COVID-19 in the North American Prison System and the Public Health Response to the Epidemic

Simran Bhullar[1*]

[1]University of Guelph, Guelph, ON, Canada
*Author for correspondence (bhullars@uoguelph.ca)

Abstract

With a sharp increase in the number of the 2019 coronavirus disease (COVID-19) cases worldwide, one of the hardest hit institutions are high-density prison systems. Incarcerated individuals are at a disproportionate disadvantage of contracting COVID-19 due to their previous medical history of underlying conditions, the densely packed quarters they reside in, as well as increased contact with correctional staff who frequently go in and out of prisons. This calls for public health efforts to ensure that there are guidelines in place in order to manage COVID-19 in the prison systems in a structured manner, and to reduce mortality related to the disease among prisoners. The current public health response has been to follow recommendations from the Centers for Disease Control and Prevention, as well as push towards decarceration of those individuals who are least likely to re-offend. Finally, with continued vaccination rollouts, researchers encourage priority vaccination of both prison staff and prisoners in order to control the COVID-19 outbreaks.

Introduction

Within the first 3 months of the World Health Organization (WHO) declaring the 2019 coronavirus disease (COVID-19), caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a pandemic, six Canadian prison facilities had experienced COVID-19 outbreaks(1). Epidemiological data obtained during this time puts the positive test rate of COVD-19 for the Canadian prison population at 29%, compared to 6% in the general population(1). Several other countries including the United States (US), France and Italy experienced similar outbreaks within their prison systems, causing a significant concern among the public health agencies. Although efforts to control its transmission have been implemented, multiple factors make the incarcerated population more vulnerable to COVID-19, which makes it necessary to have a public action plan that addresses ways to ensure their safety. The objective of this short review is to understand the factors that make the prison population vulnerable to infectious diseases like COVID-19, as well as address the response of public health sectors to mitigate the effects of the pandemic on this population.

Vulnerability of the prison population

Census data from early 2020 showed that the COVID-19 case rate for US prisoners at both state and federal prisons was 5.5 times higher than that of the US population(2). This steep escalation of cases can be attributed to the health disparities prevalent in the incarcerated population.

Compared to the general population, individuals within the criminal justice system are more susceptible to infectious diseases such as tuberculosis, hepatitis C virus and human immunodeficiency virus, with a greater risk of complications(3,4). This is compounded by the fact that the average age of the prison population increases every year due to longer sentences(5). Older incarcerated individuals are more susceptible to heart and lung diseases, with over 10% and 15% reporting heart conditions and asthma, respectively(5). Together, this leads to a highly conducive environment for the spread of COVID-19, since individuals with underlying respiratory and heart conditions are at a significantly higher risk of contracting the virus and suffering from life-threatening complications(5,6). In addition,

in an attempt to reduce infection rates in individuals who are already deprived of liberties, social distancing is implemented to isolate positive COVID-19 cases; this can lead to elevated cortisol levels which can increase the risk of COVID-19-related mortality(7).

In addition to increased susceptibility due to comorbidities, the prison setting itself contributes to the vulnerability of its population. Prisons are often overcrowded, and the lack of single cells makes it difficult to physically distance and adhere to the Centers for Disease Control and Prevention's (CDC) recommended guideline to isolate individuals following a COVID-19 diagnosis(8,9). Furthermore, SARS-CoV-2 has been shown to survive on countertops and stainless steel surfaces for over 72 hours(10). The presence of multiple hard surfaces in prisons along with a lack of cleaning supplies such as hand sanitizers, surface cleaners, soap and water allows the viral droplets to linger for longer periods of time(7). With up to 20% of the viral cases being asymptomatic and prison custodial staff interacting closely with the inmates and staff, the chances of rapid transmission of the virus increase dramatically(8). Incarcerated individuals are often filtered in and out of prison settings for prison transfers, court hearings and medical appointments, which can readily expose them to the virus(7). Finally, the prison staff frequently go in and out of prisons, leaving those inside at a higher risk of being exposed to the virus(5).

While these factors alone put significant strain on prison systems to contain the spread of COVID-19, inadequate supply of personal protective equipment for the staff and inmates and inconsistent screening for the virus further impairs its containment(11). The increased number of outbreaks puts additional demands on the healthcare facilities within the prisons, which often lack access to the proper health services that are usually readily available to the general public(3). An example of such healthcare disparity was seen within the Canadian federal prisons, where the number of incarcerated individuals tested for COVID-19 were consistently lower than the general population during the earlier months of the pandemic(1). Thus, it is apparent that limited testing and healthcare poses a significant challenge in controlling COVID-19 in prisons. Moreover, the access to quality medical care varies from one prison to another, making it difficult to provide standardized care to those diagnosed with COVID-19(5).

Public health response to the prison outbreaks

With outbreaks overwhelming the prison healthcare services, the need to mitigate the spread of COVID-19 becomes an important public health issue(3). The overarching response from the WHO has been to implement prison-specific guidelines that include prevention and risk management practices(3,12). These include reduction of non-essential personnel and limiting importation/exportation of incarcerated individuals within prisons(3,12). To control a potential outbreak, positive COVID-19 cases are isolated whenever possible, and emergency protocols are created to transfer patients to hospitals if they need specialized care(3). Other restrictions include visitation suspension as well as limiting the number of visits by legal representatives(4). To reduce the effects of such social isolation, some prisons have opted for personal and legal communication through teleconferencing(4).

Perhaps the biggest consideration has been the push towards decarceration(13). This involves the large-scale release of prisoners who are least likely to re-offend, vulnerable populations such as older individuals and individuals with chronic conditions, and those whose offences pose no threat to public safety(4,14). By providing decarceration priority to those incarcerated for non-violent crimes, those who are eligible for parole or have served majority of their sentence, prison facilities can reduce their population which can help flatten the COVID-19 curve(15). Decarceration of these individuals has been shown to pose a low risk to the public, reduces overcrowding in prisons and allows for increased testing and proper quarantining of the remaining prisoners, which helps decrease viral transmission(16). A recent study using the stochastic compartmental mathematical model found that prison depopulation efforts combined with asymptomatic testing and adherence to CDC guidelines reduced potential new COVID-19 cases by approximately 83% in 83 days in one US jail(17). Several countries around the world have implemented decarceration as a way to reduce the spread of COVID-19. In March 2020, Iran released over 85,000 prisoners, while France and Italy reduced their prison populations by releasing 10,000 and 6,000 pris-

oners, respectively(18). In contrast, however, the US has failed to depopulate their prisons at similar levels; in the states where such decarceration happened, the rate of decarceration of white people has been higher than that of African-Americans, which exacerbates the already-present racial inequalities within the justice system(16). Social improvements by providing decarcerated individuals with access to quality healthcare and food security can lead to permanent reductions in prison populations, which would allow for more resources to be allocated to those within the prisons(16).

The priority allocation of COVID-19 vaccines to the incarcerated individuals remains a controversial topic. In addition to the vulnerabilities experienced by the incarcerated individuals, a disproportionate number of them are minority and stigmatized groups(19). Advocates of priority COVID-19 vaccination allocation for such individuals argue in support of health equity(19). Delivering vaccination to the prison population can help reduce the inequalities often faced by the marginalized and the minority groups, who otherwise bear a greater burden of communicable diseases(19). Vaccination of the incarcerated population helps reduce municipal costs by taking the burden off the healthcare systems and hospitals in the area, who offer care to the infected individuals requiring hospitalization(19). Finally, providing appropriate healthcare to those in custody is a constitutional and a moral duty of the government, and receiving vaccination for a pandemic should not be dependent on an individual's criminal status(19).

Despite the above-mentioned considerations and CDC guidelines encouraging simultaneous vaccination of the prison staff and prisoners, actual plans differ based on each prison's jurisdiction, with several states omitting vaccination plans for incarcerated populations in the US(9,14). This goes against the recommendations by researchers and the American Medical Association who have pushed to consider prisoners in the initial vaccine allocation phase(20). Recognizing differences in jurisdictional plans and making efforts to fill in these gaps can stop some prisons from being excluded from receiving the vaccinations(21). Finally, as vaccine rollouts continue, many prisoners could have hesitations about the vaccine due to lack of educational materials as well as due to the distrust in governmental institutions(21). A survey conducted by the CDC found that over 75% of the participants within certain US prisons were hesitant to receive the COVID-19 vaccination(22). The common reasons for refusal of the vaccine were: distrust in the government due to past interactions with law enforcement (20%), general refusal of vaccines (14%), a belief that COVID-19 vaccination would cause them harm (6%); these statistics were higher in the incarcerated population compared to the general population(22). This calls for efforts to improve vaccine awareness using multiple formats and languages to highlight the benefits of vaccination and increase awareness of the risks associated with contracting COVID-19(22).

Conclusion

COVID-19 has made a lasting impact on multiple spheres of the society, including the criminal justice system. The challenges faced by the public health system in ensuring the safety of the incarcerated population are not only due to the vulnerabilities faced by these individuals, but also due to the environment of the prison system itself. Prisons make up an important part of government institutions, and officials have respondedby establishing guidelines which are better suited for prison settings to reduce COVID-19 outbreaks, allowing for decarceration of individuals least likely to re-enter the criminal justice system, and by calling for vaccination of the incarcerated individuals and prison staff. An overwhelming majority of incarcerated individuals are people belonging to minority groups; by providing a swift response to get such epidemics under control, we can strive for health equality between them and the general population.

References

1. Blair A, Parnia A, Siddiqi A. A time-series analysis of testing and COVID-19 outbreaks in Canadian federal prisons to inform prevention and surveillance efforts. Can Commun Dis Rep. 2021 Jan;47(1):66-76.
2. Saloner B, Parish K, Ward JA, Dilaura G, Dolovich S. COVID-19 cases and deaths in federal and state prisons. JAMA-J Am Med Assoc. 2020 Aug;324(6):602–3.
3. Kinner SA, Young JT, Snow K, Southalan L, Lopez-Acuña D, Ferreira-Borges C, et al. Prisons and custodial settings are part of a comprehensive response to COVID-19. Lancet Public Health. 2020 Apr;5(4):188-189.
4. Akiyama MJ, Spaulding AC, Rich JD. Flattening the curve for incarcerated populations — COVID-19 in jails and prisons. New Engl Journal Med. 2020 May;382(22):2075-2077.
5. Hawks L, Woolhandler S, McCormick D. COVID-19 in prisons and jails in the United States. JAMA Intern Med. 2020 Aug;180(8):1041–1042.
6. Medical Conditions [Internet]. CDC Centres for Disease Control and Prevention: May 13, 2021. Certain medical conditions and risk for severe

COVID-19 illness. [cited 2021 Apr 2]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html
7. Novisky MA, Nowotny KM, Jackson DB, Testa A, Vaughn MG. Incarceration as a fundamental social cause of health inequalities: Jails, prisons and vulnerability to COVID-19. Br J Criminol. 2021 Apr. [cited 2021 Jun 13]. Available from: https://academic.oup.com/bjc/advance-article/doi/10.1093/bjc/azab023/6217392 DOI: 10.1093/bjc/azab023
8. Franco-Paredes C, Jankousky K, Schultzid J, Bernfeld J, Cullen K, Quanid NG, et al. COVID-19 in jails and prisons: A neglected infection in a marginalized population. PLoS Negl Trop Dis. 2020 June;14(6):e0008409. Available from: https://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0008409 DOI: 10.1371/journal.pntd.0008409
9. National Center for Immunization and Respiratory Diseases. [Internet]. CDC Centres for Disease Control and Prevention: 2021. COVID-19 Vaccine FAQs in Correctional and Detention Centers. [cited 2021 Apr 2]. Available from: https://www.cdc.gov/coronavirus/2019-ncov/community/correction-detention/vaccine-faqs.html
10. Hammett E. How long does Coronavirus survive on different surfaces? BDJ Team. 2020 May;7(5):14–5.
11. Solis J, Franco-Paredes C, Henao-Martinez AF, Krsak M, Zimmer SM. Structural vulnerability in the U.S. revealed in three waves of COVID-19. Am J Trop Med Hyg. 2020 July;103(1): 25-27.
12. World Health Organization. [Internet]. WHO: March 15, 2020. Preparedness, prevention and control of COVID-19 in prisons and other places of detention [cited 2021 Apr 2]. Available from: https://apps.who.int/iris/bitstream/handle/10665/336525/WHO-EURO-2020-1405-41155-55954-eng.pdf?sequence=1&isAllowed=y
13. Simpson PL, Butler TG. COVID-19, prison crowding, and release policies. BMJ. 2020 Apr;369:m1551. Available from: https://www.bmj.com/content/bmj/369/bmj.m1551.full.pdf DOI: 10.1136/bmj.m1551
14. Barsky BA, Reinhart E, Farmer P, Keshavjee S. Vaccination plus decarceration — Stopping COVID-19 in jails and prisons. N Engl J Med. 2021 Apr;384(17):1583-1585.
15. Macmadu A, Berk J, Kaplowitz E, Mercedes M, Rich JD, Brinkley-Rubinstein L. COVID-19 and mass incarceration: a call for urgent action. Lancet Public Health. 2020 Nov;5(11):e571–2. Available from: https://www.sciencedirect.com/science/article/pii/S2468266720302310?via%3Dihub DOI: 10.1016/S2468-2667(20)30231-0
16. Franco-Paredes C, Ghandnoosh N, Latif H, Krsak M, Henao-Martinez AF, Robins M, et al. Decarceration and community re-entry in the COVID-19 era. Lancet Infect Dis. 2021 Jan;21(1);e11-16. Available from: https://www.sciencedirect.com/science/article/pii/S1473309920307301?via%3Dihub DOI: doi: 10.1016/S1473-3099(20)30730-1
17. Malloy GSP, Puglisi L, Brandeau ML, Harvey TD, Wang EA. The effectiveness of interventions to reduce COVID-19 transmission in a large urban jail. BMJ Open. 2021 Feb;11(2):e1-9. Available from: https://bmjopen.bmj.com/content/11/2/e042898 DOI: http://dx.doi.org/10.1136/bmjopen-2020-042898
18. Burki T. Prisons are "in no way equipped" to deal with COVID-19. Lancet. 2020 May;395(10234):1411-1412.
19. Berk J, Rich JD, Brinkley-Rubinstein L. Why we vaccinate incarcerated people first. EClinicalMedicine. 2021 May;35:100864. Available from: https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(21)00144-9/fulltext DOI: https://doi.org/10.1016/j.eclinm.2021.100864
20. Siva N. Experts call to include prisons in COVID-19 vaccine plans. Lancet. 2020 Dec; 396(10266):1870.
21. Liebrenz M, Bhugra D, Buadze A, Schleifer R. Prisoner's Dilemma: Ethical questions and mental health concerns about the COVID-19 vaccination and people living in detention. Forensic Sci Int Mind Law. 2021 Nov;2:100044. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7945995/ DOI: 10.1016/j.fsiml.2021.100044
22. Stern MF, Piasecki AM, Strick LB, Rajeshwar P, Tyagi E, Dolovich S, et al. Willingness to receive a COVID-19 vaccination among incarcerated or detained persons in correctional and detention facilities — four states, September–December 2020. MMWR Morb Mortal Wkly Rep. 2021 Apr;70(13):473-477.