

## COVID-19 and the Correctional Environment: The American Prison as a Focal Point for Public Health



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### DETENTION SETTINGS ARE EXTREMELY SUSCEPTIBLE TO INFECTIOUS DISEASE

**T**he coronavirus disease 2019 (COVID-19) pandemic has proven to be deadly, rapidly developing, and resource depleting for all sectors of the society. Within this space, prisoners and correctional staff share an environment known to amplify, accelerate, and act as a reservoir for outbreaks of respiratory diseases. Correctional administrators have extraordinary power over an institution's disease response, and guidance and collaboration from the wider health system will be essential.<sup>1</sup>

The initial outbreak of COVID-19, caused by the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported in December 2019 in Hubei Province, China. Since then, it has been declared a pandemic by WHO, with an increasing velocity of deaths and diagnoses in the U.S.

As a respiratory-borne illness, the rate of transmission is largely dependent on the extent of respiratory contact between individuals. Detention settings are extremely susceptible to the rapid and disastrous spread of infectious diseases, owing to both environmental and host factors—a point extensively documented by the historical spread of influenza, tuberculosis, and other respiratory pathogens.<sup>1,2</sup>

The U.S. holds almost 2.3 million people, exceeding 0.7% of its total population, in state and federal prisons, local jails, immigration detention centers, juvenile correctional facilities, military prisons, and state hospitals.<sup>3</sup> These settings are extremely diverse in terms of size and organization, but they are congregate settings where prisoners cannot leave and are generally unable to maintain social distancing. Prison staff enter and exit daily, and prisoners are regularly transferred between facilities. There is also a “jail churn” of admissions and releases from local jails, acting as a powerful transmission multiplier among the 7.3 million people (3.2% of adults) who are incarcerated each year.<sup>2</sup>

Prisoners have a high prevalence of chronic diseases and mental health illness, and prisons house an increasingly aging population, which will contribute directly to higher rates of severe viral illness and death.<sup>4</sup> Educational attainment and health literacy tend to be low, and information transfer is tightly controlled, creating fertile ground for misinformation and fear.<sup>5</sup> Essential interventions such as isolation and quarantine will likely worsen pre-existing mental health diagnoses.<sup>6</sup>

The correctional environment imposes additional risks.<sup>1,7</sup> Overcrowding, poor ventilation, close habitation, or dormitory-style housing will increase COVID-19 transmission. In addition, institutions strictly control everyday items such as soap, cleaning supplies, and hand sanitizer and rarely provide spare clothing or bedding. These practices can lead to poor personal hygiene and may also contribute to virus spread.

Women and minorities face particular hazards. Both groups have higher rates of chronic disease than the wider prisoner population, and women are the fastest-growing segment of the U.S. incarcerated population, having increased by 742% between 1980 and 2016.<sup>3</sup> The full implications of COVID-19 infection during pregnancy have not yet been established, warranting special consideration for protection.

Inadequate information technology and information sharing between facilities, chronically underfunded health systems, and medical copays that demand a substantial portion of a prisoner's income may prevent the

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tinely identification, isolation, treatment, and referral of cases. In addition, security obligations may impede transfer of seriously ill prisoners to hospitals, and smaller facilities may have only off-site, on-call medical coverage.<sup>1,2</sup>

Moreover, about 870,000 prisoners perform some type of work while being incarcerated, earning an average of \$0.93 per hour, and are effectively uncovered by the Occupational Safety and Health Administration oversight or any other federal workplace protections.<sup>8,9</sup> During this outbreak, stories have emerged of inmates producing hand sanitizer and personal protective equipment, while they themselves are barred from possessing it. They are washing potentially infected laundry from the institution and local schools and hospitals and even digging graves for COVID-19 victims in preparation for the anticipated wave of deaths.<sup>10</sup>

## NEEDED RESEARCH IS FRAUGHT WITH ETHICAL CONCERNS

Systematic investigation and information sharing are generally necessary steps to establish best practices and facilitate public health functions. However, historical abuses in research have led to very tight control over the performance of medical investigation among incarcerated populations. Prisoners have been viewed as an opportune population for research of many types, given the high prevalence of diseases and exposure, susceptibility to coercion by relatively small incentives, and the assurance of a reliable follow-up, all owing to the enormous power disparities that characterize their incarceration.<sup>11</sup> IRBs must make every effort to facilitate investigations beneficial to these highly underserved populations while still protecting prisoners from exploitation. Their protection should be closely overseen by the relevant legal authorities at every level.

## CORRECTIONAL STAFF ARE AT PARTICULARLY ELEVATED RISK

More than 500,000 correctional officers and correctional medical staff work in this environment.<sup>12</sup> They are essential personnel during the COVID-19 response,<sup>1</sup> and their professions bring them into direct contact with a high-risk population daily. They share all the risks of the physical environment as listed above but are additionally exposed through uncontrolled physical contact as the correctional officers move prisoners or engage in altercations and as medical staff perform physical examinations and medical procedures. Prisoners may be unable or unwilling to maintain personal hygiene and

may intentionally expose staff to body fluids in an attempt to transmit diseases.<sup>13</sup>

Correctional staff's mental health is also highly vulnerable during this outbreak. Independent of COVID-19, work-related stress, anxiety, and frustration are high among correctional officers, correlating with high rates of depression, anxiety, post-traumatic stress disorder, and rates of suicide that are 40%–100% higher than those among police officers.<sup>14</sup> Recognizing this increased risk, correctional employees at both the state and federal levels have filed complaints to demand hazard pay during the outbreak.<sup>15</sup>

Correctional medical personnel work in chronically underfunded systems, where they may lack adequate guidance, personal protective equipment, testing supplies, and access to referral. During the 2003 severe acute respiratory syndrome (SARS) outbreak, healthcare workers reported reluctance to work, consideration of resignation, fear of infection, and transmission to colleagues and loved ones.<sup>16</sup> More recently, during the COVID-19 outbreak, they reported high rates of anxiety, depression, insomnia, somatization, and symptoms of post-traumatic stress disorder.<sup>17</sup>

Correctional institutions are also chronically understaffed, already leading to long hours and high rates of burnout.<sup>14</sup> Shortages will worsen as staff are quarantined or must stay at home to care for loved ones and as officers are detailed to guard prisoners in community hospitals. Their colleagues will work longer hours and under increasing demand, guarding and caring for a population who, already deprived of their liberty, may become increasingly agitated by necessary quarantine procedures and their legitimate fear of illness or death.

Treating physicians in the community should ask all patients about where they live and work, maintaining an elevated level of suspicion for COVID-19 and stress-related disorders if the patient works in a correctional environment or has been recently incarcerated.

## CORRECTIONAL HEALTH WILL IMPACT PUBLIC HEALTH

As mentioned previously, detention settings and the outside community experience frequent contact as individuals are arrested and admitted to jails, released from jails on bail, transferred between facilities, transported to court dates and medical visits, or released from prison into the community. Correctional staff arrive and depart from the facility daily after contact with their own families. Each of these contacts acts as a potential route of transmission. Because transmission of COVID-19 through asymptomatic carriers is nearly inevitable, and because conditions strongly favor contagion inside the institution, most correctional facilities will amplify the

COVID-19 pandemic and act as a reservoir of illness to the wider community. As of April 4, 2020, there was an estimated infection rate of 5.1% in Rikers Island, 5 times higher than that in the general population in New York, the state with the most cases in the country.<sup>18</sup>

Initial studies demonstrated that 20% of patients who were positive with COVID-19 in a community sample developed severe disease requiring oxygen supplementation.<sup>19</sup> Because of prisoners' underlying health conditions, a high proportion of prisoners will likely develop severe disease and require transfer for hospitalization, further burdening a community healthcare system already likely to be overwhelmed.

As recommended by current guidelines, many jurisdictions are releasing low-risk prisoners, but without the proper support, the prisoners face enormous barriers to healthy reintegration to the community. Homeless shelters are communal settings, many of which have been closed to reduce transmission. Landlords may refuse housing to recently released prisoners on concerns of contagion, and the much-needed social services and medical management are heavily burdened. Already facing discrimination in hiring, released prisoners will be seeking work at a time when the unemployment rates are hitting historic levels.<sup>18</sup> At the time of this writing, it is not clear what, if any, social support programs may be available to the prisoners whose release is now a public health imperative.

## PLANNING IS KEY

Correctional professionals have a responsibility to protect and treat anyone who lives or works in their institution. They should seek collaboration with experts from the American College of Correctional Physicians, American Correctional Association, or National Commission on Correctional Health Care and observe published guidance from the Centers for Disease Control and Prevention<sup>1</sup> and WHO.<sup>20</sup>

The following are the most important recommendations:

- Coordinate with the local public health system. Correctional and public health systems must coordinate individual responsibilities throughout the outbreak. Preventive medicine physicians and public health departments should assist with pandemic plan creation and implementation as appropriate for each correctional setting. Policy changes should be considered to facilitate active oversight of these facilities.
- Coordinate between correctional facilities. Arrange for sharing of information, physical resources, or transfer of prisoners. Maintain contact throughout the outbreak.

- Identify and treat. Screen all prisoners and staff on entry. Urge symptom reporting from prisoners and staff. Establish clear, evidence-based policies for symptomatic individuals, and ensure testing availability for prisoners and staff. Eliminate medical copays for prisoners.
- Release prisoners and decrease admissions. Decrease intakes and utilize alternatives to incarceration, such as community monitoring. Employ compassionate release for elderly and infirm prisoners. Expedite release or furlough of prisoners who pose relatively low public safety risks, including nearly all people in immigrant detention. Identify prisoners at higher risk of homelessness, unemployment, substance abuse, or becoming victims of violence and arrange for appropriate resources, including medications for addiction treatment, at discharge.
- Improve sanitation. Provide soap and tissue at no cost to prisoners and relax restrictions on hand sanitizer. Ensure adequate personal protective equipment. Increase laundry services.
- Employ social distancing. Establish clear policies for social distancing and criteria for escalation on the basis of likely transmission. Restrict transfers, medical appointments, or court appearances to those that are absolutely necessary. Assign housing to permit more space between prisoners. Establish separate spaces for isolation and quarantine; these should not resemble conditions of solitary confinement.
- Plan for staff absences. Identify critical functions and cross train coworkers. Retain additional contingency staff. Provide longer-term prescriptions for prisoners to keep on person. Make sick leave and medical coverage available for quarantined and infected staff.
- Support mental health. Communicate situation reports clearly and often. Provide education to all stakeholders, including prisoners. Train staff to recognize burnout in colleagues and agitation in prisoners. Provide mental health support, modified schedules, or assignments to staff as able. Avoid lockdown if possible. Provide prisoners with additional activities and increased access to communication with their families.

## CONCLUSIONS

Although the correctional environment is often considered distinct or isolated from the wider society and health system, the well-being of correctional workers and prisoners is inexorably linked to the health of the country as a whole. The correctional workers and prisoners constitute millions of family members and neighbors, and therefore, their safety is inherently a matter of

public health. Today, correctional workers and prisoners are under severe threat, but when correctional institutions and the outside community collaborate for the safety of their workers and residents, all will be better protected against COVID-19 illness and death.

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## REFERENCES

- Centers for Disease Control and Prevention (CDC). Interim guidance on management of coronavirus disease 2019 (COVID-19) in correctional and detention facilities. [www.cdc.gov/coronavirus/2019-ncov/community/correction-detention/guidance-correctional-detention.html](http://www.cdc.gov/coronavirus/2019-ncov/community/correction-detention/guidance-correctional-detention.html). Updated April 18, 2020. Accessed April 18, 2020.
- Maruschak LM, Sabol WJ, Potter RH, Reid LC, Cramer EW. Pandemic influenza and jail facilities and populations. *Am J Public Health*. 2009;99(suppl 2):S339–S344. <https://doi.org/10.2105/AJPH.2009.175174>.
- Sawyer W, Wagner P. *Mass incarceration: the whole pie 2020*. Northampton, MA: Prison Policy Initiative. [www.prisonpolicy.org/reports/pie2020.html](http://www.prisonpolicy.org/reports/pie2020.html). Published March 24, 2020. Accessed April 6, 2020.
- Wilper AP, Woolhandler S, Boyd JW, et al. The health and health care of U.S. prisoners: results of a nationwide survey. *Am J Public Health*. 2009;99(4):666–672. <https://doi.org/10.2105/AJPH.2008.144279>.
- Ewart S, Wildhagen T. U.S. Census Bureau. Educational characteristics of prisoners: data from the ACS. Presented at the Annual Meeting of the Population Association of America; Washington, DC, March 31–April 2, 2011. <https://www.census.gov/content/dam/Census/library/working-papers/2011/demo/SEHSD-WP2011-08.docx>. Accessed March 27, 2020.
- Liebrezn M, Bhugra D, Buadze A, Schleifer R. Caring for persons in detention suffering with mental illness during the Covid-19 outbreak. *Forensic Sci Int Mind Law*. 2020;1:100013. <https://doi.org/10.1016/j.fsimpl.2020.100013>.
- Guo W, Cronk R, Scherer E, et al. A systematic scoping review of environmental health conditions in penal institutions. *Int J Hyg Environ Health*. 2019;222(5):790–803. <https://doi.org/10.1016/j.ijheh.2019.05.001>.
- Schwartzapfel B. The great American chain gang. *The American Prospect*. May 28, 2014 <https://prospect.org/justice/great-american-chain-gang/>. Accessed April 6, 2020.
- Montoya-Barthelemy A. *Analysis of Employment Protections and Occupational Health of Inmate Workers [dissertation]*. Minneapolis, MN: University of Minnesota Twin Cities, 2018.
- Daily KOS. Paul Wright quoted in article about use of prison labor. *Prison Legal News*. April 2, 2020 <https://www.prisonlegalnews.org/in-the-news/2020/paul-wright-quoted-article-about-use-prison-labor/>. Accessed April 6, 2020.
- Coughlin SS, Lewis SR, Smith SA. Ethical and social issues in health research involving incarcerated people. *J Health Care Poor Underserved*. 2016;27(2A):18–28. <https://doi.org/10.1353/hpu.2016.0053>.
- Occupational employment statistics news release. U.S. Bureau of Labor Statistics. [www.bls.gov/oes/](http://www.bls.gov/oes/). Accessed March 28, 2020.
- Bick JA. Infection control in jails and prisons. *Clin Infect Dis*. 2007;45(8):1047–1055. <https://doi.org/10.1086/521910>.
- Ferdik F, Smith H. *Correctional officer safety and wellness literature synthesis*. Washington, DC: National Institute of Justice. [www.ncjrs.gov/pdffiles1/nij/250484.pdf](http://www.ncjrs.gov/pdffiles1/nij/250484.pdf). Published July 2017. Accessed March 29, 2020.
- Braswell et al. v. The United States of America, Case 1:20-cv-00359-VJW (2020).
- Chen CS, Wu HY, Yang P, Yen CF. Psychological distress of nurses in Taiwan who worked during the outbreak of SARS. *Psychiatr Serv*. 2005;56(1):76–79. <https://doi.org/10.1176/appi.ps.56.1.76>.
- Lai J, Ma S, Wang Y, et al. Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open*. 2020;3(3):e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>.
- Scannell K. Nowhere to go: some inmates freed because of coronavirus are ‘scared to leave’. *CNN Politics*. April 4, 2020. [www.cnn.com/2020/04/04/politics/freed-inmates-challenges-coronavirus/index.html](http://www.cnn.com/2020/04/04/politics/freed-inmates-challenges-coronavirus/index.html). Accessed April 6, 2020.
- Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. The epidemiological characteristics of 2019 novel coronavirus diseases (COVID-19) in China [in Chinese]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2020;41(2):145–151. <https://doi.org/10.3760/cma.j.issn.0254-6450.2020.02.003>.
- World Health Organization. Preparedness, prevention and control of COVID-19 in prisons and other places of detention: interim guidance. [www.euro.who.int/\\_\\_data/assets/pdf\\_file/0019/434026/Preparedness-prevention-and-control-of-COVID-19-in-prisons.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0019/434026/Preparedness-prevention-and-control-of-COVID-19-in-prisons.pdf?ua=1). Published March 15, 2020. Accessed March 25, 2020.