GUIDELINE

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

**[AU1 (from the senior editor): All guidelines published in CMAJ are evidence-based, and so the terms GRADE and evidence-based have been deleted from the title.]**

Kevin Pottie MD MClSc, Claire Kendall MD PhD, Tim Aubry PhD, Olivia Magwood MPH, Anne Andermann MD, Ginetta Salvalaggio MD MSc, David Ponka MDCM MSc, Gary Bloch MD, Vanessa Brcic MD, Eric Arganata, Kednapa Thavorn PhD, Terry Hannigan, Andrew Bond MD, Susan Crouse MD, Ritika Goel MD, Esther Shoemaker PhD, Jean Zhuo Jing Wang, Sebastian Mott, Harneel Kaur, **[AU2: author order changed per your request]** Christine Mathew, Sveda Shanza Hashmi, Ammar Saad, Thomas Piggott MD, Neil Arya MD, Nicole Kozloff MD, Michaela Beder MD, Dale Guenter MD, Wendy Muckle, Stephen Hwang MD, Vicky Stergiopoulos MD, Peter Tugwell MD **[AU3: please ensure degrees are correct; some authors have no degrees listed — please confirm this is OK (or add up to 2 academic/medical degrees if applicable)]**

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 appropriate 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 ~~suffer from~~ experience a significantly higher prevalence of trauma, mental health conditions and substance use disorders than the general population **[AU4: CMAJ reserves the term significance for the context of statistical significance. Throughout the article, please confirm the term has been used in that context]**.[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

## KEY POINTS

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

migrants, and a growing number were veterans and seniors.[10]

Practice navigators, peer-support workers and primary care providers are well placed to identify social causes of poor health and provide orientation to medical homes **[AU5: please add an explanation of "medical homes" in case readers are not familiar with the term]**.[16,17] Primary care providers are also well positioned to mobilize health promotion, disease prevention, diagnosis and treatment, and rehabilitation services.[18] 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 needs. In addition, many physical and mental health disorders remain undiagnosed or inconsistently treated because of inappropriate care steps, mistrust 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 are intended to build collaboration among clinicians, and public health 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.[19,20]

## 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 (Jesse Thistle **[AU6: full first name added — correct?]**, York University, Toronto, Ont.: personal communication, 2020) **[permission needed from Thistle]** (Box 1) **[AU7: citation to Box 1 added by the senior editor]**. 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. **[AU8: tables have been renumbered by our publishing software; please confirm all table citations match with the correct table] [AU9: the appendices have been renumbered (because the original Appendix 4 (now Appendix 1) is cited in Table 1. Please confirm all appendix citations match with the correct appendix]** 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. **[AU10: text added by the senior editor]**

### 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, **[AU11: full first name added, please confirm]** University of Ottawa, Ottawa, Ont.: unpublished data, 2020) identified 14 trials on permanent supportive housing (PSH).[28–41] Several trials across Canada and the United States showed that PSH initiatives expedite people into housing (adjusted absolute difference 146.4, 95% confidence interval [CI] 118.0 to 174.9);[28] 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);[28,38] and increase the total number of days housed (pooled standardized mean difference (1.38, 95% CI 1.03 to 1.73).[39] No trials showed a significant improvement in mental health symptoms compared with standard care.[28,29,31,39] Two studies suggested that standard care may improve mental health outcomes more than PSH (mean difference −0.49, 95% CI −0.85 to −0.12).[28,29]

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)[28] and moderate-needs (mean difference 4.37, 95% CI 1.60 to 7.14) homeless participants.[39] 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).[42] No trials showed a significant improvement in substance use compared with standard care.[31,39,40] 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).[28,39] However, 2 trials suggest that PSH par-

ticipants had lower rates of hospital admission (rate reductions of 29%, 95% CI 10 to 44) and time in hospital ~~hospitalized~~ (mean difference –31.**xx**, 95% CI –47.83 to –14.160) **[AU12: if possible, please report the mean difference to 2 decimal places for consistency with the 95% CI]**.[36,43] One trial found no effect of PSH on job tenure, hours of work per week or hourly wage compared with standard care.[44] ~~PSH~~ Participants receiving PSH **[AU13: OK? (to avoid starting a sentence with an abbreviation — CMAJ style)]** may have increased odds of employment, but this depends on the severity of participant needs.[44] One trial found no effect on income outcomes.[44]

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,[45–54] financial empowerment,[45] social enterprise interventions ~~(SEI)~~,[46] individual placement and support,[46,52] and compensated work therapy.[50] Our systematic review showed the benefit that income-assistance interventions have on housing stability.

Rental assistance increased the likelihood of being stably housed (OR 4.60, 95% CI 3.10 to 6.83)[54] and increased the number of days in stable housing (mean difference 8.58, $p < 0.004$).[53] Compensated work therapy was found to reduce the odds of homelessness (OR 0.1, 95% CI 0.1 to 0.3).[50] No income interventions showed an effect on mental health outcomes.[45,50,53,54]

Findings on substance use outcomes were mixed. Provision of housing vouchers did not affect substance use over 3 years;[53] 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%; $p = 0.001$) **[AU14: "±" replaced with "standard error [SE]" — please confirm]**.[50] 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.[53] One trial reported that rental assistance was associated with reduced emergency department visits and time spent in hospital ~~hospitalized~~, but this reduction was not significantly different than in the comparator group.[54] Individual placement and support was found to improve employment rates only when there was high fidelity to the model (OR 2.41, 95% CI 1.13 to 5.15).[52] Financial-empowerment education and provision of housing vouchers had no effects on employment outcomes.[45,53] Financial-empowerment education and individual placement and support had no effect on hourly wages.[45,52] Provision of housing vouchers had no effect on monthly income.[53]

The certainty of the evidence was rated low because several trials introduced high risk of detection and performance bias. Furthermore, one trial reported low consent rates of 47% and a 1:4 sampling ratio that further limited statistical power **[AU15: please cite the ref for that trial]**. 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.* **[AU16 (from the senior editor): should there be a comma between "disorders" and "associated"? If so, this will need to be revised in the recommendations table too]**
- *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, **[AU17: full first name added — please confirm]** University of Ottawa, Ottawa, Ont.: unpublished data, 2020). We included a total of 56 citations, of which 10 trials reported on standard case management,[49,55–63] 8 trials on assertive community treatment,[64–71] 16 trials on intensive case management[72–87] and 5 trials on critical time intervention.[88–92]

Of 10 trials on standard case management, 10 evaluated housing stability. Only 3 reported significant decreases in homelessness,[55,60,61] an effect that diminished over time in one trial of a time-limited residential case management in which participants in all groups accessed ~~significant~~ substantial levels of services.[61] 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).[62] 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.[58] 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 (mean difference −14.2**X**, 95% CI −28.75 to 0.35) **[AU18: if possible, please report the mean difference to 2 decimal places for consistency with the 95% CI]** compared with standard care,[67,69] whereas 2 trials reported no effect on episodes of homelessness or number of days homeless.[64,68] Further, these interventions showed no added benefit in reducing the number of participants admitted to hospital (mean difference −8.6, $p < 0.05$) or with visits to the emergency department (mean difference −1.2, $p = 0.009$).[65] 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.[76,78,87] In most studies, there was no major improvement in psychologic symptoms between the treatment and control groups. However, one trial reported significantly greater reductions in anxiety, depression and thought disturbances after 24 months (mean difference change from baseline −0.32, $p = 0.004$), as well as improved life satisfaction (mean difference 1.23, $p = 0.001$) using intensive case management.[84] One trial reported no significant difference in quality of life.[81] Findings on substance use were mixed. Participants improved their substance use patterns over time (mean difference 4, $p = 0.009$), but this difference was not always significant **[AU19 (from the accepting editor): In the individual trials?]**.[76] 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.[83] Intensive case management ~~has~~ had no effect on the number of days of employment, nor on income received from employment; however, income received by participants through public assistance increased (mean difference 89.**x**, 95% CI 7.6 to 170.4) **[AU20: if possible, please report the mean difference to 1 decimal place for consistency with the 95% CI]**.[76,83]

Critical time intervention was beneficial in reducing the number of homeless nights (~~MD~~ mean difference −591, $p < 0.001$) and the odds of homelessness (OR 0.23, 95% CI 0.06 to 0.90).[89] Participants receiving the treatment were rehoused sooner than those receiving standard care but did not spend more days rehoused.[88] Adults receiving critical time intervention showed significant improvements in psychologic symptoms (mean difference −0.14, 95% CI −0.29 to 0.01).[93] However, findings for their 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 insignificant.[91] There were no significant effects of critical time intervention on substance-use,[88] quality-of-life[88] or income-related outcomes.[94] Two trials reported mixed findings on hospital admission outcomes; in one 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 ~~hospitalized~~ ($p < 0.05$) in the final 18 weeks of the trial.[95] However, another study reported ~~more~~ a greater total number of nights in hospital ~~hospitalized~~ for the treatment group compared with usual care (1171 v. 912).[96]

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

Twenty-four reviews, which included 352 unique primary studies, reported on pharmacologic interventions for opioid use disorder among general populations.[97–120] 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 reduced all-cause mortality (methadone: rate ratio 3.20, 95% CI 2.65 to 3.86; buprenorphine: rate ratio 2.20, 95% CI 1.34 to 3.61), as well as a reduced overdose mortality rate (methadone: pooled overdose mortality rates of 12.7 per 1000 person years, out of treatment, and 2.6 per 1000 person years, in treatment; buprenorphine: pooled overdose mortality rates of 4.6 per 1000 person years, out of treatment, and 1.4 per 1000 person years, in treatment, ~~out of and in treatment, respectively~~).[113] Compared with nonpharmacologic approaches, methadone maintenance therapy had no significant effect on mortality (relative risk 0.48, 95% CI 0.10 to 2.39).[107] With respect to morbidity, pharmacologic interventions for opioid use disorder reduced the risk of hepatitis C virus acquisition (risk ratio 0.50, 95% CI 0.40 to 0.63)[109] and HIV infection.[100]

Adverse events were reported for all agents, with fewer occurring in methadone groups.[97] Treatment with methadone and buprenorphine was associated with reduced illicit opioid use (standardized mean difference −1.17, 95% CI −1.85 to −0.49).[106] Availability of buprenorphine treatment expanded access to treatment for patients unlikely to enroll in methadone clinics and facilitated earlier access for recent initiates to opioid use.[111] 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).[107]

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

Two systematic reviews, which included 90 unique observational studies and 1 qualitative meta-synthesis reported on supervised consumption facilities.[121–123] For managed alcohol programs, 1 Cochrane review had no included studies,[124] and 2 grey-literature reviews reported on 51 studies.[125,126]

Establishment of **[AU21 ...rrect?]** supervised consumption facilities was associated wi... 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).[121] There were 336 reported opioid overdose reversals in 90 different individuals within the Vancouver facility over a 4-year period (2004–2008).[122] 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).[122] These facilities mediated access to ancillary services (e.g., food and shelter) and fostered access to broader health support.[122,123] 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).[122]

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.[125] 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;[126] 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.[125] Clients experienced significantly fewer social, health, safety and legal harms related to alcohol consumption.[126] Individuals participating in these programs had fewer hospital admissions and a 93% reduction in emergency service contacts.[125] The programs also promoted improved or stabilized mental health[125] and medication adherence.[126]

## Cost effectiveness and resource implications

### Permanent supportive housing

We found 19 studies assessing the cost and net cost of housing interventions.[28,39,43,127–142] 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.[28,39,128–131,139] Six studies showed that these interventions saved payers money.[132,134,136,138,141,142] Four of these studies, however, employed a pre–post design.[132,136,138,142] Moreover, one 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.[133] Compared with usual care, PSH was found to be more costly to society (net cost Can$7868, 95% CI $4409 to $11 405).[135]

### Income assistance

Two studies[53,143] 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.[53] 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.[143]

### Case management

Twelve publications provided evidence on cost and cost-effectiveness of case-management interventions.[42,53,65,67,71,73,86,94,144–147] 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[59,86] and assertive community treatment,[65,144] but lower compared with a US clinical case-management program that included housing vouchers and intensive case management.[53] 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.[65]

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.[39] Intensive case management is more likely to be cost effective when all costs and benefits to society are considered.[39] 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.[147]

Assertive community treatment interventions were associated with lower costs compared with usual care.[64,65,71,145,146] We identified only one 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.[94]

#### 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;[121,122] 5 of these 6 studies found the facilities to be cost effective. Kennedy and colleagues report that **[AU22 (from the senior editor): would you prefer to put the below quote in your own words?]**

a simulation study estimated that the SIF [supervised injection facilities] ~~SCF [supervised consumption facility]~~ **[AU23: quotation revised based on online version found on ResearchGate; please confirm]** provides an excess of $CAD 6 million per year (due to averted overdose deaths and incident HIV cases) after considering the facility's annual operating costs. Others have provided more conservative estimates, including a study estimating that the prevention of incident HIV cases and overdose deaths by the ~~SCF~~ SIF provides an excess of $CAD 200 000–400 000 per year. Additionally, a recent study of the cost-effectiveness of an unsanctioned peer-run ~~SCF~~ SIR [supervised inhalation room] found that the facility saved an annual average of $CAD 1.8 million due to the prevention of incident cases of hepatitis C infection.[121]

## Clinical considerations

Providers can, in allyship 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 social assistance rates, low minimum wages, precarious work, economic inequality, and insufficient and poor-quality housing stock.[148] 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.[149]

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, **[AU24: full first name added — correct?]** Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020) yielded 4 systematic reviews[150–153] and 9 randomized controlled trials (RCTs)[34,58,90,93,154–158] 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 psychologic symptoms.[155] Even though educational programs increased knowledge about HIV/AIDS and high-risk sexual behaviours, these interventions were associated with hostility and decreased mental health status.[58,157,158] 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.[159] Permanent supportive housing improved housing stability. Furthermore, cognitive behavioural therapy delivered individually or in family format was associated with significant improvements in mental health and substance use outcomes among youth. 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, **[AU25: full first name added — correct?]** University of Ottawa, Ottawa, Ont.: unpublished data, 2020) identified 17 qualitative articles that focused on the experiences of homeless migrants.[160–176] 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 **[AU26 (from the senior editor): does the network have a website, so we can add a URL?]**, 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"[177]) 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 1,~~ 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, **[AU27: full first name added — correct?]** 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 to consider 3 priority-setting criteria to consider the unique challenges of implementing homeless health care while answering the Delphi survey: 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 suffer from a disease or condition).[178]

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, assessment of the certainty of the evidence and development of recommendations.[179] 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 2,~~ 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.[180–183] 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).[159] 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.[19]

### Drafting of recommendations [AU28: revised by the senior editor]

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.[184] 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[184–186] (~~Appendix 3,~~ Appendix 4, available at www.cmaj.ca/lookup/suppl/doi:10.1503/cmaj.190777/-/DC1). **[AU29: The App[illegible]x 4 file has some older comments inserted. Should they s[illegible]ly be removed or are edits needed?]** We used GRADEpro and the Panel Voice software to obtain input from the guideline panel.[187] 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.[188–190] 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 [AU30: section moved by the senior editor]

We completed a mixed-methods study to identify determinants of implementation across Canada for the guideline (Olivia Magwood, **[AU31: full first name ~~and~~ ed — correct?]** Bruyère Research Institute, Ottawa, Ont.: unpublished data, 2020). Briefly, the study included a survey of 88 stakeholders and semi-structured 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., Sept. 17, 2019; Gatineau, Que., Aug. 13, 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 ~~Disclosure of~~ Potential Conflicts of Interest[191] and the Elsevier sample coauthor agreement form for a scientific project, contingencies and communication.[192] 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 push-back 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. **[AU32: text moved here by the senior editor]**

## Other guidelines

This guideline complements other published guidelines. This current guideline aims to support the upcoming Indigenous-specific guidelines that recognize the importance ~~for~~ 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.[193] Other guidelines exist specific

for opioid use disorder,[194,195] including 1 for "treatment-refractory" patients.[196] 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 adapting **[AU33: Is this correct, or do you mean "adopting"?]** practice guidance.[197]

### 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. ~~with patient and other stakeholder assistance.~~ **[AU34: change correct?]** 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.[198] 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,[25] there will be a research opportunity for more trauma-informed care[199] 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 hepatitis C virus infection, substance use disorder, mental illness and tuberculosis.[200]

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 care 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 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.

**[AU35: references have been renumbered by our publishing software. Please check that all reference citations match to the correct reference]**

## References


1. Frankish CJ, Hwang SW, Quantz D. Homelessness and health in Canada: research lessons and priorities. *Can J Public Health* 2005;96(Suppl 2):S23-9.
2. *31 days of promoting a better urban future: Report 2018*. Nairobi (Kenya): UN Habitat, United Nations Human Settlement Programme; 2018. Available: https://oldweb.unhabitat.org/wp-content/uploads/2019/01/Final-short-version-UN-Habitat-Urban-October-Report.pdf (accessed **year month date**). **[AU36: the URL has been updated — please confirm. Please add the date you accessed the URL]**
3. Wen CK, Hudak PL, Hwang SW. Homeless people's perceptions of welcomeness and unwelcomeness in healthcare encounters. *J Gen Intern Med* 2007;22:1011-7.
4. Coltman L, Gapka S, Harriott D, et al. Understanding community integration in a housing-first approach: Toronto At Home/Chez Soi community-based research. *Intersectionalities* 2015;4:39-50.
5. Hwang SW, Burns T. Health interventions for people who are homeless. *Lancet* 2014;384:1541-7.
6. *Canadian definition of homelessness*. Toronto: Canadian Observatory on Homelessness; 2012. Available: www.homelesshub.ca/sites/default/files/attachments/Definition of Homelessness.pdf (accessed **year month date**). **[AU37: Please add the date you accessed the URL]**
7. Hwang SW, Wilkins R, Tjepkema M, et al. Mortality among residents of shelters, rooming houses, and hotels in Canada: 11 year follow-up study. *BMJ* 2009;339:b4036.
8. Nordentoft M, Wandall-Holm N. 10 year follow up study of mortality among users of hostels for homeless people in Copenhagen. *BMJ* 2003;327:81.
9. Fazel S, Geddes JR, Kushel M. The health of homeless people in high-income countries: descriptive epidemiology, health consequences, and clinical and policy recommendations. *Lancet* 2014;384:1529-40.
10. Gaetz S, Dej E, Richter T, et al. *The state of homelessness in Canada 2016*. Toronto: Canadian Observatory on Homelessness Press; 2016.
11. Thistle J. *Indigenous definition of homelessness in Canada*. Toronto: Canadian Observatory on Homelessness Press; 2017.
12. Smylie J, Firestone F, Cochran L, et al. Our health counts urban Aboriginal health database research project: community report First Nations adults and children, city of Hamilton. Hamilton (ON): De dwa da dehs ney s Aboriginal Health Centre; 2011.
13. Taylor M. How is rural homelessness different from urban homelessness? Toronto: The Canadian Observatory on Homelessness/Homeless Hub; 2018. Available: www.homelesshub.ca/blog/how-rural-homelessness-different-urban-homelessness (accessed 2019 Feb. 6).
14. Rodrigue S. *Hidden homelessness in Canada*. Cat no 75-006-X. Ottawa: Statistics Canada; 2016.
15. Gulliver-Garcia T. *Putting an end to child & family homelessness in Canada*. Toronto: Raising the Roof; 2016.
16. Andermann A.; CLEAR Collaboration. Taking action on the social determinants of health in clinical practice: a framework for health professionals. *CMAJ* 2016;188:E474-83.
17. Jackson GL, Powers BJ, Chatterjee R, et al. The patient-centered medical home: a systematic review. *Ann Intern Med* 2013;158:169-78.

18. Declaration of Alma-Ata. *Proceedings of the International Conference on Primary Health Care, Alma-Ata*; 1978 Sept. 6–12. Geneva: World Health Organization.
19. Magwood O, Leki VY, Kpade V, et al. Common trust and personal safety issues: A systematic review on the acceptability of health and social interventions for persons with lived experience of homelessness. *PLoS One* 2019;14:e0226306.
20. Luchenski S, Maguire N, Aldridge RW, et al. What works in inclusion health: overview of effective interventions for marginalised and excluded populations. *Lancet* 2018;391:266-80.
21. Stewart MA. Effective physician-patient communication and health outcomes: a review. *CMAJ* 1995;152:1423-33.
22. Racine N, Killam T, Madigan S. Trauma-informed care as a universal precaution: beyond the adverse childhood experiences questionnaire. *JAMA Pediatr* 2019 Nov. 4 [Epub ahead of print]. doi: 10.1001/jamapediatrics.2019.3866.
23. Reeves E. A synthesis of the literature on trauma-informed care. *Issues Ment Health Nurs* 2015;36:698-709.
24. Hopper E, Bassuk E, Olivet J. Shelter from the storm: trauma-informed care in homelessness services settings. *Open Health Serv Policy J* 2009;2:131-51.
25. A new vision for Canada: family practice — The patient's medical home. Mississauga (ON): College of Family Physicians of Canada; 2019. Available: www.cfpc.ca/A_Vision_for_Canada (accessed 2019 Dec. 2).
26. Valaitis RK, O'Mara L, Wong ST, et al. Strengthening primary health care through primary care and public health collaboration: the influence of intrapersonal and interpersonal factors. *Prim Health Care Res Dev* 2018;19:378-91.
27. Akhtar-Danesh N, Valaitis R, O'Mara L, et al. Viewpoints about collaboration between primary care and public health in Canada. *BMC Health Serv Res* 2013;13:311.
28. Aubry T, Goering P, Veldhuizen S, et al. A multiple-city RCT of housing first with assertive community treatment for homeless Canadians with serious mental illness. *Psychiatr Serv* 2016;67:275-81.
29. Cherner RA, Aubry T, Sylvestre J, et al. Housing first for adults with problematic substance use. *J Dual Diagn* 2017;13:219-29.
30. Goldfinger SM, Schutt RK, Tolomiczenko GS, et al. Housing placement and subsequent days homeless among formerly homeless adults with mental illness. *Psychiatr Serv* 1999;50:674-9.
31. Hwang SW, Gogosis E, Chambers C, et al. Health status, quality of life, residential stability, substance use, and health care utilization among adults applying to a supportive housing program. *J Urban Health* 2011;88:1076-90.
32. Lipton FR, Nutt S, Sabatini A. Housing the homeless mentally ill: a longitudinal study of a treatment approach. *Hosp Community Psychiatry* 1988;39:40-5.
33. Martinez TE, Burt MR. Impact of permanent supportive housing on the use of acute care health services by homeless adults. *Psychiatr Serv* 2006;57:992-9.
34. McHugo GJ, Bebout RR, Harris M, et al. A randomized controlled trial of integrated versus parallel housing services for homeless adults with severe mental illness. *Schizophr Bull* 2004;30:969-82.
35. Rich AR, Clark C. Gender differences in response to homelessness services. *Eval Program Plann* 2005;28:69-81. doi: 10.1016/j.evalprogplan.2004.05.003.
36. Sadowski LS, Kee RA, VanderWeele TJ, et al. Effect of a housing and case management program on emergency department visits and hospitalizations among chronically ill homeless adults: a randomized trial. *JAMA* 2009;301:1771-8.
37. Siegel CE, Samuels J, Tang D-I, et al. Tenant outcomes in supported housing and community residences in New York City. *Psychiatr Serv* 2006;57:982-91.
38. Stefancic A, Tsemberis S. Housing First for long-term shelter dwellers with psychiatric disabilities in a suburban county: a four-year study of housing access and retention. *J Prim Prev* 2007;28:265-79.
39. Stergiopoulos V, Hwang SW, Gozdzik A, et al.; At Home/Chez Soi Investigators. Effect of scattered-site housing using rent supplements and intensive case management on housing stability among homeless adults with mental illness: a randomized trial. *JAMA* 2015;313:905-15.
40. Tsemberis S, Gulcur L, Nakae M. Housing First, consumer choice, and harm reduction for homeless individuals with a dual diagnosis. *Am J Public Health* 2004;94:651-6.
41. Young MS, Clark C, Moore K, et al. Comparing two service delivery models for homeless individuals with complex behavioral health needs: preliminary data from two SAMHSA treatment for homeless studies. *J Dual Diagn* 2009;5:287-304.
42. Kozloff N, Adair CE, Palma Lazgare LI, et al. "Housing First" for homeless youth with mental illness. *Pediatrics* 2016;138:e20161514.
43. Gulcur L, Stefancic A, Shinn M, et al. Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in continuum of care and housing first programmes. *J Community Appl Soc Psychol* 2003;13:171-86. doi: 10.1002/casp.723.
44. Poremski D, Stergiopoulos V, Braithwaite E, et al. Effects of Housing First on employment and income of homeless individuals: results of a randomized trial. *Psychiatr Serv* 2016;67:603-9.
45. Booshehri LG, Dugan J, Patel F, et al. Trauma-informed Temporary Assistance for Needy Families (TANF): a randomized controlled trial with a two-generation impact. *J Child Fam Stud* 2018;27:1594-604.
46. Ferguson KM. Employment outcomes from a randomized controlled trial of two employment interventions with homeless youth. *J Soc Social Work Res* 2018;9:1-21.
47. Forchuk C, MacClure SK, Van Beers M, et al. Developing and testing an intervention to prevent homelessness among individuals discharged from psychiatric wards to shelters and "No Fixed Address". *J Psychiatr Ment Health Nurs* 2008;15:569-75.
48. Gubits D, Shinn M, Wood M, et al. What interventions work best for families who experience homelessness? Impact estimates from the family options study. *J Policy Anal Manage* 2018;37:735-66.
49. Hurlburt MS, Hough RL, Wood PA. Effects of substance abuse on housing stability of homeless mentally Ill persons in supported housing. *Psychiatr Serv* 1996;47:731-6.
50. Kashner TM, Rosenheck R, Campinell AB, et al. Impact of work therapy on health status among homeless, substance-dependent veterans: a randomized controlled trial. *Arch Gen Psychiatry* 2002;59:938-44.
51. Pankratz C, Nelson G, Morrison M. A quasi-experimental evaluation of rent assistance for individuals experiencing chronic homelessness. *J Community Psychol* 2017;45:1065-79. doi: 10.1002/jcop.21911.
52. Poremski D, Distasio J, Hwang SW, et al. Employment and income of people who experience mental illness and homelessness in a large Canadian sample. *Can J Psychiatry* 2015;60:379-85.
53. Rosenheck R, Kasprow W, Frisman L, et al. Cost-effectiveness of supported housing for homeless persons with mental illness. *Arch Gen Psychiatry* 2003;60:940-51.
54. Wolitski RJ, Kidder DP, Pals SL, et al.; Housing and Health Study Team. Randomized trial of the effects of housing assistance on the health and risk behaviors of homeless and unstably housed people living with HIV. *AIDS Behav* 2010;14:493-503.
55. Conrad KJ, Hultman CI, Pope AR, et al. Case managed residential care for homeless addicted veterans. Results of a true experiment. *Med Care* 1998;36:40-53.
56. Graham-Jones S, Reilly S, Gaulton E. Tackling the needs of the homeless: a controlled trial of health advocacy. *Health Soc Care Community* 2004;12:221-32.
57. Lapham SC, Hall M, Skipper BJ. Homelessness and substance use among alcohol abusers following participation in project H&ART. *J Addict Dis* 1995;14:41-55.
58. Nyamathi A, Flaskerud JH, Leake B, et al. Evaluating the impact of peer, nurse case-managed, and standard HIV risk-reduction programs on psychosocial and health-promoting behavioral outcomes among homeless women. *Res Nurs Health* 2001;24:410-22.
59. Nyamathi AM, Zhang S, Salem BE, et al. A randomized clinical trial of tailored interventions for health promotion and recidivism reduction among homeless parolees: outcomes and cost analysis. *J Exp Criminol* 2016;12:49-74.
60. Sosin MR, Bruni M, Reidy M. Paths and impacts in the progressive independence model: a homelessness and substance abuse intervention in Chicago. *J Addict Dis* 1995;14:1-20.
61. Towe VL, Wiewel EW, Zhong Y, et al. A randomized controlled trial of a rapid rehousing intervention for homeless persons living with HIV/AIDS: impact on housing and HIV medical outcomes. *AIDS Behav* 2019;23:2315-25.
62. Upshur C, Weinreb L, Bharel M, et al. A randomized control trial of a chronic care intervention for homeless women with alcohol use problems. *J Subst Abuse Treat* 2015;51:19-29.
63. Weinreb L, Upshur CC, Fletcher-Blake D, et al. Managing depression among homeless mothers: pilot testing an adapted collaborative care intervention. *Prim Care Companion CNS Disord* 2016;18.
64. Clarke GN, Herinckx HA, Kinney RF, et al. Psychiatric hospitalizations, arrests, emergency room visits, and homelessness of clients with serious and persistent mental illness: findings from a randomized trial of two ACT programs vs. usual care. *Ment Health Serv Res* 2000;2:155-64.
65. Essock SM, Frisman LK, Kontos NJ. Cost-effectiveness of assertive community treatment teams. *Am J Orthopsychiatry* 1998;68:179-90.
66. Essock SM, Mueser KT, Drake RE, et al. Comparison of ACT and standard case management for delivering integrated treatment for co-occurring disorders. *Psychiatr Serv* 2006;57:185-96.
67. Fletcher TD, Cunningham JL, Calsyn RJ, et al. Evaluation of treatment programs for dual disorder individuals: modeling longitudinal and mediation effects. *Adm Policy Ment Health* 2008;35:319-36.
68. Lehman AF, Dixon LB, Kernan E, et al. A randomized trial of assertive community treatment for homeless persons with severe mental illness. *Arch Gen Psy-*

*chiatry* 1997;54:1038-43.
69. Morse GA, Calsyn RJ, Allen G, et al. Experimental comparison of the effects of three treatment programs for homeless mentally ill people. *Hosp Community Psychiatry* 1992;43:1005-10.
70. Morse GA, Calsyn RJ, Klinkenberg WD, et al. An experimental comparison of three types of case management for homeless mentally ill persons. *Psychiatr Serv* 1997;48:497-503.
71. Morse GA, Calsyn RJ, Klinkenberg WD, et al. Treating homeless clients with severe mental illness and substance use disorders: costs and outcomes. *Community Ment Health J* 2006;42:377-404.
72. Braucht GN, Reichardt CS, Geissler LJ, et al. Effective services for homeless substance abusers. *J Addict Dis* 1995;14:87-109.
73. Burnam MA, Morton SC, McGlynn EA, et al. An experimental evaluation of residential and nonresidential treatment for dually diagnosed homeless adults. *J Addict Dis* 1995;14:111-34.
74. Cauce AM, Morgan CJ, Wagner V, et al. Effectiveness of intensive case management for homeless adolescents: rof a 3-month follow-up. *J Emot Behav Disord* 1994;2:219-27.
75. Clark C, Rich AR. Outcomes of homeless adults with mental illness in a housing program and in case management only. *Psychiatr Serv* 2003;54:78-83.
76. Cox GB, Walker RD, Freng SA, et al. Outcome of a controlled trial of the effectiveness of intensive case management for chronic public inebriates. *J Stud Alcohol* 1998;59:523-32.
77. Felton CJ, Stastny P, Shern DL, et al. Consumers as peer specialists on intensive case management teams: impact on client outcomes. *Psychiatr Serv* 1995; 46:1037-44.
78. Grace M, Gill PR. Improving outcomes for unemployed and homeless young people: findings of the YP4 clinical controlled trial of joined up case management. *Aust Soc Work* 2014;67:419-37.
79. Korr WS, Joseph A. Housing the homeless mentally ill: Findings from Chicago. *J Soc Serv Res* 1996;21:53-68.
80. Malte CA, Cox K, Saxon AJ. Providing intensive addiction/housing case management to homeless veterans enrolled in addictions treatment: a randomized controlled trial. *Psychol Addict Behav* 2017;31:231-41.
81. Marshall M, Lockwood A, Gath D. Social services case-management for long-term mental disorders: a randomised controlled trial. *Lancet* 1995;345:409-12.
82. Orwin RG, Sonnefeld LJ, Garrison-Mogren R, et al. Pitfalls in evaluating the effectiveness of case management programs for homeless persons: lessons from the NIAAA Community Demonstration Program. *Eval Rev* 1994;18: 153-207.
83. Rosenblum A, Nuttbrock L, McQuistion H, et al. Medical outreach to homeless substance users in New York City: preliminary results. *Subst Use Misuse* 2002; 37:1269-73.
84. Shern DL, Tsemberis S, Anthony W, et al. Serving street-dwelling individuals with psychiatric disabilities: outcomes of a psychiatric rehabilitation clinical trial. *Am J Public Health* 2000;90:1873-8.
85. Stahler GJ, Shipley TF Jr, Bartelt D, et al. Evaluating alternative treatments for homeless substance-abusing men: outcomes and predictors of success. *J Addict Dis* 1996;14:151-67.
86. Shumway M, Boccellari A, O'Brien K, et al. Cost-effectiveness of clinical case management for ED frequent users: results of a randomized trial. *Am J Emerg Med* 2008;26:155-64.
87. Toro PA, Passero Rabideau JM, Bellavia CW, et al. Evaluating an intervention for homeless persons: results of a field experiment. *J Consult Clin Psychol* 1997;65:476-84.
88. de Vet R, Beijersbergen MD, Jonker IE, et al. Critical time intervention for homeless people making the transition to community living: a randomized controlled trial. *Am J Community Psychol* 2017;60:175-86.
89. Herman DB, Conover S, Gorroochurn P, et al. Randomized trial of critical time intervention to prevent homelessness after hospital discharge. *Psychiatr Serv* 2011;62:713-9.
90. Lako DAM, Beijersbergen MD, Jonker IE, et al. The effectiveness of critical time intervention for abused women leaving women's shelters: a randomized controlled trial. *Int J Public Health* 2018;63:513-23.
91. Shinn M, Samuels J, Fischer SN, et al. Longitudinal impact of a family critical time intervention on children in high-risk families experiencing homelessness: a randomized trial. *Am J Community Psychol* 2015;56:205-16.
92. Susser E, Valencia E, Conover S, et al. Preventing recurrent homelessness among mentally ill men: a" critical time" intervention after discharge from a shelter. *Am J Public Health* 1997;87:256-62.
93. Samuels J, Fowler PJ, Ault-Brutus A, et al. Time-limited case management for homeless mothers with mental health problems: effects on maternal mental health. *J Soc Social Work Res* 2015;6:515-39.
94. Jones K, Colson PW, Holter MC, et al. Cost-effectiveness of critical time intervention to reduce homelessness among persons with mental illness. *Psychiatr Serv* 2003;54:884-90.
95. Tomita A, Herman DB. The impact of critical time intervention in reducing psychiatric rehospitalization after hospital discharge. *Psychiatr Serv* 2012;63:935-7.
96. Jones K, Colson P, Valencia E, et al. A preliminary cost effectiveness analysis of an intervention to reduce homelessness among the mentally ill. *Psychiatr Q* 1994;65:243-56.
97. Bahji A, Bajaj N. Opioids on trial: a systematic review of interventions for the treatment and prevention of opioid overdose. *Can J Addict* 2018;9:26-33.
98. Clark N, Lintzeris N, Gijsbers A, et al. LAAM maintenance vs methadone maintenance for heroin dependence. *Cochrane Database Syst Rev* 2002;(2):CD002210.
99. Ferri M, Davoli M, Perucci CA. Heroin maintenance treatment for chronic heroin-dependent individuals: a Cochrane systematic review of effectiveness. *J Subst Abuse Treat* 2006;30:63-72.
100. Gowing L, Farrell MF, Bornemann R, et al. Oral substitution treatment of injecting opioid users for prevention of HIV infection. *Cochrane Database Syst Rev* 2011;(8):CD004145.
101. Jones HE, Heil SH, Baewert A, et al. Buprenorphine treatment of opioid-dependent pregnant women: a comprehensive review. *Addiction* 2012;107(Suppl 1):5-27.
102. Karki P, Shrestha R, Huedo-Medina TB, et al. The impact of methadone maintenance treatment on HIV risk behaviors among high-risk injection drug users: a systematic review. *Evid Based Med Public Health* 2016;2:pii: e1229.
103. Kirchmayer U, Davoli M, Verster AD, et al. A systematic review on the efficacy of naltrexone maintenance treatment in opioid dependence. *Addiction* 2002;97:1241-9.
104. Larney S, Gowing L, Mattick RP, et al. A systematic review and meta-analysis of naltrexone implants for the treatment of opioid dependence. *Drug Alcohol Rev* 2014;33:115-28.
105. Lobmaier P, Kornør H, Kunøe N, et al. Sustained-release naltrexone for opioid dependence. *Cochrane Database Syst Rev* 2008;(2):CD006140.
106. Mattick RP, Breen C, Kimber J, et al. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. *Cochrane Database Syst Rev* 2014;(2):CD002207.
107. Mattick RP, Breen C, Kimber J, et al. Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *Cochrane Database Syst Rev* 2009;(3):CD002209.
108. Minozzi S, Amato L, Vecchi S, et al. Oral naltrexone maintenance treatment for opioid dependence. *Cochrane Database Syst Rev* 2011;(4):CD001333.
109. Platt L, Minozzi S, Reed J, et al. Needle syringe programmes and opioid substitution therapy for preventing hepatitis C transmission in people who inject drugs. *Cochrane Database Syst Rev* 2017;9:CD012021.
110. Roozen HG, de Waart R, van der Windt DAWM, et al. A systematic review of the effectiveness of naltrexone in the maintenance treatment of opioid and alcohol dependence. *Eur Neuropsychopharmacol* 2006;16:311-23.
111. Saulle R, Vecchi S, Gowing L. Supervised dosing with a long-acting opioid medication in the management of opioid dependence. *Cochrane Database Syst Rev* 2017;4:CD011983.
112. Simoens S, Matheson C, Bond C, et al. The effectiveness of community maintenance with methadone or buprenorphine for treating opiate dependence. *Br J Gen Pract* 2005;55:139-46.
113. Sordo L, Barrio G, Bravo MJ, et al. Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies. *BMJ* 2017;357:j1550.
114. Helm S, Trescot AM, Colson J, et al. Opioid antagonists, partial agonists, and agonists/antagonists: the role of office-based detoxification. *Pain Physician* 2008;11:225-35.
115. Strang J, Groshkova T, Uchtenhagen A, et al. Heroin on trial: systematic review and meta-analysis of randomised trials of diamorphine-prescribing as treatment for refractory heroin addiction. *Br J Psychiatry* 2015;207:5-14.
116. Thomas CP, Fullerton CA, Kim M, et al. Medication-assisted treatment with buprenorphine: assessing the evidence. *Psychiatr Serv* 2014;65:158-70.
117. Weinmann S, Kunstmann W, Rheinberger P. Methadone substitution–a scientific review in the context of out-patient therapy in Germany [article in German]. *Z Arztl Fortbild Qualitatssich* 2004;98:673-82.
118. Wilder C, Lewis D, Winhusen T. Medication assisted treatment discontinuation in pregnant and postpartum women with opioid use disorder. *Drug Alcohol Depend* 2015;149:225-31.
119. Klimas J, Gorfinkel L, Giacomuzzi SM, et al. Slow release oral morphine versus methadone for the treatment of opioid use disorder. *BMJ Open* 2019;9:e025799.
120. Maglione MA, Raaen L, Chen C, et al. Effects of medication assisted treatment (MAT) for opioid use disorder on functional outcomes: a systematic review. *J Subst Abuse Treat* 2018;89:28-51.
121. Kennedy MC, Karamouzian M, Kerr T. Public health and public order outcomes

associated with supervised drug consumption facilities: a systematic review. *Curr HIV/AIDS Rep* 2017;14:161-83.
122. Potier C, Laprévote V, Dubois-Arber F, et al. Supervised injection services: what has been demonstrated? A systematic literature review. *Drug Alcohol Depend* 2014;145:48-68.
123. McNeil R, Small W. 'Safer environment interventions': a qualitative synthesis of the experiences and perceptions of people who inject drugs. *Soc Sci Med* 2014;106:151-8.
124. Muckle W, Muckle J, Welch V, et al. Managed alcohol as a harm reduction intervention for alcohol addiction in populations at high risk for substance abuse. *Cochrane Database Syst Rev* 2012;12:CD006747.
125. Ezard N, Dolan K, Baldry E, et al. *Feasibility of a Managed Alcohol Program (MAP) for Sydney's homeless*. Canberra (AU): Foundation for Alcohol Research and Education; 2015.
126. Nielsen E, Novotna G, Berenyi R, et al. *Harm reduction interventions for chronic and severe alcohol use among populations experiencing homelessness: a literature review*. Regina: University of Regina, Carmichael Outreach Inc.; 2018.
127. Basu A, Kee R, Buchanan D, et al. Comparative cost analysis of housing and case management program for chronically ill homeless adults compared to usual care. *Health Serv Res* 2012;47:523-43.
128. Culhane DP, Metraux S, Hadley T. Public service reductions associated with placement of homeless persons with severe mental illness in supportive housing. *Hous Policy Debate* 2002;13:107-63.
129. Dickey B, Latimer E, Powers K, et al. Housing costs for adults who are mentally ill and formerly homeless. *J Ment Health Adm* 1997;24:291-305.
130. Gilmer TP, Manning WG, Ettner SL. A cost analysis of San Diego County's REACH program for homeless persons. *Psychiatr Serv* 2009;60:445-50.
131. Gilmer TP, Stefancic A, Ettner SL, et al. Effect of full-service partnerships on homelessness, use and costs of mental health services, and quality of life among adults with serious mental illness. *Arch Gen Psychiatry* 2010;67:645-52.
132. Hunter S, Harvey M, Briscombe B, et al. *Evaluation of housing for health permanent supportive housing program*. Santa Monica (CA): RAND Corporation; 2017.
133. Holtgrave DR, Wolitski RJ, Pals SL, et al. Cost-utility analysis of the housing and health intervention for homeless and unstably housed persons living with HIV. *AIDS Behav* 2013;17:1626-31.
134. Larimer ME, Malone DK, Garner MD, et al. Health care and public service use and costs before and after provision of housing for chronically homeless persons with severe alcohol problems. *JAMA* 2009;301:1349-57.
135. Latimer EA, Rabouin D, Cao Z, et al.; At Home/Chez Soi Investigators. Cost-effectiveness of Housing First intervention with intensive case management compared with treatment as usual for homeless adults with mental illness: secondary analysis of a randomized clinical trial. *JAMA Netw Open* 2019;2:e199782.
136. Lenz-Rashid S. Supportive housing program for homeless families: Foster care outcomes and best practices. *Child Youth Serv Rev* 2017;79:558-63.
137. Lim S, Gao Q, Stazesky E, et al. Impact of a New York City supportive housing program on Medicaid expenditure patterns among people with serious mental illness and chronic homelessness. *BMC Health Serv Res* 2018;18:15.
138. McLaughlin TC. Using common themes: cost-effectiveness of permanent supported housing for people with mental illness. *Res Soc Work Pract* 2010;21:404-11.
139. Mares AS, Rosenheck RA. A comparison of treatment outcomes among chronically homelessness adults receiving comprehensive housing and health care services versus usual local care. *Adm Policy Ment Health* 2011;38:459-75.
140. Pauley T, Gargaro J, Falode A, et al. Evaluation of an integrated cluster care and supportive housing model for unstably housed persons using the shelter system. *Prof Case Manag* 2016;21:34-42.
141. Schinka JA, Francis E, Hughes P, et al. Comparative outcomes and costs of inpatient care and supportive housing for substance-dependent veterans. *Psychiatr Serv* 1998;49:946-50.
142. Srebnik D, Connor T, Sylla L. A pilot study of the impact of housing first-supported housing for intensive users of medical hospitalization and sobering services. *Am J Public Health* 2013;103:316-21.
143. Evans WN, Sullivan JX, Wallskog M. The impact of homelessness prevention programs on homelessness. *Science* 2016;353:694-9.
144. Clark RE, Teague GB, Ricketts SK, et al. Cost-effectiveness of assertive community treatment versus standard case management for persons with co-occurring severe mental illness and substance use disorders. *Health Serv Res* 1998;33:1285-308.
145. Lehman AF, Dixon L, Hoch JS, et al. Cost-effectiveness of assertive community treatment for homeless persons with severe mental illness. *Br J Psychiatry* 1999;174:346-52.
146. Wolff N, Helminiak TW, Morse GA, et al. Cost-effectiveness evaluation of three approaches to case management for homeless mentally ill clients. *Am J Psychiatry* 1997;154:341-8.
147. Okin RL, Boccellari A, Azocar F, et al. The effects of clinical case management on hospital service use among ED frequent users. *Am J Emerg Med* 2000;18:603-8.
148. Hwang SW. Homelessness in health. *CMAJ* 2001;164:229-33.
149. National Clinical Guideline Centre (UK). *Patient experience in adult NHS services: improving the experience of care for people using adult NHS services — patient experience in generic terms*. NICE Clinical Guidelines No 138. London (UK): Royal College of Physicians; 2012. Available: www.ncbi.nlm.nih.gov/books/NBK115230 (accessed 2019 Dec. 12).
150. Jonker IE, Sijbrandij M, Van Luijtelaar MJA, et al. The effectiveness of interventions during and after residence in women's shelters: A meta-analysis. *Eur J Public Health* 2015;25:15-9.
151. Rivas C, Ramsay J, Sadowski L, et al. Advocacy interventions to reduce or eliminate violence and promote the physical and psychosocial well-being of women who experience intimate partner abuse. *Cochrane Database Syst Rev* 2015;(12):CD005043.
152. Speirs V, Johnson M, Jirojwong S. A systematic review of interventions for homeless women. *J Clin Nurs* 2013;22:1080-93.
153. Wathen CN, MacMillan HL. Interventions for violence against women: scientific review. *JAMA* 2003;289:589-600.
154. Constantino R, Kim Y, Crane PA. Effects of a social support intervention on health outcomes in residents of a domestic violence shelter: a pilot study. *Issues Ment Health Nurs* 2005;26:575-90.
155. Gubits D, Shinn M, Wood M, et al. *Family options study: 3-year impacts of housing and services interventions for homeless families*. 2016. doi: 10.2139/ssrn.3055295.
156. Milby JB, Schumacher JE, Wallace D, et al. To house or not to house: the effects of providing housing to homeless substance abusers in treatment. *Am J Public Health* 2005;95:1259-65.
157. Nyamathi AM, Leake B, Flaskerud J, et al. Outcomes of specialized and traditional AIDS counseling programs for impoverished women of color. *Res Nurs Health* 1993;16:11-21.
158. Nyamathi A, Flaskerud J, Keenan C, et al. Effectiveness of a specialized vs. traditional AIDS education program attended by homeless and drug-addicted women alone or with supportive persons. *AIDS Educ Prev* 1998;10:433-46.
159. Wang JZ, Mott S, Magwood O, et al. The impact of interventions for youth experiencing homelessness on housing, mental health, substance use, and family cohesion: a systematic review. *BMC Public Health* 2019;19:1528.
160. Couch J. 'My life just went zig zag': refugee young people and homelessness. *Youth Stud Aust* 2011;30:22-32.
161. Couch J. 'Neither here nor there': refugee young people and homelessness in Australia. *Child Youth Serv Rev* 2017;74:1-7.
162. Couch J. On their own: perceptions of services by homeless young refugees. *Dev Pract* 2012;(31):19-28.
163. D'Addario S, Hiebert D, Sherrell K. Restricted access: The role of social capital in mitigating absolute homelessness among immigrants and refugees in the GVRD. *Refuge* 2007;24:107-15.
164. Dwyer P, Brown D. Accommodating "others"?: Housing dispersed, forced migrants in the UK. *J Soc Welf Fam Law* 2008;30:203-18.
165. Flatau P, Smith J, Carson G, et al. *The housing and homelessness journeys of refugees in Australia*. AHURI Final Rep No 256. Melbourne (AU): Australian Housing and Urban Research Institute Limited; 2015.
166. Hulín M, Hulínová VA, Martinkovič M, et al. Housing among persons of international protection in the Slovak Republic. *Rajagiri J Soc Dev* 2013;5.
167. Idemudia ES, Williams JK, Wyatt GE. Migration challenges among Zimbabwean refugees before, during and post arrival in South Africa. *J Inj Violence Res* 2013;5:17-27.
168. Im H. A social ecology of stress and coping among homeless refugee families. Vol. 73, Dissertation Abstracts International Section A: Humanities and Social Sciences. University of Minnesota Digital Conservancy; 2012:355. Available: http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc9&NEWS=N&AN=2012-99130-061 (accessed year month date). **[AU38: Please add the date you accessed the URL]**. Login required to access content.
169. Kissoon P. From persecution to destitution: a snapshot of asylum seekers' housing and settlement experiences in Canada and the United Kingdom. *J Immigr Refug Stud* 2010;8:4-31.
170. Kissoon P. An uncertain home: refugee protection, illegal immigration status, and their effects on migrants' housing stability in Vancouver and Toronto. *Can Issues* 2010;64-7.
171. Mostowska M. Migration and homelessness: the social networks of homeless Poles in Oslo. *J Ethn Migr Stud* 2013;39:1125-40.
172. Mostowska M. Homelessness abroad: "place utility" in the narratives of the Polish homeless in Brussels. *Int Migr* 2014;52:118-29.
173. Paradis E, Novac S, Sarty M, et al. Homelessness and housing among status immigrant, non-status migrant, and Canadian-born Families in Toronto. *Can*

*Issues* 2010.
174. Sherrell K, D'Addario S, Hiebert D. On the outside looking in: the precarious housing situations of successful refugee claimants in the GVRD. *Refuge* 2007;24:64-75.
175. Sjollema SD, Hordyk S, Walsh CA, et al. Found poetry: finding home — a qualitative study of homeless immigrant women. *J Poetry Ther* 2012;25:205-17.
176. Walsh CA, Hanley J, Ives N, et al. Exploring the experiences of newcomer women with insecure housing in Montréal Canada. *J Int Migr Integr* 2016;17:887-904.
177. Kendall CE, Shoemaker ES, Crowe L, et al. Engagement of people with lived experience in primary care research: living with HIV Innovation Team Community Scholar Program. *Can Fam Physician* 2017;63:730-1.
178. Swinkels H, Pottie K, Tugwell P, et al.; Canadian Collaboration for Immigrant and Refugee Health (CCIRH). Development of guidelines for recently arrived immigrants and refugees to Canada: Delphi consensus on selecting preventable and treatable conditions. *CMAJ* 2011;183:E928-32.
179. Guyatt G, Oxman AD, Akl EA, et al. GRADE guidelines: 1. Introduction — GRADE evidence profiles and summary of findings tables. *J Clin Epidemiol* 2011;64:383-94.
180. Pottie K, Mathew CM, Mendonca O, et al. PROTOCOL: A comprehensive review of prioritized interventions to improve the health and wellbeing of persons with lived experience of homelessness. *Campbell Syst Rev* 2019;15:e1048.
181. Magwood O, Gebremeskel A, Ymele Leki V, et al. *Protocol 1: The experiences of homeless and vulnerably housed persons around health and social services. A protocol for a systematic review of qualitative studies*. Cochrane Methods Equity; 2018. Available: https://methods.cochrane.org/equity/sites/methods.cochrane.org.equity/files/public/uploads/protocol-_the_experiences_of_homeless_and_vulnerably_housed_persons_around_health_and_social_services.pdf (accessed 2019 Dec. 12).
182. Kpade V, Magwood O, Salvalaggio G, et al. *Protocol 3: Harm reduction and pharmacotherapeutic interventions for persons with substance use disorders: a protocol for a systematic review of reviews*. Cochrane Methods Equity; 2018.
183. Wang J, Mott S, Mathew C, et al. Protocol: Impact of interventions for homeless youth: a narrative review using health, social, Gender, and equity outcomes. Cochrane Methods Equity; 2018. Available: https://methods.cochrane.org/equity/sites/methods.cochrane.org.equity/files/public/uploads/youth_narrative_review_protocol.pdf (accessed 2019 Dec. 12).
184. Alonso-Coello P, Oxman AD, Moberg J, et al.; GRADE Working Group. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 2: Clinical practice guidelines. *BMJ* 2016;353:i2089.
185. Alonso-Coello P, Schünemann HJ, Moberg J, et al.; GRADE Working Group. GRADE Evidence to Decision (EtD) frameworks: a systematic and transparent approach to making well informed healthcare choices. 1: Introduction. *BMJ* 2016;353:i2016.
186. Schünemann HJ, Mustafa R, Brozek J, et al.; GRADE Working Group. GRADE Guidelines: 16. GRADE evidence to decision frameworks for tests in clinical practice and public health. *J Clin Epidemiol* 2016;76:89-98.
187. GRADEpro GDT: GRADEpro Guideline Development Tool [software]. Hamilton (ON): McMaster University; 2015 (developed by Evidence Prime, Inc.). Available: https://gradepro.org (accessed 2019 Feb. 1).
188. Tugwell P, Knottnerus JA. When does a good practice statement not justify an Evidence Based Guideline? *J Clin Epidemiol* 2015;68:477-9.
189. Guyatt GH, Alonso-Coello P, Schünemann HJ, et al. Guideline panels should seldom make good practice statements: guidance from the GRADE Working Group. *J Clin Epidemiol* 2016;80:3-7.
190. Guyatt GH, Schünemann HJ, Djulbegovic B, et al. Guideline panels should not GRADE good practice statements. *J Clin Epidemiol* 2015;68:597-600.
191. Drazen JM, de Leeuw PW, Laine C, et al. Toward more uniform conflict disclosures: the updated ICMJE conflict of interest reporting form. *JAMA* 2010;304:212-3.
192. Primack RB, Cigliano JA, Parsons ECM, et al. Coauthors gone bad; how to avoid publishing conflict and a proposed agreement for co-author teams [editorial]. *Biol Conserv* 2014;176:277-80.
193. *WHO housing and health guidelines*. Geneva: World Health Organization; 2018.
194. Korownyk C, Perry D, Ton J, et al. Managing opioid use disorder in primary care: PEER simplified guideline. *Can Fam Physician* 2019;65:321-30.
195. Bruneau J, Ahamad K, Goyer M-È, et al.; CIHR Canadian Research Initiative in Substance Misuse. Management of opioid use disorders: a national clinical practice guideline. *CMAJ* 2018;190:E247-57.
196. Fairbairn N, Ross J, Trew M, et al. Injectable opioid agonist treatment for opioid use disorder: a national clinical guideline. *CMAJ* 2019;191:E1049-56.
197. Montauk SL. The homeless in America: adapting your practice. *Am Fam Physician* 2006;74:1132-8.
198. Teixeira L, Russell D, Hobbs T. The SHARE framework: a smarter way to end homelessness. London (UK): Centre for Homelessness Impact; 2018; Available: www.homelesshub.ca/resource/share-framework-smarter-way-end-homelessness (accessed 2019 Dec. 12).
199. Purkey E, Patel R, Phillips SP. Trauma-informed care: better care for everyone. *Can Fam Physician* 2018;64:170-2.
200. Homelessness & health: What's the connection [fact sheet]. Nashville (TN): National Health Care for the Homeless Council; 2011. Available: https://nhchc.org/wp-content/uploads/2019/08/Hln_health_factsheet_Jan10-1.pdf (accessed **year month date**). **[AU39: Please add the date you accessed the URL]**.

**Competing interests:** ~~No direct or financial competing interests declared.~~ Gary Bloch is a founding member, former board member and currently a clinician with Inner City Health Associates, a group of physicians working with individuals experiencing homelessness in Toronto. Inner City Health Associates provided funding for the development of this guideline. None declared by the other authors. **[AU40: statement updated based on ICMJE forms]**

**[awaiting ICMJE forms from David Ponka, Vanessa Brcic, Susan Crouse, Michaela Beder and Peter Tugwell]**

This article has been peer reviewed.

**Affiliations:** C.T. Lamont Primary Health Care Research Centre (Pottie, Kendall, Magwood, Shoemaker, Saad), Bruyère Research Institute; Department of Family Medicine (Pottie, Kendall, Ponka, Shoemaker), and School of Epidemiology and Public Health (Pottie, Kendall), University of Ottawa; Ottawa Hospital Research Institute (Kendall, Shoemaker), Ottawa, Ont.; ICES (Kendall, Shoemaker); Li Ka Shing Knowledge Institute (Kendall), St. Michael's Hospital, Toronto, Ont.; ~~Department~~ School of Psychology **[AU41: OK?]** (Aubry), University of Ottawa, Ottawa, Ont.; Departments of Family Medicine, and Epidemiology, Biostatistics and Occupational Health (Andermann), Faculty of Medicine, McGill University, Montréal, Que.; Department of Family Medicine (Salvalaggio), Faculty of Medicine and Dentistry, University of Alberta, Edmonton, Alta.; Besrour Centre for Global Family Medicine (Ponka), College of Family Physicians of Canada, Mississauga, Ont.; Department of Family and Community Medicine (Bloch), St. Michael's Hospital; Department of Family and Community Medicine (Bloch), Faculty of Medicine, University of Toronto; Inner City Health Associates (Bloch), Toronto, Ont.; Department of Family Practice (Brcic), University of British Columbia, Vancouver, BC; **[AU42: please add a faculty or department for Agbata's affiliation]** University of Toronto (Agbata), Toronto, Ont.; Ottawa Hospital Research Institute (Thavorn); School of Epidemiology and Public Health (Thavorn), University of Ottawa; Bruyère Research Institute (Hannigan, Wang, Mathew, Kaur), Ottawa, Ont.; Department of Family and Community Medicine **[AU43: OK?]** (Bond, Goel), University of Toronto, Toronto, Ont.; **[AU44: please add a faculty or department for Crouse's affiliation]** Université de Moncton ~~University of Moncton~~ (Crouse), Moncton, NB; Faculty of Medicine (Wang, Kaur), University of Ottawa, Ottawa, Ont.; **[AU45: please add a faculty or department for Mott's affiliation]** McGill University (Mott), Montréal, Que.; **[AU46: please add a faculty or department for Hashmi's affiliation]** University of Ottawa (Hashmi), Ottawa, Ont.; Department of Health Research Methods, Evidence, and Impact (Piggott, Guenter), McMaster University, Hamilton, Ont.; **[AU47: please add a faculty or department for Arya's affiliation]** Wilfrid Laurier University (Arya), Waterloo, Ont.; Centre for Addiction and Mental Health (Kozloff, Stergiopoulos); Department of Psychiatry, and Institute of Health Policy, Management and Evaluation (Kozloff), University of Toronto; Department of Psychiatry (Beder), University of Toronto and St. Michael's Hospital, Toronto, Ont.; Department of Family Medicine (Guenter), McMaster University, Hamilton, Ont.; Ottawa Inner City Health (Muckle), Ottawa, Ont.; MAP Centre for Urban Health Solutions (Hwang), St. Michael's Hospital, Toronto, Ont.; Department of Medicine (Tugwell), University of Ottawa, Ottawa, Ont.

**Contributors:** Kevin Pottie drafted the guideline. All authors contributed substantially to the interpretation of the findings, and writing and rewriting of the article. All authors gave final approval of the version to be published and agreed to act as guarantors of the work.

**Funding:** This guideline was supported by a peer-reviewed grant from the Inner City Health Associates, and supplemental project grants from the Public Health Agency of Canada, Employment Social Development Canada, Canadian Medical Association, Champlain Local Integrated Partnership **[AU48: is this the correct proper name?]**, and le Centre intégré universitaire de santé et de services sociaux. Personnel from collaborating agencies provided nonbinding feedback during the preparation of systematic reviews and the guideline. The funders had no role in the design or conduct of the study; collection, analysis and interpretation of the data; or preparation, review or final approval of the guideline. Final decisions regarding the protocol and issues that arose during the guideline-development process were solely the responsibility of the guideline steering committee.

**[AU49 (from the senior editor): Would you like to add a generic Acknowledgment thanking everyone who participated in the development of this guideline: community scholars, technical team leads, guideline panel members and working group members. (not sure if I got everyone in this list who participated and who isn't an author.) No names should be included, to simplify matters.]**

**Endorsements:** ~~CMA~~ Canadian Medical Association (Stephen Vail), ~~CPHA~~ Canadian Public Health Association (Frank Walsh), ~~CFMS~~ Canadian Federation of Medical Students (Syeda Hashmi), ~~CFPC~~ The College of Family Physicians Canada (Ruby Vidulin) and ~~PHPC~~ Public Health Physicians of Canada (Jasmine Pawa), ~~CAEP~~ Canadian Association of Emergency Physicians (Edward Xie, Public Affairs), ~~CRISM Network~~ Canadian Research Initiative in Substance Misuse (Cam Wild), ~~CAEH —~~ The Canadian ~~Association for Ending~~ Alliance to End Homelessness (Tim Richter), Canadian Pharmacists ~~Canada Pharmacy~~ Association (Barry Powers), Canadian Psychiatric ~~Canada Psychiatry~~ Association (TBC), Canadian Nurses Association (TBD — Belinda). **[AU50: abbreviations expanded and some expansions have been corrected — please confirm correct]**

**[AU51: If you are going to name individuals in the above Endorsements section, you will need to provide permission from each of them (permission given in emails would be fine). However, the senior editor thinks it will be sufficient to simply name the organizations. Please advise how you'd like to proceed.]**

**Disclaimer:** The views expressed herein do not necessarily represent the views of the funding agencies.

**Correspondence to:** Kevin Pottie, kpottie@uottawa.ca

**Table 1: Summary of evidence-based recommendations**

| Recommendations and clinical considerations | Grade rating* |
|---|---|
| **Recommendation 1:** *A homeless or vulnerably housed ~~(VH)~~ person* | Moderate certainty<br>⊕⊕⊕◯ |
| • Identify homelessness or housing vulnerability and willingness to consider housing interventions.<br>• Ensure access for homeless or vulnerably housed individuals to local housing coordinator or case manager (i.e., call 211 **[AU1: please add a footnote with an explanation of the 211 service if you think it will be useful]** or via a social worker) for immediate link to permanent supportive housing and coordinated access system.<br>**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 ~~(VH)~~ person with experience of poverty, income instability or living in a low-income household* | Low certainty<br>⊕⊕◯◯ |
| • Identify income insecurity.<br>• Assist individuals with income insecurity to identify income-support resources and access income.<br>**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 ~~(VH)~~ person with multiple comorbid or complex health needs (including mental illness and/or substance use)* | Low certainty<br>⊕⊕◯◯ |
| • Identify history of severe mental illness, such as psychotic or mood and anxiety disorders associated with ~~significant~~ substantial disability, substance use, or multiple/complex health needs.<br>• Ensure access to local community mental health programs, psychiatric services for assessment, and linkage to intensive case management ~~(ICM)~~, assertive community treatment ~~(ACT)~~ or critical time intervention ~~(CTI)~~ where available.<br>**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<br>⊕◯◯◯ |
| • Identify opioid use disorder.<br>• 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.<br>**Clinical consideration:** 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<br>⊕◯◯◯ |
| • Identify, during history or physical examination, problematic substance use, including alcohol or other drugs.<br>• 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 ~~CLSC~~.<br>**Clinical considerations:** In case of active opioid use disorder, facilitate patient access to OAT ~~opioid agonist therapy~~. Patients should be made aware of supervised consumption facility locations (~~Appendix 4,~~ 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. **[AU2: expansion added — cor…]**
*See Box 2 for definitions.

**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. | 21–24 |
| 2.Homeless and vulnerably housed populations should be linked to comprehensive primary care to facilitate the management of multiple health and social needs. | 25 |
| 3.Providers should collaborate with public health and community organizations to ensure programs are accessible and resources appropriate to meet local patient needs. | 26,27 |

**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.<br>• 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.<br>• 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.<br>• 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 often has a caseload of 15–20 service users.<br>• 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.<br>• 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.<br>• 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.<br>• Managed alcohol programs: shelter, medical assistance, social services and the provision of regulated alcohol to support residents with severe alcohol use disorder. |

### Box 1: Indigenous homelessness

**Indigenous homelessness** is a term used to describe First Nations, Métis and Inuit individuals, families or communities who lack stable, permanent~~,~~ and appropriate housing, or the immediate prospects, means or ability to acquire such housing. However, this term must be interpreted through an Indigenous lens to understand the factors contributing to this condition. These factors include individuals, families and communities isolated from their relationships to land, water, place, family, kin, each other, animals, cultures, languages and identities as well as the legacy of colonialism and genocide.[11] It is estimated that of the total Indigenous population, 35% experience homelessness or housing vulnerability.[12]

### Box 2: How to use and understand this GRADE guideline (www.gradeworkinggroup.org) ~~[179]~~

**[AU1: the senior editor changed the above reference citation to a link to the GRADE site because of text added to the article and to remove the need to manually renumber references]**

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 very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.~~

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

**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.

**[AU2: the "moderate" and "low" explanations may have been accidentally reversed — please confirm the change is correct]**

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