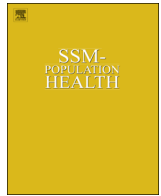




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Short report

Mortality among white, black, and Hispanic male and female state prisoners, 2001–2009



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ABSTRACT

Although much research considers the relationship between imprisonment and mortality, little existing research has tested whether the short-term mortality advantage enjoyed by prisoners extends to Hispanics. We compared the mortality rates of non-Hispanic white, non-Hispanic black, and Hispanic male and female state prisoners to mortality rates in the general population using data from the Deaths in Custody Reporting Program, the National Prisoner Statistics, the National Corrections Reporting Program, and the Centers for Disease Control and Prevention. The results indicate that the mortality advantage for prisoners was greatest for black males, followed by black females, Hispanic males, white females, and white males. Hispanic female prisoners were the only group not at a mortality advantage relative to the general population, with an SMR of 1.18 [95% CI: 0.93–1.43]. Taken together, the results suggest that future research should seek to better understand the curious imprisonment–mortality relationship among Hispanic females, although given the small number of inmate deaths that happen to this group (~0.6%), this research should not detract from broader research on imprisonment and mortality.

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1. Introduction and background

On any given day, 1.5 million Americans are imprisoned (Carson & Golinelli, 2013), prompting interest in the health and wellbeing of prisoners (Binswanger, Krueger & Steiner, 2009; Mumola, 2007; Noonan, 2012; Patterson, 2010; Rosen, Wohl & Schoenbach., 2011; Schnittker & John, 2007; Spaulding et al., 2011; Wilper et al., 2009; Fazel & Baillargeon, 2011). Some, although certainly not all, of this research has compared the mortality risks of prisoners to individuals in the general population, finding consistent evidence of a mortality advantage for black male prisoners and somewhat less consistent evidence of a mortality advantage for black female prisoners and white male and female prisoners (Noonan, 2012; Patterson, 2010; Rosen et al., 2011; Spaulding et al., 2011).

Largely missing from the literature on the mortality of prisoners is a consideration of Hispanic prisoners. This oversight is problematic for three reasons. First, as 20% of prisoners are Hispanic (Carson & Golinelli, 2013), knowing if there is a unique imprisonment–mortality

relationship for Hispanics is vital for understanding this relationship more broadly. Second, because the relationship between socio-economic status and mortality is different for Hispanics than other groups in the United States (Franzini, Ribble & Keddie, 2000), it would be reasonable to assume that the imprisonment–mortality relationship might be different for Hispanics than for other groups. Finally, inattention to Hispanics is not confined to research on the imprisonment–mortality research but is instead endemic to the broader research on the consequences of imprisonment (Wildeman & Muller, 2012), a pressing oversight that must be rectified if researchers are to better understand the causes and consequences of imprisonment. This report fills this gap by considering the imprisonment–mortality relationship for non-Hispanic white (hereafter white), non-Hispanic black (hereafter black), and Hispanic males and females.

2. Data and analytic strategy

2.1. Data

We use three sources for estimating the crude and age-specific mortality rates of state prisoners: the Deaths in Custody Reporting

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Program; the National Prisoner Statistics; and the National Corrections Reporting Program (Bureau of Justice Statistics, 2014a,b,c). For all analyses, we collapse data across nine years (2001–2009) for the entire population of state prisoners in order to make sure that we generate stable estimates of the imprisonment–mortality relationship for all six groups we consider.

The Deaths in Custody Reporting Program (hereafter DCRP) was created after the Death in Custody Act (P.L. 106–297) was passed in 2000. The DCRP began collecting individual records of deaths in 2001. DCRP data provide the numerator for analyses of state prisoner mortality, as deaths in local jails and federal prisons are excluded from the analysis. Although the National Prisoners Statistics (to be discussed below) data also include counts of inmate deaths, the DCRP data provide a more accurate count because they are based on individual records rather than aggregate counts and include all inmates who die in the custody of a state prison rather than only those who are currently sentenced as a state prisoner. The DCRP also include extensive information on the age, sex, race/ethnicity, and cause of death for all deaths.

Data from the National Prisoner Statistics (hereafter NPS) and the National Corrections Reporting Program (hereafter NCRP) provide the denominator. Because both datasets provide year-end estimates of state prisoners, we average estimates of the year-end prison population to generate midyear population estimates, which we use as the denominator for all analyses. In order to generate age-specific estimates of prisoners by race/ethnicity and sex, we apply the age distribution from the NCRP to the custody count totals from the NPS, which has information on the prison population, but not on its age distribution. By combining these datasets, we generate precise counts of state prisoners by race/ethnicity and sex—because the NPS are weighted by race/ethnicity to align with the self-reported racial/ethnic distribution of the 2004 Survey of Inmates (Carson, 2014)—as well as a precise count of the number of prisoners in any given age group by race/ethnicity and sex by using the NCRP—because the age distribution of white, black, and Hispanic male and female state prisoners in the NCRP is similar. Because of this, missingness on race/ethnicity in the NCRP will have a minimal effect on our results. When race/ethnicity is missing in the NCRP, we impute it assuming that they are missing completely at random.

Data from the Centers for Disease Control and Prevention (hereafter CDC) provide information on the number of deaths and the number of individuals in the population by age, sex, and race/ethnicity through CDC Wonder for the nine years of data we analyze (Centers for Disease Control and Prevention, 2014a,b).

2.2. Analytic strategy

Our analysis proceeds in three stages. In the first, we present crude mortality rates for state prisoners using data from the DCRP, NPS, and NCRP and the general population using data from CDC Wonder. In the second, we present age-adjusted mortality rates

under the counterfactual scenario in which all individuals in the prison population and the total general population had the age distribution of the total population. In the third, we present standardized mortality ratios (SMRs) based on the age-adjusted estimates presented in the second stage.

In each stage of the analysis, we provide estimates based on the population. We do not include state-specific analyses, and we base all analyses on the total number of deaths in the entire period. Although our results provide descriptive insight into the imprisonment–mortality association, they should not be interpreted causally, as research provides reasons both to expect our analyses to underestimate (Massoglia & Pridemore, 2015) or overestimate (Bacak & Wildeman, 2015) the protective effect of imprisonment.

3. Results

3.1. Deaths and denominators

Before moving on to the results it is worth noting, as Table 1 does, the proportion of state inmate deaths that happen in each of the six race/ethnicity by sex groups. Of the 16,168 state inmates who died over this period, 41.4% (6686) were white males, 41.1% were black males (6638), 12.2% were Hispanic males (1973), 2.2% were white females (353), 2.6% were black females (428), and only 0.6% were Hispanic females (90). Thus, even though the analyses we present below are the first to thoroughly consider the imprisonment–mortality association for Hispanic state inmates, these groups combined make up only 12.8% of all deaths among state inmates over this period. As such, although our analyses are important for how they round out knowledge about the imprisonment–mortality association, the size of the groups affected remains small.

3.2. Crude mortality rates

Table 2 compares the crude mortality rates of prisoners with the mortality rates of individuals in the general population. Consistent with previous research, crude mortality rates are statistically significantly lower for prisoners than for members of the population. This is especially the case for black male prisoners, whose mortality rate is about one-third that of black males in the general population (152 per 100,000 relative to 472 per 100,000), but it is also the case for white males, Hispanic males, black females, and white females. The one group of prisoners that is not at a statistically significant mortality advantage is Hispanic females, whose mortality rate is 97 per 100,000, which is lower, although not statistically significantly so [95% CI: 77–117], than the mortality rate of Hispanic females in the population at 105 per 100,000 [95% CI: 104–105].

Table 1
Number of state prisoners (N) and deaths (D) for males and females aged 18–54 in state prison by race/ethnicity, 2001–2009.

		18–24		25–34		35–44		45–54		Total	
		N	D	N	D	N	D	N	D	N	D
Total		1,796,202	543	3,713,397	2025	3,216,136	4901	1,804,625	8699	10,530,360	16,168
Male	White	509,970	211	1,107,498	700	1,153,588	1901	726,907	3874	3,497,963	6686
	Black	808,735	230	1,564,502	892	1,275,079	2075	712,747	3441	4,361,063	6638
	Hispanic	383,646	70	784,906	305	519,967	604	242,312	994	1,930,831	1973
Female	White	45,148	20	129,919	55	137,405	113	64,354	165	376,826	353
	Black	34,104	9	90,288	56	99,592	172	46,616	191	270,600	428
	Hispanic	14,599	3	36,283	17	30,505	36	11,689	34	93,077	90

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