

Five-Year Mortality among Americans Incarcerated in Privatized Versus Public Prisons: the Mortality Disparities in American Communities Project



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BACKGROUND

Since the 1970s, the number of incarcerated Americans has tripled, creating a significant financial burden on states. To reduce costs, states increasingly rely on privatized prisons. Nationally, privatized prisons have grown by 39% since the year 2000, managing 8.2% of the country's prison population.¹

There is great variation in the quality of healthcare between privatized and public correctional institutions, and privatized prisons may be incentivized to reduce healthcare services in order to maximize profit.² However, little research has been done to evaluate disparities in health outcomes. One study found fewer health services were available in privatized prisons.² Another study using data from before 1990 suggested an increase in mortality associated with the privatization of correctional healthcare.³ Conversely, in 2016, the Department of Justice issued a review that found fewer per capita deaths within privatized prisons, though potential confounders were not considered.⁴ No recent study has looked at how longer-term mortality is affected by exposure to incarceration in the privatized prison setting.

OBJECTIVE

We aimed to measure whether privatized prisons are associated with mortality. We hypothesized that privatized prisons were associated with higher rates of long-term mortality compared with public prisons.

METHODS AND FINDINGS

We used data from the Mortality Disparities in American Communities study (MDAC), a national project of the United States Census Bureau, to estimate factors that lead to mortality disparities. The MDAC database is a record linkage of the 2008

American Community Survey (ACS) to the National Death Index (NDI).⁵ In accordance with Census Bureau standards, after survey weights were applied, cells were rounded to the nearest ten.

Our cohort included respondents aged 18 and older who identified a verified state or federal prison as their current residence ($N=26,500$). Federal detention centers, correctional residential facilities, and military disciplinary units were not included in our analyses.

The independent variable was detention in a privatized versus public prison. The primary outcome was all-cause mortality through five years from time of interview (2013). Additional individual-level covariates included demographics (age, sex, race, Hispanic ethnicity), social covariates (place of birth, mobility status [same address as 1 year ago versus not], educational attainment, and marital status) and disability status, and prison-level covariates (prison size [<500 people versus ≥ 500], a binary crowding indicator, and security level) obtained from the 2005 Census of State and Federal Adult Correctional Facilities.

We tabulated sociodemographic characteristics by prison type. Next, we reported the age-stratified unadjusted death rates and 95% confidence intervals. Finally, we conducted tiered adjusted Cox proportional hazard models to test for the independent association between prison type and mortality. The first model adjusted for demographic characteristics, the second model additionally adjusted for social covariates and disability status, and the final model additionally adjusted for prison-level covariates. We considered an association significant for a p value <0.05 , using a 2-tailed test, and calculated 95% confidence intervals.

The unweighted sample consisted of 25,000 respondents in public prison and 1500 in privatized prison, which was overwhelmingly male and disproportionately black (Table 1). The average age was 36.8 years (IQR, 28–44). Respondents in privatized prisons were more likely to be of Hispanic ethnicity and non-US-born compared with those in public prisons.

The unadjusted death rate at five-year follow-up in all categories was higher among those incarcerated in public prisons compared with privatized prisons (Table 2). In the proportional hazards model adjusted for demographics, the adjusted hazards ratio (aHR) among those in privatized prisons was 0.63 (95% CI, 0.40–0.97; $p=0.03$). After adjustment for social

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Table 1 Demographics of Respondents Residing in State and Federal Prisons by Type of Correctional Facility in 2008, Mortality Disparities in American Communities

	Public (N = 25,000)		Privatized (N = 1500)		p value
	Weighted, N	%	Weighted, N	%	
Age category					0.09
18–29	343,900	31.5	21,380	31.7	
30–39	326,400	29.9	21,900	32.5	
40–49	270,000	24.7	15,820	23.5	
50–59	115,600	10.6	6623	9.8	
≥ 60	35,290	3.2	1627	2.4	
Sex					0.91
Male	1,001,000	91.7	61,730	91.7	
Female	90,090	8.3	5617	8.3	
Race					< 0.001
White	559,600	51.3	38,490	57.2	
Black	461,800	42.3	24,780	36.8	
Other	69,950	6.4	4072	6.0	
Hispanic ethnicity					< 0.001
Hispanic	209,400	19.2	20,570	30.5	
Not Hispanic	881,800	80.8	46,770	69.5	
Place of birth					< 0.001
US-born	1,009,000	92.4	51,190	76.0	
Non-US-born	82,620	7.6	16,150	24.0	
Mobility status as 1 year ago					0.19
Same address	578,300	53.0	34,520	51.3	
Diff. address from 1 year ago	513,000	47.0	32,820	48.7	
Educational attainment					< 0.001
Less than HS	412,600	37.8	28,310	42.0	
HS grad or equivalent	442,600	40.6	27,280	40.5	
Some college and higher	236,000	21.6	11,750	17.4	
Marital status					0.007
Married	191,200	17.5	13,920	20.7	
Widowed	21,300	2.0	1090	1.6	
Divorced	203,400	18.6	11,910	17.7	
Separated	53,790	4.9	3920	5.8	
Never married	621,500	57.0	36,510	54.2	
Disability status					< 0.001
Any disability	268,500	24.6	13,520	20.0	
No disability	822,800	75.4	53,803	80.0	

¹Census Bureau Disclosure Release Board Numbers: CBDRB-FY19-436; CBDRB-FY19-567; CBDRB-FY19-449; CBDRB-FY20-108

characteristics, the aHR was 0.62 (95% CI, 0.40–0.96; *p* = 0.02). Adjusted additionally for prison-level characteristics, the aHR was 0.57 (95% CI 0.37–0.89; *p* = 0.01).

DISCUSSION

In this nationally representative sample of incarcerated Americans, we found those incarcerated in privatized prisons experienced lower five-year mortality rates than those in public prisons. This finding is surprising because privatized prisons are incentivized to provide lower-quality healthcare, but may be due to the fact that

Table 2 Five-Year Mortality Rate of Individuals Located in Privatized Compared with Publicly Managed Prisons (2008–2013)

	Public	Privatized
Unadjusted death rate per 100,000 (18–34 years)	264 (95% CI 258–270)	136 (95% CI 119–156)
Unadjusted death rate per 100,000 (35–64 years)	661 (95% CI 652–671)	372 (95% CI, 343–402)
Unadjusted death rate per 100,000 (65+ years)	3843 (95% CI 3702–3988)	2747 (95% CI 2193–3400)
Model 1 ^a aHR (95% CI)	REF	0.63 (0.40–0.97)
Model 2 ^b aHR (95% CI)	REF	0.62 (0.40–0.96)
Model 3 ^c aHR (95% CI)	REF	0.57 (0.37–0.89)

^aAdjusted for age, sex, race, ethnicity

^bAdjusted for age, sex, race, ethnicity, education, marital status, disability, region, and mobility

^cAdjusted for age, sex, race, ethnicity, education, marital status, disability, region, mobility, prison crowding, and prison security level

¹Census Bureau Disclosure Release Board Numbers: CBDRB-FY19-436; CBDRB-FY19-567; CBDRB-FY19-449; CBDRB-FY20-108; CBDRB-FY20-CES004-018

privatized prisons can select occupants based on health status.⁶ Our findings are limited by the lack of data on incarceration status during the follow-up period. Future studies should explore why privatized prisons may be associated with lower rates of death and how the provision of healthcare by privatized and public institutions impact mortality.

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Compliance with Ethical Standards:

These results have been reviewed by the Census Bureau's Disclosure Review Board (DRB) to ensure that no confidential information is disclosed. The DRB release numbers are the following: CBDRB-FY19-436; CBDRB-FY19-567; CBDRB-FY19-449; CBDRB-FY20-108; CBDRB-FY20-CES004-018.

Conflict of Interest: The authors declare that they do not have a conflict of interest.

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