextualize, to interpret. During the COVID-19 pandemic, we witnessed a painful lesson: without trust, effective communication and respect for cultural diversity, even the best health measures can fail. This is why I believe that the humanities can provide tools to rehumanize health messages. Narrative, in particular, can rebuild bridges between science and lived life. In a world bombarded with data, story remains the ultimate tool of persuasion. Ethical considerations are, in my view, another pillar on which the future of public health must rest. Issues such as mandatory vaccination, the allocation of scarce resources or equitable access to treatment are not just technical matters - they are profound moral dilemmas that require more than algorithms and protocols. Philosophy, bioethics, human rights theory - all can shape public health with a human face. I also appreciate the idea of interdisciplinary collaboration. Health is often treated in silos: people, animals, environment, policy - all separate. But reality shows us ever closer interdependencies. I personally believe that the “One Health” perspective, underpinned by a humanistic approach, helps us see the whole, not just the parts. This “big picture view” is exactly what many health policies lack. Moreover, the public health leaders of the future will need not only managerial or epidemiological skills, but also ethical insight, cultural sensitivity and critical thinking. This is where humanistic



education can make a difference. It trains not just specialists, but moral citizens of the world, able to manage complexity without losing sight of human dignity. Humanities must be seen as strategic allies of public health. They offer not just alternative answers, but the right questions. And in times of intersecting inequality, disease and mistrust, humanistic questions can become essential guides to healthy and ethical practice.

## **6. A mind map of humanism in medical practice**

The mind map presented in this section was created to synthesize and visualize the relationships among the key concepts identified in the reviewed literature related to the integration of the humanities in medical education. This map is not merely a graphical scheme, but is the result of a reflexive process of thematic and conceptual organization, aimed at facilitating a multidimensional understanding of the topic.

The process of constructing the mind map followed several stages. On the basis of the narrative analysis and literature reviews included in the study, recurrent themes related to the role of humanities in contemporary medicine were identified. These included: narrative medicine, empathy, ethics, ethics, communication, cultural competence, professional burnout and critical thinking. The extracted themes were organized into major thematic categories, reflecting the logical structure of the paper's content. For each category, the interrelationships between concepts were analysed. For example, empathy is simultaneously an outcome of humanistic education and a prerequisite for patient-centred care; at the same time, it contributes to the prevention of burnout and to the improvement of clinical communication. The concepts in the map were placed according to their frequency of occurrence in the literature, their argumentative relevance in the text, and their cross-cutting role in several stages of medical education. A balance between visual clarity and information density was sought.

This mind map (Table 1) therefore functions as a visual summarization tool, but also as a conceptual representation of the whole argumentative logic of the paper. It allows both a quick understanding of the thematic focus and an in-depth exploration of the links between the humanistic dimensions of medical practice.

**Table 1***Mind Map - Humanism in Medical Practice*

Core Principles of Humanism	Empathy	Understanding and sharing the feelings of patients (Ong & Anantham, 2019) <sup>1</sup>
	Compassion	Providing care that is sensitive to the emotional and psychological needs of patients (Ong & Anantham, 2019)
	Respect for Patient Autonomy	Valuing patients' rights to make informed decisions about their care (Goldberg, 2008)
Educational Integration	Pre-Medical Education	Importance of humanities courses (literature, philosophy) to build foundational empathy and ethical reasoning (Qian et al., 2018)
	Medical School Curriculum	Early Years: introduction of medical humanities to enhance communication skills and patient-centred care (Hoang et al., 2022) Clinical Training: application of humanistic principles in real-world settings, emphasizing narrative medicine and reflective practice (Tseng et al., 2016) Continuing Medical Education: lifelong learning in humanistic approaches to combat burnout and maintain empathy (Özçakir & Bilgel, 2018) <sup>1</sup>
Key Components of Medical Humanities	Narrative Medicine	Using patient stories to enhance understanding and empathy (Y.-T. Chen, 2023)
	Ethics and Philosophy	Exploring moral dilemmas and ethical frameworks in clinical practice (Shapiro et al., 2009)
	Arts and Literature	Engaging with creative works to foster reflection and emotional intelligence (Macneill, 2011)
Benefits of Humanism in Medicine	Improved Patient Outcomes	Enhanced communication leads to better patient satisfaction and adherence to treatment (Howick et al., 2021)
	Reduced Burnout	Humanistic training helps mitigate emotional exhaustion among healthcare providers (Özçakir & Bilgel, 2018)
	Cultural Competence	Understanding diverse patient backgrounds improves care quality (Chiu et al., 2019)
Challenges and Considerations	Curriculum Development	Need for institutional commitment to integrate humanities into medical education (Houston, 2018) <sup>1</sup>
	Assessment of Outcomes	Difficulty in quantifying the impact of humanities on medical practice (Gillis, 2007)
	Balancing Science and Humanities	Ensuring that humanistic education complements scientific training rather than detracts from it (Hindin, 2023)
Future Directions	Interdisciplinary Collaboration	Encouraging partnerships between humanities and medical educators to enrich curricula (Houston, 2018)
	Technology Integration	Utilizing digital platforms to enhance the teaching of medical humanities (Kemp & Day, 2014)
	Global Perspectives	Incorporating diverse cultural viewpoints in medical humanities education to address global health challenges (Stewart, 2020)

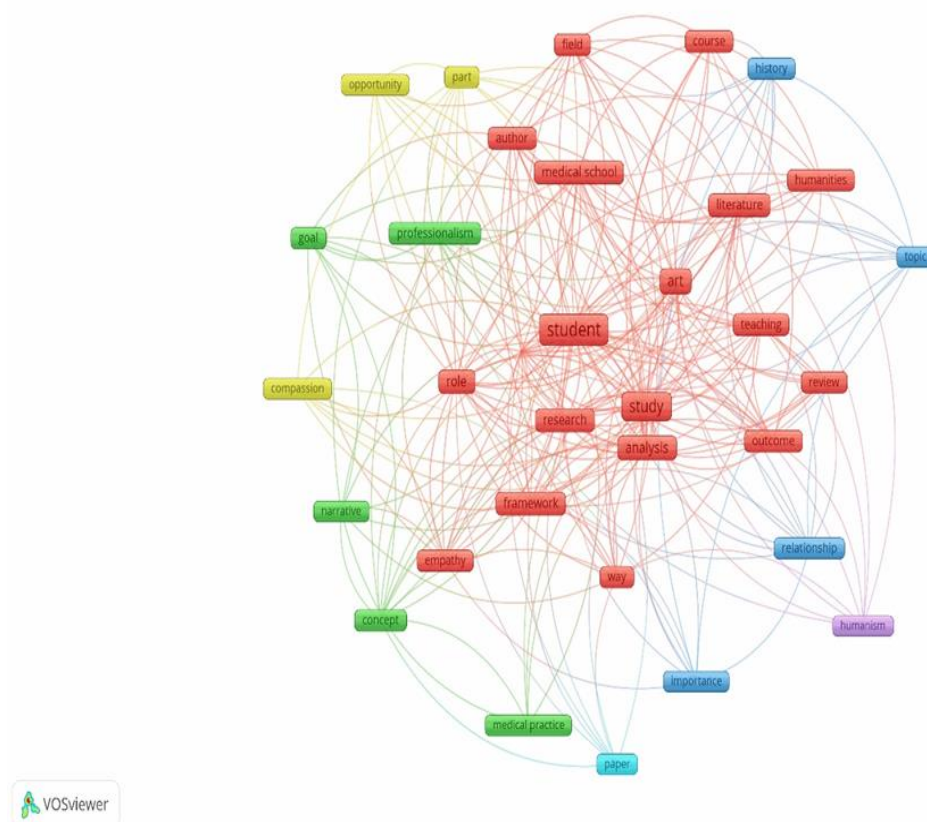
## 7. Bibliometric analysis

### General network image analysis

**Overall network structure.** Nodes (keywords/concepts): each term in the graph represents a concept frequently used in the literature review. Links: lines between concepts indicate frequent co-occurrence in the same sources. The thicker the line, the stronger the relationship between concepts. Distance between nodes: closer concepts are more closely connected, while more distant concepts are less connected. The bibliometric map obtained is shown in Figure 1.

**Figure 1**

*Bibliometric image generated using VOSviewer*



**Identifying clusters (thematic groups).** The bibliometric map generated by VOSviewer reflects a dense and interconnected landscape of concepts, highlighting the multiple dimensions through which the humanities articulate with medical education. The five identified thematic clusters - marked by distinct colours - outline a coherent conceptual network revealing the current dynamics of research in the field.

Red cluster - Medical education and pedagogical research

This constitutes the semantic core of the map, with the centrally located node 'student' surrounded by terms such as “study”, “teaching”, “medical school”, “art” and “course”. The density of this cluster signals that the current literature focuses on how the humanities are used as educational tools - not only complementary, but profoundly formative - in the preparation of future medical professionals. Terms such as “framework”, “analysis” or “outcome” indicate a clear methodological concern: the authors not only explore the impact of art or literature on learning, but measure the effects on empathy, critical reflection or communication.

#### Green cluster - Personal values and interpersonal competences

Centred around the terms “empathy”, “narrative”, “professionalism” and “concept”, this cluster reflects the ethical and relational dimension of medicine. The integration of the humanities is presented as a way to cultivate genuine professionalism through a deep understanding of the patient's experience. Narrative emerges here as a transformative tool through which future doctors learn to recognize suffering, actively listen and develop personalized responses, not just clinical protocols.

#### Yellow cluster - Motivation, purpose and educational opportunity

Terms such as “goal” and “opportunity” signal a strategic component in curriculum development: the recognition that the humanities are not only useful, but necessary to achieve deeper educational goals. This cluster reflects an emerging discourse about revaluing these components as an integral part of a medical education that prepares “people doctors”, not just “specialists”.

#### Blue cluster - Conceptual and legitimacy framework

Encompassing terms such as “history”, “topic”, “importance” and “relationship”, this cluster underpins the theoretical justification for the integration of humanism in medicine. It outlines a vision of medical education as an interdisciplinary field, where the history of medicine, humanistic epistemology and the importance of the doctor-patient relationship are presented as the foundations of professional training. This framework functions as a link between the didactic and practical dimensions.

#### Purple cluster - Philosophical vision of humanism

Although consisting of a single dominant term – “humanism” - this cluster expresses the essence of the whole map: the aspiration towards a medical practice guided by ethical, cultural and human values. Its lateral position in the map may suggest that humanism is a cross-cutting idea that cuts across all other clusters and provides a unifying vision.

#### Cyan Cluster - Scientific output and scholarly dissemination

The term “paper” signals the growing research interest in these topics. Its networking reflects the commitment of the academic community to document, analyse and promote the pedagogical and clinical benefits of the humanities.

**Integrative Observations.** Central nodes, such as “student”, “study” and “empathy”, suggest that the main research focus is directed towards the personal development and professional development of future physicians in a holistic training paradigm. The dense and multi-directional connections indicate a maturation of the medical-humanistic field: no longer isolated explorations, but a coherent network of ideas, methods and goals. Terms such as “narrative”, “art” or “compassion” are recurrently included, suggesting that creative methods and reflective approaches are becoming central pillars of modern medical education.

This bibliometric map reveals a well-structured conceptual ecology in which the humanities contribute significantly to the transformation of the medical education paradigm. From shaping empathy and critical thinking, to enhancing communication and professionalism, medical humanism is not a decorative add-on, but a strategic necessity in an increasingly technical and complex medical system.

**Relations between concepts.** The term “student” is the most central, being connected to multiple themes, suggesting that the analysis focuses on medical education and training. “Study”, “research” and “medical school” form a strong core, indicating that the analysis focuses on scientific literature in medical education. “Empathy” and “compassion” are connected with “medical practice” and “professionalism”, suggesting that humanistic aspects are fundamental in medical practice. The graph shows that the current literature focuses on the role of medical education, the role of interdisciplinary research and the integration of the humanistic dimension in medical practice. The clustering suggests an interdependence between professional education, empathy-based practice and studies on the role of humanism in medicine.

**Detailed interpretation of the “humanism” node** - Network position and main connections. The “humanism” node is located in a distinct cluster (mov) and is connected to several concepts in other clusters. This suggests that it is a key concept with a linking role between different themes. It is directly connected with “relationship”, “importance”, and “topic” in the blue cluster, which indicates that humanism is analysed from the perspective of interpersonal relationships and the significance of this concept in medical education. It also has connections with nodes in the red cluster (“student”, “study”, “teaching”), suggesting that humanism is a topic of interest in the training of medical students. It also intersects with nodes in the green cluster, such as “medical practice” and “empathy”, indicating a link between humanism and compassionate medical practice.

**The meaning of the concept of “humanism” in this context.** In medical education, its strong link with “student”, “teaching” and “study” suggests that humanism is an

important subject in the training of physicians. It may include aspects such as empathic communication, medical ethics and the patient-centred approach. The connections with “medical practice”, “empathy” and “compassion” indicate that humanism is considered essential in the doctor-patient relationship, promoting more attentive and personalized care. In medical theory and research, the relationships with “literature”, “framework” and “analysis” suggest that humanism is studied from a theoretical perspective, and is analysed in the literature as a defining element of modern medicine.

**The role of “humanism” in structuring the network.** The “humanism” node acts as a bridge between the theoretical and practical dimensions of medical education. Although it is part of its own cluster (purple), its strong connections with the red, green and blue clusters show that humanism is not an isolated topic, but a cross-cutting one, integrated in multiple domains. It has a relatively small number of direct connections compared to nodes such as “student” or “study”, but its influence is important due to its strategic positioning within the network. Humanism is a central concept in medical education, with links to ethics, interpersonal relations and compassionate practice. Its role in bridging the theoretical and practical dimensions makes it essential in developing an integrated approach to medicine.

**The significance of the position of the “humanities” node in the network.** In the generated network, “humanities” is a moderate-sized node, placed on the right-hand side of the graph, as part of a blue cluster, together with terms such as “history”, “relationship” and “topic”. This position indicates that “humanities” is not a central node (like “student” or “study”), but plays an important role in connecting the medical field with its humanities dimensions. The main connections of the “humanities” node are with the following terms: “history” (the relationship suggests that humanities include a historical perspective on medical education and practice), “relationship” (indicates the importance of humanities in the development of inter-human relationships, including doctor-patient communication), “art” and “literature” (confirms that the humanities approach includes artistic and narrative aspects, being a key element in humanistic medical education) and “teaching” (emphasizes that humanities are integrated into medical teaching, having a role in shaping students' ethical and empathic attitudes).

**Interpreting the network position of the “humanities” node.** By its marginal position (top right), “humanities” is connected to educational and historical concepts, but it is not a central term in medical education, suggesting a supporting rather than a dominant role. Connectivity is high; it is connected to “teaching”, “art” and “relationship”, indicating that it has a significant influence on medical education. The cluster is distinct (blue) and differs from the red cluster of “student” and “study”, suggesting that the humanities are a complementary, but not foundational, domain in medical education. The position of the “humanities” node in the network reflects its status as an interdisciplinary



field, essential to medical education, but secondary to core disciplines (such as “study” or “student”). This indicates that humanities are important for the development of empathy, ethics and the doctor-patient relationship, but are often seen as a supporting component in medical education rather than a core element.

**Significance of the position of the “medical school” node in the network.**

“Medical school” is a node of large size, located in the upper-centre area of the network, being part of the red cluster. Being connected to important terms such as “student”, “study”, “teaching” and “research”, it occupies a strategic position, indicating a key role in the conceptual structure of medical education.

For a clarification of the results obtained from the bibliometric analysis, we produced an interpretative table (Table 2) including key nodes (such as “student”, “empathy”, “study”, “art”), the type of each node (concept, value, discipline, etc.), frequency and centrality (estimated based on visual dimension), significant relationships between terms, thematic area, and relevant interpretative observations.

The main connections of the node - “medical school” are with the following terms: “student” (indicates that the main objective of medical schools is the training of students), “study” (the relation suggests that learning in medical schools is an essential component of the network), “teaching” (confirms the essential role of medical schools in teaching and training future professionals), “research” (suggesting that academic work in medical schools is not limited to teaching but also includes research), “framework” (suggesting that medical schools follow clear educational structures and models) and “outcome” (the relationship shows that the aim of medical school training is to produce concrete outcomes - e.g. the top-centre position shows that “medical school” is a major intersection point between educational and research concepts).

The red cluster is strongly related to medical education, academic studies and learning. High connectivity indicates that “medical school” is an important hub for most processes related to medical education. Links with “research” and “framework” suggest that medical schools are not only centres of learning but also of innovation and development. The central position of the node “medical school” confirms that it is a fundamental concept in medical education, functioning as the core of training, research and teaching. This suggests that medical schools are the focal point of scientific knowledge and professional development, influencing both student learning and the production of new knowledge through research.

**Table 2***Relevant interpretative remarks*

<b>Network Node/concept</b>	<b>Network node type</b>	<b>Frequency Relevance</b>	<b>Significant connections</b>	<b>Thematic area</b>	<b>Interpretative remarks</b>
"student"	Central concept	Very large	"study" "teaching" "empathy" "art" "role"	Medical education	The most frequent node; pivot of the thematic network
"study"	Methodological concept	Large	"student" "analysis" "outcome"	Medical research	Related to academic rigor and evaluation of interventions
"humanities"	Disciplinary theme	Medium	"literature" "art" "teaching"	Humanities	Related to narrative and aesthetic methods
"art"	Humanistic discipline	Large	"student" "literature" "empathy"	Medical training	Didactic tool for reflective learning
"empathy"	Personal competence	Medium	"student" "concept" "compassion"	Interpersonal skills	Connected to the results of humanistic training
"compassion"	Ethical value	Medium	"empathy" "narrative" "professionalism"	Medical practice	Close to resilience and human relationships
"professionalism"	Ethical dimension	Medium	"goal" "compassion" "student"	Professional identity	Suggests the integration of humanism into deontological codes
"medical school"	Institutional framework	Medium	"course" "teaching" "author"	Education	Key environment for the application of humanistic integration
"narrative"	Pedagogical tool	Low-medium	"empathy" "compassion" "literature"	Narrative medicine	Emerging methodological element
"humanism"	Philosophy / value	Low	"relationship" "empathy" "topic"	Conceptual framework	Transversal concept, with an integrating function
"analysis"	Methodological technique	Medium	"framework" "study"	Research	Anchors the scientific perspective in educational reflection
"literature"	Educational resource	Medium	"student" "art" "teaching"	Humanities	Reflects the diversity of learning environments

## Conclusions

The importance of humanism in medical practice. Narrative review and bibliometric analysis convergently emphasize the role of humanism as the foundation of person-centered medical practice. The human dimensions of care - empathy, compassion, ethics, and the ability to listen to the patient's story - are frequently cited in the current literature as essential for building trust and sustaining an effective therapeutic relationship. Medical practice that integrates these elements enables a deeper understanding of suffering, avoiding the biological reductionism of the traditional biomedical model. Humanism thus becomes not just a personal attitude but a clinical competence.

The role of humanities in medical education. Medical education benefits significantly from the integration of the humanities - literature, philosophy, ethics, the arts - at all stages of training. The analysed results show that the study of humanities contributes to the development of empathy, critical thinking and communication skills, preparing students for the complexity and ambiguity of clinical realities. Moreover, early exposure to humanistic themes, through narrative medicine or reflection on patient experience, reinforces a professional culture based on moral responsibility and social awareness. Educational programs that include such dimensions generate not only academic performance but also personal and professional resilience.

The contribution of humanism to public health. From a public health perspective, medical humanism offers a complementary and necessary approach. Integrating cultural, social and ethical knowledge into health policy development and implementation facilitates more equitable and context-sensitive interventions. Bibliometric analysis highlights the growing interest in topics such as social determinants of health, cultural competence and social justice in the literature. The holistic approach underpinned by the humanities thus helps to reduce health disparities and promote care centred on the real needs of communities, not just on technical standards.

Global perspectives and emerging trends. Trends identified in the global literature suggest a strengthening of interest in humanistic medicine, reflected in the emergence of new interdisciplinary educational programs, an increasing number of publications dedicated to the subject, and the active participation of medical universities in curricular reform initiatives. Bibliometric analysis indicates an increasingly dense and connected research network around the concepts of narrative medicine, empathic education, reflective writing and ethical leadership. The globalization of medical education and the diversification of patient populations call for an expanded understanding of the human dimension of care, making humanism a strategic component of quality health care.

Integrating the humanities into medical education and practice is not an intellectual luxury but a practical necessity, supported by both narrative and bibliometric evidence. Medical humanism improves the quality of the relationship with the patient, contributes

to deeper professional training and supports the goals of health equity and inclusion. In the face of an often-fragmented healthcare system, pressured by technology and performance metrics, a return to humanistic values offers a rebalancing framework - of science through conscience, efficiency through empathy, and knowledge through wisdom. Cultivating a humanistic medical culture thus remains a prerequisite for genuinely human-centred healthcare.

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