

Evidence check

22 May 2020

Rapid evidence checks are based on a simplified review method and may not be entirely exhaustive, but aim to provide a balanced assessment of what is already known about a specific problem or issue. This brief has not been peer-reviewed and should not be a substitute for individual clinical judgement, nor is it an endorsed position of NSW Health.

Homelessness and COVID-19

Rapid review question

What guidance is available to support health systems respond to COVID-19 and associated risks for people experiencing homelessness?

In brief

- Homelessness is a significant social determinant of health. Expert opinion is that people experiencing homelessness may find it difficult to effectively quarantine, practise distancing measures or perform proper hand hygiene. This may exacerbate and amplify the spread of COVID-19.
- Opinion suggests that people experiencing homelessness often have pre-existing medical conditions and limited access to healthcare, which may increase the impact of COVID-19 compared to general populations.
- Evidence suggests that infection control, isolation and quarantine were challenges in previous pandemics and epidemics. Lessons can be applied from HIV/AIDS, Tuberculosis, H1N1 and SARS, including the need to establish rapid communication between public health and homelessness service providers, ensuring providers have access to personal protective equipment, and identifying where and how people will be isolated and treated.
- The Centers for Disease Control and Prevention (CDC) reported high proportions of positive COVID-19 test results upon universal testing in some shelters in the USA, suggesting the need for broader testing to prevent the spread of COVID-19 in these settings. Two USA studies also saw high proportions of people positive for COVID-19 after testing in homeless shelters.
- Guidance from CDC includes implementing infection control practices, applying distancing measures and promoting use of cloth face coverings within homelessness services.
- Guidance based on expert opinion suggests:
 - widespread distribution of accessible and up-to-date information on COVID-19 for people experiencing homelessness. Distribution can be through community partners including law enforcement.
 - provide homelessness services with training to ensure effective screening and implementation of infectious disease protocols.
 - prioritise testing and flagging older people accessing services as a high risk for COVID-19.
- The Western Australia State Government is conducting scenario planning to develop strategies to respond to potential outbreaks of COVID-19 in people experiencing homelessness including cluster outbreaks.

- The three peak organisations for homelessness in NSW conducted a survey on service capacity during COVID-19. There was a decrease in requests for assistance in comparison to a similar time period last year.
- Recent opinion published in the *CHEST Journal* suggests that transmission of COVID-19 within a homeless community could result in sudden and extensive pressure on health systems.

Background

People experiencing homelessness are a vulnerable group, and their potential exposure to COVID-19 might negatively affect their ability to be housed, and their mental and physical health.(1)

People who experience homelessness may be at higher risk of contracting and developing complications due to COVID-19. People are often more transient and geographically mobile than the general population, making it difficult to track and prevent disease transmission, as well as treat those who need it.(2-5)

People who 'sleep rough' are the most visible form of homelessness. However, people in a wide range of other situations are also described as homeless. At risk groups include young people (such as those in out of home care), people experiencing family and domestic violence, Indigenous Australians and migrants without rights to work and healthcare.(4, 6)

Homelessness NSW, Domestic Violence NSW and Yfoundations are the three industry peaks for homelessness in NSW. The peaks have compiled a collection of COVID-19 resources including regular updates, training and useful links.(7)

Under the Temporary Accommodation Program, people can access 28 days of means-tested paid crisis accommodation, with commercial accommodation providers having contracts in place with specialist homelessness services. If required, people can apply for an additional 15 days if they met a set criteria and after this it is determined on a case-by-case basis.(7) Homelessness Australia is reporting that up to 5,000 people who are homeless have been placed temporarily in hotels in response to COVID-19.

There is also significant media coverage on the impacts of COVID-19 on homelessness. In particular, the need for long-term homelessness solutions after the emergency COVID-19 housing initiatives end, such as social housing.(8, 9)

Methods (Appendix 1)

PubMed, Google and Twitter were searched on 13 and 14 May 2020.

Limitations

- The evidence base is dynamic and the information and resources available on COVID-19 and homelessness is vast. Recommendations are copied from source material and no attempt has been made to integrate the different guidance. There is likely to be additional evidence, guidance and resources now included in this rapid review.
- The scope of this review is health system responses to homelessness and COVID-19. It does not include broader housing policies or initiatives or guidance and resources on models to address homelessness more broadly.

Results (Tables 1-2)

Table 1: Guidance to support health systems respond to COVID-19 and associated risks for people experiencing homelessness

Source title and author	Source type	Results
COVID-19: A Potential Public Health Problem for Homeless Populations Tsai et al. 2020 (1)	Article	<ul style="list-style-type: none"> • Testing kits and training on how to recognise COVID-19 should be widely disseminated to homeless service providers and deployed in shelters, encampments, and street outreach. Alternative spaces might be needed to quarantine and treat people experiencing homelessness.
People Experiencing Homelessness: Their Potential Exposure to COVID-19 Lima et al. 2020 (10)	Article Letter	<ul style="list-style-type: none"> • Experts say that people who sleep in shelters or on the streets already have lower life expectancy, suffer from addiction, and have underlying health conditions that put them at greater risk should they develop the virus. If exposed, people experiencing homelessness might be more susceptible to illness or death due to the prevalence of underlying physical and mental medical conditions and a lack of reliable and affordable healthcare.
Slum Health: Arresting COVID-19 and Improving Well-Being in Urban Informal Settlements Corburn et al. 2020 (11)	Article	<ul style="list-style-type: none"> • Immediate measures include the following: <ol style="list-style-type: none"> 1. Institute informal settlements/slum emergency planning committees in every urban informal settlement 2. Apply an immediate moratorium on evictions; 3. Provide an immediate guarantee of payments to the poor; 4. Immediately train and deploy community health workers 5. Immediately meet Sphere Humanitarian standards for water, sanitation and hygiene 6. Provide immediate food assistance 7. Develop and implement a solid waste collection strategy 8. Immediately implement a plan for mobility and healthcare.

Source title and author	Source type	Results
<p>Assessment of SARS-CoV-2 Infection Prevalence in Homeless Shelters - Four U.S. Cities, March 27-April 15, 2020</p> <p>Mosites et al. 2020 (12)</p>	<p>Article</p>	<ul style="list-style-type: none"> 1,192 residents and 313 staff members were tested in 19 homeless shelters in the USA. When testing followed identification of a cluster, high proportions of residents and staff members had positive test results for COVID-19 in Seattle (17% of residents; 17% of staff members), Boston (36% of residents; 30% of staff) and San Francisco (66% of residents; 16% of staff). The CDC recommends that homeless service providers implement recommended infection control practices, apply distancing measures and promote use of cloth face coverings.
<p>Impacts of COVID-19 on vulnerable children in temporary accommodation in the UK</p> <p>Rosenthal et al. 2020 (13)</p>	<p>Article</p> <p>Comment</p>	<ul style="list-style-type: none"> Homeless children aged five years and younger are not only at high risk of exposure and transmission due to overcrowding in substandard housing, but also of immediate and long-term effects on growth, optimal health and brain development. Handwashing and hygiene are reduced because of minimal access to soap, water, disinfectants and bathrooms. Another issue is that no face-to-face contact with general practitioners and health outreach services is available, including health visitors, which limits routine checks such as early identification of need and risk, health and development reviews with screening assessments, immunisations, promotion of social and emotional development, support for parenting, promotion of health and behavioural change, prevention of obesity and promotion of breastfeeding.
<p>Potential implications of COVID-19 pandemic on the homeless population</p> <p>Albon et al. 2020 (14)</p>	<p>Article</p>	<ul style="list-style-type: none"> A COVID-19 spread in the homeless community can create a sudden and extensive pressure on the health system already weakened financially by social distancing, closing elective procedures and minimising routine clinic visits.
<p>Homeless Mentally Ill People and COVID-19 Pandemic: The Two-Way Sword for LMICs</p> <p>Kar et al. 2020 (15)</p>	<p>Article</p>	<ul style="list-style-type: none"> The government and other responsible stakeholders should take a lead to screen the health condition in the low and middle income countries (LMICs), which may be beneficial in reducing the community spread of COVID-19 infection.

Source title and author	Source type	Results
<p>COVID-19 Outbreak Among Three Affiliated Homeless Service Sites - King County, Washington, 2020</p> <p>Tobolowsky et al. 2020 (16)</p>	<p>Article</p>	<ul style="list-style-type: none"> • A COVID-19 outbreak involved transmission among residents and staff members of three affiliated homeless shelters in Seattle, Washington. Conditions that might have contributed to transmission include, the mobile nature of the community and use of multiple homeless service sites among residents, crowding and use of congregate sleeping arrangements, challenges enforcing physical distancing, possible asymptomatic transmission and unavailability of face coverings for residents before public health intervention. • Testing events for everyone in the shelter identified a high proportion (86%) of COVID-19 cases and allowed for prompt transfer to isolation housing. • Interrupting COVID-19 transmission in homeless shelters is challenging. In settings with known COVID-19 outbreaks, assistance with enforcement of shelter-in-place orders, testing of residents and staff members and prompt isolation of symptomatic or residents with confirmed disease are needed to prevent further transmission in homeless shelters.
<p>When Basic Supplies Are Missing, What to Do? Specific Demands of the Local Street Population in Times of Coronavirus - A Concern of Social Psychiatry</p> <p>Neto et al. 2020 (5)</p>	<p>Article</p>	<ul style="list-style-type: none"> • Spreading information, providing easier access to washing facilities and monitoring health.
<p>Prevalence of SARS-CoV-2 Infection in Residents of a Large Homeless Shelter in Boston</p> <p>Baggett et al. 2020 (17)</p>	<p>Article</p>	<ul style="list-style-type: none"> • This study characterises the prevalence of COVID-19 infection detected on polymerase chain reaction (PCR) screening of a large homeless shelter population in Boston prompted by an outbreak of COVID-19 cases among shelter residents. • All individuals residing in the shelter (N = 408) underwent symptom assessment and COVID-19 testing. A total of 147 participants (36.0%) had tested positive for COVID-19.

Source title and author	Source type	Results
<p>COVID-19 Precautions: Easier Said Than Done When Patients Are Homeless</p> <p>Wood et al. 2020 (18)</p>	<p>Article</p> <p>Letter</p>	<ul style="list-style-type: none"> • Implementation of advice to the public and general practitioners on minimising the risk of COVID-19 exposure and transmission is immensely difficult for people experiencing homelessness. • Regular hand washing and hygiene (and accessing soap or sanitiser and bathrooms in order to do this) is extremely problematic if living on the street. • Reducing face-to-face health service contact is being advocated in Australia and the UK. The Australian Government has just announced Medicare rebates for bulk-billed telephone consultations, but this is problematic for people who are homeless without a phone. Similarly, technological solutions such as video or virtual consultations are digitally prohibitive for people without a home let alone a computer. • Outreach health services are among the most effective ways of enabling people who are rough sleeping to access healthcare. However, implementing the use of personal protective equipment is difficult in these settings, and in the absence of primary care outreach, emergency department presentations are likely to escalate. • Cancelling outreach GP clinics and other outreach services for this population to reduce exposure risks would have severe unintended consequences. If risk factors for COVID-19 or patients with COVID-19 are untreated in this highly susceptible population, the mortality risk is high.
<p>Efforts Escalate to Protect Homeless People From COVID-19 in the UK</p> <p>Kirby, 2020 (19)</p>	<p>Article</p> <p>Opinion</p>	<ul style="list-style-type: none"> • The COVID-19 Homeless Sector Plan addresses issues and risks around concentrated outbreaks of COVID-19 that are likely to occur with this vulnerable group. • Coordination, resources, and facilities (unused hotels from commercial operators) will be divided into two categories: COVID-CARE (for people who are symptomatic or have tested positive) and COVID-PROTECT (for people who have other medical vulnerabilities who are asymptomatic or screen negative). • Fewer homeless people will be entering day centres or overnight hostels. These centres will wind down their operations, allowing some or all of their staff to be deployed to COVID-PROTECT centres.

Source title and author	Source type	Results
<p>[Left Behind Populations, COVID-19 and Risks of Health Inequities : A Guide of the Local Social-Health Network (Vaud, Switzerland)]</p> <p>Bodebnann et al. 2020 (20)</p>	<p>Article</p>	<ul style="list-style-type: none"> • Since the emergence of the COVID-19 pandemic, the Confederation has referred to vulnerable populations as over the age of 65 and/or with comorbidities. This group should not overshadow other highly vulnerable populations such as forced migrants, people deprived of their liberty, and the homeless. In the context of the current pandemic, there is a risk of increasing inequities in care among these populations.
<p>Self-isolation and the Homeless Population</p> <p>Peate, 2020 (21)</p>	<p>Article</p> <p>Editorial</p>	<ul style="list-style-type: none"> • Social distancing and self-isolation measures will be difficult to implement for rough sleepers and for those in hostel/temporary accommodation. Those who sleep rough are the most visible form of homelessness. However, people in a wide range of other situations are also described as homeless. All of them need to be identified and offered self-isolation support. Understanding each type of homelessness will lead to better support.
<p>Interim guidance on unsheltered homelessness and Coronavirus Disease 2019 (COVID-19) for homeless service providers and local officials</p> <p>Centers for Disease Control and Prevention, 2020 (22)</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • This guidance describes a community-wide approach to prepare for COVID-19 among people experiencing homelessness. • Focus includes communication, supplies, staff considerations, facility layout considerations and facility procedure considerations. • Develop an advisory board with representation from people with current or former experiences of homelessness to ensure community plans are effective. • Make plans to maintain services for all people experiencing unsheltered homelessness. • People with COVID-19 who are currently experiencing homelessness and cannot be discharged to a congregate setting should access an isolation site and low-acuity alternative care sites. • Depending on resources and staff availability, housing options that have individual rooms (such as hotels/motels) and separate bathrooms should be considered for the overflow, quarantine and protective housing. • Outreach workers and other community partners, such as emergency food provision programs or law enforcement, can help ensure people sleeping outside have access to updated information about COVID-19 and access to services.

Source title and author	Source type	Results
<p>Screening Clients at Homeless Shelters</p> <p>Centers for Disease Control and Prevention, 2020</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • A screening tool can be used to identify people with symptoms that indicate they might have a respiratory infection. If someone screens positive for symptoms, they should be directed to where they can stay, either within the shelter or at another location, according to a predesignated plan developed with local services, public health department and with community leadership.
<p>People Experiencing Homelessness</p> <p>Centers for Disease Control and Prevention, 2020 (23)</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Local public health and healthcare facilities need to determine the best location for testing in coordination with homeless healthcare clinics and street medicine clinics. • Homeless service providers can accept donations of food and clothing during community spread of COVID-19, but general infection control precautions should be taken. Request that donors not donate if they are sick. • Set up donation drop-off points to encourage social distancing between shelter workers and those donating. • People who have symptoms may or may not have COVID-19. Make sure they have a separate place they can safely stay within the shelter or at an alternate site in coordination with local health authorities. An on-site nurse or other clinical staff can help with clinical assessments.
<p>Government of Canada, 2020 (24)</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Collaborate, share information and review emergency plans with community leaders and local public health authorities to ensure measures are in place to help protect their staff, clients and guests. • Work with community networks in advance to secure additional shelter spaces in order to accommodate the requirements of social distancing in an outbreak. • Coordinate with affiliated shelters or congregate living facilities in the community to plan to cohort those who have mild cases of COVID-19 together. • Identify if alternate care sites for those with suspected or confirmed COVID-19 or plan to isolate cases. • Transport those with severe symptoms to emergency medical services.
<p>COVID-19 Guidance Note: Protecting those living in homelessness</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Immediately provide accommodation to all homeless people living 'rough' or on the streets with a view to transitioning them to permanent housing so that they do not return to a situation of homelessness once the pandemic is over.

Source title and author	Source type	Results
Farha, 2020 (3)		<ul style="list-style-type: none"> • Ensure that women, children and youth, who may need to leave a household due to violence, do not fall into homelessness and are provided with adequate alternative accommodations that ensure safety and provide access to water, sanitation, food, social supports, health services and testing for COVID-19. • Ensure all people living in homelessness, regardless of where they are living, have access to non-discriminatory and cost-free healthcare and testing. There must also be widespread distribution of accessible, up-to-date information on COVID-19, including best health practices, government health policies and where and how health services may be accessed. • Provide homeless people exhibiting virus symptoms, and those who test positive for coronavirus, with a safe place to stay, immediate medical attention, access to food, and any necessary medical and other supports to ensure they can manage quarantine or self-isolation.
Homelessness and COVID-19 Flatau et al. 2020 (6)	Factsheet	<ul style="list-style-type: none"> • The economic and health risks and impacts of COVID-19 are not evenly distributed. Those who are at greater risk of exposure and more likely to develop severe cases of COVID-19 include: <ul style="list-style-type: none"> - those who are experiencing or are at risk of experiencing homelessness, including young people and those in out of home care - those experiencing family and domestic violence - Indigenous Australians - migrants without rights to work and healthcare. • Policy and practice responses that would significantly reduce the impact of COVID-19 with respect to homelessness include: <ul style="list-style-type: none"> - transitioning those without shelter or in supported accommodation into permanent housing; - converting vacant accommodation into temporary housing for new entrants to homelessness; - expanding the eligibility for temporary accommodation and crisis accommodation (in particular for women and children experiencing violence); - flagging all elderly people accessing specialist homelessness services as a high risk for COVID-19.

Source title and author	Source type	Results
<p>COVID-19 and homelessness: actions for Government</p> <p>Homeless link, 2020</p>	<p>Website - actions for Government</p>	<ul style="list-style-type: none"> • Remove legal barriers to accessing self-contained accommodation for people facing homelessness. • Increase access to self-contained accommodation so that people who are homeless can self-isolate. • Ensure that homeless people most at risk have rapid access to testing. • Urgently provide homelessness services with personal protective equipment and hygiene supplies including masks, hand sanitiser, toilet paper, and disposable thermometer tips and cleaning products.
<p>Homelessness prevention package in NSW welcomed</p> <p>Homelessness NSW, 2020</p>	<p>Statement</p>	<ul style="list-style-type: none"> • Enact a planned response for people who are living in overcrowded accommodation, in boarding houses, couch surfing and in unstable accommodation. • Ensure the safety of frontline workers through procurement and supply of personal protective equipment; through support and advice in the event of an outbreak in accommodation services. • Plan for, and resource services to respond to the next wave of vulnerability as job losses occur across the state, including a moratorium on evictions and rent increases.
<p>Guidelines: Homelessness Accommodation and COVID-19</p> <p>NSW Government Communities and Justice, 2020</p>	<p>Guidelines</p>	<ul style="list-style-type: none"> • Guidance for homelessness service providers that are delivering accommodation-based responses for people experiencing homelessness during COVID-19 includes: <ul style="list-style-type: none"> - providing people in shared accommodation with information on symptoms - service delivery adaption to minimise the risk to staff and clients, including risk mitigation strategies - active monitoring of people with symptoms - managing mental healthcare needs of staff and clients - plans to isolate confirmed or suspected cases of COVID-19 - considerations for children and young people.
<p>Coronavirus advice for people experiencing homelessness</p> <p>Groundswell, 2020</p>	<p>Website</p>	<ul style="list-style-type: none"> • Resources to support people experiencing homelessness during the COVID-19 pandemic includes advice for people who are sleeping rough, for people who are in shared accommodation, advice on accessing and managing benefits during the pandemic and advice for people dependent on drugs and alcohol.

Source title and author	Source type	Results
<p>COVID-19 Amendment to homelessness services guidelines and conditions of funding (2)</p> <p>Victoria State Government, 2020</p>	<p>Guidelines</p>	<ul style="list-style-type: none"> This guideline includes a four-stage pandemic response plan and corresponding action required by homelessness services.
<p>COVID-19</p> <p>Shelter WA, 2020 (25) (26)</p>	<p>Webpage</p>	<ul style="list-style-type: none"> Western Australia State Government has recently set up a taskforce with a variety of different service organisations to examine how best to reduce risk for people living on the streets when it comes to COVID-19: <ul style="list-style-type: none"> Preparing for the 'new' normal: logistics of a staged return to face-to-face service delivery, with many agencies having moved to phone and online support during the pandemic. Scenario planning: developing strategies to respond to potential future COVID-19 outcomes, for example, cluster outbreaks or second wave spread. The scenario planning will be incorporated into the plan to ensure an agile response in the event of such a likelihood, and provide reassurance to community services as they begin to resume normal service delivery. Broadening data collection: formal and informal data should be collected to develop a more accurate and single headcount of people sleeping rough across Perth, and the state more widely. WA commenced a one-month trial of the 'Hotels with Heart' program, where 20 people experiencing homelessness who are unable to self-isolate, if they get sick they will be housed at the Pan Pacific Hotel in Perth.
<p>Infectious Disease Toolkit for Continuums of Care: Preventing & Managing the Spread of Infectious Disease for People</p>	<p>Toolkit</p>	<ul style="list-style-type: none"> Preparing the community to respond to a health outbreak involves planning, identifying resources, establishing lines of communication with key partners and training frontline staff to improve operational capabilities.

Source title and author	Source type	Results
<p>Experiencing Homelessness</p> <p>U.S. Department of Housing and Urban Development, 2020 (27)</p>		
<p>COVID-19 Resources</p> <p>Access Easy English, 2020 (28)</p>	<p>Resources</p>	<ul style="list-style-type: none"> • Easy English resources for communities (general and new rules for Australia)
<p>Survey Results on Link2Home and Capacity during COVID-19</p> <p>Homelessness NSW, 2020</p>	<p>Report</p>	<ul style="list-style-type: none"> • The three peak organisations conducted a survey of NSW homelessness services to understand: current conditions for services across the state during the pandemic including levels of demand, whether current processes in place are effective, and the capacity of the sector to support increasing flows of people into and out of temporary accommodation. • A total of 89 organisations responded out of 240 organisations currently delivering homelessness services in the sector. • Overall, 69% of respondents report receiving Link2Home referrals. Of respondents, 78% report capacity to support Link2Home referrals, with 22% indicating no capacity. • Of respondents, 38% reported an increase in demand for their services. A further 38% reported that demand for their services were at the same levels, with only 24% seeing a decrease in demand. • Across the sector as a whole, there has been a decrease in demand by about 130 requests for assistance in comparison to a similar time period last year. This is despite the closure and/or reduction of many referral pathways, which were ‘non-essential’, such as drop-ins, early interventions services, community centres etc.
<p>Guidance for providers of services for people</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Collaborate with your local government on emergency planning and work with community networks.

Source title and author	Source type	Results
<p>experiencing homelessness (in the context of COVID-19)</p> <p>Government of Canada, 2020 (24)</p>		<ul style="list-style-type: none"> • Consider specialist services that may be required e.g. mental health services, drug and addictions support/programming, social workers. • Coordinate with affiliated shelters or congregate living facilities in the community to consider cohorting those who have symptoms compatible with COVID-19 (even mild), those who are awaiting COVID-19 test results, or have been diagnosed with COVID-19. Those with severe symptoms should be transported via emergency medical services to a healthcare facility. • Plan to have appropriate supplies on hand, such as personal protective equipment for those who are providing direct care to people who have symptoms consistent with COVID-19 (even mild). • Ensure you have a plan in place to access and maintain supplies specific to the environment, including those to support environmental cleaning.
<p>Needed Actions from Public Health and Emergency Response Systems</p> <p>National Health Care for Homeless Council, 2020 (4)</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Establish isolation and quarantine spaces for four groups: asymptomatic but exposed, symptomatic, awaiting testing/results, confirmed positive and high-risk older people with chronic illness and/or frailty in in congregate settings. • Assist shelters with screening and preparations, including training staff to screen effectively and implement infectious disease protocols. • Establish protocols for transportation to testing and/or higher level of care • Coordinate PPE and supplies.
<p>Comprehensive Testing & Services For People Experiencing Homelessness</p> <p>National Health Care for Homeless Council, 2020 (29)</p>	<p>Guidance</p>	<ul style="list-style-type: none"> • Prioritise testing in homeless populations on par with nursing homes and other vulnerable populations living in congregate settings. • Conduct comprehensive testing in all congregate homeless settings without first requiring the presence of positive COVID-19 clusters. • Arrange appropriate staffing at all programs to ensure individuals receive needed medical and behavioural health services, case management and other supports, as well as adequate food, entertainment and other necessities.
<p>Don't waste a crisis</p> <p>Tadros, 2020 (30)</p>	<p>Croakey news</p>	<ul style="list-style-type: none"> • The numbers of people living in congregate care have been reduced, with many now in transitional accommodation or long-term accommodation to mitigate the risks associated with an outbreak.

Source title and author	Source type	Results
		<ul style="list-style-type: none"> • Standing at the precipice of an incredible opportunity to work collaboratively to provide and maintain long-term housing options for the 116,000 people who are homeless in Australia (37,692 of whom are in NSW) and the many more who are at risk of homelessness – both now and in post-COVID-19 Australia. • Reinforcing the COVID-19 restrictions in some residential services is challenging, with some clients, tenants and residents not having the full cognitive capacity to understand COVID-19 and the necessary restrictions and self-isolation requirements.
<p>Rough Sleeping Responses to COVID-19 Forum</p> <p>Australian Alliance to End Homelessness, 2020 (13)</p>	Recordings	<ul style="list-style-type: none"> • Each state and territory government have been responding to rough sleeping during COVID-19 differently. This forum was chance to hear exactly what’s been happening and to get a Commonwealth Government and local government perspective on what needs to happen next. • The forum provided the opportunity to hear the latest data on how many people experiencing rough sleeping have been sheltered in response to COVID-19.

Table 2: Homelessness lessons from previous pandemics and epidemics

Source title and author	Source type	Results
<p>Respiratory Viruses Within Homeless Shelters in Marseille, France</p> <p>Thiberville et al. 2020 (31)</p>	Article	<ul style="list-style-type: none"> • Investigation of the prevalence of 10 respiratory viruses in homeless populations during two successive winter seasons in Marseille, France. • Although half of the patients reported respiratory symptoms, the prevalence of respiratory viruses was within the range of that previously described in adult asymptomatic patients outside the homeless community. Most HRV-positive swabs were collected during the same snapshot, suggesting a local outbreak. No influenza viruses were found despite the fact that half of the patients were investigated during the peak of the seasonal influenza epidemic in Marseille.
<p>Homelessness and the Response to Emerging</p>	Article	<ul style="list-style-type: none"> • During the 2003 severe acute respiratory syndrome (SARS) outbreak in Toronto, the potential introduction of SARS into the homeless population was a serious concern.

Source title and author	Source type	Results
<p>Infectious Disease Outbreaks: Lessons From SARS</p> <p>Leung et al., 2008 (32)</p>		<p>Although no homeless individual in Toronto contracted SARS, the outbreak highlighted the need to develop an outbreak preparedness plan that accounts for unique issues related to homeless people.</p> <ul style="list-style-type: none"> • Planning for future outbreaks should take into account the need to: <ul style="list-style-type: none"> - develop systems that enable rapid two-way communication between public health officials and homeless service providers - ensure that homeless service providers have access to infection control supplies and staff training - prepare for possible homeless shelter closures due to staff shortages or high attack rates among clients - plan for where and how clinically ill homeless individuals will be isolated and treated.
<p>Outbreak of Drug-Resistant Mycobacterium Tuberculosis Among Homeless People in Atlanta, Georgia, 2008-2015</p> <p>Powell et al. 2017 (33)</p>	<p>Article</p>	<ul style="list-style-type: none"> • Of 110 outbreak cases in Georgia, USA of drug-resistant tuberculosis (TB); all but eight outbreak-associated patients had stayed overnight or volunteered extensively in a homeless facility. • All these facilities lacked infection control measures. At least nine and up to 36 TB cases outside Georgia could be linked to this outbreak. • To prevent and control TB outbreaks, health departments should work with overnight homeless facilities to implement infection control measures and maintain searchable overnight rosters.
<p>Initial Psychological Responses to Influenza A, H1N1 ('Swine Flu')</p> <p>Goodwin et al. 2009 (34)</p>	<p>Article</p>	<ul style="list-style-type: none"> • Initial responses to Influenza A show large regional differences in anxiety, with Malaysians more anxious and more likely to reduce travel and to buy masks and food. Discussions with family and friends may reinforce existing anxiety levels. Particular groups (homosexuals, prostitutes, the homeless) are perceived as at greater risk, potentially leading to increased prejudice during a pandemic.
<p>Exploration of Knowledge, Attitudes and Behaviours of Street Children on the</p>	<p>Article</p>	<ul style="list-style-type: none"> • 83 participants between the ages of 10 and 18 years old participated in a study on knowledge, attitudes and behaviour to the prevention of HIV and AIDS.

Source title and author	Source type	Results
<p>Prevention of HIV and AIDS in the Huye District, Rwanda</p> <p>Mthembu et al. 2012 (35)</p>		<ul style="list-style-type: none"> The findings indicated that the knowledge level of the participants was moderate at 71.7%. However, they still had misconceptions regarding HIV and AIDS, with 16.9% of the participants saying that there is a vaccine for HIV and AIDS and that it is curable. While 78.3% of the participants knew that HIV could be transmitted by body fluids, only 45.8% and 49.4% knew that it could be transmitted by oral sex and anal sex respectively.
<p>Regional Differences, Socio-Demographics, and Hidden Population of HIV/AIDS in India</p> <p>Kumar et al. 2017 (36)</p>	<p>Article</p>	<ul style="list-style-type: none"> Hidden population vulnerable to HIV/AIDS are: street children, homeless population and refugees. These observations can help map the high-risk behaviour groups and formulate targeted strategies to curb HIV.
<p>Strategies for Improving Influenza Immunization Rates Among Hard-To-Reach Populations</p> <p>Vlahov et al. 2007 (37)</p>	<p>Article</p>	<ul style="list-style-type: none"> Strategies at the individual level for increasing immunisation coverage include: <ul style="list-style-type: none"> community-based educational campaigns to improve attitudes and increase motivation for receiving vaccine at the provider level, education of providers to encourage immunisations improving patient-provider interactions, broadening the provider base to include additional nurses and pharmacists adoption of standing orders for immunisation administration at the structural level, promoting wider availability of and access to vaccine. The planning process for an influenza pandemic should include community engagement and extension of strategies beyond traditional providers to involve community-based organisations addressing hard-to-reach populations.
<p>Pandemic (H1N1) 2009 Surveillance in Marginalized Populations, Tijuana, Mexico</p> <p>Rodwell et al. 2020</p>	<p>Article</p>	<ul style="list-style-type: none"> To detect early cases of pandemic (H1N1) 2009 infection, in 2009 the authors surveyed 303 people from marginalised populations of drug users, sex workers, and the homeless in Tijuana, Mexico. Six confirmed cases of pandemic (H1N1) 2009 were detected, and the use of rapid, mobile influenza testing was demonstrated.

Appendix 1

PubMed Search: ((2019-nCoV[title/abstract] or nCoV*[title/abstract] or covid-19[title/abstract] or covid19[title/abstract] OR "covid 19"[title/abstract] OR "coronavirus"[MeSH Terms] OR "coronavirus"[title/abstract] OR sars-cov-2[title/abstract] OR "severe acute respiratory syndrome coronavirus 2"[Supplementary Concept])) AND (("homeless persons"[MeSH Terms]) OR (homeless* OR "rough sleep*"))

PubMed Search: (("pandemics"[MeSH Terms] OR "pandemic*"[title/abstract] OR "disease outbreak*"[title/abstract])) AND (("homeless persons"[MeSH Terms]) OR (homeless* OR "rough sleep*"))

Google and Twitter: Homelessness and COVID-19 and guidance

References

1. Tsai J, Wilson M. COVID-19: a potential public health problem for homeless populations. *Lancet Public Health*. 2020;5(4):e186-e7.
2. Government VS. COVID-19 Amendment to homelessness services guidelines and conditions of funding. In: Services HaH, editor. 6 May 2020 ed: Victoria State Government 2020.
3. Farha L. COVID-19 Guidance Note: Protecting those living in homelessness. United Nations Human Rights SepECIAL Procedures 2020 28 April 2020
4. Council NHCftH. Needed Actions from Public Health and Emergency Response Systems. Issue brief 2020 April 2020
5. Neto MLR, de Souza RI, Quezado RMM, Mendonça ECS, de Araújo TI, Luz D, et al. When basic supplies are missing, what to do? Specific demands of the local street population in times of coronavirus - a concern of social psychiatry. *Psychiatry Res*. 2020;288:112939.
6. Flatau P, Seivwright A, Hartley C, Bock C, Callis Z. Homelessness and COVID-19. Centre for Social Impact UNSW Sydney, The University of Western Australia, Swinburne University 2020 26 March 2020
7. Homelessness NSW. Temporary Accommodation Program – A Review. Accessed on 29 March 2020 Available from: https://www.homelessnessnsw.org.au/sites/homelessnessnsw/files/2017-03/Temporary%20Accommodation%20Paper%20-%20FINAL_1pdf. 2016.
8. Fitzgerald B. <https://www.abc.net.au/radio/programs/am/calls-for-long-term-homelessness-solutions-needed-after-covid-19/12233070>. ABC News. 2020 11 May 2020
9. Purtill J. A ticking time bomb': Fear of mass evictions once economy starts back up. triple j HACK 2020 8 May 2020
10. Lima NNR, de Souza RI, Feitosa PWG, Moreira JLS, da Silva CGL, Neto MLR. People experiencing homelessness: Their potential exposure to COVID-19. *Psychiatry Res*. 2020;288:112945.
11. Corburn J, Vlahov D, Mberu B, Riley L, Caiaffa WT, Rashid SF, et al. Slum Health: Arresting COVID-19 and Improving Well-Being in Urban Informal Settlements. *J Urban Health*. 2020:1-10.
12. Mosites E, Parker EM, Clarke KEN, Gaeta JM, Baggett TP, Imbert E, et al. Assessment of SARS-CoV-2 Infection Prevalence in Homeless Shelters - Four U.S. Cities, March 27-April 15, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(17):521-2.
13. Rosenthal DM, Ucci M, Heys M, Hayward A, Lakhanpaul M. Impacts of COVID-19 on vulnerable children in temporary accommodation in the UK. *The Lancet Public Health*. 2020;5(5):e241-e2.
14. Albon D, Soper M, Haro A. Potential implications of COVID-19 pandemic on the homeless population. *Chest*. 2020.
15. Kar SK, Arafat SMY, Marthoenis M, Kabir R. Homeless mentally ill people and COVID-19 pandemic: The two-way sword for LMICs. *Asian J Psychiatr*. 2020;51:102067-.
16. Tobolowsky FA, Gonzales E, Self JL, Rao CY, Keating R, Marx GE, et al. COVID-19 Outbreak Among Three Affiliated Homeless Service Sites - King County, Washington, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(17):523-6.
17. Baggett TP, Keyes H, Sporn N, Gaeta JM. Prevalence of SARS-CoV-2 Infection in Residents of a Large Homeless Shelter in Boston. *Jama*. 2020.
18. Wood LJ, Davies AP, Khan Z. COVID-19 precautions: easier said than done when patients are homeless. *Med J Aust*. 2020;212(8):384-e1.
19. Kirby T. Efforts escalate to protect homeless people from COVID-19 in UK. *Lancet Respir Med*. 2020;8(5):447-9.
20. Bodenmann P, Pahud-Vermeulen B, Bouche L, Sanchis Zozaya J, Bauermeister M, Berzig A. [Left behind populations, COVID-19 and risks of health inequities : a guide of the local social-health network (Vaud, Switzerland)]. *Rev Med Suisse*. 2020;16(N° 691-2):859-62.

21. Peate I. Self-isolation and the homeless population. *Br J Nurs.* 2020;29(7):387.
22. Prevention CfDCa. Interim Guidance for Homeless Service Providers to Plan and Respond to Coronavirus Disease 2019 (COVID-19) 2020 [Available from: <https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/plan-prepare-respond.html>].
23. Prevention CfDCa. Screening Clients at Homeless Shelters. 2020.
24. Canada Go. Guidance for providers of services for people experiencing homelessness (in the context of COVID-19). 13 April 2020 ed2020.
25. Communities GoWADo. Coronavirus (COVID-19) 2020 [Available from: <https://www.communities.wa.gov.au/coronavirus-covid-19/>].
26. WA S. COVID-19 2020 [14 May 2020]. Available from: <https://www.shelterwa.org.au/covid-19/>.
27. Development TUSDoHaU. Infectious Disease Toolkit for Continuums of Care: Preventing & Managing the Spread of Infectious Disease for People Experiencing Homelessness 2020 [Available from: <https://www.shelterwa.org.au/wp-content/uploads/2020/03/Infectious-Disease-Toolkit-for-CoCs-Preventing-and-Managing-the-Spread-of-Infectious-Disease-for-People-Experiencing-Homelessness.pdf>].
28. English AE. COVID-19 Resources 2020 [Available from: <https://accesseasyenglish.com.au/covid-19-resources/>].
29. Council NHCfH. Comprehensive Testing & Services For People Experiencing Homelessness 2020.
30. Tadros E. Don't waste a crisis Croakey 2020;Sect. Homelessness
31. Thiberville SD, Salez N, Benkouiten S, Badiaga S, Charrel R, Brouqui P. Respiratory viruses within homeless shelters in Marseille, France. *BMC Res Notes.* 2014;7:81.
32. Leung CS, Ho MM, Kiss A, Gundlapalli AV, Hwang SW. Homelessness and the response to emerging infectious disease outbreaks: lessons from SARS. *J Urban Health.* 2008;85(3):402-10.
33. Powell KM, VanderEnde DS, Holland DP, Haddad MB, Yarn B, Yamin AS, et al. Outbreak of Drug-Resistant Mycobacterium tuberculosis Among Homeless People in Atlanta, Georgia, 2008-2015. *Public Health Rep.* 2017;132(2):231-40.
34. Goodwin R, Haque S, Neto F, Myers LB. Initial psychological responses to Influenza A, H1N1 ("Swine flu"). *BMC Infect Dis.* 2009;9:166.
35. Mthembu S, Ndateba I. Exploration of knowledge, attitudes and behaviours of street children on the prevention of HIV and AIDS in the Huye district, Rwanda. *East Afr J Public Health.* 2012;9(2):74-9.
36. Kumar R, Suar D, Singh SK. Regional differences, socio-demographics, and hidden population of HIV/AIDS in India. *AIDS Care.* 2017;29(2):204-8.
37. Vlahov D, Coady MH, Ompad DC, Galea S. Strategies for improving influenza immunization rates among hard-to-reach populations. *Journal of urban health : bulletin of the New York Academy of Medicine.* 2007;84(4):615-31.