



Scoping Review

# A Scoping Review of Medical Students' Perception of People Experiencing Homelessness

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## ABSTRACT

### Keywords:

People experiencing homelessness, Medical student education, Marginalized populations, Scoping review

### Received

07 February 2024

### Received in revised form

12 February 2024

### Accepted

14 February 2024

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Medical education plays a crucial role in shaping future healthcare providers' attitudes, skills, and understanding of underserved populations, including those experiencing homelessness. Summarizing the existing literature on medical students' perception of People Experiencing Homelessness (PEH) can aid medical educators in developing a curriculum to allow medical students to comprehensively care for this population. The databases Web of Science, ERIC, Psycinfo, Embase and Medline were searched from 1946 to June 2023. Published quantitative and qualitative studies reporting on the perceptions or attitudes of medical students towards PEH were included. The studies were analyzed with descriptive statistics and described narratively. The search identified 1667 studies, with 15 ultimately included. Of the included studies, 66.7% were conducted in the United States of America, 26.7% were conducted in Canada, and 6.7% were completed in the United Kingdom. These studies revealed that medical students' perceptions vary, although most studies found medical students possess positive attitudes towards PEH, albeit feeling uncomfortable in their ability to provide care to this population. Additionally, most studies found when medical students were given educational exposures to PEH, they reported improved attitudes, more positive perceptions, and increased confidence in providing care. These results emphasize the benefits of providing structured educational experiences with PEH to medical students for improving patient care. More regionally diverse research in addition to studies examining the long-term effects of exposure to PEH during medical education on subsequent professional attitudes and behaviours is necessary.

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In recent years, homelessness has emerged as a complex and pressing social issue with far-reaching implications for public health. In Canada alone, there are 25,000 to 35,000 People

Experiencing Homelessness (PEH) on any single night [1]. The definition of homelessness can be ill-defined, yet terms such as “homeless” or “unhoused” tend to share a common sentiment of housing insecurity and at times encapsulate people transiently living in the streets, shelters or couch surfing. An individual's experience of homelessness is characterized by a unique, intricate, and multifaceted interplay of circumstances. Key contributing factors at the individual level encompass poverty [2], adverse early childhood experiences [3], mental health challenges and substance use [2,4], personal history marked by violence [5], and involvement with the criminal justice system [6]. Amidst this backdrop, medical education plays a crucial role in shaping future healthcare providers' attitudes, skills, and understanding of underserved populations, including those experiencing homelessness [7]. The perceptions and attitudes of medical students towards individuals who are homeless can significantly influence the quality of care provided to this vulnerable group [8]. Thus, exploring medical students' perceptions of PEH is not only pertinent to their professional development, but also holds potential implications for healthcare delivery, policy formulation, and social advocacy.

A preliminary examination of the literature reveals an absence of research addressing the intersectionality between medical students' perception on PEH. This scoping review aims to identify and synthesize the existing body of literature on medical students' perceptions of PEH. By examining attitudes, biases, and preparedness, this review seeks to provide insights into how medical education influences future physicians' perspectives on homelessness and its implications for patient care. A thorough exploration of this topic sheds light on opportunities for curriculum enhancement and the development of strategies that promote patient-centered care for individuals experiencing homelessness.

## **Method**

### **Search Strategy**

A database search of Web of Science, ERIC, Psycinfo, Embase and Medline databases was performed on June 19, 2023 with the assistance of a medical librarian using terms related to medical students and PEH (eFigure 1, see [Online Supplementary Material](#)). The search timeframe was from the earliest date in the database (1946) to June 19, 2023. Studies were included if they were: (1) available in English and (2) discussed medical students' perception on PEH. Both quantitative (ex. cross-sectional surveys, cohort studies) and qualitative research (ex. qualitative interviews) were included. Studies were excluded if they did not distinguish students' perception on PEH from other vulnerable populations or did not describe medical student results separately from other cohorts.

### **Study Selection**

Studies identified in the database search were uploaded into Covidence (Veritas Health Innovation, Melbourne, Australia). Four reviewers (CH, SMC, PH, AH) worked independently and in duplicate on the title and abstracts for inclusion. Three reviewers (CH, SMC, PH) then worked independently and in duplicate for full-text screening. Conflicts in the title, abstract, and full-text screening were resolved through discussion between the reviewers.

## Data Extraction

Three reviewers (CH, SMC, PH) worked independently and in duplicate for data extraction. The following data was extracted into Microsoft Excel: author, publication year, title, aim, country, intervention, population description, number of participants, study design, intervention, and summary of findings. All conflicts were resolved by consensus.

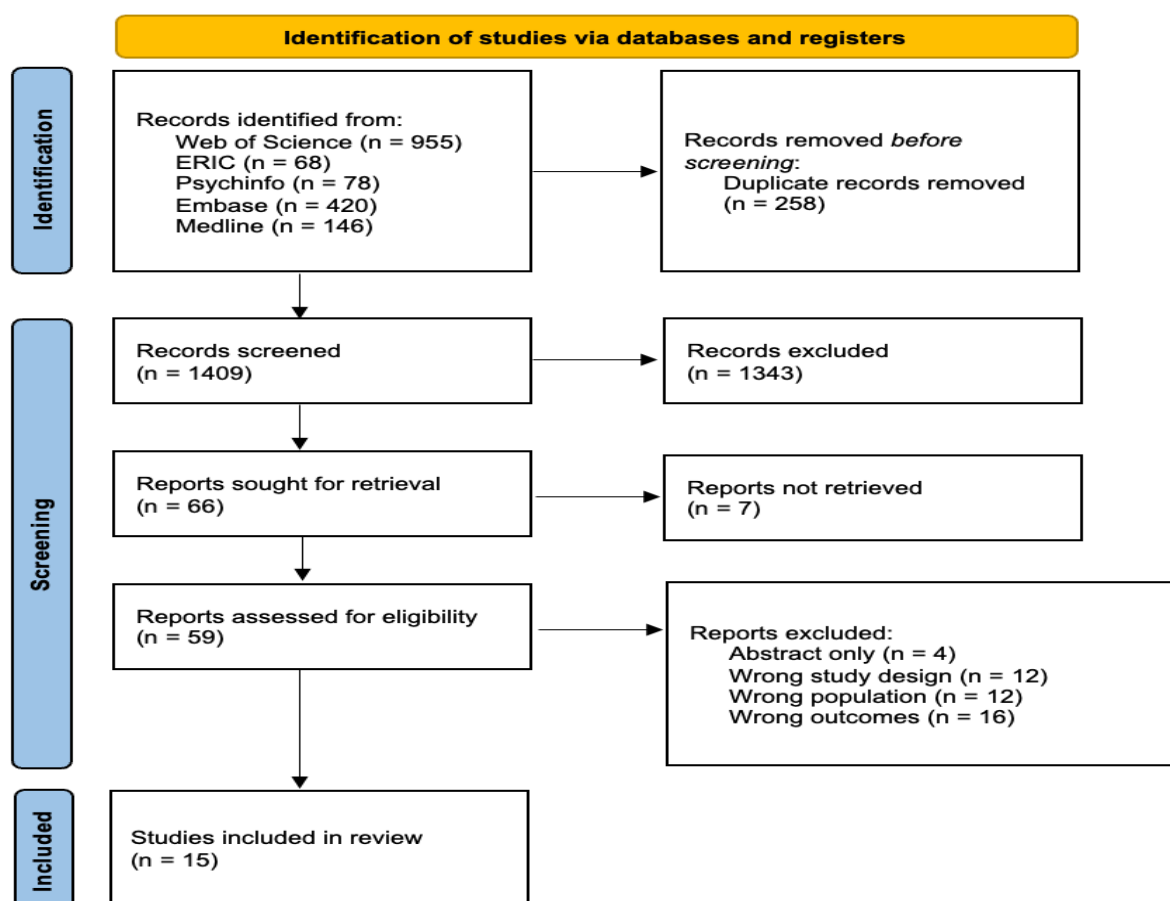
## Data Analysis

The studies were analyzed with descriptive statistics and a qualitative thematic analysis. This study was reported according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist (eFigure 2, see Online Supplemental Material) [9].

## Results

We identified 1667 studies with 15 ultimately included. Figure 1 presents the PRISMA flow diagram regarding study selection [10]. Of the included studies, 66.7% were conducted in the United States of America, 26.7% were conducted in Canada, and 6.7% were completed in the United Kingdom. Sixty-seven percent of studies were quantitative, 13% were qualitative, and 20% used mixed methods. As there was a plethora of different interventions and outcomes, the summary of findings was organized into the following three categories: fixed-time-point, medical school progression and exposure experiences. The baseline information of the included studies is presented in Table 1.

Figure 1. PRISMA flow diagram



**Table 1.** Baseline characteristics of included studies

Author, Publication Year	Country	Study Type	Methodology	Data Collection Method	Number of Participants
Asgary, 2016	United States of America	Cohort	Quantitative	Study created the survey	22 medical students
Baribeau, 2017	Canada	Cohort	Quantitative + Qualitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool + Qualitative Feedback	254 medical students (30 students received people experiencing homelessness intervention)
Batra, 2009	United States of America	Cohort	Qualitative	Student Written Reflections	1st year of operation: 24 students 2nd year of operation: 29 students
Clark, 2003	United States of America	Cross-sectional	Qualitative + Quantitative	Study created the survey + written student reflections	221 medical student participants
Doyle, 2012	United States of America	Cross-sectional	Quantitative	Study created the survey	60 medical students
Fine, 2013	Canada	Cross-sectional	Quantitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool	371 (178 were pre-clerkship medical students, 142 were clerkship medical students)
Glaser, 2019	United States of America	Cross-sectional	Qualitative + Quantitative	Study created survey + semi structured interviews	103 medical student responses
Masson, 2003	United Kingdom	Cohort	Quantitative	Attitudes Towards the Homeless Questionnaire (ATHQ)	131 Medical Students
Mercadante, 2021	United States of America	Cohort	Quantitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool	106 medical students (58 volunteered at the clinic)
Morrison, 2012	United States of America	Cohort	Quantitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool	145 medical students (79 third-year students, 66 fourth-year students)
Omori, 2012	United States of America	Qualitative	Qualitative	N/A	N/A
O'Toole, 1999	United States of America	Cross-sectional	Quantitative	Study created the survey	210 Medical Student
Pettit, 2017	United States of America	Cohort	Quantitative	Quantitative analysis of actions taken during case simulation	116 Medical Students
Sayal, 2021	Canada	Cross-sectional	Quantitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool	315 pre-clerkship medical students, 114 ophthalmology residents
Zeien, 2021	United States of America	Cohort	Quantitative	Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) Survey Tool	87 study participants consisting of 67 medical students and 20 preceptors

### Fixed-Time-Point

Four articles assessed medical student's perceptions and attitudes towards PEH at a static timepoint. They reflected distinct attitudes towards PEH that altered patient care, but were overall more positive compared to residents and staff.

In Glaser et al.'s investigation of fourth-year medical students, they exposed a concerning tendency in some participants to label marginally housed patients as "frequent flyers,"

diminishing their medical concerns due to assumed underlying motives. Moreover, participants acknowledged varying beliefs when attending to PEH patients, indicating potential disparities in treatment approaches, with hospital capabilities and personal attitudes significantly influencing their care strategies [2]. Pettit et al.'s study centered on fourth-year medical students undergoing a simulation of an acute myocardial infarction patient, with two distinct cases presented, differing only in the socioeconomic status (SES) of the patient. The data indicated that students were more inclined to inquire about pain control for high-SES patients ( $p = .04$ ) and to engage in physical contact with low-SES patients ( $p = .01$ ) [3].

Sayal et al.'s study of pre-clerkship medical students that took the Health Professionals' Attitudes Toward the Homeless Inventory (HPATHI) survey tool displayed favorable attitudes overall to PEH in the attitude section, although their confidence in dealing with the complexities of PEH related issues were reflected by overall low median scores in the confidence questions section. Yet, their attitudes were significantly more positive compared to ophthalmology residents [4]. Fine et al. [5] found that medical students tended to have a more positive belief about PEH compared to emergency residents and staff. However, medical students were significantly more likely to agree with the statement "I feel overwhelmed by the complexity of the problems that homeless people have" compared to the emergency residents and staff.

### **Medical School Progression**

Two studies investigated medical students' perceptions towards PEH as they progressed through their medical training. Masson and Lester [6] compared medical students after a 5-year period taken prior to starting medical school and in the students' final clinical placement. Morrison et al. [7] surveyed medical students at the beginning and end of either their psychiatry or emergency medicine clerkship rotations. In Masson and Lester's [6] cohort, there was a small but significant negative attitude change towards PEH. From their qualitative interviews, contact with PEH and professional socialization emerged as potential influences. After completing their psychiatry core rotation, the students in Morrison *et al.*'s [7] study were more likely to agree that "most homeless people are mentally ill". Yet, the students also felt more comfortable being a primary care provider for a homeless person with a major mental illness. There was no significant difference in attitudes after the emergency rotation.

### **Exposure Experiences**

Nine studies explored changes to medical students' perceptions of PEH after alternative exposure experiences, separate from mandatory clerkship curricula. Seven of these studies offered voluntary clinics targeted towards providing healthcare for PEH, while two studies compared students completing PEH-specific clinics versus their peers who completed traditional clerkship cores.

Two of the 3 studies that used the HPATHI as a measure of medical students' perceptions found at least some degree of score increase in students who completed a targeted exposure experience. Mercadente et al. [8] examined the impact of the THRIVE student-run bridge clinic for individuals with substance use disorder. Volunteering students at this clinic exhibited positive changes in Personal Advocacy scores ( $p = .03$ ), reflecting a potential impact on their advocacy perspectives. However, no significant differences in the other subsections of HPATHI – cynicism, social advocacy – were noted in pre-clinic vs. post-clinic surveys. Likewise, Zeien et al. [11] reported on the Street Medicine Phoenix program's impact on perceptions of and

attitudes towards individuals experiencing homelessness. Across professions, volunteers demonstrated statistically significant improvements in perceptions, with particular shifts evident in beliefs about the rights of PEH to access basic health care and the misconceptions surrounding their work ethic.

The majority of the four studies that gathered qualitative data from students found increased benefit from completing these experiences. Baribeau et al. [12] studied a subset of clerkship students that completed an integrated four half day PEH experience. It found that most participants highlighted concerns of being overwhelmed when working with PEH, but also believed that PEH healthcare experiences should be an important part of the medical curricula. Interestingly, while baseline mean HPATHI scores were higher for integrated PEH experience participants compared to their peers, no significant change was observed in mean HPATHI scores post-rotation. Contrastingly, Batra et al. [13] established student-run clinics that fostered regular interactions with homeless individuals, leading to personal connections that transcended academic and political concerns. Clark et al. [14] evaluated the Houston Outreach Medicine Education and Social Services (HOMES) clinic, revealing a substantial increase in social awareness among medical students about the difficulties faced by homeless individuals. Omori et al. [15] explored the H.O.M.E. Project Clinics and Hawai'i Youth Program for Excellence (H.Y.P.E.), demonstrating the transformative effect of community health involvement on medical students' perceptions, highlighting the importance of physicians' contributions to communities.

Asgary et al. [16] implemented a health-disparities clinical and population-based curriculum for 22 third and fourth-year medical students. This month-long community medicine rotation led to significant improvements ( $p < .01$ ) across knowledge, attitude, and self-efficacy domains. Particularly, skills pertinent to mental health, substance abuse, and risky behaviors exhibited substantial enhancements ( $p < .05$ ). Doyle et al. [17] investigated the Magis Psychiatry Clinic's impact, uncovering substantial enhancement in first and second-year students' compassion for homelessness through their training experience. O'Toole et al. [18] found that volunteering first and second year medical students at a PEH clinic were more likely to have previously volunteered in a similar setting and exhibited more positive attitudes towards PEH.

## Discussion

This scoping review delves into medical students' attitudes towards PEH, a critical component of medical education in preparation for future healthcare responsibilities [19]. A common theme observed throughout the literature is the discomfort medical students feel in providing care for PEH, despite having overall positive attitudes towards its importance. Pettit et al.'s [3] study, as noted above, showed that medical students quantitatively behaved differently when interacting with a simulated PEH patient compared to a high SES patient. Encouragingly, the included studies underscore the value of creating PEH exposures for medical students, with most demonstrating more positive attitudes and improved confidence after exposure experiences. Notably, longitudinal studies with repeated exposures to PEH showed even greater effects on medical student perceptions relative to shorter duration experiences. [Table 2](#) depicts a summary of the key findings of this article.

**Table 2.** Key points and themes

Key Points
Medical students tend to harbour more positive attitudes towards PEH compared to residents and physicians, despite having limited confidence in their ability to treat PEH.
Medical student's perceptions of PEH likely become more negative as they progress through their medical education.
Exposure experiences for medical students often led to increased confidence and positive attitudes when measured soon afterwards; however, the long-term effects of exposure experiences on perceptions remain unclear.
Most of the research on PEH is limited to a few wealthier countries, as such these results may not be generalizable to other countries with differing socioeconomic statuses and cultures.

While this scoping review provides an insightful framework on how medical students perceive PEH, it is crucial to take into account how these opinions could change as students advance in their medical education and eventually become residents and practicing doctors [20]. Real-world patient care experiences can have a big influence on attitudes and behaviors since medical education is a continuous process [21]. For instance, Sayal et al. [4] found that ophthalmology residents have a more negative opinion compared to medical students, with the attitudes becoming progressively worse as they progress in training. Overall, there is a paucity of literature on whether medical students' perception of PEH change or remain the same when they become resident doctors, junior and senior staff. Similarly, it remains unclear whether these targeted PEH exposures lead to long lasting changes. Thus, long-term studies examining the impact of medical student exposure to PEH are warranted. Additionally, studies examining the impact of residency curriculum and PEH exposures may also be necessary to understand how these factors affect perceptions moving forward.

It is important to note the significant variability in medical school curricula across different academic institutions [22]. Depending on the goals and resources of individual programs, medical students may receive diverse education and advice on how to provide healthcare to PEH [23]. Although this analysis did not examine potential differences in curricula across medical schools, understanding curricula throughout medical school is likely crucial to comprehending medical students' perceptions at individual schools. Future studies assessing medical student perceptions should provide more information on the curriculum of the medical school to provide additional context to the results obtained.

It is important to recognize several limitations associated with this literature review. The notable regional concentrations of the papers, all conducted in the United States, Canada, or the United Kingdom, raise questions about the generalizability of the findings to areas with different social structures and healthcare systems. To provide a more comprehensive understanding of how medical education addresses PEH on a global scale, future studies should conduct comparable investigations in more countries. Secondly, the review mainly focuses on the perspectives of medical students early in their training, which may not accurately reflect the attitudes and perceptions individuals may hold towards PEH as they become residents and physicians. Lastly, the heterogeneity present in the literature prevented quantitative analysis of the results.

## Conclusions

In conclusion, this scoping review offers an essential framework for comprehending how medical students approach PEH. While some studies have been conducted, primarily in the

United States and to a lesser extent in Canada and the United Kingdom, there remains a lack of comprehensive, systematic research specifically focusing on Canadian medical schools. This scarcity underscores the need for more targeted research to inform and guide the development of effective, empathetic curricula that address the unique healthcare needs of PEH. There is also a necessity for more study on this subject across diverse regions around the globe, with a focus on providing more information about the medical school curricula where students are being studied. Future research should also explore the long-term effect of PEH exposures during medical school on future medical professionals' attitudes and behaviors towards PEH. Key points and themes are summarized in [Table 2](#). This review has the potential to help academic institutions create programs and interventions that lead to more effective and compassionate care towards PEH.

## Declarations

### Acknowledgements

Not applicable.

### Disclosure Statement

No potential conflict of interest was reported by the authors.

### Ethics Approval

Not applicable.

### Funding Acknowledgements

Not applicable.

**Supplementary Information:** The supplementary material linked to this article is available at the journal's website (Volume 6/Issue 1).

### Citation to this article

Hircock C, Chen SM, Grad J, Huan P, Hatamnejad A, Farrugia P. A scoping review of medical students' perception of people experiencing homelessness. *Canadian Journal of Medicine*. 2024 Feb 14;6(1):15-23. doi: 10.33844/cjm.2024.6034

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