



A Brief Scan of COVID-19 Impacts on People Experiencing Homelessness: Health Impacts and Responses

Jakob Koziel, Maria Savidov, and Andrea Frick

This is part 1 of a 3-part series entitled,
A Brief Scan of COVID-19 Impacts on People Experiencing Homelessness.

Correspondence concerning this article should be disclosed to Bissell Centre, 10527 96 Street,
Edmonton AB, T5H 2H6. Email: research@bissellcentre.org

Table of Contents

Introduction	3
Methods	3
Acknowledgments	3
Disclaimer	4
The impacts of COVID-19 on populations experiencing homelessness	4
Health vulnerability among those experiencing homelessness and COVID-19	4
Prevalence and rate of COVID-19 among those experiencing homelessness	4
Transmission of COVID-19 at the city level	5
Responses and strategies focused on mitigating the impacts of COVID-19	6
Testing	6
Universal Testing	6
Triaging in Testing for COVID-19	7
Management of Unofficial Encampments	7
Outreach	7
Conclusion	8

Introduction

The World Health Organization declared a global outbreak of the coronavirus disease 2019 (COVID-19) on March 11th, 2020¹. The virus is two times more deadly than the influenza virus and can cause a plethora of deleterious health outcomes². Additionally, COVID-19 poses a particular risk for those who already suffer from or who have a higher risk of suffering from pre-existing medical conditions, such as populations experiencing homelessness³⁻⁷.

This report summarizes the emerging literature, media reports and homelessness-serving systems' responses to the pandemic specifically exploring the health impacts of COVID-19 on those who experience homelessness.

Any strategies and recommendations presented in this report are intended to be suggestive and exploratory as opposed to prescriptive. That is, this paper is to serve as a starting point for readers interested in doing more research on topics related to COVID-19 and homelessness. Additionally, the purpose of this report is to learn from the global response to the reality of homelessness in the pandemic and understand the evidence of various responses to the pandemic to assist with informing regional practice, program, and policy decision making.

Methods

Initially, we conducted an online media and academic search on COVID-19 among populations experiencing homelessness and shelters between March 30th and April 26th, 2020. We also conducted one-on-one telephone interviews with 5 shelters across Canada and the United States to gain an "on the ground" perspective during the early stages of the pandemic.

Since April 26th, we have been reviewing daily online news reports, as well as documents published in the academic (i.e. peer-reviewed journal articles) and grey (i.e. evaluations, government documents, working papers, etc.) literature to understand the impact of COVID-19 on equity-deserving populations or those experiencing homelessness as well as developing strategies focused on helping to mitigate that impact.

Our end date for our literature and media search was September 3rd, 2020. Literature and media searches revealed that most of the research originates from the United States and only a handful have been conducted elsewhere including Canada and England.

Acknowledgments

We would like to acknowledge and thank the following individuals for their work in reviewing and providing feedback for the paper:

Denise Adams (Canadian Research Initiative in Substance Misuse)
Don Voaklander (Injury Prevention Centre)
Karen Edwards (Community-University Partnership)
Kathy Belton (Injury Prevention Centre)
Sandra Ngo (Edmonton Social Planning Council)

Disclaimer

Given the heightened risk that COVID-19 poses to individuals experiencing homelessness, the academic and grey literature, while small, has been growing at a rapid pace and suggesting responses for agencies to implement to mitigate this crisis within populations experiencing homelessness. However, due to the novelty of the COVID-19 pandemic, most of the research on this topic is new. As such, most of the research contained in this report has not yet been peer-reviewed and may change or be refuted in the future.

Please note, this report is not meant to be an academic paper or systematic review but rather a summary and snapshot of the emerging media reporting and academic investigations of the pandemic's impact on the previously mentioned populations during a specific timeframe (March 30th – September 3rd 2020).

The hope is that this report will stimulate further research and inter-agency collaboration on the topics presented here to support those experiencing homelessness. As this work is exploratory, we are continuously conducting additional work on these topics.

The impacts of COVID-19 on populations experiencing homelessness

Health vulnerability among those experiencing homelessness and COVID-19

Homeless populations are vulnerable to COVID-19 infections due to factors such as prevalence of underlying health conditions, lack of access to COVID-19 information and personal protective equipment (PPE) including hygiene materials and face masks as well as limited distancing abilities⁷. Studies show that geriatric syndromes are more prevalent in older homeless populations compared to older populations that are not homeless⁸⁻⁹. For example, a recent systematic literature review revealed that cardiovascular disease is nearly three times more common amongst homeless individuals, and that homeless populations are at a greater risk of hypertension and cardiovascular disease mortality¹⁰.

Additionally, studies conducted in England and Canada have found that populations experiencing homelessness are often malnourished, overweight, obese, or suffer from poor diets and food insecurity, which is correlated with poorer health¹¹⁻¹². Mental health disorders, such as bipolar disorder, are also more prevalent among populations experiencing homelessness compared to the general population¹³⁻¹⁴.

Prevalence and rate of COVID-19 among those experiencing homelessness

Despite the novelty of COVID-19, research surrounding the rate and prevalence of COVID-19 among populations experiencing homelessness is emerging¹⁵⁻¹⁸.

A report conducted by the *Coalition for the Homeless* estimated that the COVID-19 mortality rate for sheltered New Yorkers experiencing homelessness was higher (321 deaths per 100,000 people) than the overall rate (200 deaths per 100,000 people)¹⁷. A study modelling future COVID-19 related hospitalizations and mortalities among American populations experiencing homelessness estimated a peak infection rate of 40%¹⁵. In England, researchers estimate that 15,448 individuals (34% cumulative incidence) experiencing homelessness could be infected with COVID-19 if no interventions are implemented to protect them from the virus¹⁶.

As of April 26th, the total number of known positive cases of COVID-19 among Canadian populations experiencing homelessness, based on news reports, is 178 while in select cities in the United States is 1,525 cases¹⁹ (also see Figure 1 on page 5). Given the estimated number of homeless individuals in the United States (552,830) and Canada (235,000), the prevalence of COVID-19 in homeless populations is less than 1% (0.3%, 0.1% respectively)²⁰⁻²².

Tests in other cities such as Dallas (26%) and Salt Lake City (46%) have also revealed a high prevalence of COVID-19 among populations who visit shelters²³⁻²⁴. It is important to note that in North America, the prevalence of COVID-19 among populations experiencing homelessness is clustered in cities such as New York, Boston, Seattle, and Toronto. Currently, New York City has the highest number of COVID-19 cases and COVID-19 related fatalities among populations experiencing homelessness.

Transmission of COVID-19 at the city level

Figure one summarizes the number of COVID-19 Cases between March 17th and April 26th. The number of positive COVID-19 cases in select American and Canadian cities from *Figure 1* was extracted from numerous media sources²³⁻⁵⁵.

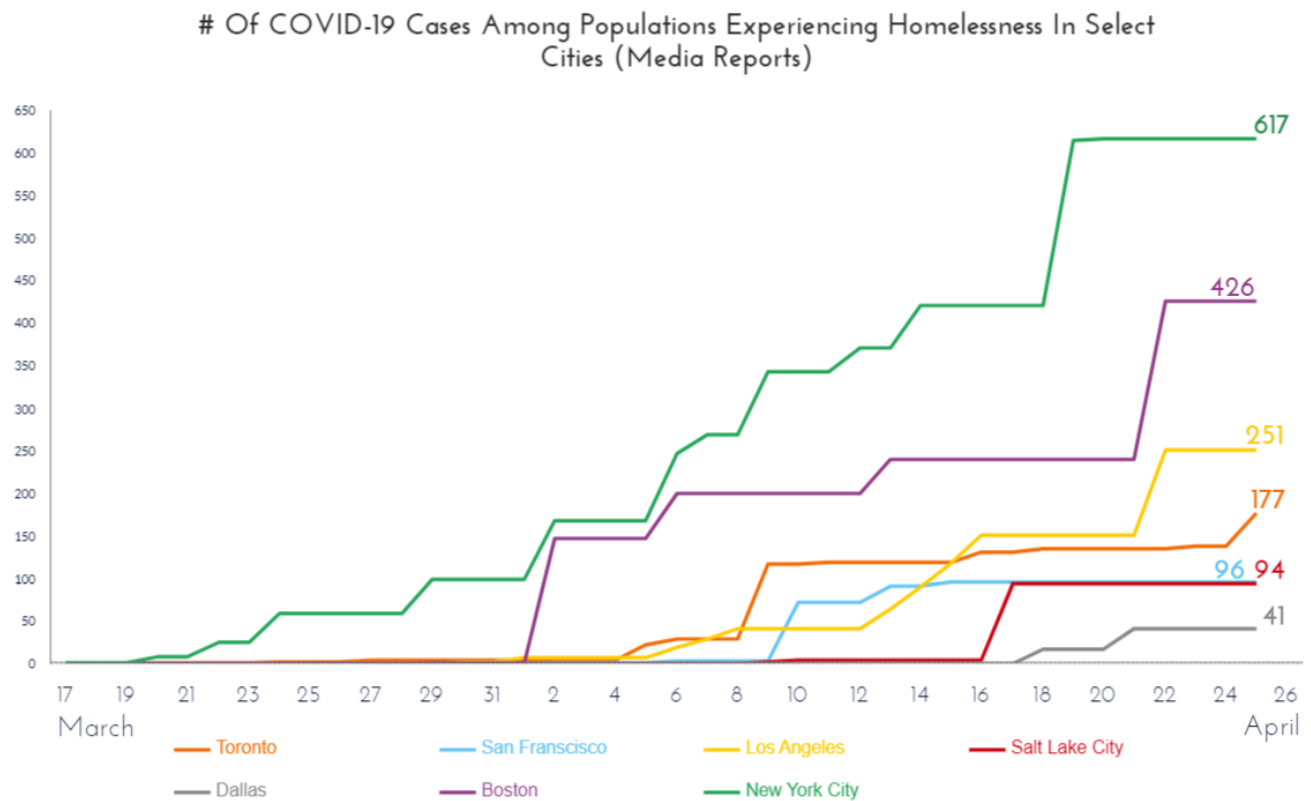


Figure 1: Estimates of positive cases from media reports

These results revealed that the spread of COVID-19 varies between cities in the US and Canada, with some cities reporting gradual increases in positive cases over time, such as New York City and Los Angeles (Figure 1). For example, within a five day period, the number of positive cases

among the populations experiencing homelessness grew from 41 to 151 cases in Los Angeles (April 12th – 16th) while, in Toronto, the number of cases grew from 4 on April 4th to 117 on April 9th 25, 27-31, 50. Other cities, such as Dallas and Salt Lake City, reported sharp increases in cases over seven days^{23, 24, 26}. However, growth largely depended on the rate of testing as well as other confounding variables that have not yet been investigated. It is also important to note that all these estimates are based on media reports and are likely underreporting actual estimates of positive cases and should be interpreted with some caution.

Responses and strategies focused on mitigating the impacts of COVID-19

In order to mitigate the spread of COVID-19 in vulnerable populations, it is imperative that cities address homelessness through preventative programs such as trauma-informed and client-centered counselling and social support, as well as developing sheltered accommodations in accordance with guidelines from health authorities such as the *Centre for Disease Control and Prevention (CDC)* guidelines^{6, 7, 56}.

Testing

Worldwide, clinics, medical students, public health groups, non-profits, and hospitals have provided specific testing for COVID-19 in populations experiencing homelessness⁵⁷⁻⁶⁰. In Seattle, various homeless shelters have been relying on researchers who are part of the Seattle Flu study to conduct testing among individuals experiencing homelessness⁶¹. Additionally, a Seattle Medical Center launched a mobile COVID-19 testing clinic for people who are accessing Seattle's homeless shelters or living in supportive housing programs⁶². Additionally, the use of mobile units, specialized outreach teams, and homeless shelters themselves have also provided testing⁶³⁻⁶⁵.

In the initial wave of the COVID-19 pandemic (March 16th – April 26th), most shelters and public health officials in North America tested only symptomatic homeless individuals. In contrast, the Toronto municipal public health department has been responsible for conducting universal screening testing for all shelters (Phone Interview, 2020). Individuals who conduct these tests are medical students and other professionals (Phone Interview, 2020). Additionally, Covenant House in New York provides testing and treatment on-site to any of the 120 youths residing in the shelter, however, most shelters in New York do not have access to testing (Phone Interview, 2020). Current research has found that among those who experience homelessness, most spreaders of COVID-19 are asymptomatic⁶⁶. Thus, according to researchers, universal testing is the preferred strategy (i.e. testing for staff and community members who are symptomatic or asymptomatic)⁶⁶⁻⁶⁸.

Universal Testing

The CDC recommends that all residents and staff members (i.e. universal testing) be tested regardless of symptoms⁶⁹. Shelters where clusters of COVID-19 cases have been detected should be prioritized⁶⁹⁻⁷¹. If testing is accessible, regular testing in shelters before identifying clusters should also be considered^{20,65}. This creates more opportunity to identify and isolate COVID-19 positive individuals as well as trace those with whom they have interacted to flatten

the curve. When this strategy was implemented in Boston, it was confirmed that many cases are indeed asymptomatic⁷². Due to a limited supply of tests, there has been some controversy over who will be tested first. Although homeless individuals are a known vulnerable demographic, in San Francisco, universal testing in a homeless shelter was canceled in order to test nursing home residents⁷³.

Triaging in Testing for COVID-19

In Canada, at the start of the pandemic there were protocols in place that prioritized testing for COVID-19 for those who were older and who had pre-existing conditions. Universal testing was recommended by the CDC, since many cases were asymptomatic; moreover, people who are homeless are especially vulnerable. At the date of this writing, in Alberta, all those who wish to be tested can be tested.

Management of Unofficial Encampments

Unofficial encampments have also sprung up in many cities as individuals experiencing homelessness flee crowded shelters⁷⁴⁻⁷⁶. There has been community backlash against these encampments, citing safety and cleanliness issues⁷⁶⁻⁷⁷. Health officials warn that clearing encampments displaces individuals and thus can lead to a faster spread of COVID-19⁶⁹⁻⁷¹. Unfortunately, many cities are choosing to heed community pressures and are clearing encampments, displacing many who do not feel they have anywhere else to go⁷⁸.

The CDC in the United States recommends that jurisdictions ensure encampments with more than 10 people have access to restrooms or portable toilets and to hygiene materials⁶⁹⁻⁷¹. Additionally, efforts should focus on helping people spread out within encampments (at least 12-by-12 feet of space per person)⁶⁹⁻⁷¹. Essential basic needs are being provided to those in encampments who can more easily stay in place⁷⁹. In Minneapolis, officials have begun constructing a fence around one encampment to try and limit its growth while at the same time, monitoring the area for criminal activity⁸⁰. Officials will also install a hygiene station at the site with hand-washing stations, portable toilets, and trash receptacles⁸⁰. The impact of this measure is currently unknown.

The CDC also recommends mapping the location of encampments, and the people living there^{69-71, 81}. This can be critical to helping communities prioritize services and implement effective contact tracing⁸¹. Outreach workers can go to these encampments and monitor the health and well-being of individuals who may be at greater risk⁸¹. Mapping encampments also allows outreach workers to give communities data surrounding the pandemic, including updates on how fast COVID-19 has spread throughout the area^{69-71, 81}.

Outreach

Many organizations have continued outreach services during the pandemic to provide a steady and reliable flow of information to unsheltered people^{79,82}. They feel it is in the best interest of every community to do early detection of all individuals experiencing homelessness⁶⁵. Using the pandemic as a reason presents an opportunity to re-engage people that declined services

before the pandemic as well as streamlining more people who experience homelessness toward housing.

However, anecdotal reports from several communities are noting that some people that had stayed in shelters are moving outside because they have a belief that being outside will be safer than being inside a shelter^{75, 76, 83-86}.

Conclusion

There is a strong body of evidence that COVID-19 is especially dangerous for populations experiencing homelessness and can spread quickly if appropriate social distancing, protective and sanitization measures are not undertaken^{6, 66, 69-71}. There have been many creative and collaborative responses around the world, which have had both positive and negative impacts in their respective communities. The pandemic has created urgency around the need to eradicate homelessness and has also thrust the living conditions and struggles of those who are homeless into the public consciousness⁶. It is critical that we learn from other communities and consider the impacts and evidence when we make decisions around interventions.

References

1. World Health Organization. (2020, June 29). Timeline of WHO's response to COVID-19. Retrieved from: <https://www.who.int/news-room/detail/29-06-2020-covid-timeline> .
2. Alberta Health Services. (Updated 2020, August 24). Information for Albertans. Novel coronavirus (COVID-19). Retrieved from: <https://albertahealthservices.ca/topics/Page16997.aspx#about>
3. Government of Canada (2020, July 20). Vulnerable populations and COVID-19. Retrieved from: <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/vulnerable-populations-covid-19.html>
4. Blitz, M. (2020, May 14). Homeless residents in D.C. face high rates of COVID-19 infections and deaths. *WAMU*. Retrieved from: <https://wamu.org/story/20/05/14/homeless-residents-in-d-c-face-high-rates-of-covid-19-infections-and-deaths-during-quarantine/>
5. Ho, V. (2020, May 29). San Francisco's homeless deaths have tripled. Advocates blame city neglect during pandemic. *The Guardian*. Retrieved from: <https://www.theguardian.com/society/2020/may/29/san-francisco-homeless-deaths-coronavirus>
6. Perri, M., Dosani, N., & Hwang, S.W. (2020, June 29). COVID-19 and people experiencing homelessness: challenges and mitigation strategies. *Canadian Medical Association*, Vol 192, Issue 26. Retrieved from: <https://www.cmaj.ca/content/cmaj/192/26/E716.full.pdf>
7. Crowe, C. (2020, April 15). 1.5 households to become 'extremely low-income' due to COVID-19. *Smart Cities Dive*. Retrieved from:

[https://www.smartcitiesdive.com/news/coronavirus-affordable-housing-crisis-homeless-national-league-of-cities-webinar/576040/.](https://www.smartcitiesdive.com/news/coronavirus-affordable-housing-crisis-homeless-national-league-of-cities-webinar/576040/)

8. Brown, R., Hemati, K., Riley, E., Lee, C., Ponath, C., Tieu, L., Guzman, D., Kushel, M. (2017, August). Geriatric conditions in a population-based sample of older homeless adults. *The Gerontologist*, Volume 57, Issue 4, August 2017, Pages 757–766, <https://doi.org/10.1093/geront/gnw011>.
9. Brown, R., Kiely, D.K., Bharel, M., & Mitchell, S.L. (2012). Geriatric syndromes in older Homeless adults. *Journal of General Internal Medicine*, 27, 16-22. DOI:10.1007/s11606-011-1848-9.
10. Al-Shakarchi, N., Evans, H., Luchenski, S., Story, A., & Banerjee, A. (2020, July 14). Cardiovascular disease in homeless versus housed individuals: a systematic review of observational and interventional studies. *BMJ Journals*. DOI: 10.1136/heartjnl-2020-316706.
11. D'Andreamatteo, C., & Slater, J. (2016). Exploring the nutritional vulnerability of homeless men in a Canadian urban setting. *Journal of Social Distress & the Homeless*, 25(1), 26–32. <https://doi.org/10.1080/10530789.2015.1116839>.
12. Fallaize, R., Seale, J. V., Mortin, C., Armstrong, L., & Lovegrove, J. A. (2017). Dietary intake, nutritional status and mental wellbeing of homeless adults in Reading, UK. *British Journal of Nutrition*, 118(9), 707–714. <https://doi.org/10.1017/S0007114517002495>.
13. Ayano, G., Shumet, S., Tesfaw, G. & Tsegay, L. (2020). A systematic review and meta-analysis of the prevalence of bipolar disorder among homeless people. *BMC Public Health*, 20. <https://doi.org/10.1186/s12889-020-08819-x>.

14. Krausz, R, M., Clarkson, A, F., Strehlau, V., Torchalla, I., Li, K., & Schuetz, C, G. (2013). Mental disorder, service use, and barriers to care among 500 homeless people in 3 different urban settings. *Social Psychiatry and Psychiatric Epidemiology*, 48(8), 1235–1243.
<https://doi.org/10.1007/s00127-012-0649-8>.
15. Culhane, D., Treglia, D., Steif, K., Kuhn, R., & Byrne, T. (2020). Estimated emergency and observational/quarantine capacity need for the US homeless population related to COVID-19 exposure by country; projected hospitalizations, intensive care units and mortality. University of Pennsylvania, Philadelphia, PA. University of California, Los Angeles, CA. Boston University, Boston, MA. Retrieved from:
https://endhomelessness.org/wp-content/uploads/2020/03/COVID-paper_clean-636pm.pdf.
16. Lewer, D., Braithwaite, I., Bullock, M., Eyre, M, T., & Aldridge, R, W. (2020). COVID-19 and homelessness in England: a modelling study of the COVID-19 pandemic among people experiencing homelessness, and the impact of a residential intervention to isolate vulnerable people and care for people with symptoms. medRxiv, [Pre-Print].
<https://doi.org/10.1101/2020.05.04.20079301>.
17. Routhier, G., & Nortz, S. (2020, June). COVID-19 and Homelessness in New York City: Pandemic pandemonium for New Yorkers without homes. Coalition for the homeless. Retrieved from <https://www.coalitionforthehomeless.org/wp-content/uploads/2020/06/COVID19HomelessnessReportJune2020.pdf>.
18. Yoon, J, C., Montgomery, M, P., Buff, A, M., et al. (2020). COVID-19 Prevalence among People Experiencing Homelessness and Homelessness Service Staff during Early

- Community Transmission in Atlanta, Georgia, April–May 2020, *Clinical Infectious Diseases*, [Accepted Manuscript]. <https://doi.org/10.1093/cid/ciaa1340>.
19. Olson, I. (2020, March 24). Homeless man who tested positive for COVID-19 left to wander Montreal streets after screening. CBC News. Retrieved from <https://www.cbc.ca/news/canada/montreal/homeless-montreal-covid-19-1.5508899>.
 20. Browning, A. (2020, July 5). Local organization says less than 1% of Miami-Dade’s homeless tested are COVID-19 positive. WSVN 7 News Miami. Retrieved from: <https://wsvn.com/news/local/miami-dade/local-organization-says-less-than-1-of-miami-dades-homeless-tested-are-covid-19-positive/>
 21. Council of Economic Advisers. (2019, September). The state of homelessness in America. [Washington, D.C.]: Executive Office of the President, Council of Economic Advisers. Retrieved from: <https://www.whitehouse.gov/wp-content/uploads/2019/09/The-State-of-Homelessness-in-America.pdf>
 22. Homeless Hub. (2020). How many people are homeless in Canada?. Retrieved from <https://www.homelesshub.ca/about-homelessness/homelessness-101/how-many-people-are-homeless-canada>.
 23. Joseph, S. (2020, April 17). 94 men test positive for COVID-19 at South Salt Lake homeless shelter. Fox 13 Salt Lake City News. Retrieved from: <https://www.fox13now.com/news/coronavirus/local-coronavirus-news/94-men-test-positive-for-covid-19-at-salt-lake-city-homeless-shelter>.
 24. Norimine, H. (2020, April 21). As coronavirus cases rise to 41 at Dallas Life, shelters redouble efforts to protect the homeless. The Dallas Morning News. Retrieved from:

<https://www.dallasnews.com/news/public-health/2020/04/21/after-homeless-test-positive-for-coronavirus-dallas-service-providers-retrace-steps-to-protect-others/>

25. International Public Health Integration System. (2020, April 24). Active COVID-19 outbreaks in Toronto shelters, April 24 2020. City of Toronto. Retrieved from:
<https://www.toronto.ca/wp-content/uploads/2020/04/9548-Shelters-with-Case-and-Death-Count-Apr-24.pdf>
26. KPRC Click2Houston. (2020, April 18). Dallas homeless shelter reports 38 coronavirus cases. Retrieved from: <https://www.click2houston.com/news/local/2020/04/18/dallas-homeless-shelter-reports-38-coronavirus-cases/>.
27. ABC 7 News. (2020, April 14). Coronavirus news: 23 deaths, 421 positive COVID-19 cases among NYC homeless population. Retrieved from: <https://abc7ny.com/health/nyc-homeless-23-deaths-421-positive-covid-19-cases/6102387/>.
28. Woodyatt, A., Hollingsworth, J., Westcott, B., Renton, A., Wagner, M., & Hayes, M. (2020, March 30). CNN News. Retrieved from: https://www.cnn.com/world/live-news/coronavirus-outbreak-03-30-20-intl-hnk/h_a6848c2aab6f90d0371d651cd618320f
29. Smith, D., & Mason, M. (2020, April 16). Dozens of homeless people relocated after skid row shelter reports six coronavirus cases. Los Angeles Times. Retrieved from:
<https://www.latimes.com/homeless-housing/story/2020-04-16/coronavirus-skid-row-union-rescue-mission-outbreak>
30. Grover, J., Corral, A., & Marshall, L. (2020, April 21). Large new cluster of coronavirus cases emerges in skid row as widespread testing of homeless begin. NBC Los Angeles. Retrieved from: <https://www.nbclosangeles.com/investigations/large-new-cluster-of->

coronavirus-cases-emerges-in-skid-row-as-widespread-testing-of-homeless-gets-underway/2349335/

31. Grover, J., Corral, A., & Marshall, L. (2020, April 22). Homeless resist getting tested as COVID-19 spreads faster on skid row. NBC Los Angeles. Retrieved from:
<https://www.nbclosangeles.com/investigations/homeless-shy-away-from-getting-tested-as-covid-19-spreads-faster-on-skid-row/2350733/>
32. Jolicoeur, L. (2020, April 6). Boston's homeless population experiencing significant surge in coronavirus cases. WBUR News. Retrieved from:
<https://www.wbur.org/commonhealth/2020/04/06/bostons-homeless-surge-in-cases>
33. MacNeill, A. (2020, April 19). After spike in asymptomatic COVID-19 cases among homeless, state releases plan to help. Boston News. Retrieved from:
<https://www.boston.com/news/local-news/2020/04/19/plan-for-caring-for-homeless-covid-19>
34. McDonald, D. (2020, April 22). Confirmed coronavirus cases among Boston's homeless tops 400. The Boston Globe. Retrieved from:
<https://www.bostonglobe.com/2020/04/22/metro/confirmed-coronavirus-cases-among-bostons-homeless-tops-400/>
35. Smith, G. (2020, March 17). First homeless shelter resident tests positive for coronavirus. The City- New York City. Retrieved from:
<https://www.thecity.nyc/2020/3/17/21210438/first-homeless-shelter-resident-tests-positive-for-coronavirus>

36. Smith, G. (2020, March 23). NYC hospitals send homeless who have coronavirus to shelters.

The City- New York City. Retrieved from:

<https://www.thecity.nyc/health/2020/3/23/21210407/nyc-hospitals-send-homeless-who-have-coronavirus-to-shelters>

37. Smith, G. (2020, March 29). No virus tracking for homeless people on streets and subways.

The City- New York City. Retrieved from:

<https://www.thecity.nyc/2020/3/29/21210393/no-virus-tracking-for-homeless-people-on-streets-and-subways>

38. Smith, G. (2020, April 21). How homeless with 'mild' COVID symptoms died on city's watch.

The City- New York City. Retrieved from: <https://www.thecity.nyc/services-safety-net/2020/4/21/21247077/how-homeless-with-mild-covid-symptoms-died-on-city-s-watch>

39. Spectrum News NY1. (2020, March 19). City's homeless shelter system confirms six new cases of coronavirus, brings total to seven. Retrieved from:

<https://www.ny1.com/nyc/all-boroughs/news/2020/03/20/city-s-homeless-shelter-system-confirms-six-new-cases-of-coronavirus--bring-total-to-seven>

40. Campanile, C. (2020, March 24). Coronavirus in NY: 30 people in homeless shelters test positive. New York Post. Retrieved from: <https://nypost.com/2020/03/24/coronavirus-in-ny-30-people-in-homeless-shelters-test-positive/>

41. Romero, L., & Tatum, S. NYC officials confirm 1st homeless death from coronavirus. ABC News. Retrieved from: <https://abcnews.go.com/Health/nyc-officials-confirm-homeless-death-coronavirus/story?id=69796320>

42. New York Times. (2020, March 30). 914 dead in N.Y.C., and city's virus case count tops 38,000. Retrieved from: <https://www.nytimes.com/2020/03/30/nyregion/coronavirus-new-york-update.html?>
43. New York Times. (2020, April 3). N.Y. virus deaths double in three days to almost 3,000. Retrieved from: <https://www.nytimes.com/2020/04/03/nyregion/coronavirus-ny-updates.html>.
44. Hicks, N. (2020, March 30). Coronavirus toll on NYC's homeless population surpasses 100 cases. New York Post. Retrieved from: <https://nypost.com/2020/03/30/coronavirus-toll-on-nycs-homeless-population-surpasses-100-cases/>
45. Tomassetti, B. (2020, April 7). Pandemic poses a big threat to homeless New Yorkers. Fox5 New York. Retrieved from: <https://www.fox5ny.com/news/pandemic-poses-a-big-threat-to-homeless-new-yorkers>
46. Vincent, I. (2020, April 11). Housing works CEO opens coronavirus homeless shelters in NYC. New York Post. Retrieved from: <https://nypost.com/2020/04/11/housing-works-ceo-charles-king-opens-coronavirus-homeless-shelters/>
47. Gartland, M. (2020, April 20). At least 40 homeless New Yorkers have died because of coronavirus: city. New York Daily News. Retrieved from: <https://www.nydailynews.com/coronavirus/ny-coronavirus-homeless-deaths-40-20200420-nckj4fvipjcvjehbmz7rdujbum-story.html>
48. Gartland, M. (2020, March 20). NYC's death toll for coronavirus-related homeless deaths hits 20. The Baltimore Sun. Retrieved from: <https://www.baltimoresun.com/ny-coronavirus-homeless-death-toll-20200411-mryivvxxq5ewrdlfp3eip7kidi-story.html>

49. Stewart, N. (2020, April 13). 'It's a time bomb': 23 die as virus hits packed homeless shelters.

The New York Times. Retrieved from:

<https://www.nytimes.com/2020/04/13/nyregion/new-york-coronavirus-homeless.html>

50. ABC 7 News. (2020, April 14). Coronavirus news: 23 deaths, 421 positive COVID-19 cases

among NYC homeless population. Retrieved from: [https://abc7ny.com/health/nyc-](https://abc7ny.com/health/nyc-homeless-23-deaths-421-positive-covid-19-cases/6102387/)

[homeless-23-deaths-421-positive-covid-19-cases/6102387/](https://abc7ny.com/health/nyc-homeless-23-deaths-421-positive-covid-19-cases/6102387/).

51. Katersky, A., & Torres, E. (2020, April 15). At least 27 New York City homeless, among

hundreds of cases, have died from COVID-19. ABC News. Retrieved from:

[https://abcnews.go.com/Health/27-york-city-homeless-hundreds-cases-died-](https://abcnews.go.com/Health/27-york-city-homeless-hundreds-cases-died-covid/story?id=70139748)

[covid/story?id=70139748](https://abcnews.go.com/Health/27-york-city-homeless-hundreds-cases-died-covid/story?id=70139748)

52. Bay City News. San Francisco reports first COVID-19 case in homeless shelter. NBC News.

Retrieved from: [https://www.nbcbayarea.com/news/coronavirus/san-francisco-reports-](https://www.nbcbayarea.com/news/coronavirus/san-francisco-reports-first-covid-19-case-in-homeless-shelter/2266332/)

[first-covid-19-case-in-homeless-shelter/2266332/](https://www.nbcbayarea.com/news/coronavirus/san-francisco-reports-first-covid-19-case-in-homeless-shelter/2266332/)

53. Fagan, K. (2020, April 7). Two more homeless people test positive, this time at SF's biggest

shelter. San Francisco Chronicle. Retrieved from:

[https://www.sfchronicle.com/bayarea/article/Two-more-homeless-people-test-](https://www.sfchronicle.com/bayarea/article/Two-more-homeless-people-test-positive-for-15182564.php)

[positive-for-15182564.php](https://www.sfchronicle.com/bayarea/article/Two-more-homeless-people-test-positive-for-15182564.php).

54. Fuller, T. (2020, April 17). Major outbreak in San Francisco shelter underlines danger for the

homeless. The New York Times. Retrieved from:

[https://www.nytimes.com/2020/04/10/us/coronavirus-san-francisco-homeless-](https://www.nytimes.com/2020/04/10/us/coronavirus-san-francisco-homeless-shelter.html)

[shelter.html](https://www.nytimes.com/2020/04/10/us/coronavirus-san-francisco-homeless-shelter.html)

55. Berlinger, J., Renton, A., Picheta, R., & Wagner, M. (2020, April 14). April 14 coronavirus news. CNN News. Retrieved from: https://www.cnn.com/world/live-news/coronavirus-pandemic-intl-04-14-20/h_3c6f06a2cccb02fc6e0580cb4515505c
56. O'Donnell, C. (2020, June 18). Hillsborough plans big push to reduce chronic homelessness with emergency COVID-19 funds. Tampa Bay Times. Retrieved from: <https://www.tampabay.com/news/health/2020/06/18/hillsborough-plans-big-push-to-reduce-chronic-homelessness-with-emergency-covid-19-funds/>.
57. Cagnassola, M.E. (2020, May 5). Newark kicks off citywide testing for entire homeless population. TAPinto. Retrieved from <https://www.tapinto.net/sections/other-nj-news/articles/newark-kicks-off-citywide-testing-for-entire-homeless-population-2>
58. Lebron, S. (2020, May 13). No positive COVID-19 results found during widespread testing of Jacksonville's homeless. WJCT News. Retrieved from: <https://news.wjct.org/post/no-positive-covid-19-results-found-during-widespread-testing-jacksonville-s-homeless>.
59. Polewski, L. (2020, May 5). Research project sees mass coronavirus testing in Hamilton Homeless shelters. Global News. Retrieved from <https://globalnews.ca/news/6906676/research-coronavirus-testing-hamilton-homeless-shelters/>
60. Haas, K. (2020, June 8). Outreach team looks to prevent COVID-19 from spreading through Homeless community. Visalia Times Delta. Retrieved from: <https://www.visaliatimesdelta.com/story/news/2020/06/08/outreach-team-looks-keep-covid-19-spreading-homeless-community/3158234001/>.

61. Monnier, J. (2020, March 11). Coronavirus Poses Unique Threat to U.S. Homeless Population. Scientific American. Retrieved from <https://www.scientificamerican.com/article/coronavirus-poses-unique-threat-to-u-s-homeless-population1/>.
62. Beekman, D. Mobile medical clinic for homeless people to start rolling in Seattle. The Seattle Times. Retrieved from: <https://www.seattletimes.com/seattle-news/health/mayor-announces-new-mobile-clinic-for-homeless/>
63. Mazzucco, L. (2020, April 23). Here's how Mississauga's homeless population is receiving assistance amid the COVID-19 outbreak. Insauga. Retrieved from <https://www.insauga.com/heres-how-mississaugas-homeless-population-is-receiving-assistance-amid-the-covid-19-outbreak>
64. Patterson, M. (2020, May 29). Homeless camps offer lesson for phase two of housing plan. My Cowichan Valley Now. Retrieved from: <https://www.mycowichanvalleynow.com/58639/homeless-camps-offer-lessons-for-phase-two-of-housing-plan/>.
65. Zarzour, K. (2020, May 28). 2 people test positive for COVID-19 at homeless shelter near Newmarket. York Region. Retrieved from: <https://www.yorkregion.com/news-story/9998459-2-people-test-positive-for-covid-19-at-homeless-shelter-near-newmarket/>
66. Baggett, T.P., Keyes, H., Sporn, N., Gaeta, J.M. (2020). COVID-19 outbreak at a large homeless Shelter in Boston: Implications for universal testing. MedRxiv. [Pre-print]. <https://doi.org/10.1101/2020.04.12.20059618>.

67. National Alliance to End Homelessness (2020, June 5). The framework for an equitable COVID 19 homelessness response. Retrieved from <https://endhomelessness.org/wp-content/uploads/2020/04/COVID-Framework-4.29.2020-1.pdf>.
68. Health 24 (2020, May 7). Homeless shelters are ‘tinderboxes’ for coronavirus, studies show. Retrieved from: <https://www.health24.com/Medical/Infectious-diseases/Coronavirus/homeless-shelters-are-tinderboxes-for-coronavirus-studies-show-20200423>.
69. Centers for Disease Control and Prevention. (2020, August 3). Interim considerations for health departments for SARS-CoV-2 testing in homeless shelters and encampments. Retrieved from: <https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/testing.html>
70. Centers for Disease Control and Prevention. (2020, May 16). Checklist for homeless service Providers during community re-opening. Retrieved from: <https://www.cdc.gov/coronavirus/2019-ncov/php/homeless-service-providers.html>
71. Centers for Disease Control and Prevention. (2020, Aug 6). Interim guidance on unsheltered homelessness and coronavirus disease 2019 (COVID-19) for homeless service providers and local officials. Retrieved from: <https://www.cdc.gov/coronavirus/2019-ncov/community/homeless-shelters/unsheltered-homelessness.html>
72. Romine, T. (2020, April 17). ‘We need to fix it quickly.’ Asymptomatic coronavirus cases at Boston homeless shelter raise red flag. CNN News. Retrieved from: <https://www.cnn.com/2020/04/17/us/boston-homeless-coronavirus-outbreak/index.html>.

73. Howey, B. (2020, April 29). City kills plan for mass coronavirus testing in S.F. homeless shelters. San Francisco Public Press. Retrieved from: <https://sfpublicpress.org/city-kills-plan-for-mass-coronavirus-testing-in-s-f-homeless-shelters/>
74. Rodriguez, L. (2020, May 21). DIY handwashing stations across the US help homeless Communities fight COVID-19. Global Citizen. Retrieved from: <https://www.globalcitizen.org/en/content/love-beyond-walls-sinks-homeless-covid-19/>
75. The Canadian Press. (2020, July 21). Homeless people in tents fight Toronto parks bylaw amid COVID-19 pandemic. CBC News. Retrieved from: <https://www.cbc.ca/news/canada/toronto/moss-park-eviction-encampment-1.5657363>
76. Doering, K. (2020, June 25). Surrey homeless camp faces eviction as activists argue its safer than shelters. City News. Retrieved from: <https://www.citynews1130.com/2020/06/25/surrey-encampment-135a-street/>
77. Wakefield, J (2020, May 29). Edmonton resumes homeless camp removal, focused on camps that pose health, safety risk. Edmonton Journal. Retrieved from: <https://edmontonjournal.com/news/local-news/edmonton-resumes-homeless-camp-removal-focused-on-camps-that-pose-health-safety-risk>
78. Dulaney, C. (2020, May 26). San Diego police increase ticketing of the homeless during the Pandemic. KPBS. Retrieved from: <https://www.kpbs.org/news/2020/may/26/san-diego-police-ticketing-homeless-coronavirus/>
79. Garcia, K (2020, May 7). ECHO expands one-to-one homeless outreach program. News Times. Retrieved from: <https://www.newtimeslo.com/sanluisobispo/echo-expands-one-to-one-homeless-outreach-program/Content?oid=9674853>.

80. Serres, C., Otárola, M. (2020, May 9). As Minneapolis homeless camp raises health alarms, officials move to contain its spread. Start Tribune. Retrieved from:
<https://www.startribune.com/as-minneapolis-homeless-camp-raises-health-alarms-officials-move-to-contain-its-spread/570309002/>
81. Kanowitz, S. (2020, May 22). Tracking COVID in homeless populations. GCN. Retrieved from:
<https://gcn.com/articles/2020/05/22/homeless-count-app-covid.aspx>.
82. Pei, N., Leclair, S., Leclerc, D., Heelis, A., Wright, C. (2020). Case study | New Brunswick's COVID-19 response to vulnerable populations. Tamarack Institute. Retrieved from
<https://www.tamarackcommunity.ca/hubfs/Resources/Case%20Studies/Case%20Study%20-%20New%20Brunswichs%20COVID%20Response%20to%20Vulnerable%20Populations.pdf?hsCtaTracking=beeacfd-9f53-4fc9-ab64-7ce596d54532%7C9ffdb347-534b-4dfd-8fba-26c435afc8f0>.
83. Tucker, G. (2020, May 25). Calgary homeless agencies see 'large spike' in people shunning Shelters to avoid catching COVID-19. Global News. Retrieved from:
<https://globalnews.ca/video/6985428/calgary-homeless-agencies-see-large-spike-in-people-shunning-shelters-to-avoid-catching-covid-19>
84. Ray, M., Atticus Investigates, & Levins, S. (2020, May 26). 'It's like the cards are stacked Against us': homeless population fear shelters for possible COVID-19 exposure. 11 Alive. Retrieved from: <https://www.11alive.com/article/news/health/coronavirus/homeless-at-greater-risk-during-covid-19-pandemic/85-6d3922e3-16dc-4187-89cd-4f1cdf834a0e>

85. McMordie, L. (2020, June 26). Why some homeless people prefer sleeping rough to hostels or hotels. The Conversation. Retrieved from: <https://theconversation.com/why-some-homeless-people-prefer-sleeping-rough-to-hostels-or-hotels-139414>.
86. McMordie, L. (2020, June 23). Avoidance strategies: Stress, appraisal and coping in hostel accommodation. Housing Studies. DOI: <https://doi.org/10.1080/02673037.2020.1769036>.