



Perceptions of vaccine safety and hesitancy among incarcerated adults and correctional staff in the rural midwest



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ABSTRACT

Objectives: This project assessed vaccine hesitancy among staff and incarcerated adults in one rural medium-security prison in the Midwestern United States and identified differences in hesitancy across sociodemographic and work-related variables.

Methods: 610 prison staff and people incarcerated completed a cross-sectional survey in May 2021. The vaccine hesitancy scale (VHS) identified perceived risk and confidence in vaccination. A single item assessed whether people typically follow public health protocols in the prison. A combination of analyses was utilized, including ANOVA, Chi-Square, and Pearson's correlation.

Results: Vaccine hesitancy was moderate to high for both populations. Incarcerated people had more confidence in vaccination than staff; differences did not reach statistical significance. Incarcerated people had statistically significantly higher perceptions of risk compared to staff. Both populations reported doing their best to follow public health protocols. For both populations, vaccine hesitancy varied by education and veteran status. Among staff, hesitancy varied by gender and political beliefs. For people incarcerated, it varied by pre-incarceration income and visit frequency.

Conclusions: Results support the need for public health policy and procedural interventions to reduce hesitancy towards vaccination in correctional settings.

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Introduction

The COVID-19 pandemic has raised awareness about the vulnerabilities that people living and working in prisons face during public health crises. With shared living spaces and an aging incarcerated population, prisons were hit especially hard during the height of the COVID-19 pandemic, with incidence and mortality rates exceeding that of the general population [1]. Public health crises are not new to prisons, however; each year, prison administrators and staff combat the potential spread of the flu, airborne pathogens, and other communicable diseases. People living in prisons often cycle in and out of different facilities while staff move between their home communities and prisons. This transient context as well as the confined spaces and overcrowding in facilities

all contribute to the high potential for risk of viral spread and disease transmission.

Vaccination is a highly effective protective strategy to reduce the risks of infectious diseases among people living and working in prisons [2]. However, vaccine acceptance in prisons is challenged by numerous barriers. Studies on vaccine uptake for hepatitis, influenza, and MMR, for example, identify distrust, personal beliefs, release from prison, and transfers between prisons as the main challenges in vaccinating people during incarceration [2]. Vaccine hesitancy, or the personal beliefs and attitudes associated with an unwillingness to vaccinate [3], is thought to be high among medically underserved populations, making incarcerated people likely to indicate a reluctance to undergo vaccination [4]. Despite these barriers, studies also find that, with intervention, vaccine acceptance among the incarcerated population can increase [5].

Like other residential facilities, prisons face a multitude of challenges in managing COVID-19. Similar to studies on vaccine hesitancy with established vaccines [2], people incarcerated report

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concerns about the COVID-19 vaccine, with nearly half of a four-state sample reporting they planned to refuse the vaccine; the highest refusal rates were among respondents who identified as Black [6]. In a separate study, researchers found differences in COVID-19 vaccine refusal among correctional staff; staff working in more urban and densely populated areas were more willing to vaccinate [7]. More recent research approximates vaccine acceptance among staff and people incarcerated. Sixty-eight percent of Rhode Island correctional staff and 76 % of people incarcerated accepted the first COVID-19 dose [8]. Rates of acceptance among those offered a first dose living in California prisons was around 66 % [9].

Research during the COVID-19 pandemic has increased our understanding of the importance of systematic health planning and mitigation strategies when addressing public health crises in prisons. However, there is limited knowledge about vaccine hesitancy and acceptance among staff working in rural communities and, more broadly, how staff vaccine hesitancy compares to the incarcerated population in the same prison. Given the regional variation in willingness to vaccinate [7], it is likely there is also geographic variation in vaccine hesitancy and acceptance. This study contributes to the broad understanding of vaccine hesitancy across a group of people living and working in a rural prison. Vaccination remains one of the most effective mitigation strategies for combatting COVID-19, influenza, and other infectious diseases in prison. Understanding vaccine hesitancy is a first step in interventions to increase vaccine acceptance and reduce the spread of communicable diseases among people living and working in prisons.

Method

This study is non-experimental and utilized a cross-sectional survey to address two aims: (1) examine vaccine hesitancy among staff and people incarcerated in one, medium-security, male prison in the rural, Midwestern United States, and (2) explore how hesitancy varied across key sociodemographic, institutional, and workplace measures. Data were collected in May 2021 as part of a larger project to assess the culture and climate of prisons. Both staff and people incarcerated were sampled; everyone living and working in the prison during the data collection window were invited to complete the survey. Recruitment occurred through emails and flyers to staff and.

t communication with people incarcerated. The research team also conducted two onsite recruitment events with staff and people incarcerated during the data collection window. Staff could complete the survey via a web-based or paper survey; 8.1 % of staff opted for paper surveys. The incarcerated population completed paper surveys collected by the research team. Incentives were offered based on response rate goals of 60 % of each population. Neither population reached this goal, with staff response rates at 47.5 % and the incarcerated population response rates at 29.2 %.

Measurement

For purposes of this study, vaccine hesitancy is operationalized using the validated Vaccine Hesitancy Scale (VHS) [3]. We adapted the VHS for use with adult populations and omitted the neutral option on the agreement scale as recommended by Luyten and colleagues [10], which made the VHS a 4-point scale in this study. The VHS includes two subscales: perceived risk and lack of confidence. Higher scores for both scales indicate greater hesitancy. Possible scores on the confidence sub-scale range from seven to 28, with scores greater than 14 indicating moderate to high hesitancy. Possible scores on the risk sub-scale range from two to eight, with scores greater than four indicating moderate to high hesitancy. The VHS confidence subscale had high internal consistency in this

study ($\alpha = 0.95$), and the risk subscale was close to acceptable ($\alpha = 0.66$). These rates are comparable to the VHS validation study conducted by Shapiro and colleagues [3]. The VHS is not specific to any one vaccine; instead, it assesses perceived risk and confidence about vaccination in general. Our survey also included a single question on following prison public health orders (i.e., *I do my best to follow public health protocols in this prison (e.g., during COVID-19 or flu season)*); responses were on a 4-point scale from *strongly disagree* (1) to *strongly agree* (4).

Sociodemographic and work-related background factors were also collected, including age, race, education, relationship status, income, and participation in the U.S. Armed Forces from both populations. The incarcerated population also provided years incarcerated, frequency of visits from family, and whether they had a current mental health disorder. Staff provided information on their role in the prison. For this analysis, staff were coded as either custody or other staff, which included respondents in administrative, classification, education, programming, and healthcare roles. Staff also provided information on years they worked in corrections, gender, home zip code, and political beliefs. Recent research suggests that people who self-describe their political beliefs as conservative are most hesitant about vaccines [11]; for this analysis, we dichotomized political beliefs into people who identified as politically liberal or middle of the road compared to people who identified as politically conservative.

Sample

A total of 610 people living and working in the prison completed the survey: staff ($n = 149$) and incarcerated people ($n = 461$). The staff survey respondents mirrored the total population of staff working in the prison in May 2021 with regard to race and age. The majority of staff in the prison identified as White (91.2 %) and 91.0 % of the survey sample identified as White. The average age of staff was 44.9 ($SD = 12.9$), and the average age of the survey sample was 45.1 ($SD = 11.4$). Just over 96 % of staff who responded to the survey lived in a rural county. The race and age of the incarcerated population also closely aligned with the survey respondents. Approximately two-thirds of the incarcerated population reported to be White and not Latinx (66.8 %) and 33.2 % reported being a person of color (i.e., Asian, Black, Native American, or Latinx). Consistent with the population, 37.0 % of the study sample identified as a person of color. The average age of the incarcerated population during data collection was 41.1 ($SD = 12.1$); the study sample had an average age of 43.0 ($SD = 11.9$). Data were not collected on the home counties of people incarcerated who responded to the survey, but 44.5 % of the institution's incarcerated population lived in a rural county prior to incarceration.

Analysis

Descriptive statistics were calculated for all variables. An Analysis of Variance (ANOVA) was used to compare hesitancy scores between staff and people incarcerated, and Chi-Square tested for differences in following public health protocols. The relationship between age and time in prison (both continuous variables) and vaccine hesitancy was tested using Pearson's correlation. Vaccine hesitancy was also compared using an ANOVA with Tukey's HSD post hoc test for all dichotomous (i.e., race, relationship status, armed forces, mental health disorder, political beliefs) and categorical variables (i.e., education, visitation frequency, years worked in corrections). Analyses were conducted separately by population. Missing data were minimal, with no single variable missing more than 16 % of the data. Cases with missing data were dropped from the analysis of the variable with missing data. Given multiple tests

are being conducted, a Bonferroni correction was used to reduce the risk of Type I errors [12]. Corrections were calculated using the number of tests conducted within each dataset (i.e., data from staff and the incarcerated population were collected separately). Using a Bonferroni correction does increase the threat of Type II errors [12]. As such, results significant at the unadjusted alpha ($\alpha = 0.05$) are noted as trending towards statistical significance.

Results

Vaccine hesitancy was considered high for both staff and people incarcerated. Staff reported an average score of 16.3 ($SD = 5.5$) on the lack of confidence scale, which ranges from seven to 28, and staff also reported an average of 5.3 ($SD = 1.5$) on the perceived risk scale, which ranges from two to eight. People incarcerated had slightly more confidence ($M = 15.6$, $SD = 5.4$) in vaccination compared to staff, but differences did not reach statistical significance, $F(1, 540) = 1.30$, $p = .26$. People incarcerated did report slightly higher perceptions of risk ($M = 5.83$, $SD = 1.4$) than staff; these differences achieved statistical significance, $F(1, 544) = 3.84$, $p = .05$. Most people agreed or strongly agreed that they do their best to follow public health protocols in the prison (89.9 % of staff; 93.4 % of incarcerated people); differences between the two groups were not statistically significant, $\chi^2(4, 569) = 3.95$, $p = .41$.

Age was not significantly correlated with vaccine hesitancy for staff (risk: $r = 0.10$, $p = .27$; lack of confidence: $r = -0.01$, $p = .91$). Correlations were significant for people incarcerated but were relatively weak (risk: $r = -0.17$, $p < .001$; lack of confidence: $r = -0.22$, $p < .001$). Table 1 displays vaccine hesitancy by other sociodemographic variables. For staff, women reported more confidence in vaccination compared to men, but differences were only trending towards significance. Staff with a background in the U.S. Armed Forces lacked confidence in vaccination at higher rates compared to staff without armed forces experience. There was also significant difference in confidence among people incarcerated who served in the U.S. Armed Forces; however, veterans were more confident in vaccination than people without service histories. Vaccine hesitancy also varied by staff's political beliefs such that people who identified as conservative ($n = 51$) reported more perceived risk and less confidence in vaccination compared to people who identified as middle of the road ($n = 64$) or liberal ($n = 9$).

Across both populations, hesitancy varied by educational level. For staff, Tukey's HSD test identified the mean value for perceived risk to be higher among people with some college or vocational experience compared to both people with high school degrees only and people with four years of college or more; this result was trending towards statistical significance. The mean for lack of confidence in vaccination was only significantly higher for people with some college or vocational training compared to people with four years or more of college. Among people incarcerated, people with four or more years of college had significantly lower perceptions of risk in comparison to all other education levels. Significant differences in lack of confidence were only detected between people with four or more years of college compared to people with some college or vocational training such that people with 4 or more years of college reported less hesitancy; this result was trending towards statistical significance. Differences in hesitancy based on income were not statistically significant for staff but trended towards statistical significance for the incarcerated population. Tukey's HSD test identified perceptions of vaccine risk were higher among people with a pre-incarceration annual income below \$20,000 compared to people in the highest income bracket (i.e., over \$70,000 annually).

For people incarcerated, the number of months incarcerated was not associated with vaccine risk ($r = -0.03$, $p = .52$) or confi-

dence in vaccination ($r = 0.92$, $p = .92$). Vaccine hesitancy did vary by the frequency of their pre-COVID visits with family and friends. Specifically, Tukey's HSD test found the mean for lack of confidence to be highest among people who had weekly visitors compared to people who had visitors only a few times per year; this result was trending towards statistical significance.

Discussion

This study finds moderate to high levels of vaccine hesitancy among people living and working in one rural prison in the Midwestern United States. Although there is little comprehensive data on the measure of vaccine hesitancy used in this analysis with general population samples, the results presented here appear higher than those presented in other public health research on vaccinations. For example, Shapiro and colleagues [3] reported scale averages of 6.15, with 10 being the highest score for perceived risk and 13.88, with 35 being the highest score for lack of confidence among Canadian parents. Given the modifications, we made to the VHS, including the use of a 4-point scale and sampling with a different population, these scores are not directly comparable but provide a point of reference.

In the current study, staff and incarcerated people's risk scores were 5.30 and 5.83, respectively, with an eight being the highest possible score; perceived confidence among staff and incarcerated people averaged 16.30 and 15.60, respectively, on a scale with a high of 28. The staff and the incarcerated population perceived significant risk and lacked quite a bit of confidence in vaccination, though the incarcerated population reported more confidence in vaccination compared to staff. Although the results were not statistically significant in this study, additional investigation is needed with a larger sample to further explore this difference, especially with staff from diverse locations. Staff in the current study primarily lived in rural settings and may be more distrustful of vaccines than their counterparts residing in urban areas [7]. Staff mistrust in vaccinations may interfere with or further disrupt the incarcerated population's perception of vaccine safety and create additional barriers to implementing public health measures.

Similar to Shapiro and colleagues [3], we found differences in vaccine hesitancy by gender among staff, pre-incarceration income among people incarcerated, and education levels in both study samples. However, in the current study, these differences were trending toward statistical significance. Although there is some hesitancy about vaccination among staff and incarcerated people, most people agreed or strongly agreed that they do their best to follow public health protocols in the prison. Since this study did not track whether people followed protocols (e.g., vaccination, wearing masks), it is unclear if intent to follow protocols translates into behaviors. Still, this finding is promising and suggest that implementing institutional policies to address public health issues is beneficial, given the high perceived compliance with protocols.

This study also confirmed findings from other studies that vaccine hesitancy varies by political beliefs [11]. Staff who identified their political beliefs as conservative perceived more risk and less confidence in vaccination. It is critical to create opportunities to engage this group of staff with information on vaccine effectiveness and safety through a source they can trust [13]. Few studies examine vaccine hesitancy among people currently or formerly in the U.S. Armed Forces; given the significant yet mixed findings between study samples in this analysis, it is crucial to further explore the experiences of veterans and how these experiences may build or erode confidence in vaccination. One study examining veterans' attitudes towards vaccination during the same timeframe as the current study found that 71 % of veterans received the COVID-19 vaccine; among those who did not, they reported vaccine skepticism,

Table 1
Vaccine Hesitancy by Population Sociodemographic and Corrections Variables.

Variable	Incarcerated Population (n = 461)				Staff (n = 149)			
	Risk M(SD)	F	Con. M(SD)	F	Risk M(SD)	F	Con. M(SD)	F
Race		$F(1, 412) = 2.14$		$F(1, 403) = 0.09$		$F(1, 115) = 0.36$		$F(1, 119) = 0.27$
Black/Other	5.7(1.4)	$p = .14$	15.7(5.9)	$p = .77$	5.0(2.2)	$p = .55$	15.1(5.6)	$p = .61$
White	5.5(1.4)		15.6(5.1)		5.3(1.5)		16.0(5.3)	
Gender ^a						$F(1, 114) = 0.003$		$F(1, 118) = 7.07$
Man					5.3(1.4)	$p = .95$	17.2(5.0)	$p = .01^*$
Woman					5.3(1.6)		14.7(5.2)	
Education						$F(2, 119) = 4.77$		$F(2, 123) = 5.50$
Less than HS	5.8(1.4)	$F(3, 411) = 4.91$	14.6(5.0)	$F(3, 411) = 2.77$	n/a	$p = .01^+$	n/a	$p = .005^*$
GED or HS	5.7(1.3)	$p = .002^*$	15.5(5.1)	$p = .04^*$	4.9(1.6)		16.3(5.1)	
Some college or Vocational	5.6(1.4)		16.4(5.5)		5.8(1.4)		17.5(5.0)	
4 yr + college	4.6(1.8)		13.6(7.0)		4.9(1.5)		14.0(5.1)	
Committed Relationship		$F(1, 412) = 0.03$		$F(1, 403) = 0.29$		$F(1, 120) = 2.65$		$F(1, 124) = 0.004$
Yes	5.6(1.3)	$p = .86$	15.4(5.3)	$p = .59$	5.4(1.5)	$p = .11$	16.0(5.2)	$p = .95$
No	5.6(1.4)		15.7(5.4)		4.8(1.9)		16.0(6.1)	
Armed Forces		$F(1, 410) = 2.29$		$F(1, 402) = 8.09$		$F(1, 121) = 0.52$		$F(1, 125) = 5.1$
Yes	5.4(1.3)	$p = .13$	13.9(5.5)	$p = .005^*$	5.2(1.5)	$p = .47$	18.0(5.7)	$p = .03^*$
No	5.6(1.4)		16.0(5.3)		5.5(1.5)		15.5(5.2)	
Income [*]						$F(2, 117) = 0.39$		$F(2, 121) = 0.38$
Under \$20 K	5.7(1.4)	$F(3, 401) = 2.83$	15.6(5.5)	$F(3, 394) = 0.21$	n/a	$p = .68$	n/a	$p = .69$
\$20 - \$39,999	5.5(1.4)	$p = .04^*$	15.9(5.1)	$p = .89$	5.2(1.7)		15.5(4.9)	
\$40 - \$69,999	5.7(1.4)		15.3(5.5)		5.4(1.4)		16.5(5.7)	
Over \$70 K	5.1(1.3)		15.7(5.7)		5.3(1.6)		16.2(5.7)	
Visit Frequency		$F(2, 161) = 0.84$		$F(2, 161) = 4.60$				
Weekly	5.5(1.5)	$p = .43$	18.7(6.0)	$p = .01^*$				
Monthly	5.7(1.4)		16.1(5.5)					
Few times yr.	5.4(1.3)		14.7(5.6)					
Current mental health disorder		$F(1, 405) = 0.01$		$F(1, 399) = 0.55$				
Yes	5.6(1.4)	$p = .91$	15.4(5.4)	$p = .46$				
No	5.6(1.4)		15.8(5.4)					
DOC tenure						$F(3, 122) = 0.53$		$F(3, 126) = 0.82$
< 12 months					5.7(2.1)	$p = .67$	13.9(5.7)	$p = .49$
1–5 yrs.					5.1(1.4)		16.7(5.3)	
6–10 yrs.					5.4(1.5)		16.7(5.4)	
greater than 10 yrs.					5.3(1.5)		16.2(5.6)	
Custody						$F(1, 123) = 0.10$		$F(1, 127) = 0.85$
Yes					5.4(1.5)	$p = .75$	16.8(5.4)	$p = .36$
No					5.3(1.6)		15.9(5.6)	
Political beliefs						$F(1, 118) = 7.87$		$F(1, 121) = 8.68$
Middle of road or liberal					5.0(1.6)	$p = .006^*$	14.8(5.3)	$p = .004^*$
Conservative					5.7(1.3)		17.6(5.1)	

^a Gender is only reported for staff because 98.1 % of the incarcerated population identified as a man. Four people or 2.7 % identified as a third gender among staff. These cases were removed from this analysis.

^{*} Income for people incarcerated was the income they made prior to incarceration.

⁺ Statistically significant finding using an adjusted alpha to correct for multiple tests ($\alpha = 0.006$ for staff and $\alpha = 0.007$ for the incarcerated population) ^{*}Indicates trending significance.

concerns about side effects, a preference to use as few medications as possible, and a desire for natural immunity [14].

Finally, we identified differences in confidence in vaccination by the frequency of visits from family and friends prior to COVID-19. People with weekly visitors were significantly less confident in vaccination compared to people with visits only a few times per year. Given the institution in this study is located in a rural region, people with family and friends living close to the institution may be more likely to visit frequently [15] Rural regions have lower vaccination rates which may, in part, be due to vaccine hesitancy [16]. Family and friends may share these beliefs and perceptions of risk with people incarcerated, minimizing their confidence in vaccination.

Limitations

Response rates did not reach the goal of 60 %; results may not accurately reflect the perceptions of the total staff and incarcerated

population at this institution. Vaccine hesitancy may also be higher at the time point of survey distribution given the political and social climate surrounding COVID-19 [13]. Because this study is cross-sectional, we are unable to adjust for this potential impact. Data on actual vaccine rates were not available, so comparing vaccine hesitancy and vaccination rates within this population is impossible. Finally, we did not collect information on the home counties or political beliefs of the incarcerated sample, so were unable to examine these trends.

Practice & Policy Implications

Vaccine hesitancy is associated with a person's choice to vaccinate themselves and their family members [3,17]. Since the start of the COVID-19 pandemic, vaccination acceptance has declined [18]. Perceptions of vaccine hesitancy can and do change over time [19]. Given the vulnerabilities that people living and working in prisons face with exposure to communicable diseases, vaccination is a key

strategy for maintaining a safe environment and reducing the risk of public health crises. Targeted intervention is needed to reduce hesitancy within the staff and incarcerated populations so implemented public health protocols like vaccination for influenza or booster shots for COVID-19 are accepted.

General hesitancy and distrust of vaccination within prisons may, in part, stem from larger distrust in the criminal-legal system among incarcerated people. Developing partnerships with local public health agencies to provide information about vaccines and to conduct vaccine distribution (e.g., on-site vaccine clinic) may be a promising strategy to reduce hesitancy and increase uptake of vaccinations for COVID-19, as well as, other public health events like the seasonal flu [20]. Ramaswamy and colleagues [20] recommend this strategy to enhance trust while also reducing the burden on correctional staff who face ongoing staff shortages. However, official partnerships with government agencies may deter some people from undergoing vaccination. Contact with the criminal-legal system leads some people to avoid institutions and practices altogether that involve official record keeping [21] to reduce the potential of current or future surveillance. Partnering with currently and formerly incarcerated people to develop effective plans for this unique population is a key strategy that enables local and group norms to be fully integrated into health and safety planning [22]. Partnerships with public health departments and prisons may work for some people, but a multi-pronged approach with guidance from people incarcerated is likely to reach a broader audience. These efforts will also require dedicated funding and vaccine prioritization for people living and working in prisons which are critical components in planning successful county-state partnerships [23].

Identifying trusted people to deliver public health information (i.e., a trusted messenger [24]) is an effective strategy for all populations but may be particularly important for incarcerated people given their general mistrust of the criminal-legal system and other governmental institutions [21]. Finding trusted messengers for the prison population may be especially challenging, though, due to the heterogeneity of the population coupled with the limited community people have within the institution. For example, people incarcerated do not typically choose their doctors, nurses, faith leaders, or hairdressers. On the outside, any of these individuals could be a trusted messenger, yet within prison, these individuals may be seen as extensions of the institution. The viewpoints and beliefs of family and friends may be especially trusted and influential during prison due to the limited sources of trusted information. Working with prison stakeholders (e.g., incarcerated people, prison healthcare providers, prison visitors) to explore peer educators or outside health staff as trusted messengers is an essential next step in this work.

Public health campaigns geared towards staff are needed to combat misinformation given the risk of virus transfer to people incarcerated when staff move between the prison and their home without the protection of vaccination. Many prisons are located in rural communities, and most staff in this study lived near the institution. Given the low vaccination rates in rural communities and lack of confidence in vaccination among people who are politically conservative [11], having local health departments promote awareness and educational campaigns developed specifically for their community may build trust in the information received and promote vaccine acceptance. Like the incarcerated population, having a trusted messenger is essential for opening up discussions around perceptions of vaccine risk among staff. This strategy has worked well in rural communities where local medical professionals and faith leaders have become a conduit for reliable information on COVID-19 vaccination [24]. Using multiple strategies, like the ones outlined by Wood & Schulman [25], may also help to avoid barriers to information exchange that are politically charged.

Strategies to reduce the overall vaccine hesitancy of people living and working in prison is a critical step in elevating vaccination rates, managing the spread of disease, and reducing the severity of infections. In addition to vaccination, other promising public health strategies can be used to mitigate risk of exposure. Reducing the prison population, which removes people from confined and overcrowded conditions, mitigates exposure to risky environments and the mass spread of communicable diseases [26]. Within prisons, having access to medical care that utilizes routine testing and humane medical isolation strategies can prevent exposure when people are contagious. The use of segregation and a lack of trust in correctional healthcare could deter people from seeking care when needed [27]. The use of telehealth services to minimize outside disease exposure, the extended time in outdoor or open spaces, and the modified procedures to reduce crowded spaces (e.g., in medication lines or clinics) are also effective mitigation strategies during public health crises [28]. Given the risks people living and working in prisons face, multifaceted intervention, informed by the people living and working in prisons, is needed to ensure information is accessible to address concerns with new and established vaccines and build confidence surrounding public health strategies within the prison environment.

Data availability

The authors do not have permission to share data.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Kelli E. Canada reports financial support was provided by Urban Institute.

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