

REVIEW

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# Improving access to healthcare services for people experiencing homelessness: evidence from a scoping review of interventions

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## Abstract

**Purpose** People experiencing homelessness display substantial health inequalities when compared to the housed population. Existing studies on access tend to focus on isolated initiatives within specific geographic contexts, often lacking in comparative analyses. The research aims to address this gap, answering to the question “*which types of interventions support access to care for people experiencing homelessness?*” and thus providing evidence on the types of interventions that foster access to healthcare services for people experiencing homelessness.

**Design** We performed a scoping review of scientific literature published between 2000 and 2023. Included studies focused on interventions improving access to care services for people experiencing homelessness. Qualitative and quantitative data were extracted, and findings were synthesised and assessed against the Levesque framework of access to care.

**Findings** Forty-eight studies were included. Healthcare services varied from primary care to outpatient, mental health, prevention, emergency and hospital-based care. Four main types of interventions were determined, answering various access needs. Outreach and community-based interventions were found to ensure available and acceptable responses for people experiencing homelessness; case management and peer support were considered relevant for navigation across and towards services; service integration and coordination efforts were deemed as essential in offering complete responses for multifaceted and complex needs; and digital healthcare interventions proved to make health information more reachable.

**Originality** This paper sheds light on the inner complexity of this target population and informs about valuable strategies and approaches that can be pursued when designing and implementing interventions to improve people experiencing homelessness access to care.

**Keywords** People experiencing homelessness, Healthcare access, Vulnerability, interventions

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## Introduction

People experiencing homelessness face significant health inequalities compared to the housed population (Aldridge et al., 2018), as they are disproportionately affected by physical and mental illness, substance abuse, and the long-term burden of chronic diseases (Fazel et al., 2014; Lewer et al., 2019; van Dongen et al., 2019). These health problems are often heightened by complex life circumstances and events, such as early childhood trauma, frail social networks, poverty, and unemployment. Evidence shows that the utilisation of primary and preventive healthcare services among people experiencing homelessness is not sufficient (Lewer et al., 2019), resulting in individuals seeking care in more precarious conditions, frequently in acute and emergency care (Amato et al., 2019; Salhi et al., 2018), even though it might be inappropriate for their needs (Cheallaigh et al., 2017; Wadhwa et al., 2019). Part of the health inequalities derive from their unequal access to mainstream healthcare services, which is further reinforced by their scarce knowledge of extant services (Keogh et al., 2015). A complex interplay of individual vulnerabilities and organisational features hinder access to healthcare services (Omerov et al., 2020).

The existing literature finds several barriers that people experiencing homelessness may encounter when accessing healthcare. First, there are vulnerabilities related to this population's tendency to postpone care or prevention in favour of other more compelling needs such as food, water, and security (Biederman et al., 2014), the lack of social insurance and registered residence (Corrigan et al., 2015), and frail or inexistent social networks (Gültekin et al., 2014). Secondly, even unwillingly, they may perceive being discriminated, disrespected, stigmatised, or judged by healthcare professionals (Jenkins & Parylo, 2011; Reilly et al., 2022; O'Carroll & Wainwright, 2019). Third, hurdles might arise due to structural and organisational features of services, which include fragmentation between health and social care (Hudani et al., 2024), disconnections between support services and housing policies (Forchuk et al., 2007), and limited service availability in time and space (Kertesz et al., 2014). Evidence shows that several additional factors, such as age, gender, and legal status, might impact the health outcomes of people experiencing homelessness and further worsen access to services (Haggerty et al., 2020).

As experiences of access tend to differ so substantially, the same fragmentation is found in the available evidence on initiatives aimed at facilitating access to healthcare by people experiencing homelessness: existing studies tend to be rather descriptive analyses of single initiatives or types of services within specific geographic contexts (Constance & Lusher, 2020; Radó et al., 2022; Ramsay et al., 2019; Sumalinog et al., 2017), rarely comparative

(Canavan et al., 2012; Cernadas & Fernández, 2021; Hwang & Burns, 2014), or reporting the qualitative perception of experts and service providers on how to build such services (De Maio et al., 2014). Moreover, the analysed initiatives vary by country, being promoted by various actors, including local or national public agencies, service providers across different sectors (e.g., healthcare, public health, social care), and a multitude of third-sector, civil society, and religious organisations (Fitzpatrick & Stephens, 2014).

Building upon the recent work of McNeill et al. (2022), who reviewed the literature on healthcare access for people experiencing homelessness in Ireland and the UK, we expand the focus of the analysis both in time and geographical coverage. McNeill et al. (2022) identified staff education, flexibility of systems, service coordination, patient preparedness, complex health needs, and holistic care as key factors influencing access to healthcare services for people experiencing homelessness in the UK and Ireland. The authors acknowledge the primary limitations of their study, including its geographical scope and the need to provide more detailed evidence on the sub-targets of people experiencing homelessness. Our review directly responds to these research calls by broadening the geographical and temporal scope, systematically synthesising evidence on interventions across different levels – individual, organizational and systemic –, across multiple care settings and geographical territories.

This scoping review is grounded in Levesque's access framework (Levesque et al., 2013), which defines access as a dynamic interaction influenced by the features of healthcare services on one side and the abilities of service users on the other. By reviewing the related literature, Levesque et al. (2013) indeed propose a reconceptualization of access "defined as the opportunity to reach and obtain appropriate health care services in situations of perceived need for care" (p. 4). The authors conceptualize access to healthcare as the outcome of an interaction between determinants linked to individuals (such as place of residence, economic resources, and social status) and those linked to services (such as availability, location of facilities, and costs). Services' affordability, for example, does not depend solely on the price of services, but also on people's capacity to pay for them. According to the authors, services are accessible if they are approachable, acceptable, available, affordable and appropriate. To generate access, these five supply-side dimensions of accessibility must be matched with five corresponding abilities of users: ability to perceive, seek, reach, pay and engage. The authors acknowledge that these dimensions are not completely independent constructs, whereas they may influence each other and act at different times during the care path or an episode of care. For example, availability of a service can interact with health literacy of users or

affordability of transportation, and that in turn influences healthcare access. We chose to ground our analysis on this framework because it allows a multidimensional and multifaceted approach for analysing access interventions, considering supply and demand factors at the same time and secondly, it recognizes the dynamic and interactive nature of each dimension.

The objective of this scoping review is to analyze and provide a comprehensive overview of the published literature addressing access to healthcare for people experiencing homelessness. Our findings will provide a comprehensive review of the evidence in order to make recommendations for policymakers and service providers to improve access to healthcare services.

## Methods

### Study rationale and design

We conducted a scoping review to present an overview of interventions supporting PEH access to healthcare services (Munn et al., 2018). We employed Arksey and

O'Malley's five-stage framework (Arksey & O'Malley, 2005), which includes: identifying the research aims, identifying relevant studies, refining the study selection criteria, charting relevant data from each article, and collating, summarising, reporting, and interpreting the results. We reported our process according to the PRISMA Extension for Scoping Reviews (Tricco et al., 2018).

### Identifying research aims

This scoping review aimed to provide a comprehensive overview of the interventions supporting equitable and needs-based care access for people experiencing homelessness, answering to the question: *which types of interventions support access to care for people experiencing homelessness?* We were specifically interested in understanding how these interventions are designed, which offerings they involve, and how they are delivered to the target population.

### Identifying relevant studies

The authors identified and refined the search strategy through an iterative process. First, to choose the key terms, a preliminary analysis of pertinent literature reviews on the topic was conducted (e.g., Dixon-Woods et al., 2006; White & Newman, 2015; O'Carroll & Wainwright, 2019; Omerov et al., 2020; Siersbaek et al., 2021; McNeill et al., 2022). After some preliminary searches to test the algorithm, the final search terms included related words around the two main areas of research: homeless(ness) and access to health(care) services (see supplementary file 1). We performed the final search on June 22nd, 2023, across Scopus, PubMed, and Web of Science, covering articles published since 2000. We adjusted keywords for each database to account for specific syntax. Records from the searches were transferred to the CADIMA online tool (Kohl et al., 2018) that automatically removed duplicates. To test interrater reliability on inclusion criteria between authors, an initial pilot test on 20 records was conducted, with kappa value 0.8 (McHugh, 2012). To ensure higher reliability, 25% of included title and abstracts were screened by two researchers in double-blind. A third author resolved any disagreement. A single reviewer then screened the remaining records at the title and abstract stage.

### Study selection criteria

Eligibility criteria were decided using the Population, Concept, and Context framework (Peters et al., 2022) (Table 1). The Population parameters were defined following the ETHOS (European Typology of Homelessness and Housing Exclusion) framework (Bill, 2012). ETHOS conceptualises homelessness as a multidimensional phenomenon (Amore et al., 2011), encompassing

**Table 1** Eligibility criteria

Eligibility criteria	Inclusion criteria	Exclusion criteria
Publication type	Peer-reviewed primary studies, not limited by language.	Unpublished manuscripts, dissertations, doctoral theses, editorials, opinion pieces, study protocols, reports, conference proceedings, papers or abstracts, letters to the editor, and literature reviews.
Publication Year	After 2000 until the 22nd of June 2023.	Before 2000.
<i>PCC framework</i>		
Population	People experiencing homelessness (PEH), according to the definition of the ETHOS framework.	Generally vulnerable or at-risk populations.
Concept	Interventions affecting access to health and care, according to the interpretation of Levesque et al.'s access framework.	<ul style="list-style-type: none"> <li>• Interventions not focused on access to health and care services (e.g. housing interventions only);</li> <li>• Studies focused exclusively on highlighting barriers and facilitators for access to care;</li> <li>• Studies on perceptions or experiences of people experiencing homelessness without explicit reference to an intervention;</li> <li>• Studies exclusively focused on clinical interventions.</li> </ul>
Context	Health and care systems, encompassing all parts of health systems and health-related parts of social care systems.	Not a health or social care setting.

a continuum from individuals living in severely inadequate or insecure housing to those living rough (Busch-Geertsema, 2010; Busch-Geertsema et al., 2016). To define the Concept, we adopted the Levesque access framework, which defines access as “the interface between the characteristics of persons, households, social and physical environments and the characteristics of health systems, organisations and providers” (Levesque et al., 2013, p. 2). The Context is represented by healthcare settings (i.e., primary, community, and secondary care and specific or disease-focused) without any restriction. Empirical primary studies focusing on interventions supporting access to healthcare services for people experiencing homelessness were selected for analysis. In contrast, literature reviews, conference papers, reports, opinions or commentaries, editorials, or study protocols were excluded. The search was not limited by language.

### Charting the data

A standardised data extraction form was developed to organise information, confirm relevance, and extract study characteristics during the analysis stage. The form contained three main sections: (a) articles’ information in terms of authors, year of publication, journal, country, research design and methods used; (b) the target population according to the ETHOS framework and other relevant individual characteristics eventually present describing the target of the interventions; (c) the intervention in terms of main goals and activities, number of participants, geographical scope (either local, national or international) and the healthcare settings primarily involved. We integrated the data extraction form with a fourth section specifically aimed at assessing the included papers based on the theoretical categories of the Levesque’s access framework. In this form, we retrieved information from the results and discussion sections of the included papers organised according to the theoretical dimensions of Levesque’s access framework (approachability, acceptability, availability and accommodation, affordability and appropriateness).

### Summarizing the data

Finally, we qualitatively mapped all identified service characteristics according to the access dimensions, including actors involved and approaches adopted. The mapping enabled authors to establish common patterns (i.e. service mechanisms) emerging across the included studies. These patterns were then discussed and refined through multiple team meetings, leading to consensus and the aggregation of findings into four overarching thematic categories, as detailed in the next section.

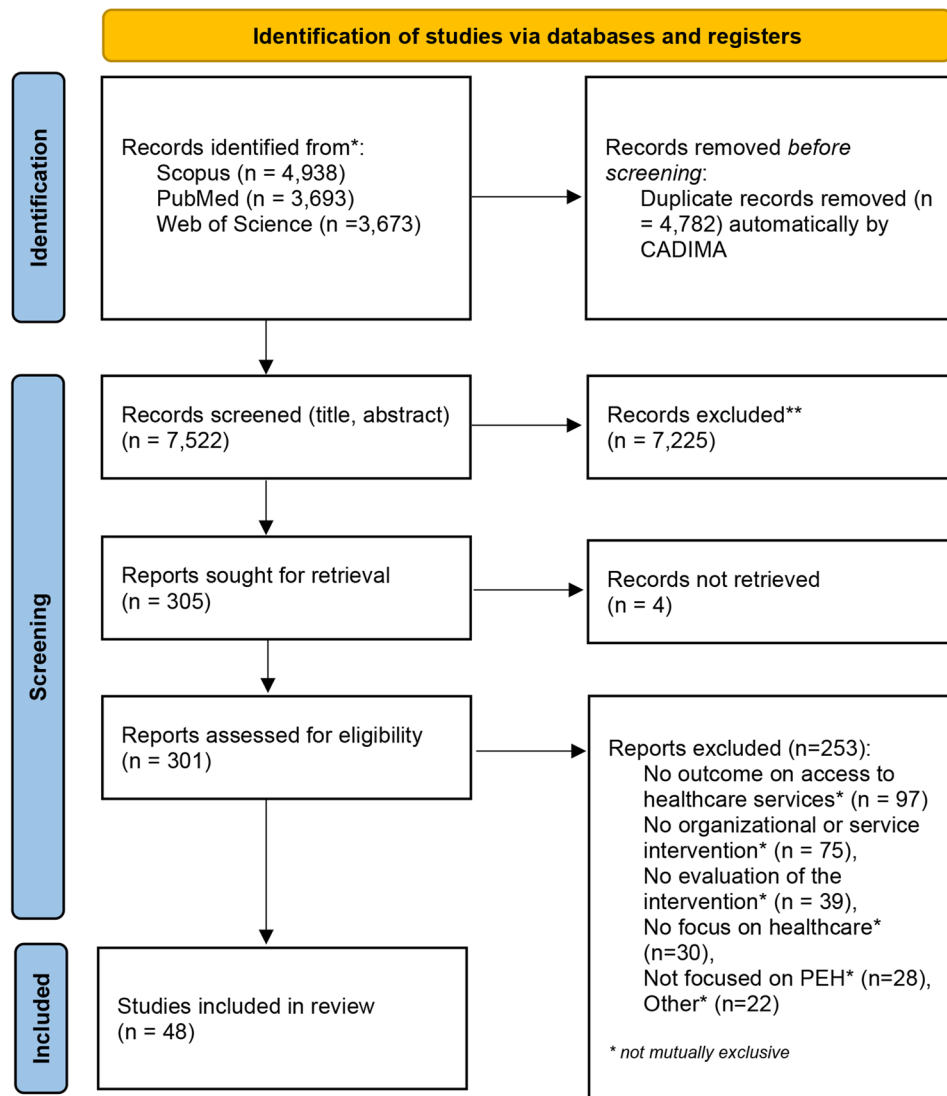
To illustrate how we categorized the included studies according to the access dimensions, the Pharmacy Homeless Outreach Engagement Non-Medical Independent

Rx (PHOENIx) in Glasgow (UK) (Johnsen et al., 2021) is used as an example. In our analysis, this results as an approachable, acceptable, available and appropriate service for people experiencing homelessness: “The PHOENIx service provides weekly ‘pop up, drop in’ outreach clinics at designated times within several local day centers, soup kitchens, an advice hub, homeless hostels, and bed and breakfast hotels (B&Bs) that are commonly used as temporary accommodation in the city” (Johnsen et al., 2021, p. 2). Delivering services directly in these environments makes this intervention *approachable* for people experiencing homelessness, being *available* at the time they need. The team is composed of three pharmacists with independent prescribing qualifications and an outreach worker from a Third Sector homelessness agency. The outreach worker engages informally with individuals, explains the service offerings, builds relationships, and seeks to address issues like housing and welfare benefits. Over time, this intervention evolved from a health-focused clinic to include proactive street outreach. This combination of clinical expertise and social engagement makes the service *acceptable*, addressing not only health needs but also the social, personal, and emotional barriers faced by people experiencing homelessness. Pharmacists in the program prescribe routine primary care medicines and share relevant information with patients’ GP after consultations. When needed, patients are referred to other healthcare providers. By bridging primary and secondary care, the intervention ensures *appropriateness*, guiding patients to the services they need.

### Results

The articles’ search yielded 12,304 citations. After eliminating duplicates, we screened 7,522 citations at the title and abstract levels. This led to the exclusion of 7,225 records and four irretrievable studies. At this stage, for instance, we excluded several abstracts because they cited homelessness as a health risk criterion, without making it the centre of the study. After full-text review of 301 publications, we included 48 full-texts for analysis. At this stage, for instance, we excluded papers that were descriptive of interventions without any reflection on outcomes. Similarly, we excluded studies that focused on outcomes that were not related to our population, such as research in the domain of implementation science. Fig. 1 illustrates the workflow using the PRISMA-ScR diagram (Page et al., 2021), and supplementary file 2 provides the complete list of included citations.

The findings of our scoping review are presented in three parts. First, we describe the characteristics of the included studies, outlining their methodological designs, geographical distribution, and healthcare settings. We then provide an overview of the target populations



**Fig. 1.** PRISMA-ScR flow diagram

according to the ETHOS framework, highlighting the diversity and complexity of individuals experiencing homelessness across contexts. Finally, we present the main types of interventions identified, organised into four overarching themes—case management and peer support, community-based and outreach care, services integration and co-location, and digital healthcare interventions—each mapped against the dimensions of Levesque’s framework to illustrate how they contribute to improving access to care for people experiencing homelessness.

### Studies characteristics

Studies show an uptick in the last few years, from 2020 onward (30 out of 48 papers). Almost one-third of the sample consists of observational studies (14), qualitative methods were used in 10 studies, followed by mixed

designs in nine papers and other methods including surveys (7) and experiments (6). The sample size of interventions’ participants varies, with 22 studies involving less than 50 participants, 12 involving up to 150, 8 involving up to 500, and 5 with more than 500. In contrast, few studies based on large sample sizes derive their data from large-scale programs (e.g. Barror et al., 2019), as in the case of the Homeless Patient Aligned Care Team (H-PACT) program (O’Toole et al., 2016), part of the Ending Homelessness Among Veterans initiative. Furthermore, 13 studies include also data collected from care providers (i.e., healthcare professionals, staff and volunteers operating at homeless centres and organisations, representatives of stakeholder agencies working in partnership with the service, peers or previously homeless individuals) mainly through interviews and surveys.

Themes \ Dimensions of access	Approachability	Acceptability	Availability	Affordability	Appropriateness
Community-based and outreach care	13	14	19	3	13
Services integration and co-location	11	9	20	5	14
Case management and peer support	6	10	12	2	10
Digital health intervention	3	2	4		2

**Fig. 2.** Included papers categorised by categories of interventions and Levesque's framework dimensions of access

In terms of geographical distribution, most of the studies are conducted in English-speaking countries: 24 in the United States, 9 in Australia, 7 in the United Kingdom, 4 in Canada, and 3 in Ireland. In most papers, the services were organised at the organisational or local level, and few involved multiple organisations. The included studies were conducted in various healthcare settings, with primary care and outpatient being the most recurrent (23). Eleven studies analysed services across multiple settings, while prevention and dental care were covered in seven and six studies, respectively. While most papers lacked a specific reference to a disease or a condition (31), some focused on HIV (6), hepatitis C virus (HCV) (5), and various mental health conditions (3).

### The target of interventions

As highlighted previously, we adopted the ETHOS framework to categorize the target population. This framework, developed by the European Federation of National Organisations Working with the Homeless (FEANTSA), conceptualises homelessness as a multi-dimensional phenomenon (Amore et al., 2011), encompassing a continuum from individuals living in severely inadequate or insecure housing to those living rough (Busch-Geertsema, 2010; Busch-Geertsema et al., 2016). The framework defines four main categories along the continuum: (i) rooflessness, implying the lack of any type of shelter or accommodation, (ii) houseless, for those hosted in accommodations, albeit temporary, (iii) living in insecure housing (e.g., with high risk of being evicted), (iv) living in inadequate housing (e.g., in campervans).

Twenty publications included only a generic identification of the population, 20 dealt with roofless individuals and 14 with houseless individuals, while the categories of insecure and inadequate housing were less represented in the sample. Most studies (30) did not restrict samples based on personal and social characteristics within the homeless population. Ten focused on specific subgroups, primarily youth, and seven on U.S. veterans. Few addressed gender, sexual orientation, race, or ethnicity, and only three adopted an intersectional perspective. Participants often had complex health profiles, compounded by chronic homelessness, social isolation, and stigma. Age was a key factor in several interventions (Busen & Engebretson, 2008; Greeson et al., 2020; Stormon et al., 2019). Homeless youth frequently face

family instability, substance use, and exposure to violence, increasing mental health risks (Glover et al., 2019; Taylor et al., 2007); they also exhibit higher rates of HIV/STIs, requiring sustained care (Dodd et al., 2018; Shah et al., 2019). Two studies targeted racially marginalised youth (Dodd et al., 2018; Sivertsen et al., 2022), while Black and Latin individuals were often included in samples without being explicitly targeted (Cunningham et al., 2005; McGuire et al., 2009).

### Interventions for access to care

We identified four main categories of interventions, namely (i) case management and peer support, (ii) community-based and outreach care, (iii) services integration and co-location, and (iv) digital healthcare interventions. These represent strategies that the studies highlight as support mechanisms in access to care for people experiencing homelessness. We used the Levesque's framework to describe how this support unraveled, categorizing the associated dimension of access (Fig. 2).

All papers except one (Lamanna et al., 2018) were found to address more than one dimension of Levesque's framework. Above all, availability was the most recurring aspect of all four interventions categories, especially in service integration and community-based and outreach model interventions. These interventions were found particularly able to ensure service flexibility, as they adapted opening hours, appointment scheduling, and service locations to match the unstable routines of populations experiencing homelessness (Johnsen et al., 2021; Bell et al., 2022; Bennett-Daly et al., 2021). Mobile clinics (O'Carroll et al., 2017; Busen & Engebretson, 2008) and co-located services in shelters or community centers (Stormon et al., 2018; Kherghehpoush & McKeirnan, 2021) improved geographical and temporal accessibility by situating healthcare within easy reach. Availability was also supported by multidisciplinary teams capable of addressing multiple needs in one encounter—health, housing, and social support—reducing the need for multiple service contacts (Ciaranello et al., 2006; MacKinnon et al., 2022).

Appropriateness was found as the second most present dimension: several interventions were classified as appropriate because they ensured continuity, coordination, and suitability of care to the multifaceted needs of people experiencing homelessness. Case management initiatives

such as the Coordinated Access to Care for Homeless People (CATCH) programme (Lamanna et al., 2018) and hospital-to-community transition models (Reid et al., 2022) exemplified appropriateness by aligning services with patient trajectories and providing consistent follow-up. Intensive case management for HIV-positive youth in supportive housing (Dodd et al., 2018) integrated medical, social, and psychological support, achieving a high degree of person-centered appropriateness. Likewise, integrated and co-located services—including nurse-led clinics (Bennett-Daly et al., 2021), multidisciplinary one-stop models (Bell et al., 2022; Imbert et al., 2021), and embedded health teams in shelters (Taylor et al., 2007; McGuire et al., 2009)—addressed overlapping medical and social needs through collaborative, holistic approaches. These initiatives exemplify how appropriateness in access involves not only providing services but tailoring them to the complexity of each patient's situation.

Thirdly, acceptability and approachability appeared to be similarly relevant. Interventions were considered acceptable when they fostered trust, respect, and a sense of safety between care providers and people experiencing homelessness. Drop-in centers offering primary care in non-clinical environments (Hirst & Cuthill, 2021) and pharmacist-led outreach programmes (Johnsen et al., 2021) exemplify this, providing welcoming, stigma-free contexts that encourage open communication. Peer support interventions also aligned with the acceptability dimension: peer navigators described by Blonigen et al. (2022), Noland et al. (2023), and Shah et al. (2019) used shared lived experience to build empathy and mutual understanding, reducing feelings of judgement and exclusion that often characterize encounters with mainstream healthcare. These interventions highlight that acceptability stems not only from provider attitudes but also from the emotional and relational climate in which care is delivered. Several interventions were classified as *approachable* because they reduced informational and relational barriers, making healthcare more visible and easier to navigate for people experiencing homelessness. Outreach models such as the Pharmacy Homeless Outreach Engagement Non-Medical Independent Rx (PHOENIx) service in Glasgow (Johnsen et al., 2021) exemplify this dimension, as they bring care directly into familiar spaces such as soup kitchens, hostels, and drop-in centers, where individuals can access professionals informally and without prior appointments. Similarly, mobile clinics run by trainee GPs and outreach workers (O'Carroll et al., 2017; Swabri et al., 2019) enhanced approachability by physically relocating health services to where people live, sleep, and socialize, thereby overcoming the informational distance between services and users. Educational activities embedded in outreach

interventions (Bajis et al., 2019; O'Toole et al., 2015) further contributed to approachability by raising health awareness and promoting self-recognition of care needs.

Lastly, affordability was the least represented dimension in the reviewed literature, largely because most interventions offered free services to users or operated within publicly funded systems. When mentioned, this aspect referred to the absence of financial and administrative barriers, such as fees or proof of insurance. Dental and sexual health interventions (Stormon et al., 2019; Shah et al., 2019) explicitly eliminated user costs, ensuring that treatment and materials were provided at no charge. One study (Reid et al., 2022) explored the use of financial incentives to enhance engagement with mental health and social services, although results indicated that extrinsic motivation alone was insufficient to sustain participation without accompanying improvements in service accessibility. Overall, affordability emerged more as a precondition than a differentiated mechanism of access in high-income settings.

In the following paragraphs, we illustrate the four main categories of interventions identified across the included papers: (i) case management and peer support, (ii) community-based and outreach care, (iii) services integration and co-location, and (iv) digital healthcare interventions.

#### **Case management and peer support**

The presence of dedicated case management professionals or teams who orient towards and across care services was identified as a critical element in 14 papers included in the review (Robinson et al., 2023; Bazzi et al., 2023; Noland et al., 2023; Reid et al., 2022; Paisi et al., 2020; Goeman et al., 2019; Dodd et al., 2018; Lamanna et al., 2018; O'Carroll et al., 2017; Kalofonos et al., 2023; Shah et al., 2019; Nunn et al., 2010; Blonigen et al., 2022; Imbert et al., 2021). Of these, five papers referred specifically to "health navigators", a profile aimed at facilitating access to and coordination of care for people experiencing homelessness. One paper evaluating a health navigator in a community-based palliative care service highlighted their role in providing person-centred support by coordinating medical appointments, connecting users with hospice grocery programs, and applying for medical benefits through social services. These low intensity activities ensured access to equitable care at the end of the life (Robinson et al., 2023).

Three papers describe interventions involving appropriately trained individuals with lived experience of homelessness, namely peer navigators (Blonigen et al., 2022; Noland et al., 2023; Shah et al., 2019). Peer navigators acted as advocates, communicating with healthcare professionals on their behalf, educating co-workers on the needs of this population, increasing health literacy through education, acting as role models, and inspiring

clients with their personal stories of recovery (Noland et al., 2023). Their effectiveness was enhanced when they were trusted by the target population and actively sought out clients in their living environments (Shah et al., 2019). Beyond navigation, peer support improved perceptions of health, encouraged self-care, and reduced inappropriate use of acute services by offering emotional support and shared lived experiences (Blonigen et al., 2022).

In five papers, multidisciplinary teams incorporated or collaborated with case managers. For example, the Coordinated Access to Care for Homeless People (CATCH) programme provided brief case management for homeless adults discharged from hospitals. Case managers assessed patient needs and connected them to a dedicated weekly shelter-based clinic staffed by a nurse, primary care physician and two psychiatrists, addressing immediate health needs while facilitating long-term continuity (Lamanna et al., 2018; Reid et al., 2022). Similarly, a permanent supportive housing program for homeless HIV-positive young adults employed intensive case management teams to deliver services such as home visits, case monitoring, appointment accompaniment, and community referrals. This approach improved care appropriateness, continuity, and reduced hospitalisations (Dodd et al., 2018).

#### **Community-based and outreach care**

Providing care services in community settings and with outreach approaches is frequently mentioned (20). Delivering care on-site – whether at drop-in centres, outreach clinics, or via mobile health units in areas frequented by people experiencing homelessness – enhances patient engagement (Bazzi et al., 2023; Nyamathi et al., 2023; Paisi et al., 2020; Powell et al., 2016; Gazey et al., 2019). These approaches are particularly effective in reaching high-risk individuals who might otherwise avoid or be unable to access mainstream services (Johnsen et al., 2021). Outreach services act as a bridge to both primary and secondary healthcare for those who are reluctant or unable to access alternative provisions (mainstream or specialist ‘homeless’), capitalising on critical moments when individuals are more motivated to address their healthcare needs (Johnsen et al., 2021). For example, one study highlighted that integrating physicians into a community-based outreach team serving HIV-positive people experiencing homelessness improved the use of regular medical care, adherence to HIV-related medications, and perceptions of care quality (Cunningham et al., 2005). Often, outreach and community-based interventions are coupled with educational activities to boost health literacy, sustain self-care (Bajis et al., 2019), and support navigation across care services (O’Toole et al., 2015). Most importantly, on-site, low-threshold and outreach interventions foster trusting and respectful

relationships between patients and care providers (Bazzi et al., 2023; Hirst & Cuthill, 2021; Kalofonos et al., 2023). One paper shows that drop-in centres providing primary care services through general practitioners were perceived as safer and more welcoming, creating a sense of belonging among people experiencing homelessness (Hirst & Cuthill, 2021). Compared to mainstream GP services, these centres provided a more relaxed and communicative atmosphere by non-clinical staff and volunteers, which improved patient comfort and engagement.

Lastly, three papers examined “mobile health clinic or unit”, staffed by combinations of trainee GPs and outreach workers (Swabri et al., 2019), trainee GPs and experienced GPs (O’Carroll et al., 2017), psychiatrists, social workers, outreach workers and support staff (Busen & Engebretson, 2008). Operating in the evenings on the streets or at shelters, these clinics offered low-threshold and low-intensity care, including harm reduction (e.g., needle exchange), needs assessment and soft-wound care, blood tests, vaccinations, and referrals. These mobile units addressed significant gaps in care: one study found that without mobile clinics, more than half of patients would have foregone care due to a lack of affordable alternatives (O’Carroll et al., 2017). Additionally, involving young professionals as trainee GPs in mobile units reduced negative stereotypes, increased empathy, and enhanced understanding of the challenges faced by people experiencing homelessness (O’Carroll et al., 2017).

#### **Services integration and coordination**

Services integration and coordination appear to be a critical factor characterising access interventions (21). Integrating different types of services proves essential to address the complex, multifaceted and evolving needs of people experiencing homelessness (e.g., Khalili et al., 2021; Smelson et al., 2018; Bell et al., 2022; Bennett-Daly et al., 2021; Sivertsen et al., 2022). Integration takes various forms, including:

- (i) *joint casework* and multi-agency meetings during the care path, involving healthcare professionals, statutory services (e.g. housing, police, probation), and voluntary and community sector organisations providing homeless services and housing support (Bell et al., 2022; Sivertsen et al., 2022);
- (ii) *co-location of services* with nurses providing health assessment, treatment of minor illness and patient education directly at emergency homeless shelters (Bennett-Daly et al., 2021), pharmacists performing HIV and HCV screenings in walk-in pharmacies, alongside preliminary risk assessment and counselling, with subsequent referral to community services (Kherghepoush & McKeirnan, 2021), public dental clinics established within

PEH-dedicated centres (Stormon et al., 2018), and mental healthcare services embedded in homeless shelters (McGuire et al., 2009; Taylor et al., 2007); (iii) *multidisciplinary teams* of professionals, consisting of a medical director, nurses, medical clerks and social workers visiting homeless shelters periodically (Ciaranello et al., 2006), or in-reach primary care services for people experiencing homelessness in permanent support housing (MacKinnon et al., 2022). Other examples include low-threshold primary care clinics embedded in hospital wards for HIV-positive individuals experiencing homelessness, staffed by HIV specialists, nurses, social workers, pharmacists, and health navigators to connect clients to community resources (Imbert et al., 2021).

Co-management of the cases and multidisciplinary teams foster knowledge exchange among professionals from different sectors. For example, homeless organisation representatives have expressed the need for appropriate and formal health training to enhance their expertise (Bell et al., 2022). Co-located services also offer several advantages. Firstly, a one-stop-shop model promotes continuity of care, therapy, treatment adherence and facilitates follow-up (Lamanna et al., 2018). Secondly, it ensures more flexible service provision compared to rigid protocols or procedures of mainstream healthcare (Bell et al., 2022; Bennett-Daly et al., 2021). Lastly, providing care in familiar and stigma-free spaces helps build or rebuild trust relationships with healthcare professionals, offering person-centred care valued by people experiencing homelessness (Bell et al., 2022).

Despite the benefits, integrated care initiatives might be challenging to implement because of coordination costs, hurdles in sharing information across organisations, insufficient resources in homeless centres, and conflicting roles or overlapping responsibilities among partners (Bell et al., 2022; Lamanna et al., 2018). One study offers policy recommendations to address these challenges, including: (i) strengthening organisational collaboration and communication pathways; (ii) develop management practices and increasing clinical and therapeutic spaces, (iii) implementing long-term plans supported by adequate evaluations (Bell et al., 2022).

### Digital healthcare interventions

Although less frequently cited (5 studies), digital healthcare interventions are also being developed and implemented for this target population, particularly following the COVID-19 pandemic. Two studies focused on telemedicine services and telehealth visits for individuals living in shelters, assessing feasibility and acceptability from both patient and provider perspectives (Adams et al., 2021; Bekási et al., 2022). One study targeted chronically

ill individuals experiencing homelessness, offering bi-weekly digital visits with GPs and internal medicine specialists, supported by on-site assistants at the homeless centre (Békási et al., 2022). The other involved telehealth clinics for people experiencing homelessness residing in a drop-in centre, already providing mental healthcare, social work and medical services (Adams et al., 2021), staffed with a rotating group of GP residents who alternate between telehealth visits and on-site support. Both studies reported high satisfaction levels among patients and providers, underlining that they can be a valuable solution to avoid inappropriate emergency department admissions, considering that nearly one-third of recruited patients would have visited the emergency department without telehealth visits (Adams et al., 2021). Text messaging are found to be a preferred method for receiving health information and reminders (Adams et al., 2021), showing that asynchronous communication can also be valuable when providing necessary information. However, first-time users of digital healthcare often preferred in-person visits (Békási et al., 2022).

Three studies describe the adoption of digital healthcare apps, offering features such as health information, self-help daily tips, crisis lines and information regarding local mental and social services resources (Glover et al., 2019), searchable databases of local resources and service access (Greenson et al., 2020), and GPS-enabled notifications for paramedics when people experiencing homelessness are present in emergency departments or hospitals (Moczygemba et al., 2021). While the first two apps designed for young adults (18–25 years), ensured the target population's satisfaction and acceptability to access essential services, the GPS-enabled service was ineffective at connecting information on users' location. Glover et al. (2019) stress that: "participants reported receiving the most benefit from the daily tips and surveys [...]. The most used features were the app providing up-to-date resources and the automated self-help system. Interactive features, including the telephone hotline and crowd-based emotional support tool, were the least used features and were rated as the least beneficial" (p. 4). Importantly, all studies highlighted that digital interventions should complement, not replace, traditional healthcare services. As a facilitation tool, these interventions proved effective in providing essential, real-time information and guiding individuals toward mainstream healthcare. When alternatives are unavailable, such solutions represent an ethical and clinically sound strategy for addressing population experiencing homelessness' unmet needs (Glover et al., 2019).

## Discussion

The findings of this study contribute to the current literature by identifying four main strategies aimed at supporting access to services based on health needs: case management and peer support; community-based and outreach care; services integration and co-location; digital healthcare interventions. The results highlight that people experiencing homelessness are primarily conceptualised as those living rough or in emergency settings. Therefore, the current literature tends to focus on those in the most severe housing conditions, often overlooking those in 'intermediate' or less critical situations, such as unstable or unfit housing, whose housing status could worsen. This suggests that homelessness still struggles to be identified as a continuous phenomenon (Amore et al., 2011), spanning different physical spaces and evolving over time (e.g. transitions into and out of homelessness) (Busch-Geertsema et al., 2016). Most interventions were implemented in English-speaking countries (e.g. Miller et al., 2024), often at the local level, in single cities or even neighbourhoods. This localised scope underscores the challenges of scaling up programmes to address larger areas, including the complexity of coordinating multiple providers and recruiting patients effectively.

Coming to the commonalities identified across the studies, they align with Levesque's framework. Above all, availability is the most recurring aspect of all four interventions categories, especially in service integration and community-based and outreach model interventions. The availability of interventions primarily aims to generalise access by addressing factors like location, flexible procedures, means of booking appointments, and operating hours. Outreach interventions, frequently highlighted in the literature, reduce barriers to healthcare access for people experiencing homelessness through flexible appointments in convenient locations (Kopanitsa et al., 2023). These interventions are also acceptable, offering person-centred care in less clinical and more familiar environments, fostering trust between patients and providers, being sensitive to the unique needs of this population. Studies show that community-based and outreach approaches create more reassuring and enabling environments than mainstream services (Ahmadyar et al., 2022; Magwood et al., 2020).

Case management interventions have been frequently associated with the domain of appropriateness. Indeed, the literature acknowledges the fundamental role of case managers in bridging gaps between care services and ensuring smooth care paths for people experiencing homelessness (Miler et al., 2021). This proves to be an essential element in encouraging treatment adherence (Hanlon et al., 2018). In the case of case management provided by peers, then the dimensions of appropriateness and acceptability intersect since peer support and

sharing lived experiences resulted as critical elements in gaining trust from people experiencing homelessness and navigating them across care services. Like case management, service integration and coordination are linked with the domain of appropriateness. Appropriate care for people experiencing homelessness appears to go beyond traditional bio-medical models and embraces bio-psychological approaches (Tankimovich, 2013), developing trauma-informed care services based (Canham et al., 2019). Furthermore, service integration appears associated with the availability domain: indeed, integration, co-location, and multidisciplinary and multi-actor collaboration are all elements that make services more available to people experiencing homelessness, ensuring easier access paths.

Finally, it is worth noticing that affordability is the least present domain throughout all identified themes: when present, the studies highlight the free nature of the service provisions, with absent fees or no requests for proof of insurance (e.g. Stormon et al., 2019). Most, if not all, interventions are indeed gratuitous, given the extreme poverty status of the population, and that this category was only selected whenever there was an explicit reference to the cost (or gratuity) of the service provision. Only one study is explicitly aimed at assessing the impact of financial incentives on service engagement (Reid et al., 2022) and finds that financial incentives may be successful in fostering people experiencing homelessness engagement with care services but not sufficient if intrinsic motivation and perceived necessity of care are lacking. This seems to be coherent with previous evidence suggesting that effective care interventions for people experiencing homelessness would be a combination of financial incentives and improved accessibility approaches (Tankimovich, 2013).

Our work sheds light on an emerging topic: designing and implementing digital healthcare interventions for people experiencing homelessness. These appear primarily oriented to the sub-target of young adult or adolescent individual experiencing homelessness, providing them with essential information on local support resources. Digital healthcare interventions are especially apt to deliver more approachable services with immediate, real-time, updated information. This is coherent with previous literature that supports using information and communication technologies to provide public health information to young people experiencing homelessness while also considering the health-related risks and the need to complement these interventions with traditional care when needed (Lal et al., 2021).

Our findings have several limitations that must be acknowledged. A heterogeneous sample of study designs was examined using a scoping review approach. Yet, their quality and strength of evidence were not assessed,

and no comparison of results was attempted. Second, although a structured approach following PRISMA-ScR guidelines was employed in the process, the primary data sources of included studies may be prone to bias. Third, our analysis did not examine the outcomes of the interventions for at least two reasons. On one side, outcomes of interventions, specified as any criteria of efficiency, effectiveness or impact, were not consistently reported in all studies. On the other hand, even when reported, these were preliminary evaluations carried out using qualitative methods, with limited samples of recipients. Lastly, almost all included studies originated from high-income Western countries, limiting our findings' applicability and transferability to other settings in low- and middle-income countries.

Despite the increasing attention paid to improving healthcare access for people experiencing homelessness, important gaps persist in the existing evidence base. Most studies remain geographically and methodologically limited, focusing predominantly on descriptive analyses from high-income, English-speaking contexts. Future research should therefore move beyond local or single-country perspectives and employ comparative and longitudinal designs to better understand how context, policy, and welfare structures shape the effectiveness and sustainability of interventions. Greater attention is also needed to the diversity within this target population: individuals living in insecure or inadequate housing, women, youth, migrants, and other marginalised groups remain largely under-represented. An intersectional perspective would allow for a more nuanced understanding of how overlapping vulnerabilities influence access to care. Moreover, while the integration of services and community-based approaches emerge as central enablers of access, little is known about the governance, funding, and coordination mechanisms that make such models viable and scalable across different health systems. Similarly, the rapid development of digital health solutions offers promising avenues for facilitating access, yet their actual effectiveness, ethical implications, and inclusivity remain insufficiently explored. Advancing research in these areas—by evaluating implementation processes, and system-level enablers—will be essential to translate existing evidence into policies and practices that ensure equitable, sustainable, and person-centred care for people experiencing homelessness.

## Conclusion

Despite significant health needs, people experiencing homelessness encounter multiple barriers to healthcare. Addressing these requires interventions that transcend specific contexts. This study identifies four key strategies: case management and peer support, community-based

and outreach care, service integration, and digital health interventions. When tailored and combined, these approaches can improve the approachability, availability, acceptability, and appropriateness of care. Policymakers should foster collaboration between health and social services and support innovative, flexible, and deinstitutionalised models that reflect the diverse realities of this population. Future research should extend beyond English-speaking contexts to assess these strategies across varied healthcare systems. Comparative studies and robust experimental or large-scale quantitative designs are needed to strengthen the evidence base for effective interventions.

## Abbreviations

ETHOS	European Typology of Homelessness and Housing Exclusion
FEANTSA	European Federation of National Organisations working with the Homeless (French: Fédération Européenne d'Associations Nationales Travaillant avec les Sans-Abri)
GP	General Practice
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
LGBTIQ+	Lesbian, gay, bisexual, transgender, intersex, queer/questioning, asexual

## Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s40352-025-00384-y>.

Supplementary Material 1.

Supplementary Material 2.

## Authors' contributions

CRedit authorship contribution statement FM: Conceptualization, Writing – original draft, Writing – review and editing, Methodology, Formal analysis, Supervision, Validation; NO: Methodology, Writing – original draft, Writing – review and editing, Validation; CBS: Writing – original draft, Writing – review and editing, Visualization, Data curation.

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## Data availability

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

## Declarations

### Ethics approval and consent to participate

Not applicable, since the research is a review of the published literature and does not report on or involve the use of any animal or human data.

### Competing interests

The authors declare no competing interests.

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