Clinical guideline for homeless and vulnerably housed people, and people with lived homelessness experience

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Homeless and vulnerably housed populations are heterogeneous[1] and continue to grow in numbers in urban and rural settings as forces of urbanization collide with gentrification and austerity policies.[2] Collectively, they face dangerous living conditions and marginalization within health care systems.[3] However, providers can improve the health of people who are homeless or vulnerably housed, most powerfully by following evidence-based initial steps, and working with communities and adopting anti-oppressive practices.[1,4,5]

Broadly speaking, "homelessness" encompasses all individuals without stable, permanent and acceptable housing, or lacking the immediate prospect, means and ability of acquiring it.[6] Under such conditions, individuals and families face intersecting social, mental and physical health risks that significantly increase morbidity and mortality.[7,8] For example, people who are homeless and vulnerably housed experience a significantly higher prevalence of trauma, mental health conditions and substance use disorders than the general population.[7,9] Canadian research reports that people who experience homelessness face life expectancies as low as 42 years for men and 52 years for women.[7]

A generation ago, homeless Canadians were largely middle-aged, single men in large urban settings.[10] Today, the epidemiology has shifted to include higher proportions of women, youth, Indigenous people (Box 1), immigrants, older adults and people from rural communities.[13,14] For example, family homelessness (and therefore homelessness among dependent children and youth) is a substantial, yet hidden, part of the crisis.[15] In 2014, of the estimated 235 000 homeless people in Canada, 27.3% were women, 18.7% were youth, 6% were recent immigrants or migrants, and a growing number were veterans and seniors.[10]

KEY POINTS

- Clinical assessment and care of homeless and vulnerably housed populations should include tailoring approaches to a person's gender, age, Indigenous heritage, ethnicity and history of trauma; and advocacy for comprehensive primary health care.

- As initial steps in the care of homeless and vulnerably housed populations, permanent supportive housing is strongly recommended, and income assistance is also recommended.

- Case-management interventions, with access to psychiatric support, are recommended as an initial step to support primary care and to address existing mental health, substance use and other morbidities.

- Harm-reduction interventions, such as supervised consumption facilities, and access to pharmacologic agents for opioid use disorder, such as opioid agonist treatment, are recommended for people who use substances.

Practice navigators, peer-support workers and primary care providers are well placed to identify social causes of poor health and provide orientation to patient medical homes.[16,17] A patient's medical home is "a family practice defined by its patients as the place they feel most comfortable presenting and discussing their personal and family health and medical concerns."[18] Medical care is "readily accessible, centred on the patients' needs, provided throughout every stage of life, and seamlessly integrated with other services in the health care system and the community" (https://patientsmedicalhome.ca). Primary care providers are also well positioned to mobilize health promotion, disease prevention, diagnosis and treatment, and rehabilitation services.[19]

However, the social and health resources available to homeless and vulnerably housed people may vary based on geographic setting, municipal resources, housing coordination, and patients' mental health and substance use–related care needs. In addition, many physical and mental health disorders remain undiagnosed or inconsistently treated because of missed opportunities for care, patient mistrust of the health care system or limited access to health services.[3]

Homeless and vulnerably housed people can benefit from timely and effective health, addiction and social interventions. Our guideline provides initial steps for practice, policy and future research, and is intended to build collaboration among clinicians, public health providers and allied health providers. Values such as trauma-informed and patient-centred care, and dignity are needed to foster trust and develop sustainable therapeutic relationships with homeless and vulnerably housed people.[20,21]

Scope

The purpose of this clinical practice guideline is to inform providers and community organizations of the initial priority steps and effective interventions for homeless and vulnerably housed people. The guideline addresses upstream social and health needs (i.e., housing), as well as downstream health-related consequences of inadequate housing. The target audiences are health providers, policy-makers, public health practitioners and researchers.

Our guideline does not aim to address all conditions associated with homelessness, nor does it aim to discuss in depth the many etiologies of homelessness, such as childhood trauma, the housing market, or the root causes of low social assistance rates and economic inequality. Rather, this guideline aims to reframe providers' approach toward upstream interventions that can prevent, treat and work toward ending the morbidity and mortality associated with homelessness.

A parallel set of Indigenous-specific clinical guidelines is currently being developed by an independent, Indigenous-led team.[22] This process recognizes the distinct rights of Indigenous Peoples, including the right to develop and strengthen their own economies, social and political institutions; the direct links between historic and ongoing colonial policies and Indigenous homelessness; and the need for Indigenous leadership and participation in research that is about Indigenous Peoples.

Recommendations

The steering committee and guideline panel members developed and approved recommendations to improve social and health outcomes for homeless and vulnerably housed people. The order of these recommendations highlights priority steps for homeless health care. We list a summary of the recommendations in Table 1 and we present our list of good practice statements in Table 2. These good practice statements are based on indirect evidence and support the delivery of the recommendations.

The methods used to develop the recommendations are described later in this document. A summary of how to use this guideline is available in Box 2.

Permanent supportive housing

- *Identify homelessness or housing vulnerability and willingness to consider housing interventions.*
- *Ensure access of homeless or vulnerably housed individuals to local housing coordinator or case manager (i.e., call 211 or via a social worker) for immediate link to permanent supportive housing and/or coordinated access system (moderate certainty, strong recommendation).*

Evidence summary

Our systematic review (Tim Aubry, University of Ottawa, Ottawa, Ont.: unpublished data, 2020) identified 14 trials on permanent supportive housing (PSH).[30–43] Several trials across Canada and the United States showed that PSH initiatives house participants more rapidly compared with usual services (73 v. 220 d; adjusted absolute difference 146.4, 95% confidence interval [CI] 118.0 to 174.9);[30] increase the number of people who maintain stable housing at 2 years (pooled odds ratio [OR] 3.58, 95% CI 2.36 to 5.43);[30,40] and significantly increase the percentage of days spent stably housed.[41] No trials showed a significant improvement in mental health symptoms compared with standard care.[30,31,33,34,41,42] Two studies found that the mental health of PSH participants did not improve as much as that of usual care participants (e.g., mean difference –0.49, 95% CI –0.85 to –0.12).[30,31]

The At Home/Chez Soi trial showed small improvements in quality of life for high-needs (adjusted standardized mean difference 0.15, 95% CI 0.04 to 0.24)[30] and moderate-needs (mean difference 4.37, 95% CI 1.60 to 7.14) homeless participants in patients receiving PSH.[41] Youth receiving PSH saw larger improvements in their quality of life during the first 6 months (mean difference 9.30, 95% CI 1.35 to 17.24), which diminished over time (mean difference 7.29, 95% CI –1.61 to 16.18).[44] No trials showed a significant improvement in substance use compared with standard care.[30,33,41–43] Most trials reported no effect of PSH on acute care outcomes (e.g., number of emergency department visits and percentage of participants admitted to hospital).[30,41] However, 2 trials suggest that PSH participants had lower rates of hospital admission (rate reductions of 29%, 95% CI 10 to 44) and time in hospital (e.g., mean difference –31, 95% CI –48 to –14).[34,38,45] One trial found no effect of PSH on job tenure, hours of work per week or hourly wage compared with standard care.[46] Participants receiving PSH may have increased odds of employment, but this depends on the severity of participant needs.[46] One trial found no effect on income outcomes.[46]

Table 1: Summary of evidence-based recommendations

Recommendations and clinical considerations	Grade rating*
Recommendation 1: *A homeless or vulnerably housed person*	Moderate certainty ⊕⊕⊕◯
• Identify homelessness or housing vulnerability and willingness to consider housing interventions. • Ensure access for homeless or vulnerably housed individuals to local housing coordinator or case manager (i.e., call 211 or via a social worker) for immediate link to permanent supportive housing and coordinated access system. **Clinical considerations:** Many jurisdictions will provide alternative housing services for specific marginalized populations, for example, Indigenous people, women and families, youth, those who identify as LGBTQ2+, those with disabilities, refugees and migrants.	Strong recommendation
Recommendation 2: *A homeless or vulnerably housed person with experience of poverty, income instability or living in a low-income household*	Low certainty ⊕⊕◯◯
• Identify income insecurity. • Assist individuals with income insecurity to identify income-support resources and access income. **Clinical considerations:** Consult poverty screening tools when needed (e.g., https://cep.health/clinical-products/poverty-a-clinical-tool-for-primary-care-providers).	Conditional recommendation
Recommendation 3: *A homeless or vulnerably housed person with multiple comorbid or complex health needs (including mental illness and/or substance use)*	Low certainty ⊕⊕◯◯
• Identify history of severe mental illness, such as psychotic or mood and anxiety disorders, associated with substantial disability, substance use, or multiple/complex health needs. • Ensure access to local community mental health programs, psychiatric services for assessment, and linkage to intensive case management, assertive community treatment or critical time intervention where available. **Clinical considerations:** Call 211 or consult primary care providers, social workers or case managers familiar with local access points and less intensive community mental health programs.	Conditional recommendation
Recommendation 4: *A homeless or vulnerably housed person currently using opioids*	Very low certainty ⊕◯◯◯
• Identify opioid use disorder. • Ensure access within primary care or via an addiction specialist to opioid agonist therapy (OAT), potentially in collaboration with a public health or community health centre for linkage to pharmacologic interventions. **Clinical considerations:** Encourage all patients taking opioid medication to have a naloxone kit. Though barriers to prescribing methadone and buprenorphine remain, be aware of new regulations that aim to facilitate OAT access and options in your jurisdiction, in particular for buprenorphine.	Conditional recommendation
Recommendation 5: *A homeless or vulnerably housed person with substance use disorder*	Very low certainty ⊕◯◯◯
• Identify, during history or physical examination, problematic substance use, including alcohol or other drugs. • Identify the most appropriate approach, or refer to local addiction and harm-reduction/prevention services (e.g., supervised consumption facilities, managed alcohol programs) via appropriate local resources such as public health or community health centre or local community services centre. **Clinical considerations:** In case of active opioid use disorder, facilitate patient access to OAT. Patients should be made aware of supervised consumption facility locations (Appendix 1, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190777/-/DC1).	Conditional recommendation

Note: LGBTQ2+ = lesbian, gay, bisexual, transgender, questioning and two-spirited.
*See Box 2 for definitions.
†211 is a special abbreviated telephone number reserved in Canada and the United States as an easy-to-remember 3-digit telephone number meant to provide information and referrals to health, human and social service organizations.

The certainty of the evidence was rated moderate, because blinding of participants and personnel was not feasible in any of the trials we examined as a result of the nature of the intervention. Furthermore, several trials did not employ allocation concealment or blinding of outcome-assessment procedures, which could introduce high risks of detection and performance biases.

Income assistance
• *Identify income insecurity.*
• *Assist individuals with income insecurity to identify income-support resources and access income (low certainty, conditional recommendation).*

Evidence summary
We identified 10 trials on income-assistance interventions, including rental assistance,[47–56] financial empowerment,[47] social enterprise interventions,[48] individual placement and support,[48,54] and compensated work therapy.[52] Our systematic review showed the benefit that income-assistance interventions have on housing stability (Gary Bloch, University of Toronto, Toronto, Ont., and Vanessa Brcic, University of British Columbia, Vancouver, BC: unpublished data, 2020).

Rental assistance increased the likelihood of being stably housed (OR 4.60, 95% CI 3.10 to 6.83).[56] Rental assistance combined with case management increased the number of days in stable housing per 90-day period compared with case management alone (mean

Table 2: Good practice statements to support delivery of care	
Good practice statement	Indirect evidence (reference)
1. Homeless and vulnerably housed populations should receive trauma-informed and person-centred care.	23–26
2. Homeless and vulnerably housed populations should be linked to comprehensive primary care to facilitate the management of multiple health and social needs.	27
3. Providers should collaborate with public health and community organizations to ensure programs are accessible and resources appropriate to meet local patient needs.	28,29

Box 2: How to use and understand this GRADE guideline (www.gradeworkinggroup.org)

This guideline supplies providers with evidence for decisions concerning interventions to improve health and social outcomes for people who are homeless or vulnerably housed. This guideline is not meant to replace clinical judgment. Statements about clinical considerations, values and preferences are integral parts of the recommendations meant to facilitate interpretation and implementation of the guideline. Recommendations in this guideline are categorized according to the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system as strong or conditional recommendations.

Strong recommendations indicate that all or almost all fully informed patients would choose the recommended course of action, and indicate to clinicians that the recommendation is appropriate for all or almost all individuals. Strong recommendations represent candidates for quality-of-care criteria or performance indicators.

Conditional recommendations indicate that most informed patients would choose the suggested course of action, but an appreciable minority would not. With conditional recommendations, clinicians should recognize that different choices will be appropriate for individual patients, and they should help patients arrive at a decision consistent with their values and preferences. Conditional recommendations should not be used as a basis for standards of practice (other than to mandate shared decision-making).

Good practice statements represent common-sense practice, are supported by indirect evidence and are associated with assumed large net benefit.

Clinical considerations provide practical suggestions to support implementation of the GRADE recommendation.

GRADE certainty ratings

High: further research is very unlikely to change our confidence in the estimate of effect.

Moderate: further research is likely to have an important impact on the confidence in the estimate of effect and may change the estimate.

Low: further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

Very low: any estimate of the effect is very uncertain.

difference 8.58, $p < 0.004$).[55] Compensated work therapy was found to reduce the odds of homelessness (OR 0.1, 95% CI 0.1 to 0.3).[52] No income interventions showed an effect on mental health outcomes.[47,52,55,56]

The impact of these interventions on substance use outcomes were mixed. Provision of housing vouchers did not affect substance use over 3 years;[55] however, compensated work therapy showed immediate reductions in drug (reduction: −44.7%, standard error [SE] 12.8%; $p = 0.001$) and alcohol use problems (−45.4%, SE 9.4%; $p = 0.001$), as well as the number of substance use–related physical symptoms (−64.4%, SE 8.0%; $p = 0.001$).[52] These differences, however, tended to decline with time. No significant effects were found on overall quality-of-life, finances, health and social relations scores.

Provision of housing vouchers resulted in higher family-relations score and satisfaction, and quality of housing compared with standard care.[55] One trial reported that rental assistance was associated with reduced emergency department visits and time spent in hospital, but this reduction was not significantly different than in the comparator group.[56] Individual placement and support was found to improve employment rates only when there was high fidelity to the model (OR 2.42, 95% CI 1.13 to 5.16).[54] Financial-empowerment education and provision of housing vouchers had no effect on employment outcomes.[47,55] Financial-empowerment education and individual placement and support had no effect on hourly wages.[47,54] Provision of housing vouchers had no effect on monthly income.[55]

The certainty of the evidence was rated low because several trials introduced high risk of detection and performance bias. Furthermore, 1 trial reported low consent rates of 47% and a 1:4 sampling ratio that further limited statistical power.[52] As well, participants in the control group wanting to enter income-assistance programs after completing the study had incentives to underreport symptoms, which introduced high risk for measurement bias.

Case management

- *Identify history of severe mental illness, such as psychotic or mood and anxiety disorders, associated with substantial disability, substance use disorders, or multiple or complex health needs.*
- *Ensure access to local community mental health programs, psychiatric services for assessment and linkage to intensive case management, assertive community treatment or critical time intervention where available (low certainty, conditional recommendation).*

Evidence summary

Our systematic review examined the effectiveness of standard case management, as well as specific intensive case-management interventions, such as assertive community treatment, intensive case management and critical time intervention among homeless and vulnerably housed populations and corresponding level of need (David Ponka, University of Ottawa, Ottawa, Ont.: unpublished data, 2020). We included a total of 56 citations, of which 10 trials reported on standard case management,[51,57–65] 8 trials on assertive community treatment,[66–73] 16 trials on intensive case management[74–89] and 5 trials on critical time intervention.[90–94]

Of 10 trials on standard case management, 10 evaluated housing stability. Only 3 reported significant decreases in homelessness,[57,62,63] an effect that diminished over time in 1 trial of a time-limited residential case management in which participants in all groups accessed substantial levels of services.[57] A program tailored to women reduced the odds of depression at 3 months (OR 0.38, 95% CI 0.14 to 0.99), but did not show improvements in the women's overall mental health status (mean difference 4.50, 95% CI –0.98 to 9.98).[64] One trial reported higher levels of hostility ($p < 0.001$) and depression symptoms ($p < 0.05$) among female participants receiving nurse-led standard case management compared with those receiving standard care.[60] Few studies reported on substance use, quality of life, employment or income outcomes.

Findings of assertive community treatment on housing-stability, quality-of-life and hospital-admission outcomes are mixed. Two trials found that participants receiving the treatment reported fewer days homeless ($p < 0.01$)[71] and more days in community housing ($p = 0.006$),[70] whereas 2 trials reported no effect on episodes of homelessness or number of days homeless.[66,73] Further, these interventions showed an added benefit in reducing the number of participants admitted to hospital (mean difference –8.6, $p < 0.05$) and with visits to the emergency department (mean difference –1.2, $p = 0.009$).[67] Most trials of assertive community treatment reported no significant differences in mental health outcomes, including psychiatric symptoms, substance use, or income-related outcomes between the treatment and control groups.

Intensive case management reduced the number of days homeless (pooled standardized mean difference –0.22, 95% CI –0.40 to –0.03), but not the number of days spent in stable housing.[78,80,89] In most studies, there was no major improvement in psychological symptoms between the treatment and control groups. However, 1 trial reported significantly greater reductions in anxiety, depression and thought disturbances after 24 months (mean difference change from baseline –0.32, $p = 0.007$), as well as improved life satisfaction (mean difference 1.23, $p = 0.001$) using intensive case management.[86] One trial reported no significant difference in quality of life.[83] Findings on substance use were mixed. Six of the 10 trials reported that intensive case management was associated with improvements in substance use behaviours.[74,78,82,84,87,88] Participants receiving intensive case management reported fewer visits to the emergency department (mean difference 19%, $p < 0.05$) but did not have shorter hospital stays compared with control groups.[85] Intensive case management had no effect on the number of days of employment, or on income received from employment; however, income received by participants through public assistance increased (e.g., mean difference 89, 95% CI 8 to 170).[78,85]

Critical time intervention was beneficial in reducing the number of homeless nights (mean difference –591, $p < 0.001$) and the odds of homelessness (OR 0.23, 95% CI 0.06 to 0.90) during the final 18 weeks of follow-up.[91] Participants receiving the treatment were rehoused sooner than those receiving standard care,[95] but did not spend more days rehoused.[90] Adults receiving critical time intervention showed significant improvements in

psychological symptoms (mean difference –0.14, 95% CI –0.29 to 0.01).[90] However, findings for children's mental health were mixed: children aged 1.5–5 years showed improvements in internalizing (β coefficient –3.65, 95% CI –5.61 to –1.68) and externalizing behaviours (β coefficient –3.12, 95% CI –5.37 to –0.86), whereas changes for children aged 6–10 years and 11–16 years were not significant.[93] There were no significant effects of critical time intervention on substance-use,[90] quality-of-life[90,92] or income-related outcomes.[96] Two trials reported mixed findings on hospital admission outcomes; in 1 study, allocation to critical time intervention was associated with reduced odds of hospital admission (OR 0.11, 95% CI 0.01 to 0.96) and total number of nights in hospital ($p < 0.05$) in the final 18 weeks of the trial.[97] However, another study reported a greater total number of nights in hospital for the treatment group compared with usual care (1171 v. 912).[98]

The certainty of the evidence was rated low because several trials introduced high risk of detection and performance bias.

Opioid agonist therapy

- *Identify opioid use disorder.*
- *Ensure access to opioid agonist therapy in primary care or by referral to an addiction specialist, potentially in collaboration with public health or community health centre for linkage to pharmacologic interventions (low certainty, conditional recommendation).*

Evidence summary

We conducted a review of systematic reviews on pharmalogic interventions for opioid use disorder.[99] Twenty-four reviews, which included 352 unique primary studies, reported on pharmacologic interventions for opioid use disorder among general populations.[100–123] We expanded our inclusion criteria to general populations, aware that most studies among "general populations" had a large representation of homeless populations in their samples. We did not identify any substantial reason to believe that the mechanisms of action of our interventions of interest would differ between homeless populations who use substances and the general population of people who use substances. Reviews on pharmacologic interventions reported on the use of methadone, buprenorphine, diacetylmorphine (heroin), levo-α-acetylmethadol, slow-release oral morphine and hydromorphone for treatment of opioid use disorder.

We found pooled all-cause mortality rates of 36.1 and 11.3 per 1000 person years for participants out of and in methadone maintenance therapy, respectively (rate ratio 3.20, 95% CI 2.65 to 3.86), and mortality rates of 9.5 per 1000 person years for those not receiving buprenorphine maintenance therapy compared with 4.3 per 1000 person years among those receiving the therapy (rate ratio 2.20, 95% CI 1.34 to 3.61).[116] Overdose-specific mortality rates were similarly affected, with pooled overdose mortality rates of 12.7 and 2.6 per 1000 person years for participants out of and in methadone maintenance therapy, and rates of 4.6 and 1.4 per 1000 person years out of and in buprenorphine maintenance therapy.[116] Compared with nonpharmacologic approaches, methadone maintenance therapy had no significant

effect on mortality (relative risk 0.48, 95% CI 0.10 to 2.39).[110] With respect to morbidity, pharmacologic interventions for opioid use disorder reduced the risk of hepatitis C virus (HCV) acquisition (risk ratio 0.50, 95% CI 0.40 to 0.63)[112] and HIV infection.[103]

Adverse events were reported for all agents.[100,109,119,122] Treatment with methadone and buprenorphine was associated with reduced illicit opioid use (standardized mean difference –1.17, 95% CI –1.85 to –0.49).[109] Availability of buprenorphine treatment expanded access to treatment for patients unlikely to enrol in methadone clinics and facilitated earlier access for recent initiates to opioid use.[117] The relative superiority of one pharmacologic agent over another on retention outcomes remains unclear; however, use of methadone was found to show better benefits than nonpharmacologic interventions for retention (risk ratio 4.44, 95% CI 3.26 to 6.04).[110]

The certainty of evidence ranged from very low to moderate, primarily because of inconsistency, high risk of bias and evidence from nonrandomized studies.

Harm-reduction interventions

- *Identify problematic substance use, including alcohol or other drugs.*
- *Identify the most appropriate approach or refer to local addiction and harm reduction/prevention services (e.g., supervised consumption facilities, managed alcohol programs) via appropriate local resources, such as public health or community health centre or les centres locaux de services communautaires (low certainty, conditional recommendation).*

Evidence summary

We conducted a review of systematic reviews on supervised consumption facilities and managed alcohol programs.[99] Two systematic reviews, which included 90 unique observational studies and 1 qualitative meta-synthesis reported on supervised consumption facilities.[124–126] For managed alcohol programs, 1 Cochrane review had no included studies,[127] and 2 grey-literature reviews reported on 51 studies.[128,129]

Establishment of supervised consumption facilities was associated with a 35% decrease in the number of fatal opioid overdoses within 500 m of the facility (from 253.8 to 165.1 deaths per 100 000 person years, *p* = 0.048), compared with 9% in the rest of the city (Vancouver).[124] There were 336 reported opioid overdose reversals in 90 different individuals within the Vancouver facility over a 4-year period (2004–2008).[125] Similar protective effects were reported in Australia and Germany. Observational studies conducted in Vancouver and Sydney showed that regular use of supervised consumption facilities was associated with decreased syringe sharing (adjusted OR 0.30, 95% CI 0.11 to 0.82), syringe reuse (adjusted OR 2.04, 95% CI 1.38 to 3.01) and public-space injection (adjusted OR 2.79, 95% CI 1.93 to 3.87).[125] These facilities mediated access to ancillary services (e.g., food and shelter) and fostered access to broader health support.[125,126] Attendance at supervised consumption facilities was associated with an increase in referrals to an addiction treatment centre and initiation of methadone maintenance therapy (adjusted hazard ratio 1.57, 95% CI 1.02 to 2.40).[125]

Evidence on supervised consumption facilities was rated very low to low, as all available evidence originated from nonrandomized studies.

There was a lack of high-quality evidence for managed alcohol programs. Few studies reported on deaths among clients of these programs.[128] The effects of managed alcohol programs on hepatic function are mixed, with some studies reporting improvement in hepatic laboratory markers over time, and others showing increases in alcohol-related hepatic damage;[129] however, this may have occurred regardless of entry into such a program. This evidence suggested that managed alcohol programs result in stabilized alcohol consumption and can facilitate engagement with medical and social services.[128] Clients experienced significantly fewer social, health, safety and legal harms related to alcohol consumption.[129] Individuals participating in these programs had fewer hospital admissions and a 93% reduction in emergency service contacts.[128] The programs also promoted improved or stabilized mental health[128] and medication adherence.[129]

Cost effectiveness and resource implications

Permanent supportive housing

We found 19 studies assessing the cost and net cost of housing interventions.[30,41,45,130–145] In some studies, permanent supportive housing interventions were associated with increased cost to the payers, and the costs of the interventions were only partially offset by savings in medical and social services as a result of the intervention.[30,41,131–134,142] Six studies showed that these interventions saved payers money.[135,137,139,141,144,145] Four of these studies, however, employed a pre–post design.[135,139,141,145] Moreover, 1 cost-utility analysis of PSH suggested that the provision of housing services was associated with increased costs and increased quality-adjusted life years, with an incremental cost-effectiveness ratio of US$62 493 per quality-adjusted life year.[136] Compared with usual care, PSH was found to be more costly to society (net cost Can$7868, 95% CI $4409 to $11 405).[138]

Income assistance

Two studies[55,146] focused on the cost effectiveness of income-assistance interventions. Rental assistance with clients receiving case-management intervention had greater annual costs compared with usual care or groups receiving only case management.[55] For each additional day housed, clients who received income assistance incurred additional costs of US$58 (95% CI $4 to $111) from the perspective of the payer, US$50 (95% CI –$17 to $117) from the perspective of the health care system and US$45 (95% CI –$19 to $108) from the societal perspective. The benefit gained from temporary financial assistance was found to outweigh its costs with a net savings of US$20 548.[146]

Case management

Twelve publications provided evidence on cost and cost-effectiveness of case-management interventions.[44,55,67,69,73,75,88,96,147–150] Findings of these studies were mixed; the total cost incurred by clients of standard case management was higher than that of clients receiving usual or standard care[61,88] and assertive

community treatment,[67,147] but lower compared with a US clinical case-management program that included housing vouchers and intensive case management.[55] Cost-effectiveness studies using a societal perspective showed that standard case management was not cost effective compared with assertive community treatment for people with serious mental disorders or those with a concurrent substance-use disorder, as it was more expensive.[67]

For intensive case management, the cost of supporting housing with this program could be partially offset by reductions in the use of emergency shelters and temporary residences.[41] Intensive case management is more likely to be cost effective when all costs and benefits to society are considered.[41] A pre–post study showed that providing this program to high-need users of emergency departments resulted in a net hospital cost savings of US$132 726.[150]

Assertive community treatment interventions were associated with lower costs compared with usual care.[66,67,73,148,149] We identified only 1 study on the cost effectiveness of critical time intervention that reported comparable costs (US$52 574 v. US$51 749) of the treatment compared with the usual services provided to men with severe mental illness.[96]

Interventions for substance use

We identified 2 systematic reviews that reported findings from 6 studies in Vancouver on the cost effectiveness of supervised consumption facilities;[124,125] 5 of these 6 studies found the facilities to be cost effective. After consideration of facility operating costs, supervised consumption facilities saved up to Can$6 million from averted overdose deaths and incident HIV cases. Similarly, Can$1.8 million was saved annually from the prevention of incident HCV infection.

Clinical considerations

Providers can, in partnership with directly affected communities, employ a range of navigation and advocacy tools to address the root causes of homelessness, which include poverty caused by inadequate access to social assistance, precarious work, insufficient access to quality child care, social norms that allow the propagation of violence in homes and communities, inadequate supports for patients and families living with disabilities or going through life transitions, and insufficient and poor-quality housing stock.[151] In addition, providers should tailor their approach to the patient's needs and demographics, taking into account access to services, personal preferences and other illnesses.[152]

Providers should also recognize the social and human value of accepting homeless and vulnerably housed people into their clinical practices. The following sections provide additional evidence for underserved and marginalized populations.

Women

A scoping review of the literature on interventions for homeless women (Christine Mathew, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020) yielded 4 systematic reviews[153–156] and 9 randomized controlled trials (RCTs)[36,60,92,95,157–161] that focused specifically on homeless and vulnerably housed women. Findings showed that PSH was effective in reducing the risk of intimate partner violence and improving psychological symptoms.[158] For women

with children experiencing homelessness, priority access to permanent housing subsidies can reduce child separations and foster care placements, allowing women to maintain the integrity of their family unit.[158] As well, Housing First programs for families, critical time interventions during times of crisis, and therapeutic communities are associated with lower levels of psychological distress, increased self-esteem and improved quality of life for women and their families.[92,155] A gender-based analysis highlighted the importance of safety, service accessibility and empowerment among homeless women. We suggest that providers focus on patient safety, empowerment among women who have faced gender-based violence, and improve access to resources, including income, child care and other social support services.

Youth

A systematic review on youth-specific interventions reported findings from 4 systematic reviews and 18 RCTs.[162] Permanent supportive housing improved housing stability. As well, individual cognitive behavioural therapy has been shown to result in significant improvements in depression scores, and family-based therapies are also promising, resulting in reductions in youth substance use through restoring the family dynamic. Findings on motivational interviewing, skill building and case-management interventions were inconsistent, with some trials showing a positive impact and others not identifying significant benefits.

Refugee and migrant populations

A qualitative systematic review on homeless migrants (Harneel Kaur, University of Ottawa, Ottawa, Ont.: unpublished data, 2020) identified 17 qualitative articles that focused on the experiences of homeless migrants.[163–179] Findings indicated that discrimination, limited language proficiency and severed social networks negatively affected homeless migrants' sense of belonging and access to social services, such as housing. However, employment opportunities provided a sense of independence and improved social integration.

Methods

Composition of participating groups

In preparation for the guideline, we formed the Homeless Health Research Network (https://methods.cochrane.org/equity/projects/homeless-health-guidelines), composed of clinicians, academics, and governmental and nongovernmental stakeholders. The Homeless Health Guideline Steering Committee (K.P. [chair], C.K., T.A., A.A., G.S., G.B., D.P., E.A., V.B., V.S. and P.T.) was assembled to coordinate guideline development. Expert representation was sought from eastern and western Canada, Ontario, Quebec and the Prairie provinces for membership on the steering committee. In addition, 5 people with lived experience of homelessness (herein referred to as "community scholars"[180]) were recruited to participate in the guideline-development activities. A management committee (K.P., C.K. and P.T.) oversaw the participating groups and monitored competing interests.

The steering committee decided to develop a single guideline publication informed by a series of 8 systematic reviews. The

steering committee assembled expert working groups to operationalize each review. Each working group consisted of clinical topic experts and community scholars who were responsible for providing contextual expertise.

The steering committee also assembled a technical team, which provided technical expertise in the conduct and presentation of systematic reviews and meta-analyses. Finally, the steering committee assembled the guideline panel, which had the responsibility to provide external review of the evidence and drafted recommendations. The panel was composed of 17 individuals, including physicians, primary care providers, internists, psychiatrists, public health professionals, people with lived experience of homelessness, medical students and medical residents. Panel members had no financial or intellectual conflicts of interest. A full membership list of the individual teams' composition is available in Appendix 2, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190777/-/DC1.

Selection of priority topics

We used a 3-step modified Delphi consensus method (Esther Shoemaker, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020) to select priority health conditions for marginalized populations experiencing homelessness or vulnerable housing. Briefly, between May and June 2017, we developed and conducted a survey (in French and English), in which we asked 84 expert providers and 76 people with lived homelessness experience to rank

and prioritize an initial list of needs and populations. We specifically asked participants, while answering the Delphi survey, to keep in mind 3 priority-setting criteria when considering the unique challenges of implementing health care for homeless or vulnerably housed people: value added (i.e., the opportunity for a unique and relevant contribution), reduction of unfair and preventable health inequities, and decrease in burden of illness (i.e., the number of people who may have a disease or condition).[181]

The initial top 4 priority needs identified were as follows: facilitating access to housing, providing mental health and addiction care, delivering care coordination and case management, and facilitating access to adequate income. The priority marginalized populations identified included Indigenous people; women and families; youth; people with acquired brain injury, or intellectual or physical disabilities; and refugees and other migrants (Esther Shoemaker, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020). Each working group then scoped the literature using Google Scholar and PubMed to determine a list of interventions and terms relating to each of the priority-need categories. Each working group came to consensus on the final list of interventions to be included (Table 3).

Guideline development

We followed the GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach for the development of this clinical guideline, including the identification of clinical questions, systematic reviews of the best available evidence,

Table 3: Descriptions of priority-need interventions

Intervention	Description
Permanent supportive housing	• Long-term housing in the community with no set preconditions for access. Housing may be paired with the provision of individualized supportive services that are tailored to participants' needs and choices, including assertive community treatment and intensive case management. • This guideline groups the Housing First model (a homeless assistance approach that prioritizes providing housing) with permanent supportive housing.
Income assistance	• Benefits and programs that improve socioeconomic status. This may include assistance that directly increases income and programs that help with cost reduction of basic living necessities. • This guideline also groups employment programs (e.g., individual placement and support, and compensated work therapy) in this category.
Case management	• Standard case management allows for the provision of an array of social, health care and other services with the goal of helping the client maintain good health and social relationships. • Intensive case management offers the support of a case manager who brokers access to an array of services. Case-management support can be available for up to 12 hours per day, 7 days a week, and each case manager often has a caseload of 15–20 service users. • Assertive community treatment offers team-based care to individuals with severe and persistent mental illness by a multidisciplinary group of health care workers in the community. This team should be available 24 hours per day, 7 days per week. • Critical time intervention supports continuity of care for service users during times of transition. Case management is administered by a critical time intervention worker and is a time-limited service, usually lasting 6–9 months.
Pharmacologic interventions for substance use disorder	• Pharmacologic interventions for opioid use disorder, including methadone, buprenorphine, diacetylmorphine, levo-α-acetylmethadol and naltrexone. • Pharmacologic agents for reversal of opioid overdose: opioid antagonist administered intravenously or intranasally (e.g., naloxone).
Harm reduction for substance use disorders	• Supervised consumption facilities: facilities (stand-alone, co-located or pop-up) where people who use substances can consume preobtained substances under supervision. • Managed alcohol programs: shelter, medical assistance, social services and the provision of regulated alcohol to support residents with severe alcohol use disorder.

assessment of the certainty of the evidence and development of recommendations.[182] We conducted a series of systematic reviews to answer the following clinical question:

Should PSH, income assistance, case management, pharmacologic agents for opioid use, and/or harm-reduction interventions be considered for people with lived experience of homelessness?

Systematic reviews for each intervention were driven by a logic model. A detailed description of the methods used to compile evidence summaries for each recommendation, including search terms, can be found in Appendix 3, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190777/-/DC1. We sought evidence on questions considering population, interventions and comparisons according to published a priori protocols.[183–186] We used relevant terms and structured search strategies in 9 bibliographic databases for RCTs and quasi-experimental studies. The technical team reviewed titles, abstracts and full texts of identified citations, selected evidence for inclusion and compiled evidence reviews, including cost-effectiveness and resource-use data, for consideration by the guideline panel. The technical team collected and synthesized data on the following a priori outcomes: housing stability, mental health, quality of life, substance use, hospital admission, employment and income. Where possible, we conducted meta-analyses with random effects and assessed certainty of evidence using the GRADE approach. Where pooling of results was not appropriate, we synthesized results narratively.

In addition to the intervention and cost-effectiveness reviews, the technical team conducted 3 systematic reviews to collect contextual and population-specific evidence for the populations prioritized through our Delphi process (women, youth, refugees and migrants) (Christine Mathew, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020; Harneel Kaur, University of Ottawa, Ottawa, Ont.: unpublished data, 2020).[162] Additionally, we conducted 1 qualitative literature review to capture patient values and preferences, focused on the experiences of people who are homeless in engaging with our selected interventions.[20]

Drafting of recommendations

The steering committee hosted a 2-day knowledge-sharing event, termed the "Homeless Health Summit," on Nov. 25–26, 2018. Attendees included expert working group members, community scholars, technical team members, and other governmental and nongovernmental stakeholders. Findings from all intervention reviews were presented and discussed according to the GRADE Evidence to Decision framework.[187] After the meeting, the steering committee drafted GRADE recommendations (Box 2) through an iterative consensus process. All steering-committee members participated in multiple rounds of review and revision of the drafted clinical recommendations.

Guideline panel review

We used the GRADE Evidence to Decision framework to facilitate the development of recommendations[187–189] (Appendix 4, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190777/-/DC1). We used GRADEpro and the Panel Voice software to obtain input from the guideline panel.[190] Panellists provided input on the wording and strength of the draft recommendations. They also provided considerations for clinical implementation. We required endorsement of recommendations by 60% of panel members for acceptance of a recommendation. After review by the guideline panel, the steering committee reviewed the final recommendations before sign-off.

Good practice statements

We developed a limited number of good practice statements to support the delivery of the initial evidence-based recommendations. A good practice statement characteristically represents situations in which a large and compelling body of indirect evidence strongly supports the net benefit of the recommended action, which is necessary for health care practice.[191–193] Guideline-development groups consider making good practice statements when they have high confidence that indirect evidence supports net benefit, there is a clear and explicit rationale connecting the indirect evidence, and it would be an onerous and unproductive exercise and thus a poor use of the group's limited resources to collect this evidence. The steering committee came to a consensus on 3 good practice statements based on indirect evidence.

Identification of implementation considerations

We completed a mixed-methods study to identify determinants of implementation across Canada for the guideline (Olivia Magwood, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020). Briefly, the study included a survey of 88 stakeholders and semistructured interviews with people with lived experience of homelessness. The GRADE Feasibility, Acceptability, Cost (affordability) and Equity (FACE) survey collected data on guideline priority, feasibility, acceptability, cost, equity and intent to implement. We used a framework analysis and a series of meetings (Ottawa, Ont., Jan. 13, 2020; Hamilton, Ont., Aug. 16, 2019; Gatineau, Que., July 18, 2019) with relevant stakeholders in the field of homeless health to analyze our implementation data.

Management of competing interests

Competing interests were assessed using a detailed form adapted from the International Committee of Medical Journal Editors Uniform Disclosure Form for Potential Conflicts of Interest[194] and the Elsevier sample coauthor agreement form for a scientific project, contingencies and communication.[195] These forms were collected at the start of the guideline activities for the steering committee, guideline panel and community scholars. All authors submitted an updated form in June 2019 and before publication.

The management committee iteratively reviewed these statements and interviewed participants for any clarifications and concerns. A priori, the management committee had agreed that major competing interests would lead to dismissal. There were no competing interests declared.

Implementation

Our mixed-methods study (Olivia Magwood, Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020) looking at guideline priority, feasibility, acceptability, cost, equity and intent to implement, identified the following concerns regarding implementation of this guideline.

Stakeholders highlighted the importance of increasing primary care providers' knowledge of the process of applying to PSH programs and informing their patients about the resources available in the community.

The major concerns regarding feasibility arose around the limited availability of existing services, such as housing, as well as administrative and human resources concerns. For example, not all primary care providers work in a team-based comprehensive care model and have access to a social worker or care coordinator who can help link the patient to existing services. Furthermore, wait lists for PSH are frequently long. Despite this, all stakeholders agreed that access to PSH was a priority and is a feasible recommendation.

Allied health practitioners and physicians do not always agree with their new role in this area. Some feedback suggested pushback from family physicians who have limited time with patients and less experience exploring social determinants of health, such as housing or income. The initial steps outlined in this guideline would come at an opportunity cost for them. Stigma attached to the condition of homelessness was recognized as an important barrier to care for homeless populations.

Many stakeholders recognized that successful implementation of these recommendations may require moderate costs to increase the housing supply, income supports and human resources. However, supervised consumption facilities, with their range of benefits, were perceived as cost-saving.

Many interventions have the potential to increase health equity, if available and accessible in a local context. Many stakeholders highlighted opportunities to increase knowledge of the initial steps and advocate on a systematic level to increase availability of services.

Suggested performance measures

We developed a set of performance measures to accompany this guidleline for consideration by providers and policy-makers:

- The proportion of adults who are assessed for homelessness or vulnerable housing over 1 year.
- The proportion of eligible adults who are considered for income assistance over 1 year.
- The proportion of eligible adults using opioids who are offered opioid agonist therapy over 1 year.

Updates

The Homeless Health Research Network will be responsible for updating this guideline every 5 years.

Other guidelines

This guideline complements other published guidelines. This current guideline aims to support the upcoming Indigenous-specific guidelines that recognize the importance of Indigenous leadership and methodology that will recognize distinct underlying causes of Indigenous homelessness (Jesse Thistle, York University, Toronto, Ont.: personal communication, 2020).

The World Health Organization has developed guidelines to promote healthy housing standards to save lives, prevent disease

and increase quality of life.[196] Other guidelines specific to opioid use disorder exist,[197,198] including 1 for "treatment-refractory" patients.[199] In the United Kingdom, the National Institute for Health Care and Excellence has published guidelines for outpatient treatment of schizophrenia and has published multimorbidity guidelines (www.nice.org.uk/guidance). The National Health Care for the Homeless Council in the US has adapted best practices to support front-line workers caring for homeless populations.[200]

How is this guideline different?

This guideline distills initial steps and evidence-based approaches, to both homeless and vulnerably housed people, with the assistance of patients and other stakeholders. It also introduces a new clinical lens with upstream interventions that provide a social and health foundation for community integration. Its initial steps support the vision of the Centre for Homelessness Impact in the UK, which envisions a society where the experience of homelessness, in instances where it cannot be prevented, is only ever rare, brief and nonrecurrent.[201] Finally, we hope that our stakeholder engagement inspires and equips future students, health providers and the public health community to implement the initial step recommendations.

Gaps in knowledge

Evidence-based policy initiatives will need to address the accelerating health and economic disparities between homeless and general housed populations. As primary care expands its medical home models,[27] there will be a research opportunity for more trauma-informed care[202] to support the evidence-based interventions in this guideline. Indeed, clinical research can refine how providers use the initial steps protocol: housing, income, case management and addiction. With improved living conditions, care coordination and continuity of care, research and practice can shift to treatable conditions, such as HIV and HCV infection, substance use disorder, mental illness and tuberculosis.[203]

Medical educators will also need to develop new training tools to support the delivery of interventions. Curricula and training that support the delivery of interventions, such as trauma-informed and patient-centred care, will also be needed.[12] Many of the recommended interventions in this guideline rely on collaboration of community providers, housing coordinators and case management. Interdisciplinary primary care research and maintenance of linkages to primary care will benefit from new homeless health clinic networks. Monitoring transitions in care and housing availability will be an important research goal for Canada's National Housing Strategy and the associated Reaching Home program.

Conclusion

Homelessness has become a health emergency. Initial steps in addressing this crisis proposed in this guideline include strongly recommending PSH as an urgent intervention. The guideline also recognizes the trauma, disability, mental illness and stigma

facing people with lived homelessness experience and thus recommends initial steps of income assistance, intensive case management for mental illness, and harm-reduction and addiction-treatment interventions, including access to opioid agonist therapy and supervised consumption facilities.

The successful implementation of this guideline will depend on a focus on the initial recommendations, trust, patient safety and an ongoing collaboration between primary health care, mental health providers, public health, people with lived experience and broader community organizations, including those beyond the health care field.

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