

# IFMSA Policy Document

## Patient Involvement in Medical Education

Proposed by the IFMSA Team of Officials  
Adopted at the 73<sup>rd</sup> IFMSA General Assembly March Meeting 2024

### Policy Commission

- Michelle Lam, Liaison Officer for Medical Education Issues, [ime@ifmsa.org](mailto:ime@ifmsa.org)
- Mareike Krause, bvmd Germany, [mareike.k.9@gmail.com](mailto:mareike.k.9@gmail.com)
- Bibek Shrestha, NMSS Nepal, [shresthabibek85iom@gmail.com](mailto:shresthabibek85iom@gmail.com)

### Policy Small Working Group

- Mareike Krause, bvmd Germany
- Amjed Siddig Khalid Mohammed, MedSIN Sudan
- Matij Pervan, CroMSIC-Croatia
- Sohaila Khokha, IFMSA-Egypt
- Bibek Shrestha, NMSS Nepal
- Arsalan Nadeem, AMSA US

## Policy Statement

### Introduction

A patient-centred approach to medical education is necessary to adequately equip the healthcare workforce in providing the highest standard of patient care. The integral role of patients in healthcare professions' education is underscored by their firsthand insights and specialised knowledge gained from personal experiences. Integrating the patient's voice in medical education enables students to gain confidence and skills while focusing on patients' needs, facilitating a partnership and mutual understanding.

### IFMSA Position

The International Federation of Medical Students' Associations (IFMSA) holds patient involvement in high regard within medical education, recognising it as a cornerstone for fostering patient empowerment and championing patient-centred care. This, in turn, bolsters health systems and enhances health outcomes. IFMSA deeply values the profound significance of weaving patient experiences and perspectives into the tapestry of medical education to ensure its comprehensiveness and quality. Medical schools must reach the pinnacle of education through systematic, evidence-based approaches, involving patients in diverse roles—from educational and instructional capacities to pivotal roles in assessment and decision-making.

### Call to Action

Therefore, the IFMSA calls on:

#### Governments to:

- Allocate resources for robust patient safety integration in medical education curricula.
- Collaborate with international medical education bodies to uphold patient safety standards.
- Establish partnerships for knowledge exchange, training educators, and ensuring patient-centred and interprofessional care in medical education, including consent, evaluation, and post-program assessments.
- Create a multicultural environment in medical education, focusing on chronic illness care, social accountability, and inclusion.
- Collaborate with educational institutions and equipped patients for training programs.
- Gather patient inputs on programs, service design, and policies.
- Establish regulatory partnerships with patients for medication outcomes without additional access barriers.
- Adopt resource management policies for patient-focused training programs, mandating participation.
- Provide financial support for patient-related interventions and partnerships.
- Encourage national medical education bodies to incorporate patient involvement in curricula.

#### Medical Schools and Academic Institutions to:

- Develop medical education programs systematically incorporating patients' perspectives.
- Review and revise curricula to include comprehensive patient safety training.
- Implement faculty development programs for effective patient safety teaching.

#### Medical and Health Organizations (WHO, WFME, WMA, etc.) to:

- Conduct research in all WHO regions on the importance of patient involvement in medical education.
- Collaborate for the integration of patient safety in international medical education frameworks.
- Encourage interprofessional collaborations for a unified approach to patient safety.
- Develop standardised guidelines for patient encouragement in medical education.
- Establish and implement programs emphasising the importance of patient involvement.
- Recognise and actively promote patient involvement.
- Establish connections with patient organisations for effective outreach.

#### IFMSA Members, NMOs, and Medical Students to:

- Recognize and promote patient involvement for a better doctor-patient relationship.
- Actively engage in advocacy and capacity-building for patient safety in medical education.

IFMSA International Secretariat, Nørre Allé 14, 2200 København N., Denmark

- Advocate and contribute to patient involvement in medical education research.
- Publish policies supporting patient involvement on all organisation levels.

**Patient Organizations to:**

- Develop surveys and research projects to gauge patient feelings about involvement in medical education.
- Promote the benefits of patient involvement in medical education.
- Engage in partnerships to integrate patients into medical education.
- Foster partnerships with medical schools for enhanced educational strategies.
- Develop and implement effective patient involvement strategies.
- Contribute to ongoing monitoring of patient involvement statistics.

**Accreditation Agencies to:**

- Incorporate patient safety as a core criterion in medical school accreditation.
- Develop research and guidelines for patient-student collaboration.
- Integrate Patient Centred Communication skills into accreditation criteria.
- Encourage medical schools to engage diverse patients for richer educational experiences.
- Incorporate Patient Perspectives into accreditation criteria, including curricula involvement.
- Support faculty development for incorporating patient perspectives into teaching methodologies.

## Position Paper

### Background information

In accordance with the guidelines set forth by the World Medical Association, the imperative of medical education is to equip all medical students with the requisite skills, knowledge, and professional conduct essential for delivering a superior standard of patient care (1). The commitment to maintaining a pinnacle level of medical education is universally recognised among physicians (1). Substantiated by an expanding body of evidence, the provision of patient-centred care, aligned with the needs, preferences, and desires of patients, correlates with more favourable health outcomes. The concept of patient-centred care has permeated all spheres of medicine and has manifested in the active engagement of patients in medical education by select educators and institutions (1).

The term "patient," encompassing persons with health conditions, caregivers, and those with pertinent lived experiences (such as patient advocates and community members), lacks universally accepted terminology but is integral to the discussion (2,3). In consonance with the principles of patient-centred care, involving patients in medical education emerges as an integral element in training a workforce capable of promoting patient participation in healthcare (3). Studies underscore that impediments to achieving patient-centredness often emanate from the traditional approach to health professional education. The historical perception of medical identity excluded shared responsibility and power with patients, potentially contributing to the erosion of empathy and patient-centredness among medical students (4,5). Addressing these barriers necessitates a paradigm shift in medical education that acknowledges the collaborative role patients can play. A global consensus has underscored the importance of involving all relevant stakeholders, including patients, in shaping medical education to better address health needs, aligning with the social accountability of medical schools (6). Innovative approaches advocating for patient-centredness as a partnership principle elevate patient involvement to a collaborative role, considering patients as integral members of the treatment team (7). Embedding this principle in the education of health professionals is essential to foster this cultural shift.

Furthermore, while there was an overall surge in the integration of technology into medical education during the COVID-19 pandemic (8), it's important to note that the increased use of digital technology hasn't necessarily led to amplified levels of patient and carer engagement in medical training (9). The shift toward 'live' interactions between students and patients has witnessed a rise, yet challenges persist, necessitating concerted efforts to ensure positive and constructive experiences for all participants (9). Looking ahead, future teaching methodologies ought to emphasise and augment the involvement of patients and carers in medical education. Additionally, measures should be in place to assist them in overcoming any potential barriers that may emerge when engaging remotely (9).

Physicians widely acknowledge the value of learning from patients and its profound impact on medical practice (10). Patient involvement, defined during the 2015 International Conference in Vancouver, entails active collaboration as teachers, assessors, curriculum developers, and decision-makers in education (3). While various initiatives and benefits of patient involvement in literature have been described, there remains a dearth of research on systematic approaches to patient involvement in different levels of medical education. Insufficient evidence on the long-term impacts on practice and benefits for care recipients, coupled with gaps in theoretical understanding, underscores the need for further research and development. Addressing these gaps will inform policies, structural changes, and organisational actions to enhance active patient involvement in medical education (2,3,11). Recent findings underscore the urgency of ongoing efforts to shape policies based on the latest insights into fostering active patient participation in medical education (9).

### Discussion

#### Patients' role in medical education

It is essential that patients participate in medical education for healthcare workers. Patients successfully and efficiently impart knowledge to medical and nursing students, benefiting both the students and the patients (12). In the past, patients have taken an active role in instruction and/or evaluation, which is frequently carried out by

a qualified patient-educator with the aim of including patient perspectives in the teaching about illness and its effects on lifestyle, psychological well-being, and socioeconomic status (13). It is important to highlight, nonetheless, that despite the possibility of creating a partnership between patients and healthcare professionals, family members and clinicians continue to oppose patient participation and cooperation (14).

Patient participation in medical education is essential to the training of future medical practitioners. By sharing their knowledge and experiences, patients can help healthcare professionals learn more about illness and how it affects lifestyle and well-being from a unique viewpoint (12). Active patient participation in the development of curricula is especially crucial since it can aid in bridging the gap between medical education policy and practice (15). Better patient care, long-term treatment adherence, patient satisfaction, and enhanced healthcare outcomes have all been linked to patient engagement and patient-centredness in medical education (12). Patients can provide ways to learn practical clinical skills, examinations, history taking and different clinical procedures. In addition to the disease or competency-specific courses, patients can also participate in consultative meetings with partners to identify desirable personal qualities, graduate capabilities, and the development of a community-based learning environment (11).

Although patients are commonly considered as teaching partners in medical education, active patient involvement necessitates that faculty recognise patients' participation as participants in the learning process (16). Patients are open to participating in medical education as long as they receive respectful treatment. Informed consent and effective communication were recognised as critical components of best practices during medical students' training (17).

### **Patient involvement and recruitment**

Cultural, structural, and human factors all have an impact on the intricate and diverse concept of patient participation and recruitment (18). Factors associated with the patient, including embracing the new role as a patient, limited medical understanding, a lack of self-assurance, the presence of other health conditions, and diverse sociodemographic elements, collectively influence the inclination to engage in the healthcare process (19). Patients' preferred level of involvement varies depending on the nature of their condition, their personal traits, and their connections with healthcare providers (20). For the development of patient-centred hospitals and facilities, patients should be involved and recruited, e.g. patient and patient carers participation in education curriculum design. Patients, especially those diagnosed with chronic illnesses in particular can be excellent lecturers and their involvement has been linked to improved patient care and health outcomes (12).

Various methods assess patient involvement and recruitment in medical education, including the Cambridge Framework. The Cambridge framework serves as a tool for assessing patient engagement in the educational process, offering curriculum planners and educators a means to assess and oversee the degree to which patients actively participate. The objective of this framework is to establish a universal classification for patient safety concepts, ensuring consistency and coherence. The aim is to facilitate learning and enhance patient safety across diverse healthcare systems. It is important to emphasise that the conceptual framework of the International Classification for Patient Safety is not merely a classification system. Rather, it delineates a comprehensive information model designed to elucidate the epistemology of patient safety incidents (21). Even though patient involvement has been shown to have benefits, there are still issues and obstacles that must be resolved, including the low sensitivity of faculty and students on the importance of such clinical interactions and subsequent struggles in gaining resource support (22).

### **Patient involvement in the curriculum**

In recent years, the imperative for active patient involvement in medical education has gained increasing recognition, necessitating a re-evaluation of existing frameworks. The integration of patients into the medical curriculum has been a focal point, with a growing emphasis on evidence-based approaches aligned with Kirkpatrick's four-level hierarchy of learning evaluation: reaction, learning, behaviour, and results (23). Studies highlight the effectiveness of the Towle Taxonomy in categorising patient involvement, considering factors like encounter duration, patient autonomy, training, curriculum inclusion, and institutional commitment (24). This taxonomy serves as a systematic structure to delineate the diverse spectrum of patient engagement in medical education, providing a nuanced understanding of the multifaceted nature of this involvement (25).

Medical institutions are encouraged to adopt creative approaches to patient and public participation, tailoring strategies based on the specific type and intent of involvement. A critical aspect is the utilisation of diverse backgrounds and fields of knowledge from the local community, including traditionally hard-to-reach groups (26). Active participation, often requiring careful planning and instruction, should be delivered consistently, acknowledging the distinct presentations and insights that various patient types bring to the educational experience (26). Patients contribute significantly to medical education programs, enhancing not only case studies but also fostering a holistic, patient-centred perspective in care (27). Students express satisfaction with patient-led experiential learning, particularly in sessions addressing chronic diseases (28). The presence of a social assistant alongside medical professionals further facilitates patient comfort and engagement in the learning environment (29).

Problem-based learning emerges as an effective method for incorporating patients into formal teaching. Real patients prove to be potent stimuli in this context, eliminating organisational or ethical challenges (30). Innovative models, such as "The Patient-Centred Medical Home as Curricular Model," showcase early patient encounters under student supervision, promoting peer education in curricula (31). Another model suggests students following patients in their daily lives, fostering quality communication and emphasising patient-centredness in education (32). Assessment methods have also evolved to include patients in formative and summative evaluations. Environment-specific assessment tools, such as the mini-clinical evaluation exercise, direct observation of procedural skills, and case-based discussions, demonstrate promise in gauging progress when patients are involved subjectively (33,34). Patients can also play a role in high-stakes summative assessments, offering constructive criticism in exams like the final year objective structured clinical examination (OSCE) and contributing to the evaluation of study articles (35). While patients actively participate in planning, executing, and assessing educational programs, there remains a need for further research to objectively measure the impact of these methods (36,37).

### **Benefits of patient involvement**

All patients are involved in medical education to some degree even if it is only a passive role by providing their disease experience. Maximising this involvement is highly beneficial to both medical students and patients (13). Active patient involvement allows medical students to become better doctors as it equips them with vital skills such as communication skills, patient-centred care, and successful patient interactions. This can be achieved by allowing medical students to take on real-life clinical cases, in a real setting and with real patients. However, this process needs to assure patients' health, safety, and rights (38). On the patients' side, patient involvement remains beneficial due to the gratification of aiding in the medical education process as well as increasing the patients' information and awareness about their health condition. These patients are delighted to aid in medical education and believe it is an act of altruism (38).

Additionally, patients not only contribute to practical skill development in students but also to the development of student attitudes towards patients in a personal and professional manner (15). For example, some countries involved parents of children with developmental disabilities in teaching paediatric residents and medical students (25). Also, workshops run by professional adult actors with learning disabilities were designed to promote positive student attitudes towards these conditions (25). Other patient-teachers were people with AIDS, cancer, mental illness and cared for patients with dementia (25). Moreover, studies have shown that patient involvement increases learner satisfaction and improves communication skills in healthcare professionals. Many students comment on gaining new insights and confidence when they practise on patients who give feedback, and they mentioned that such training involving patients increases their understanding, skills, and experience of the disease (26). All this explains the benefits of patient involvement to the medical student (25).

Furthermore, medical education research is an area where the importance of patients' involvement is being shed light on for the first time. The goal is to advocate for the active involvement of patients in medical education research instead of only including patients as data sources and to push for doing research with patients instead of research being done to them (39). Some researchers include patients to make their research more relevant to patients concerning patient outcomes (39). However, others said they abstain from including patients as medical education research is not relevant to patients (39). Many researchers challenge this claim by stating that educating future doctors and their research will affect patients, more so for patients of academic healthcare centres that will deal directly with medical students (39). Patient involvement in medical education research can

benefit study priority setting, posing research questions, data collection and analysis, or dissemination efforts to make the research more patient-centred (39).

Finally, some medical education researchers include patients to abide by their respective research ethics board/institutional review board requirements and policies for patient involvement in medical research. On the one hand, it ensures patient involvement in medical education research. On the other hand, including patients just for the sake of following requirements may be redundant. In conclusion, patient involvement in medical education research should be done because researchers believe in it not just to follow procedure (39).

### **Patient safety**

It is important to ensure the safety of patients involved in medical courses. This requires clear guidelines, which, among other things, regulate informed consent, ensure that patients are fully informed, and set explicit boundaries to protect them from harm or exploitation (40). In addition, there is a need for fully trained patient educators who understand their responsibilities and respect patient privacy. Patient safety is a critical consideration in medical education, demanding urgent attention from all stakeholders (41). The literature highlights a significant discrepancy between the patient safety competencies healthcare professionals need in clinical practice and the current medical curricula (40).

Institutions should also establish effective communication channels and support mechanisms to address concerns arising during educational encounters. Ethical considerations, including respect for autonomy, beneficence, and non-maleficence, must guide institutions and educators in prioritising patient well-being throughout the educational process (42,43). Safeguarding patient information is fundamental to patient safety, and institutions must adopt robust measures to protect patient confidentiality and privacy (42). Regular monitoring and evaluation mechanisms should be in place to assess the impact of patient involvement on the educational process and patient well-being. Institutions should also promote diversity in patient representation and cultural sensitivity to create an equitable and respectful educational environment (42). Acknowledging the power dynamics in the student-patient relationship is crucial, and institutions must cultivate a culture of mutual respect and empower patients to express concerns or withdraw from educational activities without fear of repercussions (44). Emergency protocols must also be in place to ensure a swift and effective response in the rare event of unforeseen complications during educational encounters (43). Institutions must commit to continuous improvement by adopting policies and practices based on feedback, research findings, and emerging best practices (45). This commitment ensures that patient safety remains a dynamic and evolving consideration, including in the ever-changing landscape of medical education.

Medical students are considered crucial to upholding and promoting patient safety within the context of medical education. Their active involvement in patient safety initiatives contributes to a comprehensive and dynamic learning environment, fostering their own development and the patients' well-being (46). Medical students are on the frontline in implementing patient safety protocols, serving as key participants in ensuring patient safety. Hereby, hands-on experiences enable students to become familiar with the practical aspects of ensuring patient safety. This includes asking for informed consent, maintaining confidentiality, and coping with ethical dilemmas. These encounters empower students to apply theoretical knowledge to concrete situations and improve their risk assessment and mitigation skills (40). Moreover, medical students act as advocates for patient safety, actively participating in creating and maintaining a culture that prioritises the well-being of patients. They contribute fresh perspectives and innovative ideas to patient safety discussions, challenging existing norms and championing continuous improvement (42). By doing so, students become agents of change, influencing the institutional approach to patient safety and fostering a culture of vigilance and accountability (43).

In continuous monitoring and evaluation, medical students are crucial in providing feedback on patient safety practices. Their perspectives, gleaned from direct interactions with patients and educational encounters, offer valuable insights into the effectiveness of existing safety measures and areas for improvement. This feedback loop creates a dynamic system where students actively contribute to refining patient safety protocols based on their firsthand experiences (47). Furthermore, medical students act as ambassadors of patient safety principles within their peer groups (43). They are responsible for spreading knowledge, sharing best practice and raising awareness of patient safety among their colleagues. This peer-to-peer education enhances the collective sense

of responsibility for patient wellbeing and creates a culture in which patient safety is integrated into every aspect of medical practice (43).

### **Patient Involvement in Post-Pandemic Recovery**

Illness experiences of COVID-19 are often regarded as a minor. On the other hand, advanced ventilatory support—with or without ICU admission—might be necessary for patients whose conditions worsen. About 26–32% of all hospitalised patients with COVID-19 patients worldwide have needed to be admitted to the intensive care unit (48). Critical illness survivors of COVID-19 emphasise the need for a specialist, coordinated, and personalised recovery pathway (49). The suggestion for patient participation and collaborative decision-making in preoperative evaluation and optimization supports this (50). During the pandemic, higher education was presented with a huge number of challenges in terms of organising education in remote settings. These circumstances facilitated the emergence of new innovative ways of teaching and learning leading to the conclusion that higher education is more innovative and flexible than might have been imagined previously (8). While live interactions in digital settings present a bigger challenge than video or web-based interactions, addressing challenges in this area is crucial to ensure positive experiences for all involved parties (9). Some patients report being unable to access the necessary technology for online consultations (51).

The pandemic also brought an increase of telemedicine usage in the everyday life of patients and professionals. There are a lot of potential benefits in engaging medical students in telemedical activities when it comes to the quality of education as well as the effectiveness of the healthcare systems (52). When reimagining post-pandemic patient involvement in medical education we can separate our objectives in the teaching & learning part and utilising learners' part. Competencies developed through this kind of approach are utterly important in tackling new health challenges and the further implementation of telemedicine in the curricula for undergraduate medical education (53). There is still a gap in research when it comes to learners and patient perspectives on the effects of utilising digital tools to involve patients in medical education and future research is needed (54). Future teaching should enhance the role of patients and carers in medical education, supporting them to overcome potential remote barriers (9).

### **References**

1. WMA Statement on Medical Education – WMA – The World Medical Association [Internet]. [cited 2024 Jan 2]. Available from: <https://www.wma.net/policies-post/wma-statement-on-medical-education/>
2. Rowland P, MacKinnon KR, McNaughton N. Patient involvement in medical education: To what problem is engagement the solution? *Med Educ* [Internet]. 2021 Jan 1 [cited 2024 Jan 2];55(1):37–44. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/medu.14200>
3. Towle A, Farrell C, Gaines ME, Godolphin W, John G, Kline C, et al. The patient's voice in health and social care professional education: The vancouver statement. *Int J Heal Gov*. 2016 Mar 7;21(1):18–25.
4. O'Flynn N, Britten N. Does the achievement of medical identity limit the ability of primary care practitioners to be patient-centred?: A qualitative study. *Patient Educ Couns*. 2006 Jan 1;60(1):49–56.
5. Neumann M, Edelhauser F, Tauschel D, Fischer MR, Wirtz M, Woopen C, et al. Empathy decline and its reasons: a systematic review of studies with medical students and residents. *Acad Med* [Internet]. 2011;86(8):996–1009. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21670661>
6. Boelen C. Consensus Mondial sur la Responsabilité Sociale des Facultés de Médecine. *Sante Publique (Paris)* [Internet]. 2011 [cited 2024 Jan 2];23(3):247–50. Available from: <https://www.cairn.info/revue-sante-publique-2011-3-page-247.htm?contenu=article>



7. Karazivan P, Dumez V, Flora L, Pomey MP, Del Grande C, Ghadiri DP, et al. The patient-as-partner approach in health care: A conceptual framework for a necessary transition. *Acad Med* [Internet]. 2015 Apr 1 [cited 2024 Jan 2];90(4):437–41. Available from: [https://journals.lww.com/academicmedicine/fulltext/2015/04000/the\\_patient\\_as\\_partner\\_approach\\_in\\_health\\_care\\_\\_a.15.aspx](https://journals.lww.com/academicmedicine/fulltext/2015/04000/the_patient_as_partner_approach_in_health_care__a.15.aspx)
8. Major C. Innovations in Teaching and Learning during a Time of Crisis. *Innov High Educ* [Internet]. 2020 Aug 1 [cited 2024 Jan 2];45(4):265. Available from: </pmc/articles/PMC7270514/>
9. Lawes-Wickwar S, Lovat E, Alao A, Hamer-Hunt J, Yurtoglu N, Jensen C, et al. Digital undergraduate medical education and patient and carer involvement: a rapid systematic review of current practice. *BMC Med Educ* [Internet]. 2023 Dec 1 [cited 2024 Jan 2];23(1). Available from: </pmc/articles/PMC10185935/>
10. Salter RH. Learning from patients--unfashionable but effective. *Postgrad Med J* [Internet]. 1996 [cited 2024 Jan 2];72(849):385. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2398507/>
11. Dijk SW, Duijzer EJ, Wienold M. Role of active patient involvement in undergraduate medical education: a systematic review. *BMJ Open* [Internet]. 2020 Jul 1 [cited 2024 Jan 2];10(7):e037217. Available from: <https://bmjopen.bmj.com/content/10/7/e037217>
12. Szumacher E. Patients' Engagement in Medical Education. *J Cancer Educ* [Internet]. 2019 Mar 9 [cited 2024 Jan 2];34(2):203–4. Available from: <https://link.springer.com/article/10.1007/s13187-019-01496-4>
13. Jha V, Quinton ND, Bekker HL, Roberts TE. Strategies and interventions for the involvement of real patients in medical education: a systematic review. *Med Educ* [Internet]. 2009 Jan 1 [cited 2024 Jan 2];43(1):10–20. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2923.2008.03244.x>
14. Wahl O, Aroesty-Cohen E. Attitudes of mental health professionals about mental illness: a review of the recent literature. *J Community Psychol* [Internet]. 2010 Jan 1 [cited 2024 Jan 2];38(1):49–62. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1002/jcop.20351>
15. Coulby C, Jha V. The role of patient-led education initiatives in medical education. *Innov Entrep Heal* [Internet]. 2015 Jun 11 [cited 2024 Jan 2];2:33–40. Available from: [https://www.researchgate.net/publication/279282810\\_The\\_role\\_of\\_patient-led\\_education\\_initiatives\\_in\\_medical\\_education](https://www.researchgate.net/publication/279282810_The_role_of_patient-led_education_initiatives_in_medical_education)
16. Wykurz G. Patients in medical education: from passive participants to active partners. *Med Educ* [Internet]. 1999 Sep 1 [cited 2024 Jan 2];33(9):634–6. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2923.1999.00525.x>
17. Howe A, Anderson J. Involving patients in medical education. *BMJ* [Internet]. 2003 Aug 7 [cited 2024 Jan 2];327(7410):326–8. Available from: <https://www.bmj.com/content/327/7410/326>
18. Beedholm K, Frederiksen K. Patient involvement and institutional logics: A discussion paper. *Nurs Philos* [Internet]. 2019 Apr 1 [cited 2024 Jan 2];20(2):e12234. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/nup.12234>
19. Longtin Y, Sax H, Leape LL, Sheridan SE, Donaldson L, Pittet D. Patient Participation: Current Knowledge and Applicability to Patient Safety. *Mayo Clin Proc* [Internet]. 2010 Jan 1 [cited 2024 Jan 2];85(1):53–62. Available from: <http://www.mayoclinicproceedings.org/article/S002561961160311X/fulltext>

20. Thompson AGH. The meaning of patient involvement and participation in health care consultations: A taxonomy. *Soc Sci Med*. 2007 Mar 1;64(6):1297–310.
21. Spencer J, Blackmore D, Heard S, McCrorie P, McHaffie D, Scherpbier A, et al. Patient-oriented learning: a review of the role of the patient in the education of medical students. *Med Educ* [Internet]. 2000 Oct 5 [cited 2024 Jan 2];34(10):851–7. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1046/j.1365-2923.2000.00779.x>
22. Shrivastava S, Shrivastava P. Advocating active and meaningful involvement of patients in the delivery of medical education. *J Sci Soc* [Internet]. 2022 [cited 2024 Jan 2];49(3):251. Available from: [https://journals.lww.com/jsci/fulltext/2022/49030/advocating\\_active\\_and\\_meaningful\\_involvement\\_of.8.aspx](https://journals.lww.com/jsci/fulltext/2022/49030/advocating_active_and_meaningful_involvement_of.8.aspx)
23. Training Industry Magazine - March/April 2018 - Training Evaluation: It Doesn't Have to Be as Formal as You Think [Internet]. [cited 2024 Jan 2]. Available from: [https://www.nxtbook.com/nxtbooks/trainingindustry/tiq\\_20180304/index.php?startid=48#p/48](https://www.nxtbook.com/nxtbooks/trainingindustry/tiq_20180304/index.php?startid=48#p/48)
24. Yardley S, Dornan T. Kirkpatrick's levels and education 'evidence.' *Med Educ* [Internet]. 2012 Jan 1 [cited 2024 Jan 2];46(1):97–106. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2923.2011.04076.x>
25. Towle A, Bainbridge L, Godolphin W, Katz A, Kline C, Lown B, et al. Active patient involvement in the education of health professionals. *Med Educ* [Internet]. 2010 Jan 1 [cited 2024 Jan 2];44(1):64–74. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2923.2009.03530.x>
26. GMC. Patient and public involvement in undergraduate medical education Patient and public involvement in undergraduate medical education.
27. Gordon M, Gupta S, Thornton D, Reid M, Mallen E, Melling A. Patient/service user involvement in medical education: A best evidence medical education (BEME) systematic review: BEME Guide No. 58. *Med Teach* [Internet]. 2020 Jan 2 [cited 2024 Jan 2];42(1):4–16. Available from: <https://www.tandfonline.com/doi/abs/10.1080/0142159X.2019.1652731>
28. Henriksen AH, Ringsted C. Medical students' learning from patient-led teaching: Experiential versus biomedical knowledge. *Adv Heal Sci Educ* [Internet]. 2014 Mar 17 [cited 2024 Jan 2];19(1):7–17. Available from: <https://link.springer.com/article/10.1007/s10459-013-9454-8>
29. O'Keefe M, Jones A. Promoting lay participation in medical school curriculum development: lay and faculty perceptions. *Med Educ* [Internet]. 2007 Feb 1 [cited 2024 Jan 2];41(2):130–7. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2929.2006.02666.x>
30. Dammers J, Spencer J, Thomas M. Using real patients in problem-based learning: students' comments on the value of using real, as opposed to paper cases, in a problem-based learning module in general practice. *Med Educ* [Internet]. 2001 Jan 4 [cited 2024 Jan 2];35(1):27–34. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2923.2001.00841.x>
31. Henschen BL, Garcia P, Jacobson B, Ryan ER, Woods DM, Wayne DB, et al. The patient centered medical home as curricular model: Perceived impact of the "education-centered medical home." *J Gen Intern Med* [Internet]. 2013 Aug [cited 2024 Jan 2];28(8):1105–9. Available from: <https://www.scholars.northwestern.edu/en/publications/the-patient-centered-medical-home-as-curricular-model-perceived-i>

32. Grau Canét-Wittkamp C, Eijkelboom C, Mol S, Zwart D, Hendriks I, De Groot E. Fostering patient-centredness by following patients outside the clinical setting: an interview study. *BMC Med Educ* [Internet]. 2020 Jan 15 [cited 2024 Jan 2];20(1). Available from: [/pmc/articles/PMC6963999/](#)
33. Moulton A, McKinley RK, Yeates P. Understanding patient involvement in judging students' communication skills in OSCEs. *Med Teach* [Internet]. 2021 [cited 2024 Jan 2];43(9):1070–8. Available from: <https://www.tandfonline.com/doi/abs/10.1080/0142159X.2021.1915467>
34. Alomar AZ. Perception and Satisfaction of Undergraduate Medical Students of the Mini Clinical Evaluation Exercise Implementation in Orthopedic Outpatient Setting. *Adv Med Educ Pract* [Internet]. 2022 [cited 2024 Jan 2];13:1159. Available from: [/pmc/articles/PMC9514777/](#)
35. Thomson FC, MacKenzie RK, Anderson M, Denison AR, Currie GP. Incorporating patient partner scores into high stakes assessment: an observational study into opinions and attitudes. *BMC Med Educ* [Internet]. 2017 Nov 15 [cited 2024 Jan 2];17(1). Available from: [/pmc/articles/PMC5688703/](#)
36. Lyons O, Willcock H, Rees J, Archer J. Patient feedback for medical students. *Clin Teach* [Internet]. 2009 Dec 1 [cited 2024 Jan 2];6(4):254–8. Available from: <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1743-498X.2009.00308.x>
37. Miller A, Archer J. Impact of workplace based assessment on doctors' education and performance: a systematic review. *BMJ* [Internet]. 2010 Sep 24 [cited 2024 Jan 2];341(7775):710. Available from: <https://www.bmj.com/content/341/bmj.c5064>
38. Wijnen-Meijer M. Focus on patients in medical education. *GMS J Med Educ* [Internet]. 2021 [cited 2024 Jan 2];38(5). Available from: [/pmc/articles/PMC8256126/](#)
39. Moreau KA, Eady K, Heath SE. Patient Involvement in Medical Education Research: Results From an International Survey of Medical Education Researchers. <https://doi.org/10.1177/2374373520981484> [Internet]. 2021 Jan 13 [cited 2024 Jan 2];8. Available from: <https://journals.sagepub.com/doi/10.1177/2374373520981484>
40. Sánchez-García A, Saurín-Morán PJ, Carrillo I, Tella S, Pölluste K, Sruловичi E, et al. Patient safety topics, especially the second victim phenomenon, are neglected in undergraduate medical and nursing curricula in Europe: an online observational study. *BMC Nurs* [Internet]. 2023 Dec 1 [cited 2024 Jan 2];22(1). Available from: [/pmc/articles/PMC10464449/](#)
41. Hwang J, Kelz R. Impact of medical education on patient safety: finding the signal through the noise. *BMJ Qual Saf* [Internet]. 2023 Feb 1 [cited 2024 Jan 2];32(2):61–4. Available from: <https://qualitysafety.bmj.com/content/32/2/61>
42. Lee S, Roh HR, Kim M, Park JK. Evaluating medical students' ability to identify and report errors: finding gaps in patient safety education. *Med Educ Online* [Internet]. 2022 [cited 2024 Jan 2];27(1). Available from: [/pmc/articles/PMC8823682/](#)
43. Bajpai S, Lindeman B. The Trainee's Role in Patient Safety: Training Residents and Medical Students in Surgical Patient Safety. *Surg Clin North Am* [Internet]. 2021 Feb 1 [cited 2024 Jan 2];101(1):149. Available from: [/pmc/articles/PMC9005203/](#)
44. Suikkala A, Timonen L, Leino-Kilpi H, Katajisto J, Strandell-Laine C. Healthcare student-patient relationship and the quality of the clinical learning environment – a cross-sectional study. *BMC Med Educ* [Internet]. 2021 Dec 1 [cited 2024 Jan 2];21(1). Available from: [/pmc/articles/PMC8061060/](#)
45. Svitlica BB, Šajnović M, Simin D, Ivetić J, Milutinović D. Patient safety: Knowledge and attitudes of medical and nursing students: Cross-sectional study. *Nurse Educ Pract*. 2021 May 1;53:103089.

46. Rowland P, Anderson M, Kumagai AK, McMillan S, Sandhu VK, Langlois S. Patient involvement in health professionals' education: a meta-narrative review. *Adv Heal Sci Educ* [Internet]. 2019 Aug 1 [cited 2024 Jan 2];24(3):595–617. Available from: <https://link.springer.com/article/10.1007/s10459-018-9857-7>
47. Gillissen A, Kochanek T, Zupanic M, Ehlers J. Bad things can happen: Are medical students aware of patient centered care and safety? *Diagnosis* [Internet]. 2023 May 1 [cited 2024 Jan 2];10(2):110–20. Available from: <https://www.degruyter.com/document/doi/10.1515/dx-2022-0072/html>
48. Interim clinical guidance for management of patients with confirmed coronavirus disease (COVID-19) [Internet]. 2020 [cited 2024 Jan 2]. Available from: <https://stacks.cdc.gov/view/cdc/89980>
49. Bench S, Cherry H, Hodson M, James A, McGuinness N, Parker G, et al. Patients' perspectives of recovery after COVID-19 critical illness: An interview study. *Nurs Crit Care* [Internet]. 2023 Jul 1 [cited 2024 Jan 2];28(4):585–95. Available from: </pmc/articles/PMC9877659/>
50. McNally SA, El-Boghdadly K, Kua J, Moonesinghe SR. Preoperative assessment and optimisation: The key to good outcomes after the pandemic. *Br J Hosp Med*. 2021 Jun 2;82(6).
51. Greer B, Robotham D, Simblett S, Curtis H, Griffiths H, Wykes T. Digital Exclusion Among Mental Health Service Users: Qualitative Investigation. *J Med Internet Res* [Internet]. 2019 Jan 1 [cited 2024 Jan 2];21(1). Available from: </pmc/articles/PMC6329420/>
52. Muntz MD, Franco J, Ferguson CC, Ark TK, Kalet A. Telehealth and Medical Student Education in the Time of COVID-19—and Beyond. *Acad Med* [Internet]. 2021 Dec 1 [cited 2024 Jan 2];96(12):1655. Available from: </pmc/articles/PMC8603435/>
53. Waseh S, Dicker AP. Telemedicine Training in Undergraduate Medical Education: Mixed-Methods Review. *JMIR Med Educ* [Internet]. 2019 Jan 1 [cited 2024 Jan 2];5(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/30958269/>
54. Brown A, Kassam A, Paget M, Blades K, Mercia M, Kachra R. Exploring the global impact of the COVID-19 pandemic on medical education: an international cross-sectional study of medical learners. *Can Med Educ J* [Internet]. 2021 Mar 5 [cited 2024 Jan 2];12(3):28. Available from: </pmc/articles/PMC8263042/>