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Article:

Boyd, H., Csikar, J., Vinall-Collier, K. et al. (2025) Exploring the outcomes of community based dental interventions delivered by dental students for people experiencing homelessness: A scoping review. *Community Dental Health*. ISSN: 0265-539X

<https://doi.org/10.1177/0265539x251400500>

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Exploring the outcomes of community based dental interventions delivered by dental students for people experiencing homelessness: a scoping review

Abstract

Background: People experiencing homelessness (PEH) have significantly poorer oral health compared to the general population, with barriers to dental care exacerbating health inequalities. Community-based dental interventions delivered by dental students offers a potential solution for improving oral health among PEH. **Objectives:** This scoping review aims to map existing literature on community-based dental interventions provided by dental students to PEH and to explore the reported outcomes of these from the perspectives of PEH. **Methods:** A scoping review was conducted using the PRISMA-ScR checklist. The comprehensive search was conducted across multiple databases and reference lists were hand searched. The Population, Concept, Context (PCC) framework using Joanna Briggs Institute (JBI) methodology was followed to guide the search strategy and eligibility criteria. Studies were screened against the eligibility criteria by two reviewers. **Results:** Six studies met the inclusion criteria, originating from the UK, Australia, the USA, and Canada. Interventions included oral health education and clinical treatments. Thematic analysis identified two overarching themes: 'experience of the intervention' and 'impact of the intervention.' High levels of satisfaction were reported, with participants noting improved oral health knowledge and intentions to improve oral health behaviours. **Conclusions:** Community-based dental interventions were well-received by PEH and led to improved oral health knowledge, oral health behaviour change and psychosocial wellbeing. The interventions fostered dignity and trust through respectful care, while also enriching dental education by promoting empathy and social accountability. Despite promising short-term outcomes, further inclusive and longitudinal research is needed to assess long-term impact and global relevance.

Introduction

Housing is a fundamental human right, significantly impacting individuals' lives. Good housing conditions improve standards of living, life prospects, and wellbeing, while poor conditions contribute to deprivation, inequalities, and poor health (UKWBG, 2018). In the UK, a person is considered homeless if there is 'no accommodation available for them to occupy in the UK or elsewhere' (Gov.uk, 1996). People experiencing homelessness (PEH) include those sleeping on the streets, staying with family or friends, living in overcrowded accommodation, or unconventional structures. Hidden homelessness is less well understood or evidenced and includes sofa surfing, squatting or hidden rough sleeping (ONS, 2021). Homelessness is a major social problem in western societies (Faustinella, 2019; Department of Housing and Urban Development, 2011; Trypuc and Robinson, 2009; Wilson, 2013), with England being one of the worst affected countries in Europe, reporting 354,000 PEH in 2024, a 14% rise from 2023 (Brown, 2024).

The link between poverty and poor health is well documented. A 2023 Healthwatch England survey highlighted significant barriers to healthcare for those in the worst financial situations, leading to extreme health inequalities, including oral health (Campbell, 2024; Aldridge *et al.*, 2018; Yusuf, Golkari, and Kaddour, 2023). A study undertaken by Groundswell (2017) revealed that homelessness severely impacts oral health and creates barriers to dental access which includes difficulties in registering with a dentist and a lack of information on NHS dentistry. Poor diet, substance use, high smoking rates, and poor mental health were reported to contribute to poor oral health among PEH. Many reported that oral health issues affected their quality of life, causing pain and social isolation, with alcohol and drugs often used to manage dental pain leading to the need for urgent dental care. Participants within the Groundswell study reported that they trusted dentists, valued their oral health and were

positive that with the right support, their oral health could improve significantly. This raises the question: if PEH are willing to seek care but cannot access it, what is going wrong?

It has been suggested that the issues are multifactorial, involving structural and individual factors (Freeman *et al.*, 2020). Structural factors include political policies like the NHS dental contract, which does not provide for the complexity of needs experienced by PEH. Individual factors relate to risky behaviours, chaotic lifestyles, and poor mental health (Public Health England, 2021; Groundswell, 2017). To address this, the Homeless Link and Groundswell report on 'Inclusive Dentistry' suggests forming partnerships between community organisations, dental providers, and commissioners (Homeless link and Groundswell, 2023). Examples include collaborations between university dental schools and local community centres, where dental students participate in community-based dental intervention projects to provide oral health education and treatments for vulnerable groups.

Community-based dental projects have gained recognition for developing the student skillset. McAndrew (2010) highlights that involving students in projects within community settings provides valuable learning experiences while delivering essential dental services to underserved populations. Mays (2016) emphasises that community involvement not only develops students' clinical skills, but also additional skills such as cultural humility, and desire for future community engagement involvement. While much is known of the benefits to student learning, there is comparatively little research into the experiences of the recipients of the interventions. Yet, gaining the views of those with lived experiences is reported to significantly improve research quality and can empower marginalised individuals to make change around health behaviours and challenge societal stigmatisation (Oliveira, 2018).

The aim of this scoping review was to map existing literature on community-based dental interventions provided by dental students to PEH and to explore the outcomes of the oral health interventions from the perspective of PEH. The following review question was subsequently developed: What are the reported outcomes from PEH of oral health interventions delivered by students?

Methods

This scoping review followed the Joanna Briggs Institute (JBI) updated methodological guidance and the 'Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews' (PRISMA-ScR) checklist (Peters *et al.*, 2020).

The population, concept, context (PCC) framework advocated by JBI was used to develop the review question, inform the search strategy and guide the eligibility criteria (Pollock *et al.*, 2023). The following PCC were developed:

- **Population:** people experiencing homelessness
- **Concept:** outcome of the oral health intervention
- **Context:** community-based dental interventions delivered by dental students

Eligibility Criteria

Following the JBI approach, inclusion and exclusion criteria were developed (Table 1) to facilitate the selection of suitable papers. To be included in the review, studies needed to be primary studies employing qualitative, quantitative, or mixed methods approaches. The studies had to involve any form of oral health intervention, such as education or treatments provided by dental professional students, to PEH. Additionally, the studies were required to report the perspectives of PEH on the student interventions, either fully or partially. Only studies from high-income countries, as classified by the World Bank in 2022, were included.

This criterion is justified by the comparable accreditation structures for dental education in high-income countries, which outline similar skill requirements for dental graduates ([ADC / DCNZ, 2021](#); ADEE, 2017; CDAC, 2013; CODA, 2025; GDC, 2023). Furthermore, the complexities encountered by PEH are similar across these nations (Fazel *et al.*, 2014), thereby supporting the generalisability of any findings from the review to the UK.

Additionally, studies needed to be published in English due to financial and time constraints associated with translation. However, it is acknowledged that this could introduce bias and potentially overlook valuable insights from non-English publications (Rockliffe, 2022) which is a limitation of the scoping review. Conversely, studies were excluded if they did not report on the viewpoints of PEH, if they solely measured the perspectives of the students on their interactions with PEH, or if they were not primary studies, such as opinion pieces, commentaries, or letters.

<Table 1 here>

Search strategy

Electronic databases searched included CINAHL, Dentistry & Oral Sciences Source, Medline, ERIC, APA Psychinfo, EMBASE, Web of Science, Education Research complete, Psychology and Behavioural Sciences Collection, Scopus, Cochrane trials database and Google scholar. The search strategy was developed in consultation with a librarian and used specific medical subject headings (MeSH) and keywords representing the PCC themes. No date limits were applied and the search was piloted and refined to increase the relevance of studies retrieved. Boolean operators OR and AND were used to refine the search. The search was conducted between September and October 2024.

Selection of sources of evidence

Duplicates were first removed and then articles were screened by title and abstract against the inclusion and exclusion criteria (table 1). The titles and abstracts of remaining articles were screened independently by two reviewers (HB and JC) and any disagreements were resolved through discussion, following JBI guidance (Peters *et al.*, 2020). One reviewer assessed the full texts of the remaining articles to identify those meeting the inclusion criteria. Any uncertainty regarding inclusion was addressed through discussions with the other reviewers, requiring full consensus for inclusion in the review. Reference lists of included articles were examined to inform and guide a further literature search.

Data charting process and data items

A data extraction form was designed to capture demographic details of the included studies and to identify reported characteristics of the interventions. The variables included: author(s), publication year, study title, evaluative methods of the study, country of publication, aim, study sample and size, method, type of intervention, and a summary of the key findings. Nvivo Lumivero 14 software was used to extract relevant data. Three reviewers (HB, JC and KVC) independently conducted the data extraction to enhance robustness of the review.

Synthesis of results

A narrative approach was employed to analyse the charted data through thematic analysis following the methodology outlined by May, Pope and Popay (2005). Their approach supports the analysis of mixed types of evidence; qualitative and quantitative for secondary reviews and involves identifying particularly noticeable or repetitive themes in the literature. Data was systematically coded, collated into themes, reviewed, and refined to ensure accurate representation. An analysis was conducted to provide a coherent narrative of the data. This approach allowed for a detailed understanding of the studies and the ability to identify key trends in the data, relevant to the research question.

Results

The results of the literature search and study selection are displayed in the PRISMA flowchart (Figure 1). The initial search retrieved 2050 papers of which 91 were excluded as duplicates. Of the 1959 articles in the title and abstract screening, 54 were screened at the full paper stage. 48 papers were rejected for not meeting the eligibility criteria. In total, 6 articles were included within this scoping review.

<Figure 1 here>

Study Characteristics

Table 2 shows that of the six articles, three were UK based (Chandrasekara *et al.*, 2021; Pritchett *et al.*, 2014; Paisi *et al.*, 2020), one was Australian (Stormon *et al.*, 2018), one from the USA (Lashley, 2008) and one Canadian, (Rowan *et al.*, 2013). All studies were conducted over the last two decades. Three studies employed quantitative evaluative methods (Stormon *et al.*, 2018; Lashley, 2008 and Chandrasekara *et al.*, 2021), one study used a qualitative evaluative approach (Pritchett *et al.*, 2014) and two studies used mixed methods approaches (Paisi *et al.*, 2020 and Rowan *et al.*, 2013).

The aims of all the papers explored oral health among PEH through community interventions involving novel educational and healthcare strategies. Each paper focused on the feasibility and impact of interventions delivered by students.

Lashley (2008) was the largest study recruiting 279 participants and Chandrasekara *et al.*'s. (2021) the smallest recruiting 30 homeless participants. All papers except for Pritchett *et al.* (2014) had reported the demographics of their participants. Collectively across the papers, male participants outnumbered females except Rowan *et al.* (2013) who had recruited more female than male participants. As Rowan *et al.* (2013) focused on street youth in Canada, they had the

youngest population of homeless participants across the studies. The oldest group of participants were seen in the Stormon *et al.* (2018) study from Australia. Chandrasekara *et al.* (2021) and Pritchett *et al.* (2014) did not report the age of their participants.

All included articles involved a community-based dental intervention provided by students to PEH, either through oral health education (OHE) sessions, clinical interventions, or both (Table 3). Chandrasekara *et al.* (2021) conducted group OHE sessions, while Pritchett *et al.* (2014) tailored OHE to individuals following a clinical examination by a dentist. Topics like diet, smoking, alcohol, and access to NHS services were included in OHE sessions for both studies, with Pritchett also addressing oral cancer and periodontal disease. Rowan *et al.* (2013) and Paisi *et al.* (2020) provided clinical interventions, focusing on street youth and a UK triage clinic, respectively. Lashley (2008) and Stormon *et al.* (2018) combined OHE and clinical interventions, with interdisciplinary and community clinic collaborations.

Stormon *et al.* (2018), Chandrasekara *et al.* (2021), and Lashley used pre-post designs to measure the impact and feasibility of their projects, while Pritchett *et al.* (2014), Paisi *et al.* (2020), and Rowan *et al.* (2013) used post-intervention designs. Chandrasekara *et al.* (2021), Lashley (2008), and Stormon *et al.* (2018) employed questionnaires followed by verbal feedback from participants. Pritchett *et al.* (2014) collected short comments after dental appointments. Paisi *et al.* (2020) and Rowan *et al.* (2013) conducted focus groups or semi-structured interviews and assessed descriptive patient data. None of the studies undertook longer-term follow up of their participants.

All six studies gathered qualitative feedback from their participants, however the comments from Chandrasekara *et al.* (2021), Lashley (2008) and Pritchett *et al.* (2014) were not

subjected to qualitative data analysis. For this reason, their comments were not included in the data analysis of this scoping review. In contrast, Stormon *et al.* (2018), Paisi *et al.* (2020) and Rowan *et al.* (2013) applied a thematic analysis approach to their qualitative comments, which were incorporated into this review's analysis.

<Table 2 here>

<Table 3 here>

Intervention outcomes

The included papers were analysed thematically to extract the reported outcomes from the perspectives of the PEH on the community-based dental interventions delivered by students. Five main themes were identified from the studies which were then grouped into two overarching themes; usefulness of the intervention and feedback on the student interaction were grouped under the first theme; ‘experience of the intervention’ and oral health knowledge gain, future changes to oral health behaviour and reported quality of life were grouped under the second theme; ‘impact of the intervention’ (Table 4).

Experience of the intervention

All six papers reported on participants’ experiences of the interventions. High levels of satisfaction were noted across all studies. Except for Rowan *et al.* (2013), all studies highlighted the usefulness of interventions. Chandrasekara *et al.* (2021) and Pritchett *et al.* (2014) found that most participants felt they would benefit from regular OHE sessions. Participants in Stormon *et al.* (2018) specifically praised the dental students, while Lashley’s (2008) study outlined that participants were happy with the quality of care they had received. Paisi *et al.* (2020) reported that interactions with students gave participants the confidence to take the next steps towards accessing dental treatment.

Feedback on interactions with students, as reported by Stormon *et al.* (2018), Paisi *et al.* (2020), and Rowan *et al.* (2013), was overwhelmingly positive. Qualitative comments highlighted these positive interactions. Comments on the students’ level of professionalism were noted as was the educational value of the interactions. Paisi *et al.* (2020) reported that participants described the initial contact with students as crucial in encouraging attendance and engagement with their community dental clinic programme.

Impact of the intervention

The impact of student-delivered interventions on participants was reported across the papers, including improvements to oral health knowledge, better oral health behaviour, and improved quality of life. Two studies (Chandrasekara *et al.*, 2021; Lashley, 2008) discussed the positive effect of their interventions on oral health knowledge. Chandrasekara *et al.* (2021) reported an increase in correct answers from 49% to 86% in a pre- and post-intervention questionnaire on fluoride, oral hygiene, alcohol, smoking, and drug use, though the authors acknowledge this gain might be short-term. Lashley (2008) noted consistent improvement across all 279 participants, with all agreeing that their enhanced knowledge helped them better care for their mouths and teeth.

The same studies also reported on the impact of the intervention on future oral health behaviour. Chandrasekara *et al.* (2021) found that 97% of participants planned to change their oral routine. Lashley (2008) reported unanimous agreement from participants that the programme enabled better oral care.

Lashley (2008) was the only study to report on quality of life, stating that 94% of participants felt more confident after receiving dental care from the students. All participants were satisfied with their appearance, with most believing that dental improvements could enhance job prospects, had made eating easier, and made them smile more frequently.

Discussion

This scoping review highlights a range of positive outcomes associated with student delivered community-based dental interventions for PEH. The findings were organised into two overarching themes: experience of the intervention and impact of the intervention, each encompassing several subthemes that reflect the multifaceted benefits reported across the included studies.

Across all six studies, participants consistently reported high satisfaction. The usefulness of the intervention was a recurring theme, with most studies reporting that participants found the student interventions beneficial. Regular oral health education was seen as valuable (Chandrasekara *et al.*, 2021; Pritchett *et al.*, 2014) and the quality of care provided by students was praised (Lashley, 2008; Stormon *et al.*, 2018). Interactions with students were described as respectful and confidence-building, with participants noting the professionalism and educational value of the interactions (Stormon *et al.*, 2018; Paisi *et al.*, 2020; Rowan *et al.*, 2013). In one study, the initial contact with students was crucial in encouraging engagement with their dental services (Paisi *et al.*, 2020).

The impact of the interventions was evident in improved oral health knowledge and intentions to adopt better oral hygiene practices. Notably, knowledge gains were significant, though the longer-term impacts of this were unknown due to the short-term nature of the studies (Chandrasekara *et al.*, 2021; Lashley, 2008). Participants also expressed strong intentions to change their oral care routines (Chandrasekara *et al.*, 2021; Lashley, 2008). One study reported enhanced quality of life, with increased confidence, satisfaction with appearance, and improved daily functioning such as eating and smiling (Lashley, 2008). These psychosocial benefits underscore the broader impact of dental care beyond clinical outcomes, highlighting its role in enhancing self-esteem and social integration, particularly relevant for marginalised populations.

Despite these positive findings, several limitations of the studies must be acknowledged. Many studies did not provide participants the opportunity to offer feedback or suggest changes for future iterations of interventions (Pritchett *et al.*, 2014; Lashley, 2008) or failed to report the outcomes of such suggestions (Stormon *et al.*, 2018), introducing potential information bias (Althubaiti, 2016). Furthermore, the participant comments from Chandrasekara *et al.* (2021), Lashley (2008) and Pritchett *et al.* (2014) were not subjected to qualitative data analysis leaving the comments open to interpretative bias by the authors, potentially leading to subjective interpretations that reflect the authors' preconceptions or expectations rather than the participants' true experiences. This could skew the study outcomes, reducing the reliability and validity of the findings (Kaptchuk, 2003). Only Chandrasekara *et al.* (2021), Paisi *et al.* (2020), and Rowan *et al.* (2013) documented suggestions for service improvements, though Chandrasekara's qualitative comment was from just one participant. The potential for interpretative bias in the reported results of some papers and the omission of requests for improvement suggestions by other papers may have inadvertently skewed results toward positive outcomes, limiting the reliability and validity of the evidence base.

Another important limitation is the short-term nature of all included studies which restricts the ability to assess the long-term impact of the interventions on participants' oral health knowledge and behaviour change. A systematic review by Xiang *et al.* (2020) found that while short-term improvements in oral health knowledge and behaviours among adolescents were common, these gains often decline over time without reinforcement. These findings align with the established psychology of learning principles; that reinforcement is a powerful tool, and its absence over time can lead to behaviour decline (McNeil and Hembree-Kigin, 2010). Given the chaotic lifestyles of PEH, long-term follow-up poses practical challenges but remains essential for evaluating sustained impact.

A further limitation identified through the review of current literature is the underrepresentation of PEH voices. Much of the existing literature on community-based dental interventions focuses on the perspectives of dental students rather than the recipients (Webb *et al.*, 2019; Habibian *et al.*, 2010; Major *et al.*, 2016; Dolce *et al.*, 2018; Tran *et al.*, 2021; Kuthy *et al.*, 2005; McQuistan *et al.*, 2010; Kuthy *et al.*, 2010). While these papers highlight the benefits of student involvement in community interventions, they do not represent the voices of PEH. This omission reflects the much criticised 'medical model' of health, where recipients of care are passive (Hogan, 2019). This scoping review explored the views of PEH on the interventions they received, aligning with societal and client-centred models of health. The societal aspect addresses barriers faced by PEH in accessing dental care through innovative solutions, such as community-university partnerships, while the client-centred approach involves collaborating with PEH to assess intervention feasibility and outcomes. A scoping review by Bradley *et al.* (2023) on dental care models in the UK for PEH echoes these findings. Most services for this vulnerable group are based in community dental services, allowing flexible approaches to patient management due to their sporadic attendance, high treatment levels and complex needs. Bradley's review also found that five of the ten studies did not include patient perspectives or feedback, revealing a gap in knowledge on service implementation and effectiveness, aligning with the findings of this review. The lack of representation of the PEH voice has been highlighted and supports a further limitation of current evidence.

This lack of representation underscores the critical importance of utilising the evidence base to diversify and decolonise the undergraduate dental curriculum. By embedding community-based dental interventions and amplifying marginalised voices, dental education can move

beyond Western-centric, biomedical paradigms and towards more inclusive, socially accountable practice. This shift aligns with the General Dental Council's Safe Practitioner Framework (GDC, 2023), which includes a focus on social accountability, requiring graduates to 'contribute positively to the healthcare communities of which they are a part.' Similar frameworks are already embedded in accreditation systems in the USA, Canada, Australia, New Zealand and Europe (CODA, 2025; CDAC, 2013; ADC / DCNZ, 2021; ADEE, 2017).

Embedding community interventions within undergraduate curricula, as suggested by McAndrew (2010) and Mays (2016), may help foster interest in socially oriented practice, promoting empathy and challenging preconceived perceptions (Behar-Horenstein et al., 2017; Boyd, 2025). This is particularly pertinent given the ongoing recruitment and retention crisis within the NHS dental workforce (Evans *et al.*, 2023) and the trend of new graduates leaving NHS roles for private, aesthetic-focused careers (Jupes, 2023; Karim, 2023), presenting additional barriers to sustained engagement with underserved communities. The recently announced NHS 10-year plan, includes a requirement for newly graduated dentists to work in the NHS for a minimum of three years (Department of Health & Social Care, 2025), offering a potential solution to ease some of these pressures. However, its success will depend on how effectively it is implemented and whether it is supported by broader efforts to make NHS careers more attractive and socially meaningful.

Lastly, published research lacks representation from high-income countries outside the UK, Australia, the USA, and Canada, for example, the Middle East and Asia. This geographical limitation introduces potential bias (Skopec *et al.*, 2020), leading to an overrepresentation of Western health models and intervention strategies. To develop a more comprehensive understanding, future research should include a broader range of high-income countries to

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ensure globally applicable findings that consider diverse cultural, socioeconomic, and healthcare contexts.

It is important to highlight the strengths and limitations of this review. The search strategy was restricted to online resources, and papers were limited to those written in English from high-income countries. Additionally, scoping reviews are often perceived as less rigorous compared to systematic reviews. However, the use of the PRISMA-ScR partly mitigated this limitation. A further limitation of this scoping review is the absence of critical appraisal of the included studies. Given the heterogeneity of methodologies across the included literature, the application of a single appraisal tool was neither feasible nor appropriate. Moreover, critical appraisal is not a mandatory component of scoping review methodology (JBI, 2024). Nonetheless, it is recognised that incorporating a quality assessment could have strengthened credibility of the findings.

Considering the findings, some key recommendations for future research and educational developments are summarised below.

Direction for future research:

- Subsequent reviews in this field should aim to include literature published in languages other than English to broaden the scope and inclusivity of findings.
- Future reviews should incorporate global data, ensuring representation from low and middle-income countries to provide a more comprehensive understanding of the topic.
- Primary research should adopt longitudinal designs to evaluate the sustainability and long-term impact of community-based dental interventions delivered by dental students to PEH.
- There is a need for primary research that addresses the geographical underrepresentation of regions such as Asia and the Middle East.

Educational recommendations:

- Dental schools should critically evaluate and adapt their curricula to support the development of socially accountable practitioners. This could involve integrating community-based dental interventions into undergraduate training programmes.
- To facilitate the inclusion of such interventions, dental schools should strengthen partnerships with local communities, enabling students to engage in authentic and contextually rich learning experiences that promote empathy and challenge preconceived notions.

Conclusions

This scoping review demonstrates that community-based dental interventions delivered by dental students are effective in producing a range of positive outcomes for PEH. The interventions were consistently associated with high participant satisfaction, improved oral health knowledge, and intentions to adopt better hygiene practices. Additionally, the respectful and professional interactions with students fostered confidence and a sense of dignity among participants, contributing to psychosocial benefits such as enhanced self-esteem and social integration.

While the short-term nature of the studies restricts conclusions about long-term impact, the immediate benefits, both clinical and emotional, are clear. However, the review also highlights significant gaps in the literature, including limited participant feedback, underrepresentation of PEH voices, and a lack of longitudinal data. These limitations suggest a need for more inclusive, long-term, and geographically diverse research to fully understand the sustainability and global applicability of such interventions.

Beyond clinical outcomes, community interventions have broader implications for dental education and public health. Embedding these interventions into undergraduate curricula can foster socially accountable practitioners, challenge biases, and address systemic barriers to

care. This aligns with existing dental accreditation standards and responds to workforce challenges by promoting meaningful engagement with underserved populations.

In summary, student-delivered community-based dental interventions are not only effective in improving oral health outcomes for PEH but also serve as a powerful educational tool to cultivate empathy, professionalism, and social responsibility in future dental professionals.

Table 1: Inclusion/ Exclusion criteria

Criteria	Inclusion	Exclusion
Population	People experiencing homelessness, regardless of age, gender, or ethnicity.	Populations other than people experiencing homelessness.

Concept	-Outcomes of oral health interventions (e.g., oral hygiene, dental caries, changes to oral hygiene routine). -Reporting the voice of people experiencing homelessness on the intervention.	- Studies not evaluating oral health interventions. - Studies not reporting viewpoints of people experiencing homelessness. - Studies only measuring viewpoints of students on their interaction.
Context	- Community-based dental interventions by dental students. - Studies from high-income countries as classified by the World Bank, 2022.	- Studies involving community-based interventions not related to dental health. - Interventions delivered by dental professionals other than students.
Study Design	- Qualitative, quantitative, or mixed methods primary studies. - All study designs (RCTs, cohort, case-control, cross-sectional, qualitative).	- Editorials, commentaries, opinion pieces, letters
Language	Studies published in English.	Studies published in languages other than English.

Figure 1: PRISMA flow diagram of study inclusion (Page *et al.*, 2020)

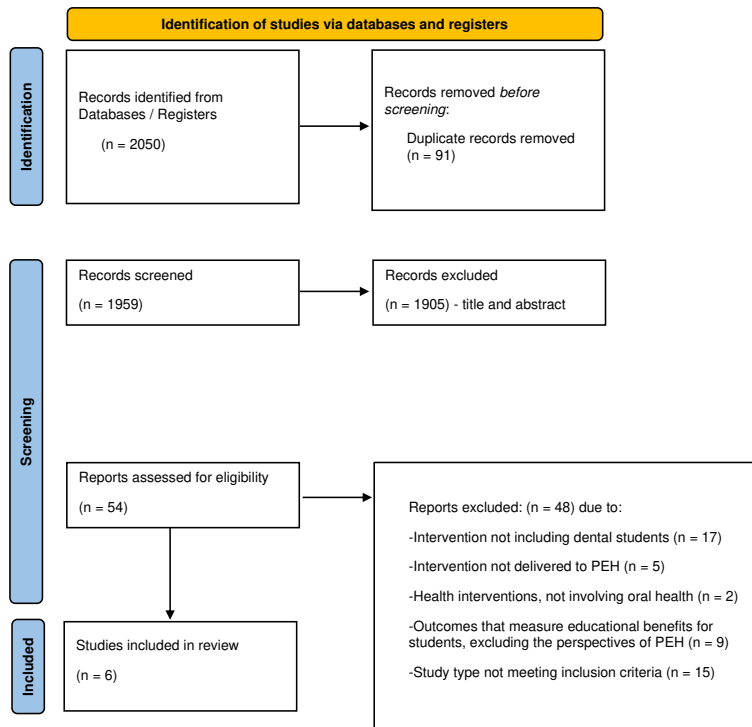


Table 2 – Study characteristics:

Author(s)	Year	Title	Evaluative methods of the study	Country of Origin	Aim	Study Sample and sample size	Method	Intervention	Key Findings
Chandrasekara B., Carnley A & Csikar J	2021	'Can dental students increase oral health knowledge of the Homeless population?'	Quantitative	UK	'Explore the feasibility of a student-led oral health intervention in producing oral health knowledge gain in those experiencing homelessness'	30 homeless participants Demographics: 26 males / 4 females	Pre and post intervention questionnaire with informal comments from participants	Group OHE	The intervention was well received by participants who were happy to learn more about oral health and appreciated the opportunity to discuss oral health with students.
Pritchett R. M., Hine C.E., Franks M.A. & Fisher-Brown L	2014	'Student-led oral health education for the homeless community of East London'	Qualitative	UK	'Explore the feasibility of including dental students in oral health education for homeless populations'	35 homeless patients	Informal conversations with patients	Tailored OHE	The oral health conversations were considered to have been valuable and the authors recommended a tailored approach as appropriate
Stormon N., Pradhana A., McAuliffe A & Forda P.J	2018	'Does a facilitated pathway improve access to dental services for homeless and disadvantaged adults?'	Quantitative	Australia	'Evaluate a system integration model for oral healthcare for homeless people'	76 homeless Patients Demographics: 29 females / 46 males 41-60 years Australian born, not Aboriginal or Torres Strait Island background	Questionnaire and feedback from patients	Triage clinic and OHE	The authors reported that attendance rates were good for student delivered dental screenings. The intervention described as low cost but intensive on staff resource. The university, health service and community organisation collaboration worked well.

Lashley M	2008	'Promoting oral health among the inner city homeless: A community-academic partnership'	Quantitative	USA	'Improve the oral health of the urban homeless population'	279 residents of a homeless shelter Demographics: All male Average age – 38 years 58% Black African American 38% white 4% other	Survey of demographics and risk factors	Clinical treatment and OHE	Participants expressed satisfaction with the programme and noted improvements in various aspects, including better appearance, increased confidence in the job market, easier eating, and more frequent smiling
Paisi, M., Withers, L., Baines, R., Worle, C & Witton, R	2020	'Evaluation of a community dental clinic providing care to people experiencing homelessness: A mixed methods approach'	Mixed methods	UK	'Evaluate the impact and acceptability of a care model for people who experience homelessness from a patient perspective and examine the barriers and enablers to providing and using the service'	89 homeless patients Demographics: 62 males / 27 females Average age 38.43 years (range 20-65) Majority British nationals	Focus groups and semi structured interviews with patients	Triage clinic	The student contact with residents at the residential homeless centre as the first step in their community care dental pathway was reported to have encouraged attendance and engagement at latter appointments
Rowan, MS., Mason, M., Robitaille, A., Labrecque, L & Tocchi, CL	2013	'An innovative medical and dental hygiene clinic for street youth: Results of a process evaluation'	Mixed methods	Canada	'Evaluate the medical and dental hygiene clinic for street youth with a focus on program fidelity, dose, reach and satisfaction and identify any problems that the clinic had with implementation'	72 youth homeless patients Demographics: 22 male / 50 female 15-22 years with a mean age of 19	Descriptive statistics for 72 homeless patients and focus groups of participants.	Clinical treatment	Treatment provided by dental hygiene students was accessible to street youth although suggestions for improvement were to improve signage to the clinic and remain open for more days and longer hours

Table 3 – Oral health interventions

Study	Intervention Type	Details
Chandrasekara <i>et al.</i> (2021)	OHE	10-minute drop-in sessions for 30 PEH at a care shelter in Leeds, UK. Topics: diet, smoking, alcohol, NHS services.
Pritchett <i>et al.</i> (2014)	OHE	Tailored chairside OHE by students in East London, UK. Topics: diet, smoking, alcohol, NHS services, oral cancer, periodontal disease.
Stormon <i>et al.</i> (2018)	OHE & Clinical	Triage sessions and tailored OHE by dental students, qualified dentists, and oral health therapists. Patients assessed and offered treatment appointments within the same week in Brisbane, Australia.
Lashley (2008)	OHE & Clinical	Interdisciplinary approach at a faith-based centre in the US. OHE by nursing students, dental care by dental students, prevention, and cleaning by dental hygiene students.
Paisi <i>et al.</i> (2020)	Clinical	Student triage clinic for PEH by Peninsula Dental Social Enterprise in the UK. Patients then referred for urgent/routine treatment by a salaried dentist.
Rowan <i>et al.</i> (2013)	Clinical	Dental hygiene treatments for street youth (ages 12-20) in Ontario, Canada.

Table 4: Outcomes by theme

Author	Experience of the Intervention		Impact of the Intervention		
	Usefulness	Feedback on student interaction	OH knowledge gain	Better OH behaviour	Improved QoL
Chandrasekara <i>et al</i> (2021)	100% found the sessions useful, 77% wanted more sessions	-	Knowledge based scores rose from 49% to 86%; major improvement in understanding not to brush after vomiting (3% to 80%)	97% planned to improve their OH routine	-
Pritchett <i>et al</i> (2014)	97% (n=35) found the oral health education useful	-	-	-	-
Stormon <i>et al</i> (2018)	38% gave feedback with the key points; information was useful, calm and positive environment and flexibility of appointments were good	Positive comments on student professionalism and clarity “Very helpful...explained what was happening with my teeth.” “Everyone has been very professional and lovely and very considerate and thoughtful.”	-	-	-
Lashley (2008)	All participants were happy with the quality of dental treatments and care received	-	All participants showed a 2 to 4 grade improvement in OH knowledge	All felt empowered to improve oral care	94% confidence increase, 100% better appearance, 78% more positive about job prospects, 78% eating easier 89% smile more often
Paisi <i>et al</i> (2020)	Increased confidence to seek treatment	Initial student contact encouraged attendance at later appointments	-	-	-
Rowan <i>et al</i> (2013)	-	Positive feedback on student politeness and professionalism: “My experience at the dental clinic were really well. The interns were really polite and they weren’t rude at all, they were very presentable”.	-	-	-

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