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Exploring strategies, programs, and influencing factors for integrating social accountability into undergraduate medical education: a scoping review

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Abstract

Background Social accountability (SA) measures institutional responses to societal needs. For medical education to be socially accountable, institutions must be equitably accessible and commit to training physicians who can work with communities to address health disparities. This scoping review aimed to explore the integration of social accountability into undergraduate medical education and examine the various ways it is implemented.

Methods The authors searched PubMed, OVID Medline, CINAHL, ERIC and Scopus electronic databases for articles published between January 1995 and June 2023 to explore how SA is integrated into undergraduate medical education. The enhanced version of Arksey's and O'Malley's six-stage protocol was used. Analysis was done using the thematic analysis approach.

Results Eight hundred twenty-six articles were retrieved in the preliminary search. After the screening, 17 articles were included for final review. From the findings, three thematic areas were derived, which included strategies applied in incorporating SA into undergraduate medical education, factors influencing the adoption of SA into undergraduate medical education, and programmes used to translate SA into undergraduate medical education.

Conclusion This scoping review provides a comprehensive overview of the strategies, programs, and influencing factors related to the integration of social accountability into undergraduate medical education. The implementation of SA in undergraduate medical education is still very slow across the globe, there is an urgent need for a continued push towards making medical schools socially accountable.

Keywords Social accountability, Undergraduate medical education, Medical schools, Globally

Introduction

Social accountability (SA) of medical schools has been described as the obligation of medical institutions to direct their education, research, and service activities toward addressing the priority health needs and concerns of the community, region, and/or nation they are obligated to [1]. For a medical institution to be socially accountable, it ought to commit to training graduates who can work collaboratively with communities,

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governments, health systems and the public to address health disparities and contribute to adapting the health systems to meet the health needs of the community [2].

What society expects of a medical school is primarily determined by the public, the government, health professionals, researchers in medical education and other key players in health education. One of the strategies for expanding the range of settings in which medical education programmes are conducted is to encourage and facilitate cooperation with key stakeholders in the development of policies and programmes [2–5]. Placing medical students in a community setting as part of the curriculum is not a sufficient response to the challenges of SA in medical education. A comprehensive strategy is needed to provide a holistic response to the community's health needs, with a particular focus on underserved populations [6]. Such a strategy would comprise education activities (including community-related activities) across the continuum from undergraduate medical education to residency (postgraduate training), clinical services that include clinical outreach activities as well as a commitment to producing the appropriate mix of general practitioners and specialists to serve the local community; a research component which consists of university faculty, community members, stakeholders and other partners in addressing research questions that are formulated in consultation with the community that the medical school is expected to serve [3, 7–9].

In a previous systematic review conducted in 2017 [10], they emphasized the effectiveness of certain strategies employed by medical schools to integrate social accountability. These strategies included longitudinal placements in underserved areas with a service-learning approach, equitable admission processes, and mandatory extended placements in rural communities. In a more recent study conducted by Taha et al. (2022), the focus was specifically on the implementation of social accountability in medical schools within the Eastern Mediterranean Region (EMR) [11]. While there have been some efforts to advocate for the integration of social accountability in medical education, further investigation is required to precisely examine specific approaches, programs and identify the enablers and barriers associated with integrating social accountability into health professions education. Therefore, this scoping review aimed to explore the integration of social accountability into undergraduate medical education and examine the various ways it is implemented.

Methods

A scoping review was conducted in accordance with the six-stage protocol developed by Arksey and O'Malley [12] (2005). The review process involved the identification of the research question, selection of relevant

studies, specific study selection, data charting, summarization, synthesis, and reporting of the findings, as well as seeking consultation. To enhance the rigour of the review, modified criteria proposed by Levac et al. (2010) [13] and Westphaln et al. (2021) [14] were integrated into each stage of the Arksey and O'Malley framework. Furthermore, adherence to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) checklist was used to ensure comprehensive coverage of all essential elements specific to scoping reviews [15].

i. Formulation of the research question

The definition of social accountability utilized in this study draws upon the World Health Organization's definition [1]. It serves as the foundation for investigating the integration of social accountability into undergraduate medical education. The authors collectively employ this definition to address various aspects, including the ways to integrate social accountability into medical education and the programs used, the research questions were:

- (1) How is social accountability integrated into medical education today?
- (2) What are the reported approaches, strategies and programs used to integrate social accountability into medical education?
- (3) What are the enablers and barriers to integrating social accountability into medical education?

ii. Identification of relevant studies, including the data sources and search strategy

The identification of relevant studies was carried out collaboratively, involving the active participation of all authors in the process. Electronic database searches were conducted in PubMed, OVID Medline, CINAHL, ERIC and Scopus for the articles published between January 1995 and June 2023. Individual search strategies were developed for each database (Table 1). Manual hand searching was conducted to ensure the comprehensive inclusion of relevant studies that may have been missed through indexing, and experts in the field were contacted. These additional strategies were employed by the authors to augment the search process. The search keyword selection encompassed ("social accountability" OR "social responsibility" AND "undergraduate" OR "medical school" OR "college of medicine" AND "medical education" OR "curricula*" OR "educational program" OR "syllabus" OR "training" OR "clinical competency" AND "approaches" OR "strategies" OR "enablers factors" The search strategy was comprehensive to include the diversity of the potential facets of socially

Table 1 Search strategy

SEARCH STRATEGY	
1. SCOPUS	
(TITLE-ABS-KEY ("social accountability" OR "social responsibility") AND TITLE-ABS-KEY (undergraduate OR "medical school" OR "college of medicine" OR "medical schools") AND TITLE-ABS-KEY ("medical education" OR curricula OR "educational programme" OR training OR "clinical competency")) AND PUBYEAR > 1995 AND PUBYEAR < 2023	
2. PubMed	
7	#1 AND #2 AND #5
6	#1 AND #2 AND #5
5	"medical education" OR curricula OR "educational programme" OR training OR "clinical competency"
2	undergraduate OR "medical school" OR "college of medicine" OR "medical schools"
1	"social accountability" OR "social responsibility"
3. ERIC	
AB ("social accountability" OR "social responsibility") AND TX (undergraduate OR "medical school" OR "college of medicine" OR "medical schools") AND TX ("medical education" OR curricula OR "educational programme" OR training OR "clinical competency"	
4. OVID	
3. exp *Social Responsibility/ or Social Responsibility.mp.	
4. exp *Education, Medical, Undergraduate/ or Education, Medical, Undergraduate.mp.	
5. exp *Schools, Medical/ or Schools, Medical.mp.	
6. exp *Curriculum/ or Curriculum.mp.	
7. exp *Clinical Competence/ or Clinical Competence.mp.	
8. 4 OR 5	
9. 6 OR 7	
10. 3 AND 8 AND 9	
5. CINAHL	
AB ("social accountability" OR "social responsibility") AND TX (undergraduate OR "medical school" OR "college of medicine" OR "medical schools") AND TX ("medical education" OR curricula OR "educational programme" OR training OR "clinical competency"	

accountable undergraduate medical education. The PRISMA-ScR guidelines [15, 16] were followed, and the study population included medical schools. " The quality of the included articles in this scoping review was appraised using the Medical Education Research Study Quality Instrument (MERSQI) [17].

iii. Study selection

The screening process consisted of three stages: title screening, abstract screening, and full-text screening. Title screening was conducted by DO and NN, using specific inclusion criteria for the title, which were as follows: (1) The title was written in English, (2) The title emphasized the concept of SA, and (3) The title pertained to medical education, medical school, nursing school or other health sciences school.

A preliminary search was conducted across five databases: CINAHL, PubMed, OVID, ERIC, and Scopus. The identified articles were imported into Mendeley reference manager software for the removal of duplicates. Subsequently, the articles were imported into the Rayyan software for the screening process. The subsequent step involved a comprehensive examination of the articles that met the inclusion criteria. Additionally, a manual search through the references cited in the included articles was undertaken.

iv. Charting the data

The authors developed a comprehensive data extraction form, encompassing essential elements such as author(s), year of publication, study aims, study design, findings, conclusion, and Medical Education Research Study Quality Instrument (MERSQI) scores [18]. During the data charting phase, DO and NN extracted information from each article, while another researcher cross-evaluated the extracted data to ensure accuracy and completeness. When conflicting information arose, the entire team collaborated to reassess the data, engaging in discussions to achieve consensus and resolve discrepancies.

The selection of relevant articles for the current study was conducted in three phases. Duplicate records were eliminated using Mendeley Referencing software [19], and the remaining references were imported into Rayyan, a web-based tool designed to expedite the screening of article abstracts and titles [20]. Title and abstract screening were performed without imposing restrictions on publication dates, populations, or study locations, focusing solely on content relevance. Following this step, a further screening was conducted applying the final inclusion criteria. Lastly, full-text screening was carried out by two reviewers (DO & NN), and any disagreements were resolved through consensus. The included articles

encompassed those in which social accountability was incorporated into the undergraduate medical education curriculum. The study specifically included articles published in English between January 1995 and June 2023, while posters and conference proceedings were excluded from the analysis.

xxii. Collating, summarizing, and reporting results

Based on the recommendation by Westphaln et al. (2021) [14], a mixed methods approach incorporating descriptive statistics and thematic analysis was employed to analyse the extracted data. This comprehensive approach allowed for a more robust examination of the data and provided a deeper understanding of the integration of social accountability in medical education. Descriptive statistics were used to compile relevant information on the types of articles, study design, and geographical distribution. This quantitative analysis provided a quantitative overview of the included studies, offering insights into their characteristics and distribution across different contexts. Furthermore, a thematic analysis was conducted to identify and explore the underlying themes and patterns within the articles. This qualitative analysis method enabled a comprehensive exploration of the integration of social accountability in medical education, capturing the nuances and complexities of the topic.

The abstracted text from all the selected articles was categorized, reviewed, and edited for data accuracy corresponding to the specific study objectives. The agreed-upon text from each article was selected and assigned into relevant categories. After scrutiny, any data deemed inadequate was excluded, and disagreements were resolved by consensus.

To ensure the trustworthiness of the thematic analysis, the process was independently carried out by three researchers: the first author (ME), the second author (MT), and the last author (DO). This approach of involving multiple researchers enhances the trustworthiness of the analysis as it allows for diverse perspectives and reduces the potential for bias or individual interpretation. By independently conducting the analysis, the researchers can cross-validate their findings and ensure the robustness of the thematic analysis conducted in this study.

vi. Consultation

Two Experts in the field of SA in Medical Education who have published several articles on SA, social accountability frameworks and models in different region across the world were consulted during article selection. The thematic analysis data was triangulated with experts in SA in medical education and evaluated, renamed, and recategorized accordingly.

Quality assurance

The Medical Education Research Study Quality Instrument (MERSQI) [17] is a tool that evaluates the quality of articles in medical education research. It consists of 10 criteria that assess various aspects of study quality, such as study design, sampling, data analysis, validity, and educational outcomes. The MERSQI provides a standardized and systematic approach to assess the quality of medical education research studies.

By employing the MERSQI criteria in this scoping review, the included articles undergo thorough evaluation to ensure they meet rigorous standards in terms of study design, methodology, and reporting. This rigorous assessment helps to enhance the credibility and reliability of the findings and conclusions drawn from the scoping review, thus providing a more robust and trustworthy analysis of the research landscape in medical education.

Ethical Approval

Ethical approval was not sought since there was no primary data collection.

Results

Selecting the sources of evidence

A total of 826 articles were selected from these databases CINAL ($n=100$), PubMed ($n=74$), OVID ($n=112$), ERIC ($n=91$), and Scopus ($n=449$). These articles were exported into Mendeley reference manager software to remove duplicates (Fig. 1). Four duplicates were removed, and the remaining 822 articles were uploaded into the Rayyan software for screening. In the initial title and abstract screening step, a further 768 articles were removed upon applying exclusion criteria (irrelevant articles/ not related to SA $n=302$, Postgraduate articles $n=54$, articles not medical related $n=78$, article related to: dental $n=34$, nursing $n=13$, COVID-19 $n=13$, and other disciplines $n=274$), and only 54 articles met the inclusion criteria (the included articles are those that were discussing the integration of SA into undergraduate medical education). The next step was a complete examination of the 54 articles that met the inclusion criteria and focused on SA in undergraduate medical education. In this step, 38 articles were removed as they did not focus on integrating SA into undergraduate medical education. The remaining 16 articles that met the inclusion criteria were included in the study. A hand search through the references of the 16 articles produced another two studies, but only one study was deemed eligible for inclusion. The final number of articles included in the final review was 17.

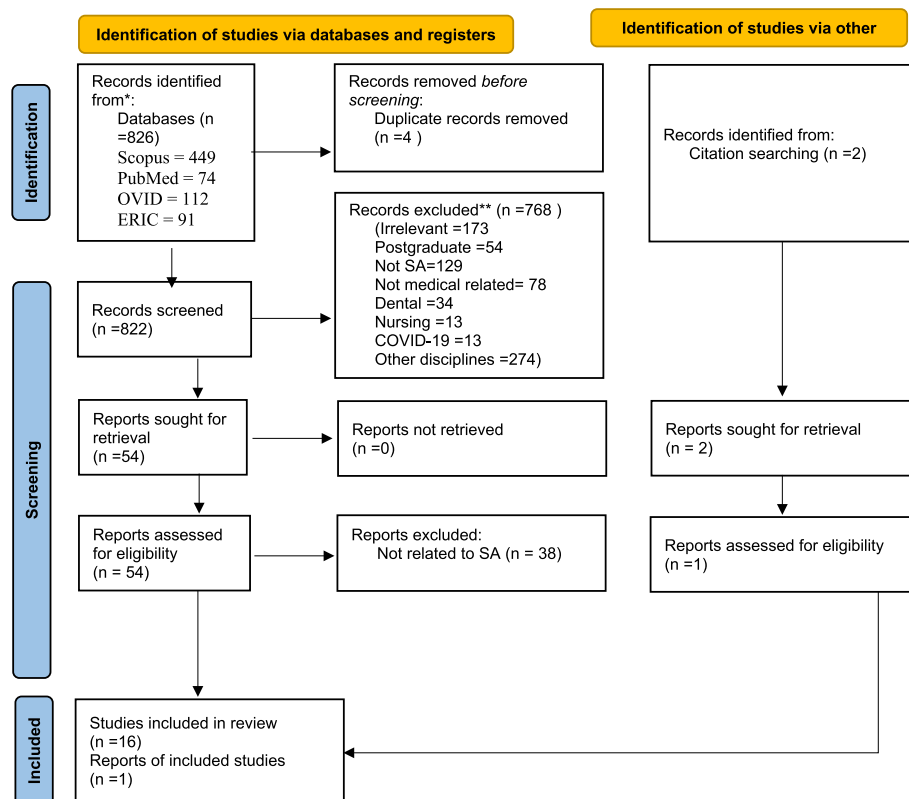


Fig. 1 PRISMA flow diagram

Table 2 Characteristics of included studies. Three studies were conducted in more than one country

Country	Number of Studies	Percentage (%)
Canada	5	21.7%
Australia	4	17.4%
USA	2	17.4%
Philippines	2	8.7%
South Africa	2	8.7%
Iran	1	4.3%
Israel & UK	1	4.3%
Korea	1	4.3%
New Zealand	1	4.3%
Uganda	1	4.3%

Characteristics of the included studies

Table 2 provides an overview of the included studies, highlighting their characteristics in terms of country and study design. The analysis included a total of 17 studies (with three studies being undertaken in multiple countries), demonstrating a diverse distribution across countries and study designs. Notably, Canada had the highest number of studies, with 5 studies (21.7% %), followed by Australia with 4 studies (17.4%) and the USA,

South Africa and the Philippines with 2 studies each (8.7%). Other countries such as Sudan, Iran, Israel and the United Kingdom, Korea, New Zealand, Uganda, and Belgium also contributed to the study pool with 1 or 2 studies each.

The studies employed different research designs to explore the integration of social accountability (SA) into medical education. Among the selected studies, qualitative and mixed-method approaches were used in 6 studies each (35.2%), and cross-sectional/quantitative approaches were used in five studies each (29.4%) (Table 2). The varied study designs allowed for a comprehensive examination of the topic from multiple perspectives, thereby enhancing the richness of the findings. The quality of all the included studies was assessed using MERSQI, and on average they scored 10.5, which is a good quality score as per the MERSQI guidelines [17].

Results of the thematic areas generated

A total of three themes were generated from the reviewed literature. The themes include: (i) Programmes used to inculcate SA into undergraduate medical education [21–28], (ii) Strategies used in incorporating SA into undergraduate medical education [29–34] and (iii) Factors

influencing the integration of SA into undergraduate medical education [28, 35–37].

Summary of the three thematic areas

1. Approaches and Programmes used to inculcate SA into undergraduate medical education

Seven medical schools had introduced programmes that were aimed at enhancing medical students' understanding of SA (Table 3). At Flinders University, South Australia, an urban community-based medical education programme was introduced. This programme aimed to enable medical students to apply their knowledge, empathy, communication, and leadership skills in a setting outside the usual healthcare context and develop an awareness of the inequalities and challenges some adolescents face [38]. At the University of British Columbia, undergraduate medical students engaged in prison health community service-learning opportunities in regional correctional facilities. The exposure to incarcerated populations increased the students' insight into issues that diverse marginalized sub-populations encounter. The pre-clinical exposure to incarcerated individuals and prison health education provided a unique setting for medical students to develop an increased sense of SA [23].

Another programme used across Australia, Canada and the USA was the use of an arts-integrated workshop across the four medical schools to collect insights about compassion and SA. Compassion writing groups were formed to develop a biological-historical-anthropological framework. It was reported that the two concepts (compassion and social accountability) are expressions of the same ethical necessity. While the SA expresses the necessity from an institutional perspective; compassion humanizes institutional policy by engaging sympathy and care [21]. At the University of KwaZulu-Natal in Durban, a community service activity programme called Making a Difference (MaD), which was part of the 1st year medical curriculum aimed at making medical students more responsible, responsive, and accountable to community needs by engaging small groups of students with organisations that serve the local disadvantaged communities. Students spend 16 hours in appropriate community service. The programme emphasises the importance of community-based learning in medical education to create greater awareness of health inequalities and promote socially accountable healthcare professionals [27].

In New Zealand a cultural competency programme called the Pacific Immersion Programme (PIP) was designed to train medical students towards meeting the health needs of diverse minority communities.

The programme integrated a patient-centred approach with an intersectional framework, which emphasizes the importance of recognising one's own biases and assumptions and appreciating the social determinants of health. The programme provides medical students with an opportunity to learn about different factors that influence the health and wellbeing of minority communities through immersion in those communities. It was reported that being part of the community allows students to observe and learn about the challenges minority communities experience in efforts to improve their health status [26].

At the College of Medicine, University of Saskatchewan, Making the Links (MTL) was designed to teach medical students the social aspect of medicine via service learning. The MTL programme comprises of six themes: (1) relationships, (2) social determinants of health in real life, (3) community development, (4) interdisciplinarity, (5) linking health and communities, and (6) personal learning. Through MTL, students gained educational experience in multiple contexts, such as exposure to concepts of international, rural, and urban health, community development, language skills, multicultural understanding, improved communication skills, and exposure to health systems and concepts of health teams [25].

Finally, the Ateneo Zamboanga University of Medicine (ADZU SOM) in the Philippines was established with the goal of providing cost-effective and sustainable medical education in low resources settings. The curriculum was developed and delivered by local clinicians and community leaders and the school relied on volunteer faculty to keep the cost low. Since its inception, the school has produced a medical workforce that has chosen to live and work in underserved areas, helping to address the health needs of the people and communities of Western Mindanao [22].

2. Strategies used in incorporating SA into undergraduate medical education

Six medical schools reported various strategies applied in enrolling prospective applicants to undergraduate medical schools that were practising SA (Table 4). One key strategy involved recruiting students from underserved and unequally represented communities to medical school on the basis that they would return to address local health priorities after graduation [31]. In the USA, the 'conditional admission' (CA) strategy which intended to expand access to medical education for individuals from under-represented ethnic, racial, and rural groupings was used. This intervention significantly increased the diversity of the physician workforce

Table 3 Approaches and programs used for inculcating SA into undergraduate medical education ($n = 7$)

Author	Country	Aims	Design	Programs used	Conclusion	QA1 ^a	QA2 ^b
Mahoney et al., 2014 [38]	Australia	To develop one model for incorporating SA into medical curriculum with sustainable activities that benefit the community	Mixed methods study	Urban longitudinal community-based programme, the Onkaparinga Clinical Education Programme	The programme was based in the rural community in the outer suburbs of Adelaide, South Australia and provided a yearlong clinical programme for 24 medical students	10.5	10.5
Filek et al., 2013 [23]	Canada	To explores medical students' experiences while working in prison health	Qualitative study	Engagement in Prison Health through CBE	Pre-clinical exposure to incarcerated populations and prison health	9.5	10.5
Cheu et al., 2022 [21]	Australia, Canada & USA	This study investigates the co-evolution of compassion and social accountability	Qualitative study	Compassion writing groups to develop a biological-historical-anthropological framework	Cultivating compassion should play a substantial role in a socially accountable medical education system	11.0	10.5
Van Wyk et al., 2016 [27]	South Africa	This study describes and categorizes the MaD process of developing SA in medical education	Qualitative study	Community service activity program called MaD (Making a Difference)	MaD activities enable students to engage in practical, socially accountable experiences and gain insights into community health and determinants	11.0	10.0
Cristobal & Worley, 2012 [22]	Philippines	This study explores the sustainability and positive outcomes of a volunteer-faculty-based medical school in a low-resource setting	Mixed methods study	The formation of the Ateneo de Zamboanga University School of Medicine (ADZU SOM) in Philippines	Adopting a socially accountable approach to medical education can be a cost-effective strategy to improve the medical workforce in underserved areas	11.0	10.5
Sopoaga et al., 2017 [26]	New Zealand	The aim was to integrate a patient-centred approach with an intersectional framework in a cultural competency training program for medical students	Mixed methods study	Pacific Immersion Programme (PIP) was designed to train medical students towards meeting the health needs of diverse minority communities	The Pacific Immersion Program offers a useful learning environment for training doctors to work effectively in diverse communities	10.0	10.0
Meili, Fuller, et al., 2011 [25]	Canada	To explore student reflections on experiences during the MTL program	Qualitative data analysis	MTL program effectively taught social accountability through service learning	MTL program is a promising model for teaching social accountability in medical training	9.5	10.5

(QA1^a - Quality Assessment score from reviewer1, QA2^b-Quality Assessment score from reviewer 2)

Table 4 Strategies used in incorporating SA into undergraduate medical education (n=6)

Author	Country	Aims	Design	Strategies	Conclusion	QA1 ^a	QA2 ^b
Larkins et al., 2015 [31]	Australia, South Africa, Sudan, Belgium & Philippines	To examine the impact of selection strategies on the presence of students from underserved communities in medical education programs	Cross-sectional study	Identified four strategies: quota system, selection based on personal attributes, community involvement, and school marketing	Effective selection strategies can ensure fair representation of underserved communities in the student body	9.0	11.0
Girotti et al., 2015 [30]	USA	To evaluate a programmatic intervention called 'Conditional Admissions' (CA) to expand access to medical education for underrepresented groups	Mixed methods study	Conditional admission strategies increased diversity in the physician workforce by assessing academic and non-academic factors	CA interventions can enhance representation of underrepresented groups	10.5	11.0
McGrail & O'Sullivan, 2021 [32]	Australia	To explore the association between doctors working in rural regions and their training and entry into medicine	Cross-sectional study	"Grow your own" strategy was effective in building workforce capacity in underserved rural areas	"Grow your own" strategy supports selecting and training doctors from rural regions	10.5	10.0
Schofield & Bourgeois, 2010 [34]	Canada	To reduce the gap between community needs and academic institutional needs by developing collaborative and addressing ethno-cultural and language differences	Mixed methods study	CFMNB institution educated doctors from a minority group, ensuring social responsiveness and generalizability	The CFMNB's strategic plan promotes social accountability and collaboration	11.0	10.5
Mian et al., 2019 [33]	Canada	To describe the admissions process and outcomes for Indigenous applicants to the Northern Ontario School of Medicine (NOSM)	Cross-sectional study	Socially accountable admissions increased representation of Indigenous peoples in medical schools	Socially accountable admissions promote diversity and inclusion of Indigenous peoples	9.5	11.0
Cheek et al., 2019 [29]	Australia	To examine factors influencing the diversity of medical students, such as regional/rural background and parental qualifications	Mixed methods study	Widening participation strategies increased diversity, and adapting a rural classification improved social accountability	Widening participation strategies can enhance diversity, and contextual adaptations improve social accountability	10.5	11.5

(QA1^a - Quality Assessment score from reviewer1QA2^b-Quality Assessment score from reviewer 2)

[30]. In Australia, the ‘grow your own’ strategy was considered vital for developing rural workforce capacity. This strategy involved selecting medical students from specific rural regions and training them for extended periods in the same region to improve local retention. The result of this strategy provided empirical evidence showing that ‘grow your own’ may be a key workforce capacity-building strategy [32]. Another strategy used to incorporate SA into undergraduate medical education was the establishment of the Centre de Formation Medicale du Nouveau Brunswick (CFMNB) under the University of Sherbrooke. This was specifically instituted to educate doctors from and for a minority group (French-Canadian of the Atlantic region). The school was also mandated to implement social objectives to contribute to the development of this minority region and to develop collaborations between partners, including the government and the community [34]. The ‘Widening Participation’ (WP) and ‘Widening Approach’ (WA) strategies were used at the Tasmanian School of Medicine to increase the diversity of medical students entering medical school, premised on addressing rural health workforce shortages, including targets for inclusion of rural-background medical students, longer rural clinic placements and rural clinical schools [29].

Finally, in the Northern Ontario School of Medicine (NOSM), the relationship between indigenous status and the likelihood of admission outcomes revealed that the indigenous applicants were 2.4 times more likely to be interviewed and 2.5 times more likely to receive admission offers to NOSM [33].

3. Factors influencing the integration of SA into undergraduate medical education.

Four medical schools reported the factors influencing the adoption of SA values in undergraduate medical education (Table 5). A study carried out at the Leeds Medical School in the UK and Bar Ilan Medical School in Israel categorised the factors influencing the adoption of SA into undergraduate medical education into four: (i) Factors relating to the institutional system and staff, such as academic prestige, personal staff issues, research priorities and delivery; (ii) those related to the curriculum design and delivery; (iii) external related factors such as stakeholder partnerships and the community footprints; and (iv) factors related to the process of implementing SA itself, such as the dissemination strategy and the evaluation process [36]. At Shiraz University of Medical Sciences, the facilitating factors included informed choices, personal and moral commitment, the current process of motivation, and the promotion of community-based learning in the university [37]. In Korea, eight factors that

influenced the implementation of SA into undergraduate medical education were reported. They included the following: the declaration of SA and physicians, organisations, and systems for implementing SA, the physical environment and finance, curriculum design-related social accountability, monitoring and evaluation system, proximity between partners, building partnerships among stakeholders, and interaction between stakeholders [35]. Finally, at Makerere University, College of Health Sciences, the factors that might influence first year medical students’ willingness to work in rural health facilities after completion of their training was assessed. The result indicated that the perceived influencing factors included the local context of work environment, support from family and friends, availability of continuing professional training for career development and support of co-workers in the community [28].

Discussion

This is the first comprehensive study that explored the strategies, programs, and influencing factors for integrating social accountability into undergraduate medical education. In 2017, a systematic review was carried out, but it mainly focused on the impact of SA [10], while in 2022, a similar study was performed that looked at how SA is implemented in medical schools, but the scope was limited to the Eastern Mediterranean Region only [11].

Although the concept of SA is undergoing significant expansion, such as its recognition by the World Federation for Medical Education as part of the updated standards for accreditation of medical education programmes (WFME, 2020), the reviewed literature pointed out significant gaps regarding the number of studies that have been carried out since the inception of the concept of SA in 1995 [1]. A limited number of studies were found in the reviewed literature from only 13 countries across the globe, a probable pointer to the paucity in knowledge of the importance of incorporating the concept of SA into medical schools in many countries globally.

The admission processes, strategies, and outcomes of indigenous/local applicants to undergraduate medical schools were reported from the reviewed literature. Some of the strategies included “Conditional Admission”, “Growing your Own”, establishment of Centre de Formation Me’dicale du Nouveau Brunswick (CFMNB) under the University of Sherbrooke for doctors from and for a minority group, “Widening Participation”, and “Making the Links”. These strategies aim to increase the enrolment of students in medical schools from regions and territories characterized by significant health inequalities, such as the indigenous population with poor social-economic conditions and a high disease burden, the minority groups, rural settings and under-represented ethnic

Table 5 Factors influencing the integration of SA into undergraduate medical education (n = 4)

Author	Country	Aims	Design	Factors	Conclusion	QA1 ^a	QA2 ^b
Leigh-Hunt et al., 2015 [36]	UK & Israel	To identify and explore enablers and barriers influencing the incorporation of social accountability (SA) values into medical schools	Qualitative study	• Institutional system and staff • Curriculum design and delivery • Stakeholder partnership • Process of implementing SA	Successful adoption of SA values requires addressing concerns regarding potential negative impacts on academic prestige and standards	9.5	10.5
Mohammadi et al., 2021 [37]	Iran	To explain the motivational facilitators and challenges for social accountability among medical students at Shiraz University of Medical Sciences, Iran	Qualitative content analysis study	• Personal and moral commitment • Current process of Motivation • Promotion of Community-based learning	Sharing conditions and facilities among medical education programs can provide a supportive environment and motivate students to improve their accountability	11.0	9.5
Lee & Yang, 2022 [35]	Korea	To examine factors affecting social accountability of medical schools by exploring global concepts in a specific context	Cross-sectional study	• Declaration of SA and Physicians • Organisation and System for implementing SA • Physical environment and finance • Curriculum design related SA • Monitoring and Evaluation system • Proximity between partners • Building partnership among stakeholders • Interaction between stakeholders	The HSP model is significant as it enables individual medical schools to establish mandated mechanisms for accreditation	10.0	11.0
Kaye et al., 2010 [28]	Uganda	To assess factors influencing the willingness to work in rural health facilities after completing training	Cross-sectional study	• Willingness to work in rural health facilities after graduation • Local context of work environment • Support from families and friends • Availability of continuing professional development training for career development and support of co-workers in the community	Many students at Makerere University have limited exposure to rural health facilities and concerns about working in such areas	11.0	11.0

(QA1^a - Quality Assessment score from reviewer, 1QA2^b-Quality Assessment score from reviewer 2)

rural and rural groupings. The aim of these strategies was not only to increase enrolment but also to increase the diversity of the physician workforce. Medical schools with successful SA programmes have achieved national accreditation standards, ensuring their graduates achieve the expected standards and their success has been attributed to the application of flexibility in selection, curriculum assessment and monitoring to focus their programmes on meeting the needs of their local communities such as selecting medical students from specific rural regions and training them for extended periods in the same region to improve local retention [39]. Through these strategies, medical students are able to gain experience in a variety of contexts such as exposure to rural and urban health, community outreach services, improved communication skills with the rural community members, multicultural understanding, and improved exposure to health systems [25].

The current study reviewed the factors influencing the incorporation of SA values into medical education. It was reported that the enabling factors could potentially be external such as the structure of health services in the region or the country in which the medical school is located, or they would be more closely related to the institution, such as the staff, student selection, curriculum design and delivery, or the community in which the medical school is located. Other enabling factors included stakeholder partnerships, community footprints, availability of systems and structures for implementing social accountability, and willingness of the medical doctors to work in the rural health facilities upon graduation from medical schools. Academic standards can be maintained while enrolling applicants from underrepresented background if preferential admission policies are avoided and outreach programmes used together with financial and psychological support to such students [40].

As defined by WHO, a 'health system' consists of all organisations, people, and actions whose primary intent is to restore and promote good health [41]. In this regard, the implementation and integration of SA require a multifaceted approach that includes knowledge about social determinants of health, identifying partners in addressing health inequalities, determining meaningful methods for measuring health problems and evaluating actions [42]. The rationale for having different models is because of societal dynamics and cultural and the heterogeneity of community health needs. Each medical school with a SA obligation needs a customized model that suits the local context [43].

Study limitations

The present scoping review study has several limitations that should be considered when interpreting the

findings. Firstly, the study was restricted to a specific set of electronic databases, namely PubMed, OVID Medline, CINAHL, ERIC, and Scopus, potentially excluding relevant articles from other sources or in languages not covered by these databases. This may have resulted in a narrower scope of the review. Secondly, the scoping review only included articles published in English, which may have introduced language bias and limited cross-cultural perspectives. Furthermore, the inclusion of only published articles may introduce publication bias, favouring studies with positive or significant results. It is possible that relevant studies were missed or unintentionally excluded during the screening and selection process, despite the rigorous search.

Conclusion

Although the concept of SA has existed since 1995, there is a slow uptake of the concept in medical schools across the globe, and even those that have attempted to integrate the concept, are at different levels of integration. Owing to the significant impact of integrating SA into undergraduate medical education, there is a need for a continued push toward making medical schools socially accountable. Although there has been an attempt in the reported literature to determine the factors influencing the incorporation of SA into undergraduate medical education, more research should be undertaken to point out contributing factors to the slow uptake of SA in medical schools. The reviewed literature did not find any substantial data about the barriers in integrating SA into undergraduate medical education. There is need for further research on these two areas.

Authors' contributions

M.E.A and M.H.T both contributed to the initial draft of the manuscript. D.O, N.H, and D.K collaborated on data screening and extraction. S.H thoroughly reviewed the manuscript, providing substantial revisions to tables and contributing to the Results and Discussion sections. D.M meticulously reviewed the entire manuscript, overseeing all steps with thoroughness.

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The datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

Declarations

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Competing interests

The authors declare no competing interests.

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