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Article

Racial disparities in health conditions among prisoners compared with the general population

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ABSTRACT

This paper compares black-white health disparities among prisoners to disparities in the noninstitutionalized community to provide a more complete portrait of the nation's health. We use data from the 2004 Survey of Inmates in State and Federal Correctional Facilities and the 2002 and 2004 National Health and Nutrition Examination Survey for incarcerated and noninstitutionalized adult (aged 18–65) men and women, respectively. Health disparities between black and white male prisoners based on self-reported prevalence are similar to disparities in the general population for hypertension and diabetes but significantly reduced for kidney problems and stroke. Health disparities between black and white female prisoners are similar to disparities in the general population for obesity but significantly reduced for hypertension, diabetes, heart problems, kidney problems, and stroke. Our study reveals that prisoners report far worse health profiles than non-prisoners but there is differential health selection into prison for whites and blacks, and population health estimates for adult black men in particular underreport the true health burden for U.S. adults. Our findings highlight the importance of incorporating prison populations in demographic and public health analyses.

1. Introduction

A large body of population health research examines adult health disparities, especially black-white differences in mortality and morbidity (Adler & Rehkopf, 2008; Frisbie, Song, Powers, & Street, 2004; Geruso, 2012; Pampel, Krueger, & Denney, 2010; Williams & Jackson, 2005; Williams & Mohammed, 2009). Yet, incarceration is an often ignored and poorly understood factor in health disparities research (Moore & Elkavich, 2008) in part because incarcerated persons are excluded from national health surveys (Ahalt, Binswanger, Steinman, Tulskey, & Williams, 2011) and clinical research (Wang & Wildeman, 2011), former inmates are often not identified in national health surveys (Ahalt et al., 2011), and research among prisoners is difficult due to a long history of medical abuses (Gostin, 2007). Inmates report a higher prevalence of infectious diseases and chronic conditions compared to the noninstitutionalized population (Baillargeon, Black, Pulvino, & Dunn, 2000; Hammett, Harmon, & Rhodes, 2002; Solomon, Flynn, Much, & Vertefeuille, 2004; Wilper et al., 2009). This is largely due to the selection of prisoners from the most vulnerable segments of the U.S. population (Clear, 2007; Greenfeld & Snell, 1999; Kirk, 2008; Richie, 2001; Fazel & Danesh, 2002; James & Glaze, 2006; Steadman, Osher, Clark Robbins, Case, & Samuels, 2009), although there is evi-

dence to suggest a potential causal relationship (Massoglia, 2008a; Porter, 2014; Schnittker & John, 2007). Thus, incarceration is a pressing public health concern affecting not only incarcerated persons, but also their families and communities (Brinkley-Rubenstein, 2013; Dumont, Brockmann, Dickman, Alexander, & Rich, 2012; Massoglia & Pridemore, 2015; Schnittker, Uggan, Shannon, & McElrath, 2015; Turney, 2017). There are also potential macro-level consequences for U.S. society (Wildeman, 2016).

We argue that due to mass incarceration, at any given time large portions of the population are “missing” from the noninstitutionalized community and, therefore, from national health surveillance systems. The consequences are that current estimates of population health and health disparities may be biased, and that we cannot fully understand the consequences of mass incarceration on racial health disparities (Wildeman & Wang, 2017). In other words, excluding information about residents of institutional—and non-institutional—group quarters can bias population estimates (Stapleton, Honeycutt, & Schechter, 2011). But more importantly, the failure to report estimates from institutionalized individuals limits our ability to fully describe the complexity of health disparities in the United States (Ahalt et al., 2011; Wang & Wildeman, 2011).

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1.1. Prisons and disparities

The effect of incarceration on racial/ethnic health disparities has been theorized (Asad & Clair, 2017; Binswanger, Redmond, Steiner, & Hicks, 2011), but there have been limited empirical examinations. In a recent review article, five studies were identified that directly assessed this question—all generally supporting the hypothesis that mass incarceration explains some of the racial/ethnic health disparities documented in the United States (Wildeman & Muller, 2012). For example, Wang & Green (2010) used a population-based survey of non-institutionalized adults in New York City and propensity score matching to examine the association between incarceration and chronic diseases. They found that individuals with a history of incarceration had a higher prevalence of asthma and that the increased rates of incarceration among blacks partially contributed to racial disparities in asthma prevalence.

Theoretically, comparing disparities among incarcerated and non-institutionalized populations may provide valuable insights into the relevance for five common explanations for health disparities: (1) stress and discrimination, (2) health lifestyles, (3) health care access and utilization, (4) childhood poverty, and (5) neighborhood and work environments (Adler & Rehkopf, 2008; Williams & Jackson, 2005; Williams & Mohammed, 2009). Correctional institutions are multiracial, unsegregated settings that create more similar environments for black and white prisoners which render the above explanations less-applicable. For example, prisoners have similar physical housing environments, the same limited food choices, access to the same types and duration of physical activity, and access to legally-mandated healthcare regardless of racial identification. Prisons have been described as total institutions – “places of residence and work where a large number of like-situated individuals, cut off from the wider society for an appreciable period of time, together lead an enclosed, formally administered round of life” (Goffman, 1961, p. xii). Thus, prisons provide an important context because they “level the playing field” with respect to nutrition, exercise, health care access, and stress exposure, although evidence suggests that racial/ethnic disparities in utilization of care may exist even in this “equal access” system (Nowotny, 2015). We are not suggesting that there is no stress exposure within prisons. Indeed, prisoners are exposed to multiple chronic and acute stressors (see Massoglia, 2008a). Rather, our point is that black and white prisoners are likely exposed to the same levels of stress because of the structure of prison life and, as a result, the effects of imprisonment are likely to be the same across racial groups (Massoglia, 2008b; Roettger & Swisher, 2011).

Given the growth of the incarcerated population and the over-representation of black adults within prisons, describing disparities within prisons and comparing them to the noninstitutionalized population will also shed light on the consequences of excluding 2.4 million individuals from population health research (Wagner & Sakala, 2014). Understanding the health of current and former inmates has been identified as one element of a comprehensive strategy to improve the health of urban communities by reducing population health disparities (Binswanger et al. 2011). Yet, knowledge about who is removed from and returned to the community, and how these selective forces are different for black and white communities is critically lacking in health disparities research (Wildeman & Wang, 2017).

Estimates of lifetime incarceration predict that 1 in 12 Americans will be incarcerated at some point in their lives (Bonczar, 2003). For blacks, estimates are higher, at 1 in 3. And at any given time, 1 in 9 black men aged 20 to 34 are in prison (Western, 2006) with a 28% cumulative risk for incarceration for black men by the age of 34 and a 68% cumulative risk for those with less than a high school education (Pettit, 2012). Importantly, surveys that draw their samples from households exclude inmates by definition. Therefore, these “point in time” incarceration estimates provide insight on who is excluded (Pettit, 2012). These estimates “only partially represent the total

number of people at risk for undersampling in conventional surveys [because] former inmates may be particularly likely to be excluded from social surveys that sample from households because they have high rates of residential mobility, instability, and homelessness” (Pettit, 2012, p. 16). Due to high rates of incarceration, black men are also more likely to drop out of prospective longitudinal surveys. For example, black men who experience incarceration spend 13.4 percent of their working lives in prison (Patterson & Wildeman, 2015). The high percentages of current and lifetime risk for incarceration make it likely that excluding prisoners and recently released prisoners from health surveillance systems will bias population estimates, especially for black men. Western (2006) demonstrates this by adjusting national statistics for imprisonment. He finds that black-white inequalities in joblessness, education, and wages are larger. Thus, the gap in economic progress among blacks is less optimistic than official statistics suggest. We speculate that this is also the case with health disparities. In other words, “the loss of black men from medical research due to incarceration may produce biased, underpowered estimates in studies of health disparities” (Wang & Wildeman, 2011, p. 1708).

Some recent research on mortality and morbidity indicates that the association between race/ethnicity and health may operate differently within prisons than in the general community (see Massoglia & Pridemore, 2015). For example, there are significant black-white gaps in life expectancy in the United States for the noninstitutionalized population (Harper, Lynch, Burris, & Smith, 2007; Hummer, 1996; Hummer, Rogers, Nam, & LeClere, 1999; Warner & Hayward, 2006) but there is increasing evidence that prison has a protective effect on mortality for black men. Mumola (2007) found that the mortality rate for black male prisoners (aged 15–64) was 19 percent lower than for black men in the noninstitutionalized population. A study of prisoners in North Carolina found 48 percent fewer deaths than expected among black prisoners (Rosen, Wohl, & Schoenbach, 2011). Patterson (2010) found that the mortality rate for white male prisoners was *higher* than the rate for white males in the noninstitutionalized population, whereas the mortality rate for black male prisoners was *lower* than the rate for black males in the noninstitutionalized population. The lower death rate for black male prisoners was largely, but not entirely accounted for by protections from external causes of death. It is important to note, however, that any mortality benefit may be outweighed by long-term consequences. For example, Patterson (2013) used mortality data from New York State and found a dose-response effect. Each additional year of incarceration produced a 16 percent increase in the odds of death and a 2-year decrease in life expectancy.

When examining morbidity using pooled national data, Binswanger, Krueger & Steiner (2009) found that hypertension is higher among incarcerated whites compared to noninstitutionalized whites while no differences were found among incarcerated blacks and Hispanics compared to their noninstitutionalized counterparts. Similarly, Houle (2011) found that the exclusion of inmates from national obesity estimates leads to an overestimation in obesity prevalence particularly for disadvantaged white and black men.

Collectively, the results of previous research highlight the differential selection among racial and ethnic minorities into the prison system. This research supports the hypothesis that racial health disparities in morbidity and mortality among prisoners are muted. In fact, the health of black prisoners may be more likely to reflect the health of the noninstitutionalized black population whereas white prisoners may be drawn from some of the unhealthiest whites in the population. As such, noninstitutionalized disparities may be smaller, nonexistent, or reversed among prisoners. To date, no existing work has explicitly compared estimates of health disparities among incarcerated adults with comparable estimates from the general population of adults in the United States.

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