BMJ Open Learning about Inclusion Health in undergraduate medical education: a scoping review

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ABSTRACT

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Correspondence to Dr Gemma Ashwell; q.k.ashwell@leeds.ac.uk **Objectives** An Inclusion Health movement has gained momentum over the past decade, aiming to address the extreme health inequities faced by socially excluded groups (including people experiencing homelessness, problem substance use, Gypsy, Roma and Traveller communities, vulnerable migrants, sex workers, people in contact with the justice system and victims of modern slavery). Despite this progress, there is a lack of understanding of how the issues are being taught by medical schools. We conducted a scoping review to identify and analyse existing research about Inclusion Health content and pedagogy in undergraduate medical education.

Design A stepwise scoping review methodology was followed in accordance with the latest manual for evidence synthesis from Joanna Briggs Institute and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guidelines.
Data sources A search was undertaken across six bibliographic databases, and additional articles were found through citation and grey literature searching.
Eligibility criteria Primary research studies and evidence reviews from 2013 onwards were included. There were no restrictions on language.

Data extraction and synthesis Standardised methods were used to screen possible papers. A charting table was developed to record key information from the 74 papers included. Quantitative steps of the analysis included frequency counts of the extent, nature and distribution of the studies; this was followed by basic qualitative content analysis.

Results Most educational interventions were optional, or student led, with no longitudinal integration across curricula. There was little evidence of co-production with people with lived experience. Challenges included limited curricula time and faculty expertise, being an emotionally challenging subject, limitations of the biomedical model and informal learning perpetuating stigma. Key enablers included structured reflection, support, positive role models, interaction and co-production with people with lived experience, community partnerships and faculty commitment.

Conclusions Developments in undergraduate medical education are required to produce doctors equipped to meet the needs of socially excluded groups. We have summarised key aspects of the literature that will be useful to clinicians and educators in this endeavour.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This review used rigorous, systematic and transparent methods in keeping with the *JBI Manual for Evidence Synthesis* and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews Checklist.
- ⇒ To ensure that a comprehensive search of the literature was undertaken, the search strategy was developed with an experienced research librarian.
- ⇒ The review focused on a defined list of groups facing extreme health and social inequities under the umbrella term Inclusion Health; it has not therefore explored education on all forms of social exclusion.
- ⇒ The review was limited to primary research articles, and evidence syntheses focusing on undergraduate medical education, education initiatives focusing on other healthcare professions students and described in opinion pieces and non-research reports have not been included.
- ⇒ In keeping with scoping review guidance, no risk-ofbias assessment or advanced data synthesis techniques were undertaken; we were, therefore, unable to draw conclusions regarding the effectiveness of educational interventions.

Trial registration number A review protocol was preregistered in the Open Science Framework on 11 May 2023 and can be accessed at https://osf.io/6c2rk/.

INTRODUCTION Rationale

Inclusion Health is a term used to describe an approach to healthcare for "people who are socially excluded, typically experience multiple overlapping risk factors for poor health (such as poverty, violence and complex trauma), experience stigma and discrimination, and are not consistently accounted for in electronic records (such as healthcare databases)".¹ Consequently, these populations experience multiple morbidity, early mortality and extreme health inequities across a wide range of health conditions.² Amplifying these problems are numerous barriers to accessing healthcare,³ including

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discriminatory and stigmatising behaviour by healthcare professionals. $^{1} \ \ \,$

This review focuses on seven key groups encompassed within Inclusion Health¹⁴:

- People experiencing homelessness
- People with problem substance use
- ► Gypsy, Roma and Traveller communities
- ► Vulnerable migrants
- Sex workers
- People in contact with the justice system
- ► Victims of modern slavery

It is important to note that the concept of Inclusion Health embraces intersectionality between various forms of social exclusion faced by individuals along their life course¹⁵⁶; this approach allows healthcare professionals and educators to acknowledge the distinct experiences of different marginalised groups, while also addressing the commonalities of action that might be useful to meet people's needs.⁷

An Inclusion Health agenda has been gaining momentum over the past decade in the UK, aiming to bring attention to the consequences of extreme health and social inequity and the need for improved healthcare for marginalised groups.⁶ Despite this development, there is currently a lack of understanding about how Inclusion Health is considered, presented and learnt in undergraduate medical education. Some of what is known is cause for concern; recent research reported that lectures and mainstream placements were leaving students feeling unprepared to work with socially excluded groups.² Perhaps more concerningly, there is evidence suggesting that medical students develop increasingly negative attitudes towards people experiencing homelessness during the course of their training.^{9 10} Factors responsible for the decline in attitudes remain unclear, Inclusion Health being underdeveloped in medical school curricula could be contributing. The last review of Inclusion Health in education in the UK described a lack of recognition of the topic by regulatory bodies, leading to the risk that it is not routinely taught and assessed.¹¹

A preliminary search was conducted on Medline and psychINFO in April 2023, which suggested that there were no existing scoping reviews or systematic reviews exploring Inclusion Health in undergraduate medical education. Mapping the available literature aims to improve our understanding of the knowledge base and facilitate targeted research to inform future developments in undergraduate medical education on Inclusion Health.

Scoping review question

What is known about how Inclusion Health is learnt by medical students?

Subquestion

What terminology relating to Inclusion Health is used in medical education in different UK and international contexts?

Scoping review objectives

- ► To clarify the key concepts and definitions around Inclusion Health education in the literature
- ► To identify the types of available evidence and examine how research has been conducted in this field
- ► To identify the enablers and challenges in the learning of Inclusion Health in undergraduate medical education
- ► To identify the research gaps in education around Inclusion Health groups
- ► To inform further research on Inclusion Health teaching in medical education.

METHODS

This scoping review was conducted following the latest manual for evidence synthesis from Joanna Briggs Institute (JBI),¹² which encompasses the work of Arksey and O'Malley¹³ and Levac *et al.*¹⁴ The review adheres to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRIS-MA-ScR) reporting guidelines.¹⁵ A review protocol was preregistered and published in the Open Science Framework on 11 May 2023 and can be accessed at https://osf. io/6c2rk/.

Eligibility criteria

The published scoping review protocol for this study reported the intention to include primary research studies, editorials, commentaries, guidelines and consensus statements, with a timeframe to include literature from 2003 onwards and to include papers covering medical, nursing, dental and allied health professionals' education. These eligibility criteria required modification at the screening stage due to the high numbers of sources of evidence. To enable a balance between breadth and feasibility, the search was limited to primary research studies and evidence reviews from 2013 onwards, with a focus on undergraduate medical education only. With the aim of not excluding evidence from non-English-speaking countries, there were no restrictions on language.

Participants

Studies focusing on undergraduate (pre-licensing) medical students.

Concept

Studies that explore education relating to the seven key populations in the field of Inclusion Health. Alcohol dependence alone was not included due to the ubiquity and legality of alcohol use meaning that its use alone is less closely associated with social exclusion.

Context

Higher education courses for undergraduate medical students worldwide.

Search strategy

An initial pilot search of the database Medline was undertaken to identify articles on the topic. The text words contained in the title and abstract of the retrieved relevant papers and the subject headings were used to develop a full search strategy. A second search using all identified keywords and subject headings was then undertaken across the databases Medline, psychINFO, CINAHL, Scopus, Global Health and British Education Index (online supplemental appendix 1). The reference lists of articles identified from the full-text selection were also searched for additional sources using citation searching. A consultation with 10 experts involved in Inclusion Health education internationally was undertaken to identify sources of appropriate grey literature. Websites of the resulting key organisations, professional bodies and conference proceedings were searched using key words (online supplemental appendix 2). The search strategy was peer-reviewed and refined by a librarian at the University of Leeds. A record was kept of each database searched, the date it was searched and when the results were imported into EndNote (online supplemental appendix 3).

Selection of sources of evidence

Following the search, all identified citations were collated and uploaded into EndNote 20¹⁶ and duplicates removed. They were then uploaded to the web application Rayyan¹⁷ for selection by the reviewers. Titles and abstracts were screened by the lead author, and 20% of the papers were reviewed independently by the coauthors. Any disparities between the reviewers were solved by the decision of a third reviewer. To assess the eligibility of any non-English-language publications, Google Translate was used in this initial screening stage, and articles deemed eligible for full-text assessment were translated by professional translators.

Potentially relevant sources were then retrieved in full and uploaded to the software platform Covidence.¹⁸ The lead author screened the remaining full-text articles, and second reviewers independently reviewed 20% of the full-text articles, with any subsequent disparities resolved by a third reviewer. Reasons for exclusion of sources of evidence at the full-text stage were recorded and are reported in a flow chart developed from PRISMA¹⁵ (figure 1).

Data charting process

A charting table was developed using Covidence¹⁸ to record the key information from the sources of evidence, including country in which the study was conducted, the form of social exclusion focused on, terminology relating to Inclusion Health used, details of the educational interventions, challenges and enablers identified and research gaps noted (see online supplemental appendix 4 for full details). Two reviewers trialled the charting form on five sources to

ensure all relevant results were extracted. The lead author then charted the data.

Synthesis of results

In line with JBI guidance, the initial quantitative steps of the analysis included frequency counts of the extent, nature and distribution of the studies included in the review, which was followed by basic qualitative content analysis.¹⁹ This work was undertaken by the lead author, with any ambiguous items in data analysis identified and discussed between the review team.

Patient and public involvement

This review is the first stage of four planned papers comprising a PhD, and an advisory board including medical students and people with lived experience has been formed to make recommendations and guide the body of research. Later stages will focus on people with lived experience of social exclusion as both participants and as co-producers of the research.

RESULTS

Results and characteristics of individual sources of evidence

The full citations of the included papers and the extracted data are publicly available and linked to the Open Science Framework at https://osf.io/6c2rk.²⁰

Synthesis of results

Quantitative results

What terminology relating to Inclusion Health is used in medical education in different UK and international contexts?

The term Inclusion Health was only used in articles from the UK (n=2), three other terms were more commonly used internationally. The term 'Underserved' was used most (n=15), featuring in articles from the USA, Australia, Canada, South Africa and the Netherlands. 'Vulnerable' groups was the second most used term (n=6) and was included in papers from Canada, the UK and Italy. 'Marginalised' groups was also used (n=4) in research from Brazil and the USA.

Types of available evidence and how research has been conducted in this field

Most of the research was from the USA (n=41), the UK (n=12) and Canada (n=8). Research from Africa, Asia and South America was limited, with one paper from each region included.

In breaking down the research by specific Inclusion Health group, people with problem substance use were the most common focus (n=27), and there was only one paper on education relating to sex workers and no papers on education about Gypsy, Roma and Traveller communities.

Most of the studies were evaluating a specific educational intervention (n=51); 11 studies were curricula reviews, and 12 studies examined general education interventions such as an educational methodology or a



Figure 1 Selection of sources of evidence: Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 flow diagram for systematic reviews.¹⁵

variety of education strategies on one socially excluded group (table 1).

What is known about how Inclusion Health is learnt by medical students?

Only 4 educational interventions out of the 51 (8%) included used any form of co-production in the design or delivery of the education, 2 interventions involved co-production with students, ^{21 22} 1 involved co-production with people with lived experience²³ and 1 paper described co-production with both students and people with lived experience.²⁴ Where the information was recorded, 64% of the educational interventions were optional choices (n=29) and 36% (n=16) were compulsory for the students. Where the duration of the educational intervention was known, 79% (n=27) were either one-off events or less than 3 months in duration (table 2).

Qualitative analysis: challenges and enablers in the learning of Inclusion Health in undergraduate medical education

Four categories describing the challenges to Inclusion Health education were developed from the articles included in the review; limited time and faculty expertise; emotionally challenging subject; limitations of the biomedical model and assessment; and informal learning risks perpetuating stigma.

Limited time and faculty expertise

Multiple studies mentioned overloaded curricula with a lack of time available to cover topics related to Inclusion Health sufficiently.^{21 22 25–27} Several of the education initiatives included were voluntary options for students that were not scheduled into their timetables; as a result, there were challenges of avoiding clashes with other educational activities, coupled with a sense that such experiences would benefit more students and should be more widely available.^{21 28–33} Several papers also reported that limited faculty expertise, knowledge and confidence to deliver teaching on Inclusion Health were barriers to teaching this subject.^{25 34–36}

Emotionally challenging subject

Emotionally challenging aspects of learning about Inclusion Health were discussed widely within the included literature.^{31 37–43} Several studies reported the emotional challenges of working with vulnerable patient groups.

Table 1 Number of papers by country, Inclusion Health group and focus of the study											
Country	Number of papers	Inclusion Health group	Number of papers	Focus of the study	Number of papers						
The USA	41	Problem substance use	27	Evaluation of specific educational intervention	51						
The UK	12	Inclusion health in general	18	Curricula reviews	11						
Canada	8	People experiencing homelessness	10	General educational intervention	12						
Australia	2	Vulnerable migrants	9								
Ireland	2	People in contact with the justice system	5								
Italy	1	Victims of slavery	4								
The Netherlands	1	Sex workers	1								
South Africa	1										
Brazil	1										
Indonesia	1										
Greece	1										
International collaboration	3										

These included the risk of vicarious trauma when students are exposed to appalling patient stories,³¹ the difficult emotions involved when witnessing social injustices,³⁷ the challenges of learning about one's privilege³⁸ and the risk of moral injury in students observing patient care limited to what is achieved within the constraints of a system rather than according to best practice.³⁹

Some of the studies identified specific views of socially excluded groups held by medical students that were associated with fear and apprehension. These included concern about uncertainty inherent in the care of vulnerable groups,⁴⁰ worry that providing care for this patient group is often complicated,⁴¹ discomfort about the unpredictable behaviour of patients⁴² and the risk of feeling overwhelmed by patients with complex health needs.⁴³

An important point noted by some of the included studies was the acknowledgement that students themselves may have personal experiences of trauma that could render them more sensitised to the emotional challenges inherent in learning about inclusion health.^{37 39}

Limitations of the biomedical model and assessment

An issue recurring through the literature was the idea that medical students can lose sight of the individual patient and their social complexities due to a narrow focus on medical conditions and an emphasis on assessment and grades.^{27 35 39 40 44-46}

A dichotomisation between medical needs and social needs was noted.^{27 44 45} A Canadian study examined the content and framing of issues related to homelessness in case-based learning.⁴⁴ They described how cases concerning people experiencing homelessness focused on serious physical and mental health issues but lacked details about the individual's social context. Where social needs were mentioned, they describe a dichotomisation between medical needs being seen as the doctor's responsibility and social needs, which allied health professionals were responsible for. Similarly, a study in Ireland analysed problem-based learning (PBL) relating to social accountability in an undergraduate medical curriculum.²⁷ They

Table 2 Number of papers by education setting, educational method, duration and whether compulsory or optional									
Education setting	Number of papers	Educational method	Number of papers	Duration	Number of papers	Optional or compulsory	Number of papers		
Higher education institution	26	Placement/service learning	31	One-off event	10	Optional	29		
Primary or community care	25	Lecture	13	0–3 months	17	Compulsory	16		
Prison	4	Case based	8	3–6 months	3				
Secondary or hospital care	4	Role-play/simulation	6	6–12 months	2				
		Patient narratives	5	>12 months	2				
		Digital education	3						

reported that PBL cases overlooked social inclusion and social complexity in favour of a focus on medical conditions.

Several papers suggested that the current assessment strategy exacerbates the tendency for students to focus on biomedical knowledge at the expense of psychosocial issues.^{35 39 40} The difficulty of engaging students with topics that do not have significant weight in examinations or in placements that they perceive as less pertinent to their assessments was discussed.^{35 39}

Informal learning risks perpetuating stigma

Informal learning can be defined as a process of learning that is implicit, unintended and promoted through indirect teaching behaviours.⁴⁷ Several papers discussed the risks of medical students observing poor care, stigma and discrimination towards Inclusion Health groups during clinical placements.^{8 40 41 48-50} Two studies exploring education on problem substance use described how students having negative experiences or observing inadequate care could lead to them feeling less optimistic about providing care for this patient group and less likely to want to do so in their future careers.^{41 48} Observations of callous behaviour by healthcare professionals towards patients experiencing homelessness were reported to be a barrier to cultivating medical students' social empathy.⁴⁰ Similar outcomes were noted in a prison learning environment, where "a culture of explicit and implicit moral judgements about incarcerated patients was noted to have crept into the psyche of medical students".⁵⁰

Enablers for learning about inclusion health in undergraduate medical education

Factors from the included literature that enabled learning about Inclusion Health and helped overcome the many barriers discussed above were organised into six distinct categories: the use of reflection; support; positive role models; interaction with people with lived experience; co-production and community partnerships; and faculty commitment (figure 2).

Reflection

The importance of opportunities for structured personal reflection to mitigate against unintended learning and enhance student understanding around Inclusion Health was mentioned in multiple papers.^{37 40 43 44 50-53} In a prison environment, providing time to reflect on the ethical issues of care was recommended to counteract negative informal learning experiences.⁵⁰ Two studies exploring medical student placements working with refugees concluded that providing the experiential learning alone is insufficient, unless combined with mentored reflection.^{37 52} Structured formal reflection was also described as a key component in medical students' development of social responsibility and advocacy skills during a clinical experience in homeless healthcare.⁴³

Key Enablers



"Discussion" icon by Salman Azzumardi, "community" icon by Gan Khoon, "reflection" icon by bsd studio, "support" icon by Cuputo, "inspiration" icon by Creative Mahira, and "commitment" icon by c_ART_o from thenounproject.com. Figure 2 Enablers for learning about Inclusion Health in

undergraduate medical education.

Support

Different forms of supporting students were promoted across the literature as necessary tools when learning about Inclusion Health, particularly in dealing with the associated emotional challenges or combatting the negative experiences witnessed through informal learning. The importance of providing a supportive debrief with a supervisor to discuss any emotional concerns from the learning experience was reported in multiple studies.^{28 31 37-39 53} Creating a 'safe space' for learning where students are comfortable to engage in discussion, ask questions of supervisors and do not fear judgement was another important enabler identified in the literature.⁵⁴⁻⁵⁶ Mentoring was also mentioned by several studies as a valuable form of student support.^{24 48}

Positive role models

Multiple studies described the affirmative effects that are possible through student exposure to positive professional role models in Inclusion Health.^{39 45 53 57 58} Students noted the impact of senior clinicians who 'established a culture of compassion' or called out poor quality or disrespectful care and how this could encourage them to take action to address health inequities.⁵⁷ In a study exploring the challenges of learning in prison environments, students reported that having a supervisor who advocated for the patients and strove for quality care despite the

imposed limitations of the setting made the placement less stressful. $^{\rm 39}$

Interaction with people with lived experience

Active interaction with people with lived experience was the most frequently mentioned enabler in supporting learning about Inclusion Health. The format of the educational activity was described as less important than creating the opportunity for students to connect with people in a meaningful way.^{41 59 60} Several studies described the positive aspects of involving people with lived experience in classroom-based education sessions.^{8 23 61-63} Others described clinical experiences with socially excluded groups and suggested the benefits of authentic roles for students in patient care.^{29 32 33 35 45 50 52 59 64-68} A critical consideration in planning education involving people with lived experience is to ensure that learning opportunities are not invasive or exploitative to the individuals and communities involved.^{38 46}

Co-production and community partnerships

Co-production was recommended for the design and delivery of Inclusion Health education by several papers,^{21–23 27 30 38 42 69} but only a small number of the education initiatives included in the literature involved co-production.^{21–24} Where it was recommended, co-production involving people with lived experience was seen as a method of enhancing medical curricula to support local community needs and values.^{24 27}

Establishing partnerships between medical schools and local community organisations was a reported enabler in Inclusion Health education in several papers.²⁵ ²⁹ ³⁴ ³⁹ ⁶⁹ ⁷⁰ Such partnerships helped shape learning outcomes, learning materials and learning opportunities. It was noted that when working with community partners the relationships must be professional and empowering, with appropriate financial compensation and no form of exploitation.⁷⁰

Faculty commitment

It was noted in the literature that there needs to be faculty leadership and commitment to social accountability and addressing health inequities for other enabling factors to be possible. Faculty commitment supports learning objectives relating to Inclusion Health being explicitly reflected in undergraduate medical curricula and facilitates educators being employed with, or trained to have, the skills and knowledge to implement the curricula.^{27 50 63 71-73}

Research gaps

From the papers included in this review, we can see that two groups experiencing social exclusion are particularly under-represented in the literature: sex workers⁷⁰ (n=1) and Gypsy, Roma and Traveller communities (n=0). Only three studies included in this review explored digital education interventions in Inclusion Health,^{8 73 74} and only two studies explored education involving the arts.⁸⁷⁵

One of the key enablers in Inclusion Health education shown in this review is co-production of learning with people with lived experience; co-production also has the potential to improve the quality and relevance of research.⁷⁶ Only five studies in this review involved any form of collaboration between the researchers and end users of research, including people with lived experience^{23 24} and students.^{21 22 46} The voices and perspectives of socially excluded groups are traditionally less heard in health and education research, and this is an important gap.

DISCUSSION

Inclusion Health is a social justice movement aiming to improve the health of the most socially excluded members of society. It is a concept that has been gaining momentum, particularly in health service, research and policy developments.⁶ However, Inclusion Health is an emerging field within medical education, and this is the first scoping review on the subject. We have identified the use of varied terminology relating to Inclusion Health in different international contexts; this provides a challenge to creating both increased awareness of the topic and a dedicated space within international health professions education.

Previous evidence has proposed that Inclusion Health is poorly developed in undergraduate healthcare curricula and by education regulatory bodies.¹¹ This review adds weight to that suggestion, with evidence that most education initiatives in Inclusion Health are optional choices for medical students rather than a core part of the medical curricula. Furthermore, most education initiatives on this subject were either one-off events or less than 3 months in duration, with little evidence of longitudinal integration in courses.

This review has identified several categories of challenges to learning about Inclusion Health, which may help understand why this subject has been frequently overlooked. Enabling factors have also been identified, which we hope will help overcome the challenges and encourage education on Inclusion Health.

Overloaded curricula and a lack of time to cover the topic are not unique to Inclusion Health education; a recent editorial in the *Canadian Medical Education Journal* prescribes the need for medical schools to address "counter-productive curricular bloat that impedes the dynamic adoption of new material".⁷⁷

This review indicates that the challenge is further compounded by a struggle to fit Inclusion Health into curricula dominated by biomedical teaching, a lack of appropriately skilled educators and a lack of institutional support. These same challenges have been shown to affect the broader topic of public health in undergraduate medical education.⁷⁸⁷⁹

A more distinctive difficulty for education on Inclusion Health is the emotional challenge that this review has identified, including moral distress, risk of vicarious trauma and apprehension of the complexity of providing care for this group. A recent scoping review found that resource constraints, healthcare inequities and various forms of conflict, all factors relevant to Inclusion Health, contribute to moral distress among medical students.⁸⁰ The review did not suggest medical students avoid these situations, but proposed various forms of student support to attenuate moral distress.⁸⁰ Likewise, a recent study found that medical students feel ill-prepared for real-world clinical complexity, and rather than wanting to be shielded from this, students wanted enhanced opportunities for interacting with complex patients.⁸¹ Instead of omitting Inclusion Health education or shielding students from complexity, can more opportunities for well-supported, transformative experiential learning be created?

A related challenge not identified in this review but recently discussed by Burgess *et al* is how the political and philosophical ideology of the medical students themselves affects their emotional response and engagement with the subject.⁸² Students who see homelessness, drug addiction or poverty as consequences of moral failing on the part of the patient may contribute particular challenges to learning about Inclusion Health. This could be a useful avenue for further research.

A substantial challenge identified in this review was the threat of informal learning perpetuating stigma. Multiple papers discussed the risks of medical students observing poor care or callous and discriminatory behaviour by healthcare professionals towards groups experiencing social exclusion. Trauma perpetuated by healthcare professionals is one form of wider structural violence towards socially excluded groups, alongside systematic de-prioritisation and neglect,⁸³ all of which contribute to inequities in health. This review has highlighted student interaction with people with lived experience as a key enabler for reducing bias and prejudiced views. This is consistent with Intergroup Contact Theory, initially proposed by Allport in 1954 as a method to reduce prejudice through interpersonal contact between different racial groups.⁸⁴ Since then, hundreds of studies have shown the applicability of this theory to a wide range of groups, and a meta-analysis of 515 studies showed that greater intergroup contact typically corresponds with lower levels of prejudice.⁸⁵

Expanding beyond intergroup contact, many papers in this review recommended co-production with people with lived experience in the design and delivery of Inclusion Health education. Co-production can help with skills such as empathy and communication,⁸⁶ as well as redressing the disempowerment of people who have experienced social exclusion.

Methodological limitations

This study has several limitations. First, the scoping review focused on a defined list of groups facing extreme health and social inequities incorporated under the umbrella term of Inclusion Health.^{1 4} We recognise that there are many other socially excluded groups experiencing health inequities as well as stigma and discrimination by

healthcare professionals that were not included in this review. For example, LGBTQIA+ groups, minoritised ethnic groups, people with severe and enduring mental illness and people with disabilities. We also recognise that different forms of social exclusion often intersect during a person's life. Although it was beyond the scope of this review to explore education on all forms of social exclusion in undergraduate medical education, we hope that the findings contribute to the broader discussion.

Additionally, despite the focused definition of Inclusion Health used, the initial screening process produced more papers than could feasibly be analysed. The inclusion criteria were therefore modified to limit the review to primary research articles and evidence syntheses, to the last 10 rather than 20 years and to medical students rather than all health professions students as planned in the original protocol. Education initiatives described in opinion pieces and non-research reports, in papers prior to 2013 and that relate to wider health professions education that would also have contained relevant information were not therefore included.

Lastly, in keeping with scoping review guidance,¹⁹ no risk-of-bias assessment or advanced data synthesis techniques were undertaken; we were, therefore, unable to draw conclusions regarding the effectiveness of the educational interventions included.

CONCLUSION

This scoping review has explored the emerging field of Inclusion Health in undergraduate medical education. We have identified distinct challenges to learning about Inclusion Health that contribute to an understanding of the complexity of the subject and may help explain deficiencies in current medical education. We hope that by also categorising the key enablers to learning about Inclusion Health this review will encourage positive changes in undergraduate medical education. The review findings have implications for healthcare professionals involved in medical student placements to be aware of the risks of unintentionally perpetuating stigma and discrimination towards groups experiencing social exclusion. For medical educators, the review has summarised key features from the literature that can be used to develop learning on Inclusion Health. Perhaps the most important implications are for people in positions of leadership in undergraduate medical education, on whose commitment these changes rely.

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Contributors The research was conceived by all authors. GA undertook the screening, data charting, analysis and wrote the initial draft paper. AMR, AEW and LMP were involved as second reviewers in both stages of the screening; trialled

the data charting form; were involved in regular discussions and decision making during the analysis; and revised and approved the article. GA is the guarantor.

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REFERENCES

- 1 Public Health England. Inclusion health: applying all our health. 2021. Available: https://www.gov.uk/government/publications/inclusionhealth-applying-all-our-health/inclusion-health-applying-all-ourhealth
- 2 Aldridge RW, Story A, Hwang SW, *et al*. Morbidity and mortality in homeless individuals, prisoners, sex workers, and individuals with substance use disorders in high-income countries: a systematic review and meta-analysis. *The Lancet* 2018;391:241–50.
- 3 Elwell-Sutton T, Fok J, Albanese F, et al. Factors associated with access to care and healthcare utilization in the homeless population of England. J Public Health 2017;39:fdw008.
- 4 NHS England. A national framework for NHS action on inclusion health. 2023. Available: https://www.england.nhs.uk/long-read/anational-framework-for-nhs-action-on-inclusion-health/
- 5 Lankelly Chase Foundation. Hard edges: mapping severe and multiple disadvantage in England. 2015. Available: https:// lankellychase.org.uk/wp-content/uploads/2015/07/Hard-Edges-Mapping-SMD-2015.pdf
- 6 Luchenski S, Maguire N, Aldridge RW, et al. What works in inclusion health: overview of effective interventions for marginalised and excluded populations. *The Lancet* 2018;391:266–80.
- 7 Williamson AE. Inclusion health and missingness in health care: dig where you stand. Br J Gen Pract 2023;73:436–7.
- 8 Dixon H, Povall A, Ledger A, et al. Medical students' experiences of health inequalities and inclusion health education. *Clin Teach* 2021;18:529–34.
- 9 Masson N, Lester H. The attitudes of medical students towards homeless people: does medical school make a difference? *Med Educ* 2003;37:869–72.
- 10 Leaune E, Rey-Cadilhac V, Oufker S, et al. Medical students attitudes toward and intention to work with the underserved: a systematic review and meta-analysis. BMC Med Educ 2021;21:129.
- 11 Allied Health solutions Limited. Inclusion health: education and training for health professionals. 2015. Available: https://assets. publishing.service.gov.uk/media/5a7f4357ed915d74e622963b/ NIHB_-_Inclusion_Health_education__Executive_Summary_accs.pdf
- 12 Aromataris E, Lockwood C, Porritt K, et al. JBI manual for evidence synthesis. JBI, 2024. Available: https://doi.org/10.46658/JBIMES-24-01

- 13 Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol* 2005;8:19–32.
- 14 Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
- 15 Tricco AC, Lillie E, Zarin W, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med 2018;169:467–73.
- 16 Endnote [program]. EndNote 20 version. Philadelphia, PA Clarivate; 2020.
- 17 Ouzzani M, Hammady H, Fedorowicz Z, et al. Rayyan-a web and mobile app for systematic reviews. Syst Rev 2016;5:210.
- 18 Covidence systematic review software [program]. Melbourne, Australia Veritas Health Innovation.
- 19 Pollock D, Peters MDJ, Khalil H, *et al.* Recommendations for the extraction, analysis, and presentation of results in scoping reviews. *JBI Evidence Synthesis* 2023;21:520–32.
- 20 Ashwell GRA, Williamson A, Pope L. Learning about inclusion health in undergraduate medical education: a scoping review. Open Science Framework, 2025.
- 21 Alzeera M, Ward A. Involving medical students in the planning and delivery of a vaccination and health screening outreach clinic. *Educ Prim Care* 2022;33:113–9.
- 22 Gips J, Spiegel A, Norton A, et al. Health Care in the Age of Mass Incarceration: A Selective Course for Medical Students in Their Preclinical Years. MedEdPORTAL 2020;16:11014.
- 23 Player E, Gure-Klinke H, North S, et al. Humanising medicine: teaching on tri-morbidity using expert patient narratives in medical education. Educ Prim Care 2019;30:368–74.
- 24 Hashmi SS, Saad A, Leps C, et al. A student-led curriculum framework for homeless and vulnerably housed populations. BMC Med Educ 2020;20:232.
- 25 Metcalf EP, Selous C. Modern slavery response and recognition training. *Clin Teach* 2020;17:47–51.
- 26 Carlin-Menter SM, Malouin RA, WinklerPrins V, et al. Training Family Medicine Clerkship Students in Screening, Brief Intervention, and Referral to Treatment for Substance Use Disorders: A CERA Study. Fam Med 2016;48:618–23.
- 27 Kelly D, Hyde S, Abdalla ME. Mapping health, social and health system issues and applying a social accountability inventory to a problem based learning medical curriculum. *Med Educ Online* 2022;27:2016243.
- 28 Walsh D, Ashwell G, Traviss-Turner G, et al. Street Medics: An innovative learning opportunity for UK medical students in a primary care outreach setting. Educ Prim Care 2020;31:36–43.
- 29 Civitelli G, Liddo M, Mutta I, *et al.* A service-learning experience in a free medical centre for undocumented migrants and homeless people. *Arch Public Health* 2021;79:7.
- 30 Ayres R, Stevens S, Regan de Bere S. Getting real in the community: Evaluating the "making a difference" interdisciplinary social engagement project. *MedEdPublish* 2016;5:81.
- 31 Asgary R, Saenger P, Jophlin L, et al. Domestic Global Health: A Curriculum Teaching Medical Students to Evaluate Refugee Asylum Seekers and Torture Survivors. Teach Learn Med 2013;25:348–57.
- 32 Zeien J, Hanna J, Puracan J, et al. Improving health professionals' and learners' attitudes towards homeless individuals through streetbased outreach. *Health Educ J* 2021;80:961–73.
- 33 Modi A, Fascelli M, Daitch Z, et al. Evaluating the Relationship Between Participation in Student-Run Free Clinics and Changes in Empathy in Medical Students. J Prim Care Community Health 2017;8:122–6.
- 34 Brooks EM, Magee ML, Ryan M. 'Fostering transformative learning, self-reflexivity and medical citizenship through guided tours of disadvantaged neighborhoods'. *Med Educ Online* 2018;23:1537431.
- 35 Gruner D, Feinberg Y, Venables MJ, et al. An undergraduate medical education framework for refugee and migrant health: Curriculum development and conceptual approaches. BMC Med Educ 2022;22:374.
- 36 Moses TE, Moreno JL, Greenwald MK, et al. Developing and Validating An Opioid Overdose Prevention and Response Curriculum for Undergraduate Medical Education. Subst Abuse 2022;43:309–18.
- 37 Machado S, Servin AE, Rocha Jimenez T, et al. Field-based learning in global migrant health: An evaluation of student learning outcomes. Int J Health Promot Educ 2023;61:59–69.
- 38 Beavis ASW, Hojjati A, Kassam A, et al. What all students in healthcare training programs should learn to increase health equity: perspectives on postcolonialism and the health of Aboriginal Peoples in Canada. BMC Med Educ 2015;15:155.
- 39 Abbott PA, Brooker R, Hu W, et al. "I Just Had No Idea What It Was Like to Be in Prison and What Might Be Helpful": Educator and Learner Views on Clinical Placements in Correctional Health. Teach Learn Med 2020;32:259–70.

- 40 Wellbery C, Saunders PA, Kureshi S, et al. Medical Students' Empathy for Vulnerable Groups: Results From a Survey and Reflective Writing Assignment. Acad Med 2017;92:1709–14.
- 41 Liu E, Moumen M, Goforth J, *et al.* Characterizing the Impact of Clinical Exposure to Patients with Opioid Use Disorder on Medical Students' Perceptions of Stigma and Patient Care. *Teach Learn Med* 2023;35:128–42.
- 42 Rudrakumar S, Varshney N, Taylor RD. Medical student perspectives on substance misuse education in the medical undergraduate programme: a grounded theory approach. *BMC Med Educ* 2023;23:205.
- 43 Baribeau D, Ramji N, Slater M, et al. An advocacy experience for medical students. *Clin Teach* 2017;14:15–9.
- 44 To MJ, MacLeod A, Hwang SW. Homelessness in the Medical Curriculum: An Analysis of Case-Based Learning Content From One Canadian Medical School. *Teach Learn Med* 2016;28:35–40.
- 45 Cardoso FM, Campos G de S. Learning the clinic of social suffering: narratives of Internship in Primary Health Care. *Cien Saude Colet* 2020;25:1251–60.
- 46 Tsang J, Berger I, Kirubarajan A, et al. Evaluating of a pen-pal curriculum innovation: a novel tool to teach medical students empathy for homelessness. *MedEdPublish* 2021;10.
- 47 Cambridge University Press & Assessment Research Report. Formal, non-formal, and informal learning: what are they, and how can we research them? 2022. Available: https://www.cambridgeassessment. org.uk/Images/665425-formal-non-formal-and-informal-learningwhat-are-they-and-how-can-we-research-them-.pdf
- 48 Clark T, Camp ME, Sadler JZ. "He Bore it Like a Scarlet Letter": Medical Student Reflections on Substance Use Disorders. Acad Psychiatry 2020;44:122–8.
- 49 Wellbery C, Barjasteh T, Korostyshevskiy V. Medical students' individual and social empathy: A follow-up study. *Med Teach* 2019;41:656–61.
- 50 Hashmi AH, Bennett AM, Tajuddin NN, *et al.* Qualitative exploration of the medical learner's journey into correctional health care at an academic medical center and its implications for medical education. *Adv Health Sci Educ Theory Pract* 2021;26:489–511.
- 51 Mullen K, Smith I. Medical Students' Attitudes towards the Addictions. *MedEdPublish* 2016;5:11.
- 52 Qua K, Gullett H, Wilson-Delfosse A, *et al.* Early Medical Students' Experiences as System Navigators: Results of a Qualitative Study. *J Gen Intern Med* 2022;37:1155–60.
- 53 Brooker R, Hu W, Reath J, *et al.* Medical student experiences in prison health services and social cognitive career choice: a qualitative study. *BMC Med Educ* 2018;18:3.
- 54 Johnston D, McInerney P, Moch S. Learning experiences of medical and pharmacy students at a student-run clinic in south africa and the development of a framework for learning. *Educ Health* 2020;33:87.
- 55 Song AY, Poythress EL, Bocchini CE, *et al.* Reorienting Orientation: Introducing the Social Determinants of Health to First-Year Medical Students. *MedEdPORTAL* 2018;14:10752.
- 56 Brennan EF, Markopoulos A, Rodriguez J, et al. Addressing a Gap in Medical School Training: Identifying and Caring for Human Trafficking Survivors Using Trauma-Informed Care. *MedEdPORTAL* 2023;19:11304.
- 57 Glaser J, Pfeffinger A, Quan J, *et al.* Medical Students' Perceptions of and Responses to Health Care Disparities During Clinical Clerkships. *Acad Med* 2019;94:1190–6.
- 58 Cantone RE. Why medical students need addictions training. *Med* Teach 2018;40:421–2.
- 59 Suresh A, Wighton NM, Sorensen TE, et al. A hybrid educational approach to service learning: impact on student attitudes and readiness in working with medically underserved communities. *Med Educ Online* 2022;27:2122106.
- 60 Fitzgerald SN, Leslie KF, Simpson R, et al. Culturally Effective Care for Refugee Populations: Interprofessional, Interactive Case Studies. MedEdPORTAL 2018;14:10668.
- 61 Monteiro K, Dumenco L, Collins S, et al. An interprofessional education workshop to develop health professional student opioid misuse knowledge, attitudes, and skills. J Am Pharm Assoc (2003) 2017;57:S113–7.
- 62 Dixon EL, Strehlow AJ, Davis CM, et al. Generating science by training future scholars in nursing research addressing the needs of vulnerable populations. Annu Rev Nurs Res 2007;25:161–87.

- 63 Muzyk A, Smothers ZPW, Akrobetu D, et al. Substance Use Disorder Education in Medical Schools: A Scoping Review. Acad Med 2019;94:1825–34.
- 64 Adams J, Ari M, Cleeves M, et al. Reflective Writing as a Window on Medical Students' Professional Identity Development in a Longitudinal Integrated Clerkship. Teach Learn Med 2020;32:117–25.
- 65 Arslan S, Dinç L. Nursing students' perceptions of faculty members' ethical/unethical attitudes. *Nurs Ethics* 2017;24:789–801.
- 66 Mercadante SF, Goldberg LA, Divakaruni VL, et al. Impact of Student-Run Clinics on Students' Attitudes Toward People Experiencing Homelessness. *PRiMER* 2021;5:19.
- 67 Johnston D, McInerney P, Miot J. Volunteering, health and the homeless - the cost of establishing a student-run primary healthcare clinic serving the inner-city homeless in South Africa. *BMC Health Serv Res* 2020;20:202.
- 68 Schutte T, Tichelaar J, Dekker RS, et al. Learning in student-run clinics: a systematic review. Med Educ 2015;49:249–63.
- 69 Rashid M, Cervantes AD, Goez H. Refugee Health Curriculum in Undergraduate Medical Education (UME): A Scoping Review. *Teach Learn Med* 2020;32:476–85.
- 70 Weber LC, Ortega JC, Bastea S, et al. Women Leading Healthy Change: A Reciprocal Learning Experience for Women in the Sex Trade and Medical Students. *MedEdPORTAL* 2021;17:11154.
- 71 Armaos R, Tsiboukli A. Medical students' training needs and attitudes on substance abuse: implications for medical education in Greece. *Drugs: Educ Prev Policy* 2019;26:508–16.
- 72 Arulrajah P, Steele S. UK medical education on human trafficking: assessing uptake of the opportunity to shape awareness, safeguarding and referral in the curriculum. *BMC Med Educ* 2018;18:137.
- 73 Gainey S, Muzzy W, Dooley M, et al. Outcomes and lessons learned from an interprofessional student training program in Screening, Brief Intervention, and Referral to Treatment (SBIRT) at an academic health sciences center. *Nurse Educ Today* 2022;111:105323.
- 74 Zerbo E, Traba C, Matthew P, *et al.* DATA 2000 Waiver Training for Medical Students: Lessons Learned from a Medical School Experience. *Subst Abuse* 2020;41:463–7.
- 75 Bernhardt LJ, Lin S, Swegman C, et al. The Refugee Health Partnership: A Longitudinal Experiential Medical Student Curriculum in Refugee/Asylee Health. Acad Med 2019;94:544–9.
- 76 Greenhalgh T, Hinton L, Finlay T, et al. Frameworks for supporting patient and public involvement in research: Systematic review and co-design pilot. *Health Expect* 2019;22:785–801.
- 77 Slavin S, D'Eon MF. Overcrowded curriculum is an impediment to change (Part B). *Can Med Educ J* 2021;12:1–5.
- 78 Lyon AK, Hothersall EJ, Gillam S. Teaching public health in UK medical schools: "things have improved: teaching no longer feels like an expensive hobby". J Public Health (Oxf) 2016;38:e309–15.
- 79 Abdul Kadir N, Schütze H. Medical educators' perspectives on the barriers and enablers of teaching public health in the undergraduate medical schools: a systematic review. *Glob Health Action* 2022;15:2106052.
- 80 Ong RSR, Wong RSM, Chee RCH, et al. A systematic scoping review moral distress amongst medical students. BMC Med Educ 2022;22:466.
- 81 Bezzina C, McQuade R, Lowe W, et al. Shattering the Shield: Embracing Complexity in Undergraduate Medical Education. *Clin* Teach 2025;22:e70018.
- 82 Burgess DJ, Hardeman RR, Burke SE, et al. Incoming Medical Students' Political Orientation Affects Outcomes Related to Care of Marginalized Groups: Results from the Medical Student CHANGES Study. J Health Polit Policy Law 2019;44:113–46.
- 83 Anchuri K, Jacox N, Andreychuk T, et al. Structural Violence Education: A Critical Moment for Psychiatric Training. Can J Psychiatry 2021;66:785–7.
- 84 Allport G. The nature of prejudice reading addison wesley. 1954.
- 85 Pettigrew TF, Tropp LR. A meta-analytic test of intergroup contact theory. J Pers Soc Psychol 2006;90:751–83.
- 86 O'Connor S, Zhang M, Trout KK, *et al.* Co-production in nursing and midwifery education: A systematic review of the literature. *Nurse Educ Today* 2021;102:104900.