Decarceration from Local County Jails during the COVID-19 Pandemic: A Closer Look

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Abstract

The COVID-19 pandemic initially compelled significant population reductions at county jail facilities. This study uses a unique dataset to: assess changes in jail populations during 2020; relate those changes to the characteristics of the counties where they took place; and examine the relationship between jail populations and COVID-19 outcomes. Findings indicate that jail populations fell sharply through April, but have since risen steadily. However, they remained higher in areas with larger proportions of minoritized populations, and returned to pre-pandemic levels more rapidly in areas with larger proportions of Black and Republican-leaning residents. Larger pre-pandemic jail populations were associated with elevated numbers of COVID-19 cases and deaths during 2020. Changes in county jail populations predicted COVID-19 cases and deaths. Specifically, each percentage increase in jail populations was associated with between 80.4 and 101.9 additional cases and 1.2 to 1.4 additional deaths per county over a following three-month period.

Keywords: COVID-19, County Jails, Decarceration, Disparate Impact

Word Count: 5333

Introduction

At the time of this writing, the pandemic of SARS-CoV-2, also known as "the coronavirus", has persisted for nearly a year. With about one quarter of all confirmed cases and one-fifth of deaths, the U.S. has been especially hard-hit by COVID-19, the disease caused by the coronavirus. The factors that have produced this situation are wide-ranging and difficult to disentangle. However, one area where the pandemic has shined a particularly bright light is the use of incarceration in the U.S.

The status of the U.S. as a global outlier in its incarceration practices is well-known. As of 2020, the U.S. incarceration rate was 69.8 per 10K residents, a figure that is more than twenty times the global average of just over 3 per 10K people, and much higher than that of other industrialized nations like Canada (11.4 per 10K), the U.K. (13.4 per 10K), and Iceland (3.8 per 10K) (Sawyer & Wagner 2020). Despite little evidence of their effectiveness and a dramatic decline in violent crime over the past twenty years, elevated incarceration levels in the U.S. have persisted for several decades (Franco-Paredes 2020, Western & Pettit 2010: 17). Calls for reform to incarceration policy and practices have long predated the pandemic, with estimates suggesting that no justification exists for continuing to hold at least forty percent of the existing incarcerated population (Austin et al. 2016, Margulies 2020). However, activist-led efforts and scholarly interventions to that effect have seen limited progress (Davis 2003, Alexander 2010).

Before we discuss the specific challenges facing correctional facilities during the COVID-19 pandemic, it is important to note that no discussion of incarceration trends is complete absent appropriate consideration of the social, historical, and geographical context of incarceration in the U.S. For example, while incarceration rates are higher in the southern U.S. generally; Oklahoma, Louisiana, and Mississippi currently lead the way: each has an incarceration rate above 100 per

10K residents (Sawyer & Wagner 2020). Those figures are virtually incomparable from a global perspective, but reflect a substantial decline from peak levels reached earlier this century. High rates of incarceration in the U.S. are also comprised of sharp differentiations along lines of race, ethnicity, class, and geography. For those inhabiting identities and experiencing circumstances which place individuals at the intersection of multiple categories selected to bear the brunt of the "punitive turn" (Garland 2001: p. 142), the results are stark. For example, in the U.S., in 2010, the incarceration rate among young, male, Black, high-school dropouts was 37 percent (Western 2014: 303). During the same year, the overall incarceration rate for Black people in the U.S. was 230 per 10K, more than five times that of White people (Sakala 2014).

In recent years, high-profile commentaries have helped to clarify the historical relationships between incarceration and the country's slaveholding past (Davis 2003, Alexander 2010, Cobbina 2019). Since the 1970s, the devastation and abandonment of certain urban areas, coupled with the war on drugs, fueled mass incarceration. The entrenchment of those dynamics is simultaneously a manifestation and reproduction of a racist public policy, one that also perpetuates cycles of community damage. Those conditions, alongside the appearance of private, for-profit, prison corporations, led the noted activist and philosopher Angela Davis to describe incarceration trends in the pre-COVID U.S. as definitive of the "era of the prison-industrial complex" (2003: p. 16). These long-standing tensions are now near the center of U.S. life, especially as they are experienced in those very same cities and damaged communities. Racial justice protests in the summer of 2020 placed these issues front and center, renewing calls for reform, or in some cases, abolition of U.S. policing and/or incarceration apparatus.

Prior to the pandemic, correctional facilities were already recognized as nodes of health inequity. Public health policymakers and scholars have increasingly called attention to the many dire health-

related consequences of incarceration. Incarceration has repeatedly been found to carry a variety of additional de-facto health-related penalties, some of which (HIV, Hepatitis C) are carried for a lifetime. Meanwhile, incarcerated populations are significantly more likely to suffer from various chronic and other health conditions, including cancer, hepatitis B, tuberculous, high blood pressure, and asthma, among others (Bick 2007, Kamarulzaman 2016, Nowotny 2020). These vulnerabilities, commonly termed 'comorbidities' in the context of COVID-19, coupled with the rising average age of incarcerated persons, make incarcerated populations especially vulnerable to the disease (Hawks et al. 2020). Making matters worse, in correctional settings, implementation of and adherence to the prophylactic measures recommended during the pandemic (e.g., hand washing, mask wearing and physical distancing) is not feasible at current or pre-pandemic population levels.

Dire predictions concerning COVID-19 vulnerabilities for and within correctional facilities have largely been borne out. As of August 2020, outbreaks in U.S. correctional facilities accounted for the fifteen largest COVID-19 outbreaks in the country (Franco-Paredes et al 2020), and similar outbreaks persist as the pandemic continues to rage. In addition to subjecting incarcerated individuals to various "unconscionable and perhaps unconstitutional" (Reinhart & Chen 2020, p. 1412) health-related and other injustices, correctional facilities have also been recognized as nodes of health-related risk for the broader community. During the COVID-19 pandemic, this issue is acute: staff, visitors, and inmates all regularly enter and exit facilities, occasionally carrying COVID-19 with them. Given the above, urgent calls to reduce incarcerated populations as rapidly and as much as practicable were issued early on during the pandemic (Akiyama et al. 2020).

Local Jails During COVID-19

The situation in local county jail facilities is especially fraught. While jail facilities in the U.S. only hold about one quarter (630K) of the country's more than two million incarcerated persons at any given time, that figure alone equates to about 20 per 10K people, and would still represent the fourth largest population of incarcerated persons anywhere in the world. Further complicating matters, jails in the U.S. typically operate near or beyond capacity (Novisky et al. 2020, Hawks et al. 2020). Jails often have limited resources available and offer correspondingly threadbare services, a longstanding condition of places that the legal scholar Ronald Goldfarb labeled the "ultimate ghetto" (1975), for their role in what the noted sociologist John Keith Irwin decried as "managing the underclass" (1985).

In the context of the COVID-19 pandemic, it is especially important to note that jail populations are not static. Inmates are often slated for only short-term detention, with some held on technical violations, others on executed sentences, and still others held for interfacility transfers, e.g., to other jails or to state prisons. In fact, more than ten million U.S. residents enter jails during any given year, about 75 percent of whom are held in pre-trial detention (Sawyer & Wagner 2020, Zeng 2020). This results in a process of population "churn," or "cycling," during which the mechanics of the processing procedure itself presents an immediate risk of exposure. Existing research on this subject raises some significant concerns about the potential consequences of continuing these practices during the COVID-19 pandemic. As of April 2020, Reinhart and Chen attributed 15.9 percent of all COVID-19 cases and 55 percent of the variance in case rates in Chicago zip codes to cycling through Chicago's Cook County jail (2020). Given the structural injustices embedded in the current organization of U.S. justice systems, the risks of disparate

impact for already marginalized communities from jail-community cycling are substantial. The sheer scale of the practice and its pandemic-specific risks demand additional scrutiny.

While the need to reduce incarceration levels in the U.S. has long been readily apparent, over the past year the pandemic has galvanized an unprecedented sense of urgency and some action. Formal and informal decarceration policies were hurriedly implemented in the spring of 2020 in order to mitigate the transmission of the virus. Decisions about COVID-19 policy within incarceration settings were informed by guidance from the Centers for Disease Control and Prevention (2020), however, that guidance did not include information on population reductions. As a result, the need to reduce jail population levels was subjected to familiar pressures from policymakers, advocates, scholars, and the media that often accompany efforts to institute jail and justice system reforms. Accordingly, population reductions were subject to significant variety at local levels of implementation. *Some* early releases were considered; *some* non-emergency detentions were suspended; and *some* population levels changed as a de-facto result of the much lower levels of social and law enforcement activity during periods of lockdown (Mohler 2020).

The purpose of this study is twofold. First, we estimate the size of the reduction in incarcerated populations in local county jails during the pandemic, while also exploring contextual factors that may explain variations therein. Secondly, we assess the impact of jail population levels on COVID-19 outcomes, i.e., cases and deaths. As such, this study sheds some light on the types of counties that experienced varying levels of jail population reductions, and quantifies some of the consequences of those decisions.

Materials & Methods

With the rapid onset of the COVID-19 pandemic, a number of case tracking, prediction, and data sharing resources and initiatives were launched, including resources specific to correctional facilities and incarcerated populations.[1] However, data on local county jail populations and operations are notoriously unreliable, difficult to access, and in many cases are simply unavailable. Investments in new data infrastructures for improvements in this area have historically been lacking, however the issue has gained increasing attention in recent years (Russo et al 2020). Accordingly, existing studies and coverage of the COVID-19 situation in correctional facilities have largely described specific outbreaks (Coleman et al 2020, Malloy et al 2020), addressed issues in state and federal justice systems (Montoya-Barthelemy et al 2020, Novisky et al 2020, Saloner et al. 2020, Hawks et al 2020), or presented case studies of individual local facilities (Reinhart and Chen 2020); namely situations in which there was some data available. This study uses a unique nationwide data source of local county jail populations to assess the performance of county jails relative to the population reduction imperatives described above.

Data sources

The data used in this research was gathered from four publicly-available sources. Collectively, they include information on local county jail populations, COVID-19 outcomes, demographic and economic characteristics, and political orientation.

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[1] General sources such as the dashboard maintained by John's Hopkins, the COVID tracking project and even Worldometers are now well-known. Lesser-known incarceration-specific sources are also available, such as the UCLA COVID-19 behind bars data project, available at https://uclacovidbehindbars.org/, the COVID prison project, available at https://covidprisonproject.com/, and others.

Local county jail population data was obtained from the New York University Public Safety Lab's Jail Data Initiative (JDI).[2] The JDI uses a web-scraping algorithm to collect daily jail population figures from the online rosters of 1,004 jails across the United States. JDI data collection began prior to the onset of the pandemic as part of a study of pre-trial releases, but was expanded in light of the COVID-19 pandemic. As a result, data collection was less consistent during the early part of 2020, and pre-pandemic data is only available for 573 facilities. Overall, the 1,004 county jail facilities in the sample were located in 970 different counties across 43 states. In order to ensure consistency of comparison, smaller facilities in counties with multiple jail facilities were excluded, resulting in a total sample of 970 facilities/counties. Excluded facilities tended to be much smaller than their larger counterparts, typically housing fewer than ten inmates. See Figure 1 for the geographic context of the sample counties.

[Figure 1 near here]

As of 2018, the 970 counties in our sample were home to nearly 134 million people, or about 40 percent of the total U.S. population. The population in the sample counties was 73.9 percent White and 63.4 percent non-Hispanic or Latinx Whites. The proportion of Black persons represented in our sample counties was 13.6 percent, and Hispanic or Latinx persons were 15.5 percent. The overall poverty rate for households in our sample counties was 14.2 percent, with 12.2 percent receiving supplemental nutrition assistance (food stamps). Those figures are all generally representative of the overall composition of the U.S.

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[2] Data is available at the JDI's github repository: https://github.com/publicsafetylab/public-psl-jdi-pops

In other areas, our sample was somewhat less representative of the U.S. population. For example, the proportion of our sample living in an urban area was only 73.4 percent, an amount that is significantly lower than the U.S. overall. It is possible that this divergence is explained by the underrepresentation of the Northeast in our sample, but could also be explained by the dynamics of where county jail facilities tend to be located. The political orientation of the sample counties was another area of note. While only 47.8 percent of the people represented in our sample counties voted for the candidate of the Republican party in 2016, in 78.1 percent of those counties, a majority of the vote went to the Republican.

Data from the JDI provides a longitudinal panel of daily jail population counts in jail facilities in our sample counties. As discussed, these data provide a valuable perspective on jail populations, however, it is important to emphasize that they are not comprehensive. The 970 jails in our sample represent less than one-third of the approximately 3,100 total county jail facilities in the U.S. In addition to the time-series issues discussed above, population figures for all sample facilities were not consistently reported/recorded on a daily basis. In order to account for issues of data consistency and given that some variation in jail population levels is common even under ordinary circumstances, we aggregated daily counts for each facility as monthly means at the county level. Even so, our sample is not necessarily reflective of the totality of incarceration in local county jails or other facilities.

Data on COVID-19 outcomes in the sample counties was obtained from *The New York Times*.[3] These data include cumulative counts of confirmed COVID-19 cases and deaths for all U.S. counties from the beginning of the pandemic to the present. Demographic and economic profiles

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[3] Available at the NYT github repository: https://github.com/nytimes/covid-19-data

of the sample counties was gathered from the U.S. Census Bureau's American Community Survey (ACS) 1-year estimates for 2018. Finally, the political orientation of the sample counties, as approximated by the presidential election results from 2016, was obtained from the MIT Election Data and Science Lab via the Harvard Dataverse.[4]

Analytical Strategy

The analysis proceeds in three phases. First, we examine overall changes in county jail populations on a monthly basis, as well as between four key time points: the pre-pandemic period (Jan./Feb.), at the spring lows (Apr./May), during the summer (July/Aug.) and in the winter (Oct./Nov.). For descriptive purposes, the percentage change was calculated between each time period using all facilities available at each time point. We also decomposed the overall rate of change to explore regional trends, as well as trends among a selection of demographic and other variables. Regions are defined by the U.S. Census Bureau, while other variables were dichotomized according to sample means in order to categorize, for example, counties that were more and less Republican in terms of their political orientation.

Next, we further explored changes over time alongside a selection of county attributes, using a cubic latent growth curve model to statistically assess the change trajectory of jail population rates after the spring lows. The latent growth curve allowed us to test whether those descriptive trends are a function of the racial and ethnic composition of residents within counties and the political orientation of the counties.

We also examined the relationship between jail population levels and COVID-19 outcomes. First, we segmented our sample into three groups (low/medium/high) according to the pre-pandemic jail

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[4] Available at the MIT election lab's github repository: https://electionlab.mit.edu/data

population per 10K residents that was explained by the facility in our sample. We then compared COVID-19 outcomes during 2020 over time for each group. Finally, we assessed the relationship between changes in jail population levels and later instances of COVID-19 related outcomes over time.

Results

Jail populations

There have been significant changes to local county jail population levels during the COVID-19 pandemic. As of the pre-pandemic period, the jails in our sample accounted for an overall incarceration rate of 24 per 10K residents. That proportion is slightly higher than the jail-specific incarceration rate for the U.S. as a whole. From the pre-pandemic period to their lowest point in the spring, jail population levels fell by slightly more than one-quarter. That initial downward trend was fairly consistent across all regions of the country, however, there was some notable differentiation along lines of race and ethnicity, political factors, and others. For example, areas with larger Black populations saw smaller reductions in the initial period, and jail population levels in those areas remained higher throughout the year. Meanwhile, after seeing population reductions that were consistent with the spring lows more broadly, jail population levels in areas leaning more Republican tended to rise more rapidly than in other areas. Overall, jail population levels remained somewhat lower than in the pre-pandemic period through the end of the year, however only by about fourteen percent. A notable geographic exception to those trends was the U.S. West, which saw larger initial reductions and continues to have lower jail population levels than other regions of the county. See Table 1 for details.

[Table 1 about here]

Following an initial period of decline in the spring, and despite the ongoing pandemic, local jails gradually moved to normalize populations to their pre-pandemic levels, albeit to some varying degrees. Of course, during the remainder of the year the pandemic was rapidly worsening, calls for decarceration were amplified, and racial justice protests swept the nation. See Figure 2 for details.

[Figure 2 near here]

After the spring lows, population levels rose virtually uninterrupted, reaching greater than 80 percent of pre-pandemic levels across much of the South and Midwest by late summer, and greater than 90 percent by the beginning of the third wave in the winter. Indeed, when considered collectively, no region of the country saw any subsequent periods of decline following the spring lows, until the late winter.

When considered alongside the race and ethnicity of people in the counties in our sample, jail population levels exhibit some troubling evidence of disparate impacts consistent with broader structural and systemic injustices. While jail population levels fell consistently across all regions of the U.S. in the early part of 2020, reductions lagged in areas with larger minoritized populations. Through the spring lows, this was the case for areas with larger Black and Hispanic/Latinx

populations: neither fell below 75 percent of pre-pandemic levels at any point. See Figure 3 for details. Note that the normalization procedure used here accounts for pre-pandemic differentials in jail population levels in those areas.

[Figure 3 near here]

After the spring lows, the differential observed for Hispanic/Latinx populations converged at about 85 percent of pre-pandemic levels. No similar convergence was in evidence along racial lines. In fact, despite smaller initial declines, areas with larger Black populations appeared to normalize jail population levels even more rapidly. By the winter, county jails in areas with larger Black populations were consistently above 90 percent of pre-pandemic levels (92 percent in November), while areas with smaller Black populations remained at or below about 80 percent of pre-pandemic levels.

We conducted a series of statistical analyses in order to test whether these descriptive trends are a function of the racial and ethnic composition of residents within counties and the political orientation of counties. Specifically, latent growth curve modeling was conducted with Mplus Version 8.4 (Muthén & Muthén, 1998-2017) to statistically assess the change trajectory of jail population rates from April onward (Curran, Obeidat, & Losardo, 2010). First, a series of unconditional models were specified and compared (Llabre et al., 2004). Results demonstrated that a cubic unconditional growth model (χ^2 (31) = 1233.11, $p < .001$, CFI = .97, TLI = .96, SRMR = .01) fit significantly better than either a quadratic ($\Delta\chi^2(5) = 1014.05$, $p < .01$) or linear ($\Delta\chi^2(9) = 2581.77$, $p < .01$) growth model. Accordingly, the parameters of the cubic growth model were

interpreted. Results of this model demonstrated that jail populations initially decreased slightly with time (Time: β = -0.10, p < .01), followed by an increase in jail populations (Time^2: β = .33, p < .001), and ending with a subsequent decrease in jail populations (Time^3: β = -.38, p < .001).

To assess the degree to which changes in county jail populations from April onward differed based on the percentage of Black residents that live in each county, the percentage of Black residents was added to the growth curve model as a time-invariant covariate. The resulting model demonstrated reasonable fit (χ^2 (37) = 1243.90, p < .001, CFI = .97, TLI = .96, SRMR = .01). Results demonstrate that the percentage of Black residents significantly moderated the intercept (β = 0.12, p < 0.001), as well as the first (Time: β = -0.13, p < 0.001), second (Time^2: β = .11, p < .01), and third (Time^3: β = -.09, p < .01) changes in jail population levels. Overall, these results demonstrate that the trajectory of jail populations differs across counties depending upon the percentage of Black residents in the sample counties. See Figure 4 for a depiction of jail population levels over time for high and low (+/- 1 standard deviations) percentages of Black residents.

[Figure 4 near here]

To assess the degree to which changes in county jail populations over time differed based on the political orientation of a given county, the countywide percentage of the Republican vote for president in 2016 was added to the unconditional growth curve model as a time-invariant covariate. This model demonstrated reasonable fit (χ^2 (37) = 1352.08, p < .01, CFI = .96, TLI = .96, SRMR = .01). Results demonstrate that political orientation significantly moderated of the intercept (β = 0.09, p < 0.01), but did not moderate the initial change in jail population levels (Time: β = 0.00, p > .05). However, political orientation did significantly moderate the second (Time^2: β = 0.08, p <

.05) and third (Time^3: $\beta = -.12$, $p < .01$) changes in jail population levels. Overall, these results demonstrate that the trajectory of jail populations differ depending upon the political orientation of the sample counties. See Figure 5 for a depiction of jail population levels over time for high and low (+/- 1 standard deviations) Republican political orientation.

[Figure 5 near here]

Jail populations and COVID-19

We also investigated the effectiveness of jail population reductions as a COVID-19 mitigation policy. We described this potential relationship in two ways. First, we segmented our sample into three groups (low/medium/high) according to the pre-pandemic jail population level per 10K residents that was explained by the facility in our sample. The first group was made up of counties with a jail-specific incarceration rate of 10-20 per 10K residents, or just below the national average. The second group ranged from 20 per 10K residents up to about double the national average (40 per 10K), while a final group (>40 per 10K) reflected high jail-specific incarceration levels. We then compiled rates of COVID-19 outcomes (cases and deaths) in those counties during 2020.

Counties with larger pre-pandemic jail populations saw higher case and death rates, especially later in the year. Most strikingly, the rate of COVID-19 deaths during the last three months of 2020 was between 21 percent and 120 percent higher in counties with larger jail populations than in counties with approximately average or smaller jail populations. See Table 2 for details.

[Table 2 about here]

Finally, we also assessed the relationship between changes in jail population levels and later instances of COVID-19 outcomes over time. Changes in jail population levels were calculated from the pre-pandemic period through the first two time points in Table 1 above. We compared the percentage change in average jail population between each time point to COVID-19 outcomes over the following months, finding a significant relationship for both cases and deaths. At the time of this writing, insufficient data was available to test for COVID-19 outcomes after the third time point.

Between the pre-pandemic period and the spring lows ($n=547$), jail population levels that remined higher were significantly associated with higher levels of COVID-19 cases ($r=0.188$, $p<0.001$) and deaths ($r=0.156$, $p<0.001$) over the following three months (July-Sept.). From the spring lows through the summer ($n=764$), higher jail population levels were again significantly associated with higher levels of COVID-19 cases ($r=0.158$, $p<0.001$) and deaths ($r=0.092$, $p<0.05$) over the following three months (Oct-Dec.). These figures suggest that for every percentage point increase in jail population levels, we could anticipate that the following three months would see between 80.4 and 101.9 additional COVID-19 cases and 1.2 to 1.4 additional deaths per county.

Discussion

This study is one of the few to estimate national scale changes in local jail population levels during the COVID-19 pandemic. Consistent with previous research on this subject from the JDI (Harvey et al. 2020), we found that jail population levels fell sharply following the onset of the COVID-19 pandemic, and have risen steadily ever since. Beyond confirming those estimates, we also extend the research literature in three ways.

First, we examined the relationships between jail population levels and the characteristics of the counties in which they are located. We found that while overall jail population levels fell by more than one-quarter, areas with larger Hispanic/Latinx populations saw smaller relative declines in jail population levels, while areas with larger Black populations saw both smaller relative declines and a more rapid normalization to pre-pandemic levels. Meanwhile, areas with a political orientation that leans more Republican saw initial declines that were consistent with overall figures, but a more rapid normalization to pre-pandemic levels. These findings demonstrate that changes in jail population levels during the COVID-19 pandemic have likely been influenced by factors other than those originating strictly from public health imperatives. Furthermore, these findings suggest that local decarceration processes during the pandemic likely reinforced, and may even amplify, structural racism and/or racialized social structures embedded in existing justice systems.

Second, we examined the relationship between jail populations and COVID-19 outcomes in two ways. First, we assessed the relationship between pre-pandemic jail populations and COVID-19 outcomes over the course of the year, finding that areas with larger jail populations exhibited higher case and death rates, especially in the latter portion of the year. For example, in the last three months of 2020, counties in our sample with large pre-pandemic jail populations (>40 per 10K residents) saw COVID-19 death rates that were nearly twice as high as counties with smaller jail populations. This finding suggests that the jail/community cycling dynamics previously highlighted by Reinhart and Chen (2020) should be a key consideration for an integrated COVID-19 public health strategy.

Third, we assessed the relationship between changes in jail population levels over time with subsequent COVID-19 outcomes, finding that higher jail populations were associated with

elevated incidences of COVID-19 cases and deaths over a following three-month period. The association discovered among our sample counties indicated that for each percentage point increase in local jail populations, the following three months saw between 80.4 and 101.9 additional COVID-19 cases and 1.2 to 1.4 additional deaths.

While the relationships between jail population levels and COVID-19 related outcomes discussed here cannot be considered causative or conclusive, the evidence presented should be cause for alarm amid the ongoing COVID-19 pandemic. For a time, the pandemic has cast the consequences of pretrial detention systems and practices in a clearer light, apparently creating unfortunate spillover effects into the broader community in acute and immediately perceptible ways that might otherwise remain opaque. Our findings suggest that jail/community cycling during COVID-19 has likely had significant disparate health impacts in minoritized communities across the U.S., yet another iteration in ongoing cycles of community damage. These lessons, hard learned during the pandemic era, will remain relevant once the virus is gone.

Perhaps it is a coincidence that COVID-19 cases and deaths in the U.S. are one-quarter and one-fifth, respectively, of global totals, while the incarcerated population in the U.S. is also about one-quarter of the global total. On the other hand, the consequences of U.S. incarceration practices, especially in local county jails as described here, appear to be significant. Again, the relationships described by this research cannot be considered to establish causality, however, policymakers and all other stakeholders should be mindful of the human toll – on the "inside" as well as out – that will continue to be suffered as a result of reliance on incarceration during COVID-19 and beyond.

Limitations & Directions

This study was limited by the availability and reliability of timely and accurate data on local county jail facilities. Data from the JDI provides some perspective on roughly a third of county jail facilities in the U.S., however those data are not comprehensive or consistently reliable. Gaps and occasional large swings are present in the data, requiring significant cleaning and preparation for analysis. This study used monthly means and only one facility per county in order to mitigate gaps in the data, however we were unable to independently verify the validity of the entirety of the underlying data.

We were, however, able to validate a small subset of the data for two facilities in our home state for which we had access to population counts from primary sources. Among that small subset, the data were very similar. In our data, one facility had daily records from 182 days in the first half of 2020. JDI scrapes were available for 90 of those 182 days, and had a correlation coefficient of $r=0.995$. For another facility, we had daily records from the month of June. JDI scrapes were available for all 30 of those days, and had a correlation coefficient of $r=0.889$.

Other limitations of this study were more general. A large portion of this study amounts to a broad survey of the state of local county jail population levels during COVID-19, but our findings are influenced by a large number of contingent events that we are presently unable to measure. For example, we are unable to account for changes in law enforcement behaviors across states, regions, or the country. Similarly, we are not able to isolate the contribution of pandemic-specific phenomena such as lockdowns and physical distancing to jail population reductions. Finally, the decisions of local justice-system actors were also influenced by a wide variety of factors, only a few of which we can approximate; for example, by observing the relationship between jail population changes and political orientation. Even so, release decisions are subject to the influence

of a wide variety of actors, for example prosecution and defense attorneys; judges; and others in the courtroom. This study has only a limited ability to comment on their motivations, points of facilitation and/or barriers to action experienced during the drive to reduce jail populations.

Despite these limitations, this study provides evidence that jail population levels were not determined by public health imperatives alone. Although this study begs more questions than answers, we highlight some appropriate next steps to advance lines of inquiry. For example, to advance a research agenda that will deepen our understanding of pandemic-induced jail population reductions and their implications for justice involved residents and local communities, we recommend additional studies on jail population reductions and their implications for justice-involved individuals and their surrounding communities. What drove decision-making at the local level during this time? How were population reductions achieved? What were the barriers to deeper reductions? These questions will remain relevant long after the end of the pandemic, and may help to inform future initiatives to reduce jail populations by even larger amounts as advocated in the existing criminal justice literature.

Finally, this study also demonstrated a useful means of leveraging a unique data set. Future studies can make similar use of this longitudinal data in order to assess, for example, the existence of any relationship between jail population reductions during the COVID-19 pandemic and later incidences of crime.

Declaration of interest statement

The authors have no conflicts of interest to declare.

Data availability statement

The data used in this research are publicly available and can be found at the sources identified.

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