Investigating community-based health and health promotion for homeless people: a mixed methods review

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Abstract

Homeless people are susceptible to a range of health problems, yet in terms of health promotion, tend to be a hard-to-reach, marginalized group. Robust evidence regarding the ability to engage with this population via effective health promotion programmes is essential if policy and practice are to be informed to improve the health of homeless people. A structured review was conducted with the aim of examining what is known about community-based health promotion for homeless people. Six databases were searched and 8435 records screened. Thirteen studies met the inclusion criteria. A mixed-methods ‘combined separate synthesis’ approach was used to accommodate both quantitative and qualitative evidence within one review. Three themes emerged: (i) incorporating homelessness, (ii) health improving and (iii) health engaging. The review has implications for health promotion design, with evidence suggesting that as part of a tailored approach, homeless people must be actively involved in intervention development, ensuring that appropriate, acceptable and potentially effective individual elements are incorporated into community-based interventions.

Introduction

It is well known that homeless people are a diverse population [1] who are more susceptible to physical and mental ill-health [2–5], and who experience poorer engagement with health and health promotion services [6]. Reduced access and engagement with health services is currently explained by attachment theory with a particular focus on the effect of preoccupied and dismissive attachment styles on ‘steady engagement’ [7, 8]. Cockersell et al. [8] reported upon the role of attachment in a brief psychodynamic intervention for homeless clients. They emphasized the need for a tailored approach to counteract the influence of insecure attachment styles and promote ‘steady engagement’. A second factor for ‘steady engagement’ for homeless clients is the setting. An initial scoping of the literature revealed a minimal evidence-base regarding community-based health and health promotion services specifically targeted at homeless populations [6, 9] suggesting the need for a formal and systematic review of the available evidence.

It is essential that robust evidence is readily available on interventions which promote engagement with community-based health and health promotion services so that policy and practice to improve the health of homeless people may be informed. This review aims to systematically examine the literature to explore, ‘What is known about community-based health and health promotion services for homeless people’. The specific objectives are to:

(i) conduct a systematic screening and mapping of the literature on community-based health and health promotion services for homeless people;
(ii) explore to what extent community-based health and health promotion services improve the health of homeless people;
(iii) explore what factors enable homeless people to engage with community-based health interventions.

Methods

Combined separated synthesis

A mixed-methods ‘combined separated synthesis’ approach was used [10–12] to blend quantitative and qualitative evidence within in a single review. This allows a meta-synthesis of the combined quantitative and qualitative evidence which has certain advantages over traditional systematic reviews [13]. For instance, the data search is ‘purposive rather than exhaustive since the purpose is interpretive explanation and not prediction’ [13] and it is not necessary to find every study since the principles of ‘conceptual saturation’ are incorporated into the planning of the search strategy [14]. Therefore, following this methodology, this review started with the broad-based research question, ‘What is known about community-based health and health promotion services for homeless people’ (Fig. 1). A systematic search was undertaken to map and screen the literature on community-based health and health promotion services for homeless people. The identified studies were grouped according to broad design type and were characterized either as ‘intervention’ to describe those of which used quantitative methods with self-report outcomes, or ‘qualitative’ to describe those which used qualitative, ethnographic and mixed-methods approaches. The term ‘qualitative’ was used with caution ‘because it encompassed a multitude of research methods’ [14]. Parallel sub-reviews were then conducted which permitted two sub-questions to emerge (Fig. 1), relating to (i) health and health improvement, and (ii) engagement with health and health promotion services. The quantitative and qualitative findings were merged in an interpretive narrative summary and thematic matrix to address the refined research questions.

Search strategy


For the inclusion criteria (Table II), homeless people were classified in accordance with the European Typology of Homelessness [1]. Health promotion was defined as ‘the process of enabling people to increase control over their health and its determinants, and thereby improve their health’ [15]. Engagement was conceptualized as client preparedness to (i) access the health care when needed, (ii) interact with the healthcare provider and (iii) attend for follow-up [16].

The selection criteria for the included studies were purposively broad and included any primary research or empirical evidence, written in English. The work had to be located in an industrialized country whose participants were adults and/or families experiencing homelessness. For the study to be included its main focus had to consider engagement of homeless people with health or health promotion services (e.g. psychiatric outreach services or sexual health promotion) and to take place in a community setting. The definition of a community setting was intentionally broad and ranged for example from hostels, churches and charity services to food banks, drop-in services and kerbsides (Table II).

Study selection

A total of 12,442 publications were retrieved (Fig. 2). After removal of duplicates, 8,435 records were title/abstract screened by EC. A total of 143 records appeared to potentially match the selection criteria, the abstracts of which were screened independently by EC and MTH. The 143 abstracts were
REVIEW QUESTION
‘What is known about community-based health promotion for homeless populations?’

MAPPING AND SCREENING EXERCISE
1. Systematic and exhaustive searches identified 8,435 citations
2. Retrieval and screening of full papers resulted in 13 studies

Intervention studies (7) Qualitative studies (6)

DATA EXTRACTION AND QUALITY APPRAISAL
Conducted within each study type

Intervention studies
Data extracted from studies to describe their characteristics and assess their methodological quality and risk of bias

Qualitative studies
Data extracted from studies to describe their characteristics and assess their methodological quality

IN DEPTH REVIEW
Conducted across both study types

Emerging themes (across all studies)
Synthesis of findings to answer sub-questions:
1. To what extent does community-based health and health promotion services improve the health of homeless people?
2. What factors enable homeless people to engage with community-based health interventions?

Fig. 1. The review process (adapted from Oliver et al., 2005, Harden 2006; [10, 11]).

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<th>Table I. Ovid MEDLINE search strategy</th>
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then discussed in detail by EC, MTH and RF, particularly the reasons for including or excluding those that were felt to be ‘borderline’. Consensus was reached and a further 120 records were excluded. EC, MTH and RF then independently screened the full text of the remaining 23 publications and a further 11 were excluded. The reference lists of the remaining studies were searched. One additional study was identified that met the inclusion criteria, resulting in 13 studies [17–29]. Seven were classified as ‘interventions’ [17–23] and the remaining six were grouped under the heading ‘qualitative’ [24–26].

Quality appraisal
Quality assessment was carried out using tools appropriate to study type. The intervention studies were rated as good, fair or poor using a modified
version of guidelines developed by the US Preventive Services Task Force Work Group [30]. Good ratings were awarded to studies with theory-related or driven methodologies, valid and reliable experimental design, measures and follow-up rates of >50% of participants. Studies with less rigorous design methodologies, lower follow-up rates but reliable outcome measures, were rated as fair, whereas studies rated as poor had inappropriate study design, low/no follow-up and unreliable outcome measures. Risk of bias was assessed as low, high or unknown using the Cochrane Collaboration tool classification [31]. The NICE Checklist [32] was used to assess the quality of the qualitative studies. Studies with a clearly stated aim, rigorous and reliable analysis were rated as good, whereas studies that did not have a clearly stated aim and unreliable analysis were rated as poor. Qualitative studies were not assessed for bias, given the lack of consensus regarding effective tools to assess bias within qualitative studies [33].

**Data extraction and synthesis**

Data was extracted separately and summaries of the evidence were presented in parallel sub-reviews of the intervention studies and qualitative studies. Each of the parallel sub-reviews included quality screening, descriptive information, information on research methods and study outcomes (Tables III and IV).

The evidence from the two sub-reviews was then combined and a thematic approach taken to organise the main and recurrent themes across the studies. These themes are presented in the form of a narrative summary and thematic synthesis matrix. The thematic analysis was conducted by EC who conducted a line-by-line coding of the content from each paper and drew out the common themes. These line-by-line codes were organized into six descriptive themes which at this point did not go beyond the manifest content of the data. A summary of the six descriptive codes was drafted by EC and reviewed independently by MTH and RF. A qualitative synthesis of the six descriptive codes, through an iterative process of re-reading and re-evaluating the papers and comparing evidence with and between papers, allowed the latent content to emerge as three themes [14].

**Results**

**Intervention studies**

*Study characteristics*

The seven intervention studies [17–23] were peer-reviewed articles published between 2005 and 2011. All seven were conducted in the USA.
Two studies used a randomized controlled trial study design [17, 23]. Two of the investigations were comparison studies: one compared two health and housing initiatives [21], and the other compared a comprehensive health service programme with standard health care [22]. Other study designs included a quasi-experimental repeated measures [19] and a pilot clinical trial [18]. The research design of the final intervention study [20] was unclear. Sample sizes ranged from 46 to 572 participants. Six of the studies used a control group [17–19, 21–23].

**Population characteristics**
The age of participants ranged from 16 to 61 years. Six studies included both sexes [17–19, 21–23]; the other used only male participants [20].

**Intervention characteristics**
One study was an oral health promotion intervention consisting of three elements: dental health education, screening and referral for care [20], while another study focused on the promotion of sexual health education [19]. Two studies reported on...
<table>
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<tr>
<th>Study reference and design</th>
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<th>Population characteristics and study context</th>
<th>Intervention</th>
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<th>Results/main findings</th>
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<tbody>
<tr>
<td>Goldade et al. [23]</td>
<td>Good Aim and objectives clearly stated.</td>
<td>USA N = 430 ≥18 years Male and female Smokers Residents of homeless shelters and transitional housing units.</td>
<td>Community-based smoking cessation intervention using MI.</td>
<td>Intervention group received NRT and 6 MI counselling sessions. Control group received NRT and single brief advice session.</td>
<td>Cotinine-verified 7-day point-prevalence abstinence at 6 months. Secondary outcomes included adherence to NRT patch assessed through direct observation and patch counts.</td>
<td>Engaging shelter staff prior to programme provided valuable insights that benefited the study design. Recruitment and retention enhanced by locating programme at shelters, and by rapport between staff and participants. Importance of reminding participants of follow-up visits via effective communications to promote engagement.</td>
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</table>
| Mares and Rosenheck [22]  | Good Aim and objectives clearly stated.             | USA N = 385 Male and female Mean age 45 years Chronically homeless people. | Collaborative Initiative on Chronic Homelessness (CICH) programme, to provide comprehensive range of health, housing and treatment | Control group received usual local care. | Client outcome domains based on self-report: service use, housing status, community adjustment, mental and physical health status, substance use, income | CICH clients receive more mental health services and substance abuse treatment, more case management and more outpatient treatment services than comparison group. | (continued)
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<tr>
<td>Two groups, five sites.</td>
<td>Good High follow-up (90%). USA N=83 Male and female Homeless people with serious mental illness and substance abuse accessing housing and treatment programmes.</td>
<td>Housing First (HF): housing offered without requiring treatment adherence or sobriety. Treatment First (TF): requirement of detoxification and sobriety before giving access to independent housing.</td>
<td>services to chronically homeless.</td>
<td>and healthcare costs. Trust in physician scale. 7-item therapeutic alliance scale. Medical Outcomes Study Short Form (SF)-12 mental health subscale. 3 subscales from Brief Symptom inventory (BSI). Observed psychotic behaviour scale. Addiction Severity Index (ASI)</td>
<td>CICH clients housed an average of 52% more days than comparison group participants.</td>
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*Padgett et al. [21]*
Comparison of effectiveness of two health and housing initiatives for mentally ill homeless persons.

Two groups.

Client outcome measures included ethnicity, gender and age. Group differences were assessed including history of rehabilitation programme and substance use at baseline, rehabilitation and substance use during the study and absent from the programme.

Housing First participants have lower rates of substance use and are less likely to leave the programme.
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<tr>
<td>Lashley [20]</td>
<td>Poor: Unreliable measures. Follow-up &lt;50%. High risk of bias. USA</td>
<td>N=279 22–61 years Houseless Male residents of inner-city shelter, enrolled in addiction recovery programme.</td>
<td>Oral health promotion intervention to promote awareness, screening and referral to dental care.</td>
<td>No control group.</td>
<td>Receipt of oral health education. Receipt of oral health screening. Receipt of treatment services. Self-styled exit questionnaire.</td>
<td>279 residents received oral health education. 203 residents received oral health screening. 218 residents received dental treatment. 18 residents completed exit questionnaire.</td>
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<td>Okuyemi et al. [18]</td>
<td>Good Intention to treat analysis, Reliable and valid measures, Follow-up 68%</td>
<td>USA $N=46$ ≥18 years Male and female Homeless/roofless Smokers Homeless service users</td>
<td>Community-based smoking cessation intervention, Tailored intervention using MI</td>
<td>Intervention group received NRT with MI addressing smoking behaviour and other potential barriers to quitting. Control group received NRT with MI addressing smoking behaviour only.</td>
<td>Fagerstrom test for Nicotine Dependence. Hughes and Hatsukami withdrawal scale (1986). Perceived Stress Scale National Household Survey on Drug Abuse questions. Primary cessation measure: 7-day abstinence from smoking at weeks 8 and 26.</td>
<td>Willingness of homeless smokers to engage with a formal programme. Majority of participants attended 60% of intervention sessions, 68% of participants took part in week 26 follow-up. Abstinence and quit rates higher in group receiving NRT in combination with MI addressing smoking (continued)</td>
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<td>Bradford et al. [17]</td>
<td>Good Reliable and valid measures, Blinded outcome measurement.</td>
<td>USA $N=102$ $\geq18$ years Male and female Residents of emergency shelter with psychiatric and/or substance misuse issues.</td>
<td>Shelter-based intervention to support transition to and encourage engagement with outpatient psychiatric care in a community health centre (CMHC).</td>
<td>Control group received standard care.</td>
<td>Baseline: Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) Initial appointment at CMHC Attendance at 2nd and 3rd appointments Participation in substance misuse programme Employment and housing status at shelter exit.</td>
<td>Abstinence from substances in 30 days prior to weeks 8 and 26. and other barriers to quitting. Evidence of beneficial role of MI in changing addictive behaviours and engagement with smoking cessation programme. Participants receiving intervention more likely to engage with CMHC appointment (but not 2nd/3rd appointments). Substantial effect on engagement with the substance misuse programme.</td>
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Table IV. Qualitative studies included in the review

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<tr>
<th>Study reference and design</th>
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<th>Outcome measures</th>
<th>Results/main findings</th>
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<tr>
<td>Cameron et al. [29]</td>
<td>Good</td>
<td>UK ( N = 27 )</td>
<td>Housing and healthcare support outreach service for homeless or at risk of homelessness, HIV* and little or no access to health services.</td>
<td>Housing status and perception of health status of service users. Access to and engagement with services.</td>
<td>Service users showed health improvement at 3/6 month reviews. All tenancies maintained after 15 months. High levels of satisfaction and improved quality of life among service users. Role of support workers crucial in supporting client engagement with health services. Health promotion model that allows immediate concerns (need for housing) to be addressed before health issues.</td>
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<tr>
<td>Evaluation of pilot housing support outreach service, via project evaluation reports and practitioner and service user interviews. Before and after design.</td>
<td>Rigorous analysis. Relevant findings and conclusion. Ethical considerations reported.</td>
<td>23–51 years Male and female Houseless/roofless HIV* Outreach service users.</td>
<td>Quarterly project reports. Semi-structured interviews with 13 service users.</td>
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<tr>
<td>Swigart and Kolb [28]</td>
<td>Good</td>
<td>USA ( N = 55 )</td>
<td>Public-health disease detection programme (description of factors influencing uptake or rejection of TB screening)</td>
<td>n/a</td>
<td>Fifty participants accepted screening. Motivations were medical history, concern about health, and fear of illnesses relating to smoking. Active role of shelter staff in encouraging compliance. Early addiction recovery period is optimal time for emphasis on health promotion. Range of reported health conditions (cardiovascular, arthritis, pneumonia, dental, eyesight). Barriers to accessing service. Inappropriate advice received. Lack of continuity of care. Participants lacked basic requirements for healthy ageing. Retaining independence as core value.</td>
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<tr>
<td>Qualitative, semi-structured interviews. One group.</td>
<td>Aim clearly stated. Rigorous methodology. Reliable measures. Reliable analysis. Findings relevant to aim.</td>
<td>20–60 years Male and female Sheltered or street-dwelling.</td>
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<td>Quine et al. [27]</td>
<td>Good</td>
<td>Aus ( N = 32 )</td>
<td>Needs assessment to examine scope and relevance of health promotion for older homeless males.</td>
<td>n/a</td>
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<tr>
<td>Ethnographic, semi-structured interviews. One group.</td>
<td>Clear aim. Reliable methods. Conclusions adequate.</td>
<td>50–89 years Male Insecure housing, no fixed abode or long-term resident in emergency shelter.</td>
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<tr>
<td>Rew et al. [26]</td>
<td>Good</td>
<td>USA N=22 16-20 years Male and female Homeless 16- to 20-year olds who sought health and social services from a street outreach programme.</td>
<td>Needs assessment to n/a explore participants’ perceived need and identify key elements in development of a health promotion intervention. Theoretically underpinned by the theory of reasoned action and social learning theory.</td>
<td>Health maintaining and promoting activities identified: physical activity, social activity, healthy eating. Participants described attitudinal and environmental barriers against STD prevention and sexual health promotion. Participants suggested components of ‘respectful’ and non-judgemental health promotion interventions increased engagement with services as a result of: • educational information, protective strategies, communication • education through gender-specific group forums (peer-led groups or information provided by health professional) • wider availability of accessible small media. Health-related needs included finding sympathetic GP/GDP, coping with drug/alcohol issues, help with mental health problems. Access to information and services is main problem: co-ordination of homeless services. Health is not always immediate priority. Big Issue vendors seen as potential channel to convey health</td>
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<td>Power and Hunter [25]</td>
<td>Good</td>
<td>UK N=114 Male and female Big Issue vendors 74% &gt;35 years Mean age 26.5 years.</td>
<td>Group 1: needs assessment to identify health promotion needs of homeless people. Group 2: interviews to determine the social networks of Big Issue vendors and suitability for peer education.</td>
<td>(continued)</td>
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that used nicotine replacement therapy (NRT) and motivational interviewing (MI) [18, 23]. One study reported on the outcomes of two health and housing initiatives for homeless mentally ill populations [21]. Another study compared a comprehensive health and housing intervention to promote homeless people's engagement with psychiatric services [17].

### Assessment measures

Five studies [17–19, 22, 23] used established assessment measures (Table III). The remaining studies [20, 21] used self-styled or unspecified assessment methods, including in-depth interviews [21] or follow-up questionnaires on the programme [20].

### Intervention effects: extent of health improvement

In the shelter-based psychiatric trial [17], participants in the intervention group receiving intensive psychiatric outreach and weekly psychiatrist visits were more likely to attend subsequent appointments at a community mental health centre (6.47% versus 37.3%, \( P < 0.006 \)) and to participate in a substance abuse programme (31.4% versus 12.5%, \( P < 0.006 \)), than those in the control group that did not receive the additional support and continuity of care. The smoking cessation pilot clinical trial [18] involved testing of two forms of MI [36, 37] in combination with lozenge or patch forms of NRT [38], while the other trial [23] involved testing adherence-based MI [39] combined with NRT patches against a single brief counselling session combined with NRT.

### Theoretical perspectives

Two of the studies [18, 19] based their interventions on evidence-based behavioural change approaches or theoretical models. The sexual health intervention by Connor et al. [24] was developed based on Social Cognitive Theory [34] and the Theory of Reasoned Action [35]. One of the smoking cessation trials [19] involved testing of two forms of MI [36, 37] in combination with lozenge or patch forms of NRT [38], while the other trial [23] involved testing adherence-based MI [39] combined with NRT patches against a single brief counselling session combined with NRT.

Table IV. Continued

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<td>Connor et al. [24]</td>
<td>Fair</td>
<td>USA 24-65 years</td>
<td>Participant-driven peer education project to increase health knowledge and empowerment enabling them to serve as health educators, using the educational process model.</td>
<td>Enhanced health knowledge, sense of empowerment and self-esteem. Participants setting own goals and determining shape of project. Sharing health education with others.</td>
<td>promotion messages given their wide social network. Participant peer educators set agenda, chose topics and determined goals. Peer educators achieve sense of empowerment, and self-confidence. Significant amount of project time spent on learning information relevant to drug/alcohol recovery. Peer educators made 40–50 ‘contacts’ per month.</td>
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individual motivational sessions to participants [18], showed that the quit rate at 26 weeks was higher in the group receiving NRT in combination with MI which included smoking behaviours, addiction behaviours and life events (26.7% of participants), than controls who received NRT and MI which focused only on smoking (15.4%). For non-quitters, the mean change in the numbers of cigarettes smoked daily from baseline to week 26 was 10.2 (SD = 9.3) and 6.5 (SD = 6.4) in the intervention and control groups respectively ($P < 0.512$). The sexual health promotion intervention [19] showed that an outcome was increased self-reported AIDS/STD knowledge. Intervention compared with control participants had higher knowledge scores at follow-up; however, no differences were found between groups for other cognitive-perceptual measures (e.g. self-examination) and/or behavioural measures (e.g. safe sex behaviour).

**Intervention effects: engagement with health promotion**

All seven intervention studies reported positive effects in participants’ engagement. Okuyemi et al. [18] noted that homeless smokers who were interested in quitting smoking were willing to engage with the programme. The majority of participants attended for at least three of the five individual MI sessions, and 68% participated in the 26-week follow-up. It is suggested that this degree of engagement was associated with the five individual and six group counselling sessions [19]. Lashley [20] reported that all 279 participants taking part in an oral health promotion intervention received dental health education with over 200 participants receiving oral health screening and treatment. She [20] suggested that engagement was achieved by proactively addressing the felt needs of this client group. One hundred and two homeless individuals were recruited to participate in the shelter-based psychiatric trial [17]. An increased proportion of intervention participants attended appointments at community mental health clinics. The authors noted, as Lashley [20], the importance of initial/early pre-treatment engagement to promote adherence with mental health services [17]. In terms of design, Rew et al. [19] support the need for tailoring and gender-specific interventions to promote engagement with sexual health promotion. Goldade et al. [23] noted that engaging with shelter staff at an early stage was beneficial to programme design. Recruitment and retention was increased by locating the programme, including follow-up visits, at shelter sites, and was further enhanced by the rapport between staff and shelter residents, thereby increasing the homeless person’s engagement with the programme [23].

**Quality appraisal**

Five of the studies [17, 18, 21–23] were rated as good quality due to their rigorous design methodology, valid and reliable measures and >50% follow-up rate. One study was rated as fair [19] due to a less rigorous experimental design and low follow-up rates but being theoretically underpinned by the Theory of Reasoned Action and Social Cognitive Theory. The final study was rated as poor [20] since it had unreliable outcome measures and low follow-up rates.

**Risk of bias within and across studies**

The studies varied in terms of potential bias. Four studies [17–19, 23] reported that participants were blinded with respect to belonging to a control or intervention group. However, the sexual health study [19] employed a quasi-randomization design and therefore the authors accepted a risk of contamination between intervention arms. There were losses to follow-up across all studies, although one study [18] included an intention to treat analysis to help control for loss to follow-up. Self-reporting biases were evident across four of the studies [17–19, 22]. Selection biases ran through two studies [17, 20]. Generalization of results may be limited due to small sample size [18] and sample selection from a single site or geographic location [17, 19].
Qualitative studies

Study characteristics

The six qualitative studies were peer-reviewed articles published between 1999 and 2009. Three were conducted in the USA, two in the UK and one in Australia. Two reported on process evaluations [24, 29], one was an ethnographic qualitative study [27] and the remaining three [25, 26, 28] were qualitative studies that collected data through semi-structured interviews, focus groups and a survey [25]. The two evaluations were of a housing and healthcare support outreach service [29] and a participant-driven peer education project [24]. Sample sizes ranged from 22 to 114 participants.

Population characteristics

The age of participants ranged from 16 to 89 years. Four studies included both sexes [24–26, 28, 29], and the remaining two used only male participants [24, 27].

Study types

Three studies were needs assessments [25–27]. Two were process evaluation studies using qualitative outcomes to report on pilot projects [28, 29], and the final paper [24] was a cohort study.

Theoretical perspectives

Two studies were theory-driven. An education process model [40] was adopted as the framework for the participant-led peer education project [24], and the Theory of Reasoned Action [35] and Social Learning Theory [41] theoretically underpinned the sexual health promotion intervention [26].

Qualitative studies: engagement with health promotion

In the peer education intervention [24], participants experiencing homelessness acted as peer-educators, setting the agenda by choosing topics and determining goals, resulting in improved self-confidence and empowerment. They made 40–50 ‘contacts’ per month with other homeless individuals. Power et al.’s [25] health promotion needs assessment, reported that the reduction of barriers such as judgmental health professionals, lack of coping strategies for drug/alcohol issues, and poor support for mental health problems would be enhanced with greater service coordination and multidisciplinary working within the sector.

The necessity for ‘respectful’ and non-judgmental sexual health promotion was also highlighted by Rew et al. [26]. Describing the attitudinal and environmental barriers to accessing sexual health promotion, they identified potential best-practice components which included peer-led or health professional-led groups, accessible health education information, protective strategies, communication and education through tailored group forums.

Participants in the assessment of the health promotion needs of older homeless men [27] described barriers to accessing appropriate information and services for health conditions as heart disease, arthritis, dental and eyesight problems. Participants lacked the basic requirements for healthy ageing and there was little continuity of care. Retaining independence was a core value for participants however, and with this goal in mind, health maintaining and promoting activities were identified, including physical activity, social activity and healthy eating.

Swigart and Kolb [28] examined adherence with a tuberculosis screening programme. This qualitative exploration suggested that for increased adherence, the programme should be offered during periods of rehabilitation with ‘prominent’ support from shelter staff. The participants’ experience of ill-health together with the wish for health improvement acted as enablers for engagement whereas those who feared stigmatization were less motivated to access screening services [28].

In the housing support and health promotion project [29], service users showed improved health status at 3 and 6-month reviews. All tenancies were maintained after 15 months with high levels of satisfaction and improved quality of life. Staff played a crucial part in supporting client engagement with health services. It was concluded that project success was due to the housing concerns of the homeless person being addressed before his/her health issues.
Quality appraisal

The five studies rated as good were those with a clearly stated aim, rigorous and reliable analysis and findings relevant to the aim [25–29]. One study [24] was rated as fair: although findings were clearly presented, the aims and objectives were not explicit.

Combined evidence thematic synthesis of intervention and qualitative studies

Three common themes emerged from the data which went beyond the manifest content and were conceptualized as a trajectory from ‘disengagement towards engagement’ with health and health promotion services. The first dimension of this trajectory to emerge was conceived as the overarching theme of incorporating homelessness. It is proposed that by incorporating what is known about homelessness and locating health and health promotion programmes within this context will act to prepare all stakeholders for engagement. The next dimension, conceptualized as health improving, unpacks health as a physical, psychological and social triangle hence identifying aspects of health, such as quality of life, which may be used to forge a working relationship (interactions) between stakeholders to improve health. The final dimension is health engaging which emerged as the various parts of the engagement process [16] (Table V).

Incorporating homelessness

The overarching theme of ‘incorporating homelessness’ into health and health promotion interventions emerged from the data. This theme was an integral part of those interventions which had adopted a tailored approach [17–19, 21–24]. These health and health promotion programmes were effective because they had appreciated the importance of incorporating the homeless person’s socio-economic environment, their psychological difficulties [7, 8] and their experience of homelessness [42] into the intervention. Incorporating homelessness meant that these interventions enabled the homeless individual to connect and engage with services. The evidence suggested that when homeless people’s views and opinions were canvassed and incorporated into the development of programmes [21–24, 28, 29], homeless clients experienced a ‘steady engagement’ [8] in terms of their preparedness, interaction and access to health care [16]. Therefore, the issue for community-based health and health promotion, with regard to engagement, is how to incorporate the context of homelessness into their programme. It is proposed that doing so will ameliorate the effects of apparent chaotic life circumstances [47] and provide pathways back to inclusion in which psycho-social and health needs together with more immediate, practical priorities such as housing [21, 22, 29] are addressed.

Incorporating homelessness by addressing life priorities, psychosocial and health needs [18, 24, 25, 28] creates the potential for multi-sectorialism within health and health promotion services [21, 22, 25]. Multi-sectorialism facilitates cooperation between health, housing, social care and other relevant statutory and non-statutory sectors [22, 24, 25] and provides the opportunity for those experiencing homelessness to prioritize their health and non-health-related needs within a context and structure that allows for health improvement [17, 19] and steady engagement [8, 16, 24, 25, 28].

Health improving

This review showed that health improvement outcomes of community-based health promotion were not only located within the physical dimension of health but also in improved psycho-social functioning and engagement with health and treatment services. It emerged that this was a consequence of the positive effect of appropriate health promotion with regard to various aspects of health.

Community-based health promotion that relied on providing inappropriate information to homeless people using a biomedical model of health promotion which concentrates on physical ill-health while ignoring their psychosocial needs and lifestyle requirements has been shown to be ineffective for health improvement [12, 17, 18].

It emerged, however, that when physical ill-health was incorporated into the felt and expressed
<table>
<thead>
<tr>
<th>Themes</th>
<th>From intervention studies</th>
<th>From qualitative studies</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incorporating homelessness</td>
<td>Role of housing support service in health improvement, via joint working between housing, health and social care sectors.</td>
<td>Health needs addressed as secondary outcome of housing support service.</td>
<td>Recognize the link between health and the wider socio-economic context of homeless. Implement a multi-sectorial health and health promotion service models encompassing joint working. Implement a model of health promotion that allows homeless people to address their priority needs first. Implement ‘preventive’ interventions that address the main concerns of target population and include the provision of treatment or a service.</td>
</tr>
<tr>
<td>Health improving</td>
<td>Addressing health promotion needs via preventive interventions can have positive effect on quality of life.</td>
<td>Health concerns and promotion needs identified by homeless people themselves.</td>
<td>Needs assessment should be carried out with target homeless population to identify their main concerns. Information should be tailored to felt need. Appropriate information should be made easily and widely available. The design of health promotion interventions should be tailored to needs and lifestyle of target population, while respecting their individual autonomy.</td>
</tr>
<tr>
<td>Health engaging</td>
<td>Effective communications to promote engagement at follow-up.</td>
<td>Type/format of information required.</td>
<td>Engaging shelter staff prior to programme provided valuable insights that benefited the study design.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Issues around access to and availability of information.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Need for ‘respectful’ and non-judgemental interventions.</td>
<td></td>
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<tr>
<td>Engaging shelter staff prior to programme provided valuable insights that benefited the study design.</td>
<td>Different types of staff ‘roles’, e.g. navigator or advocate.</td>
<td></td>
<td>Train staff working with homeless people to implement health promotion interventions and/or to enhance compliance with preventive programmes. Staff should act as the ‘link’ between the homeless person and available services, thus supporting engagement and the development of positive relationships with service providers. Use MI to address both health behaviours and wider life issues. Recognise that health is a concern for many homeless people and build on this.</td>
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<td></td>
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<td>MI can have effect on changing behaviour.</td>
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<tr>
<td>Participating</td>
<td></td>
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<tr>
<td>Participants willing to take part and expressed concern/interest in their health status.</td>
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<tr>
<td>Early or ‘pre-treatment’ health promotion facilitates engagement with health services.</td>
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<tr>
<td>Homeless people trained as peer educators reported enhanced empowerment and self-confidence.</td>
<td></td>
<td></td>
<td>The potential for homeless people to be trained as peer educators or health advocates and the impact on self-esteem should be explored.</td>
</tr>
<tr>
<td>Past experiences enabled participants in training project to choose topics and lead sessions.</td>
<td></td>
<td></td>
<td>Build on the knowledge and experiences of homeless people.</td>
</tr>
</tbody>
</table>
need of this client group then their degree of inter-
action with health workers increased [5, 35]. There-
fore, when the social health construct of qual-
ity of life [16, 20, 21] emerged, it did so strongly as a
means by which health workers could interact with
their homeless clients [17]. Similarly, interventions
which combined housing solutions with rehabilita-
tion and detoxification programmes [21, 22] demon-
strated improved engagement. Therefore, if health
improvement is to be achieved, the necessity to ap-
preciate the importance of the various aspects of
health and their priority for the homeless client
cannot be overstated. To achieve success health im-
provement interventions must incorporate and be
tailored to the lifestyle and individual needs of the
homeless person [14, 18, 19, 21].

Health engaging
To enable ‘steady engagement’ [8] with health and
health promotion, interventions must incorporate
the context of homelessness into their design
[17, 28], be appropriate in time [17, 20, 24], be
tailored to the individuals’ needs [18, 19] and be
theory driven [18, 19, 24, 26]. The willingness of
homeless people to participate in health promotion
was found to be crucial for engagement and success,
both at individual [18, 23, 27, 28] and intervention
[24] levels. The findings of the intervention studies
[17–23] have implications for community-based
health promotion, suggesting the need for prepar-
ation through early or pre-treatment health promo-
tion [17, 20, 24], the importance of listening to the
valuable insights of stakeholders and adopting a
multi-sectorial approach to facilitate engagement.

This review provided evidence that the availability
and appropriateness of health information and
the effectiveness of its communication [23, 25, 27]
all influenced engagement. The advice provided to
shelter-dwelling older men, for example, to con-
sume hot meals and remain warm was inappropriate;
however, when this health advice was couched in
their main concern to retain their independence,
increased engagement with health promoting activ-
ities was noted [27]. The importance of allowing
homeless people to prioritize concerns was apparent
[5, 6, 25] and notable in the peer-led health promo-
tion interventions [24, 25]. These peer-led interven-
tions utilized the experiences and knowledge of
homeless people as a source of expertise. Adopting
this bottom-up approach allowed the peer educators
to contribute to the design and development of the
intervention and facilitated their role as health ad-
vocates, thus promoting health engagement. These
two studies [24, 25] illustrated the potential for
enhanced participation as a means of preparing for
engagement with others [16].

An integral part of engagement was the ability to
interact with health workers/service providers [16].
Health information and the way it was delivered re-lected not only the felt needs of the homeless person
[18] but also the expressed needs of those working in
the homelessness sector [29, 23]. The relationship
between the client and health workers/service pro-
viders was shown to be of central importance to
promote health aspirations [5] and improve access
to health care [5, 36, 38]. This review illustrated the
need for health workers/service providers/staff to
interact with their clients to enable them to engage
with health promotion activities [19, 20]. Interven-
tion effects were, thus, enhanced by the staff’s
ability to forge relationships, interact closely
[14, 17, 19, 29] and to encourage client engagement.
The evidence [12, 14, 17, 19, 29] supported this
premise, since staff with advanced communication
and negotiating skills and who used techniques such
as MI found it easier to build relationships and
engage clients in a non-judgemental manner even
when addressing issues behind health-harming
behaviours.

Implementing a multi-sectorial model of health
and health promotion [43] allows the interface be-	ween staff and clients with health, social care and
housing services to be promoted, resulting in
increased access [16] and enhanced engagement
[8, 17, 23]. Support workers [29] who adopted the
role of ‘networker/navigator/advocate’ to bridge
organizational/sector boundaries were able to pro-
vide an accessibility link between client and services
to ensure preparedness for engagement [21–24].
This pathway reinforces the view that access to
health and health promotion services is about
preparedness and relationships between all stakeholders in the homelessness sector—the workers and their homeless clients [16, 39].

**Discussion**

The overarching aim of the review was to examine what is known about community-based health promotion for homeless populations. The findings have permitted an understanding of the need to incorporate what is known about homelessness from the perspective of the client group to enable a model of health promotion, with appropriate inputs, activities and outcomes, to be proposed. The evidence suggests that a process exists which requires to be tailored to the specific needs of the homeless client to enable him/her to engage with health and health promotion services. This process is a pathway from preparedness though interaction with others for increased engagement and access to health care and health promotion facilities.

The evidence suggests that within the specific context of homelessness, the inputs for health improvement and health promotion priorities must be those identified by homeless people (preparedness), with the role of staff enabling the formation and maintenance of mutually trusting relationships (interaction) with those experiencing homelessness. Such activities are to ensure steady or enhanced engagement with health promotion activities with overall outcomes being improved psycho-social functioning and health improvement. The evidence, therefore, may inform policy and practice by proposing a client-centred, participative and engagement-driven pathway [16, 18, 19, 23] to promote health improvement within community-based health and health promotion interventions.

There are some limitations however. For instance, the fact that this review was limited to studies conducted in developed, industrialized countries may be perceived as a weakness; however, this decision was taken because the type(s) of homelessness and socio-demographic characteristics of homeless people in emerging economies tends to differ, as do the societal structures and conditions that contribute to, preserve or address homelessness [44, 45]. An additional limitation may be the choice of the combined separate synthesis methodology which necessitates the reporting of the intervention and qualitative studies separately before combining in a thematic synthesis. It is possible that critical information is lost as a consequence of combining; however, in the process of synthesis we ensured that the emerging themes were ‘transferable across the different study contexts’ to ensure the fidelity of the information retrieval [46]. Despite concerns regarding the quality of some of the research and the representativeness of the sampling, the evidence from this work illustrates the difficulties in conducting robust evaluations of community-based health promotion with excluded groups, but shows that appropriately designed community-based interventions will improve the health of people experiencing homelessness.

The review, thus, has implications for health promotion design, to enable homeless people to engage with community-based interventions. The evidence from the quantitative and qualitative data suggests that a tailored approach should be adopted to incorporate the psychosocial needs and life circumstances of this population group into the intervention development phase. Moreover, to enable engagement, homeless people must be actively involved in this development phase, allowing for interaction with stakeholders to ensure that more appropriate, acceptable and potentially effective individual elements are incorporated into health and health promotion interventions—paving the way for their access to services. Adopting this approach to intervention design allows pathways from disengagement towards engagement to be forged, to ensure that there is enhanced and sustained engagement with health and health promotion services for this client group.

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None declared.

References


