Gender Differences in Health Care Needs and Service Attainment Among Violent Offenders

Journal of Correctional Health Care
2020, Vol. 26(1) 55-65
© The Author(s) 2020
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/1078345819897925
journals.sagepub.com/home/jcx

Mary H. Hughes, MA¹, Molly Smith, PhD¹ ,
Timothy C. Brown, PhD², and Marc D. Glidden, PhD¹

Abstract

Research has determined that female inmates experience distinctive challenges both during and after incarceration. There has been little empirical inquiry, however, into the gendered nature of medical health care needs and treatment postrelease. The purpose of this study, therefore, is to examine the differences between male and female inmates with regard to chronic illness diagnoses and health care receipt during reentry. This was done using a subsample of 763 inmates who participated in the Serious and Violent Offender Reentry Initiative multisite impact evaluation who specifically mentioned a need for medical health care treatment. Results of multivariate analyses showed gendered differences for both chronic illness diagnoses and medical treatment receipt postrelease, thus highlighting potential implications for correctional health care policy and resource distribution.

Keywords

gendered health needs, SVORI, chronic illness, medical treatment receipt, reentry

Background

One of the greatest challenges facing the criminal justice system in the past few decades has been the heightened growth of the prison population (B. E. Garland & Hass, 2015; Guerino et al., 2011). Lynch and Sabol (2001) reported that in 1980, 140 out of every 100,000 individuals in the United States were incarcerated; however, by 2007, 509 per 100,000 persons were confined in correctional facilities (B. Garland et al., 2011; Sabol & Couture, 2008). Not surprisingly, the increase in the correctional population has similarly resulted in growing rates of mental disorder, infection, and chronic illness among inmates (Mears & Cochran, 2012).

Of the known chronic illnesses affecting inmates, scholars have chiefly focused on diseases requiring increased medical treatment and correctional spending, such as HIV/AIDS, hepatitis C,

¹ Department of Criminal Justice, University of Arkansas at Little Rock, AR, USA

² Department of Sociology, San Diego State University, CA, USA

Corresponding Author:

Mary H. Hughes, MA, Department of Criminal Justice, University of Arkansas at Little Rock, 2801 S. University Ave., Ross Hall 500, Little Rock, AR 72204, USA.
Email: mhhughes@ualr.edu

and heart conditions (Braithwaite et al., 2005; Harner & Riley, 2013a). Culbert (2011) noted that 20% of those entering a correctional facility reported having HIV on intake. Likewise, an analysis of health burdens found that approximately 300,000 inmates reported having hepatitis C, in addition to 130,000 who had contracted latent tuberculosis while incarcerated (Williams, 2007). Scholars have attributed such increases in illnesses to the prison culture, in which individuals are exposed to higher stress, violence, and a greater risk of sexual assault than in the free world (Massoglia, 2008; Mears & Cochran, 2012). This relationship is further evidenced by elevated levels of chronic illness among inmates in comparison to the general public (Binswinger et al., 2012; Dumont et al., 2012).

Recent research posits that such high rates of illness and the prison population's dependency on correctional facilities for treatment have caused the administration of health services to become a burden for correctional health care professionals (Dumont et al., 2012; Hammett et al., 2001; Mears & Cochran, 2012). Despite this, however, there is a diminutive understanding of the full scope of physical illness among inmates and the availability of health care treatment both pre- and post-release. This is particularly troubling given that Wilper and colleagues (2009) note that 13.9% of federal and 20.1% of state former inmates received treatment for a persistent medical condition while incarcerated, yet failed to continue consistent medication treatment or examinations following release. Further comprehension is imperative given that research has shown these factors to have a substantial impact on both correctional resource distribution and reentry success (Hammett et al., 2001; Mears & Cochran, 2012). In particular, scholars have called for increased understanding regarding the specific impact of gender on medical health in this population (B. Garland et al., 2011; Koski & Costanza, 2015).

Exploring Gender-Specific Health Treatment

The underrepresentation of females in correctional systems has been frequently cited, with women's relatively lower rate of incarceration in comparison to men relating to the neglect of their specific health needs (Belknap, 1996; Braithwaite et al., 2005; Richie, 2001). In particular, research shows that female inmates have higher rates of substance abuse, greater health care barriers, and more premental health problems than male inmates (Richie, 2001). As evidenced by Tapp and colleagues (2011), female drug users are more likely to engage in street-level survival tactics contributing to their marginalization from the overall health care system. Although literature posits that females may have greater access to resources, barriers during postrelease treatment stem from limited ability to access such resources (Koski & Costanza, 2015; Richie, 2001). In particular, barriers such as inadequate transportation, weakened outreach programming, and difficulty obtaining childcare have been identified as obstacles women face beyond those of their male counterparts (Marsh et al., 2000). Past studies furthermore highlight differential treatment requirements by gender with regard to chronic emotional problems, reproductive health care, and substance abuse, positing that further investigation should be conducted with regard to other gender-specific health needs (B. Garland et al., 2011; Koski & Costanza, 2015; Richie, 2001). Expanding on the limited knowledge of chronic illnesses faced by incarcerated females suggests that distinguishing between male and female inmates' health needs could prove beneficial for correctional health care and preventive care professionals, as well as reentry success among this population (Braithwaite et al., 2005; B. E. Garland & Hass, 2015; Hammett et al., 2001; Harner & Riley, 2013a; Heilbrun et al., 2008; Koski & Costanza, 2015; Woods et al., 2013).

Current Study

This study examined differences in physical health diagnoses and medical treatment receipt by gender among incarcerated violent offenders. In this vein, we sought to test two hypotheses.

The first hypothesis predicted that females will have higher rates of chronic illness diagnosis when compared to their male counterparts. This is supported by previous correctional health care research that suggests females have a higher risk of contracting physical health problems due to elevated preexisting health risks associated with addiction, trauma, and mental illness prior to incarceration (Belknap, 1996; Braithwaite et al., 2005; Douglas et al., 2009; Harner & Riley, 2013a). Further, the prison environment has been identified as a contributing factor to increases in chronic illness among incarcerated females, likely due to concerns regarding cleanliness, minimal physical activity, and limited nutritional meal options (Douglas et al., 2009; Messina & Grella, 2006).

The second hypothesis held that male inmates will be more likely than females to receive medical treatment postincarceration. Although both males and females face significant barriers to successfully reentering society, there are additional considerations that further limit success for women. In particular, past research has shown that female inmates are less educated than male inmates and less likely to receive educational and vocational training during incarceration (Belknap, 1996). As a result, reduced employment prospects after release could limit their access to health care insurance and thus affordable medical treatment. Additionally, females often reenter society with the goal of being reunited with and caring for their children (Harner & Riley, 2013a; Koski & Costanza, 2015; Richie, 2001), which might interfere with their concern for their own health needs.

Method

Our study utilized data from both the baseline and fourth waves of the Serious and Violent Offender Reentry Initiative (SVORI) multisite impact evaluation, collected between 2004 and 2011 (Lattimore & Visher, 2013). SVORI is a longitudinal, quasi-experimental impact evaluation used to measure effectiveness in reentry programming; it was administered to 2,054 adult males and females in 14 states across the country.¹ This evaluation is of special interest in that it is one of the few studies of this population that incorporated questions on physical health diagnoses and medical treatment. Specifically, the survey asked questions pertaining to medical treatment needs, the quality of treatment received, and the identification of chronic illnesses.²

Evaluation participants were identified in quasi-experimental groups and randomly assigned to participate in the SVORI program. Identifying criteria for enrollment focused on age, criminal history, risk level, postrelease supervision, transfer between facilities, and county of release. Surveys were distributed 30 days prior to the inmate's release, with a series of follow-ups at 3, 9, and 15 months postrelease for each cohort. Only released individuals were included in the final SVORI evaluation data set. Selection of SVORI participants were based on six criteria guidelines that focused on implementation, accessibility, and established goals. Thus, 16 of the 89 SVORI programs were eligible to participate in the final evaluation study. The final sample comprised 863 SVORI and 834 non-SVORI adult males, as well as 152 SVORI and 294 non-SVORI adult females.

To investigate and further understand the differences in medical health needs by gender, this study utilized a subsample of the original SVORI data set composed of respondents who indicated that they needed medical treatment.³ This yielded a subsample of 159 females and 604 males who met the criteria for inclusion (see Table 1). Although limiting the sample to individuals who identified as requiring medical care reduced the overall sample size, it was advantageous for the current analyses in that it eliminated respondents who have no pressing medical needs, thus allowing us to focus solely on inmates with such needs.

Overall, 11 bivariate logistic regressions were conducted while controlling for relevant factors. The first 10 logistic regressions assessed whether chronic illness diagnoses (i.e., asthma, diabetes, heart trouble, high blood pressure, arthritis, chronic back pain, tuberculosis, HIV/AIDS, and hepatitis B or C) varied by gender. The final logistic regression was utilized to identify any gender differences in medical treatment receipt.

Table 1. Descriptive Characteristics.

Variables	M	SD	n (%)
Age	30.434 (18–69)	7.500	
Female			159 (20.839)
White			320 (41.995)
Received medical treatment			180 (23.591)
Chronic illness diagnosis			
Any diagnosis			447 (59.000)
Asthma			162 (21.232)
Diabetes			34 (4.456)
Heart trouble			61 (8.005)
High blood pressure			155 (20.341)
Arthritis			74 (9.699)
Chronic back pain			153 (20.052)
Tuberculosis			52 (6.824)
HIV/AIDS			13 (1.704)
Hepatitis B or C			54 (7.115)

Note. N = 763.

Dependent Variables

Our analyses included 11 dependent variables in order to test the hypotheses. To operationalize chronic health diagnoses, 10 variables were created based on the following questions, which were asked at the baseline: “Has a doctor or other health care provider ever told you that you have: asthma, diabetes, heart trouble, high blood pressure, arthritis, chronic back pain, tuberculosis, HIV/AIDS, or hepatitis B or C?” Responses were measured dichotomously with yes coded as 1 and no coded as 0. Descriptive statistics for individuals selecting yes were as follows: asthma (21.2%, *n* = 162), diabetes (4.4%, *n* = 34), heart trouble (8.0%, *n* = 61), high blood pressure (20.3%, *n* = 155), arthritis (9.7%, *n* = 74), chronic back pain (20.1%, *n* = 153), tuberculosis (6.8%, *n* = 52), HIV/AIDS (1.7%, *n* = 13), and hepatitis B or C (7.1%, *n* = 54). Additionally, a combined variable for having any of the above chronic illnesses was created using the same coding scheme, with 59.0% (*n* = 447) noting that they had at least one of the diagnoses.

The final dependent variable examined released individuals’ receipt of medical treatment. This was operationalized by the response to the following question at Wave 4: “Since we last interviewed you, have you received (if reincarcerated: but before you were reincarcerated, did you receive) any medical treatment or physical health care?”⁴ Responses were dichotomized whereby yes was coded as 1 and no was coded as 0. Of those who identified as needing medical treatment, only 180 (23.6%) selected that they had received medical treatment during the recall period compared to 583 (76.5%) who did not receive any medical treatment.

Independent and Control Variables

Prior research has found gendered variations in health care (Braithwaite et al., 2005; Harner & Riley, 2013a; Heilbrun et al., 2008; Koski & Costanza, 2015), with women being identified as having specific prison-based health concerns when compared to their male counterparts with regard to health care treatment and types of chronic illness (Douglas et al., 2009; Harner & Riley, 2013a; Young, 2000). The independent variable for this study, gender, was therefore operationalized as the respondent’s self-reported gender during the baseline wave of the survey. The subsample used in this study was composed of 159 (20.8%) females and 604 (79.2%) adult males.

Table 2. Binary Logistic Regression for Any Chronic Illness Diagnosis by Gender.

Predictor	B	SE (B)	e ^B
Female	0.599**	.200	1.820
White	0.299	.157	1.349
Age	0.048***	.011	1.050
Constant	-1.333***	.349	.264
χ^2		36.835	
df		3	
Nagelkerke R ²		.064	

Note. N = 763. e^B = exponentiated B.

*p < .05. **p < .01. ***p < .001.

The first 10 analyses controlled for both race and age. Race was recoded into a binary variable containing two categories: White (42.0%, *n* = 320) and non-White (58.1%, *n* = 443). Age was self-reported in years at the baseline wave, ranging from 18 to 69 with an average age of 30 years old. The final regression model also controlled for overall chronic illness diagnosis, which was used as a dependent variable in earlier analyses.

Findings

The first hypothesis postulated that violent offenders would have significant differences with regard to chronic illness prevalence, particularly asthma, diabetes, heart trouble, high blood pressure, arthritis, chronic back pain, tuberculosis, HIV/AIDS, and hepatitis B or C. Results of a series of binary logistic regressions (see Tables 2 and 3) showed that the only asthma, diabetes, heart trouble, or having any diagnosis significantly varied by gender. In line with our hypotheses, women reported higher levels of such diagnoses. After controlling for age and race, identifying as female resulted in a 1.8% increase in the odds of having any chronic illness diagnosis, a 2.0% increase in the odds of reporting an asthma diagnosis, a 3.9% increase in the odds of being diagnosed with diabetes, and a 1.8% increase in the odds of being diagnosed with heart trouble. These findings are in line with those from previous examinations of chronic illness in both incarcerated and free-world populations (e.g., Acoca, 1998; Dumont et al., 2012; Maruschak, 2008; Williams, 2007).

The second hypothesis posited that males will be more likely than females to have received medical care postrelease. Results of the final binary logistic regression model, shown in Table 4, showed a highly significant relationship between gender and receiving medical treatment at Wave 4 after controlling for age, race, and having a chronic illness diagnosis. Contrary to our hypothesis, identifying as female resulted in a 2.8% increase in the odds of receiving medical treatment during the recall period. The female violent offenders in our sample were therefore more likely than their male counterparts to seek out and receive medical treatment postrelease. Significant relationships were also found for all of the control variables in the model except White race. The odds of receiving medical treatment increased by 1.0% for each additional year of respondent age, and a chronic illness diagnosis increased the odds of receiving medical treatment by 2.0%.

Discussion

The correctional population has been cited as being underserved before, during, and after incarceration with regard to health care needs and services (Belknap, 1996; Binswanger et al., 2012; Braithwaite et al., 2005; Cloud et al., 2014). Further, exploratory studies concerning female and male illness in prison suggest that there are significant medical health-related differences by gender (Braithwaite

Table 3. Binary Logistic Regression for Chronic Illness Diagnosis by Gender.

Predictor	Asthma			Diabetes			Heart Trouble		
	B	SE (B)	e ^B	B	SE (B)	e ^B	B	SE (B)	e ^B
Female	.705***	.213	2.023	1.363***	.362	3.906	0.590*	.296	1.804
White	-.119	.187	0.888	0.188	.365	1.207	0.109	.281	1.115
Age	-.062***	.015	0.940	0.016	.024	1.016	0.073***	.016	1.076
Constant	.388	.439	1.474	-4.107***	.816	0.016	-5.000***	.591	0.007
χ^2	27.369			15.540			25.150		
df	3			3			3		
Nagelkerke R ²	.055			.066			.076		

Predictor	Blood Pressure			Arthritis			Chronic Back Pain		
	B	SE (B)	e ^B	B	SE (B)	e ^B	B	SE (B)	e ^B
Female	0.039	.225	1.039	0.258	.284	1.294	0.363	.212	1.437
White	-0.145	.194	0.865	0.839***	.261	2.314	0.577**	.188	1.780
Age	0.074***	.012	1.077	0.082***	.015	1.086	0.042***	.012	1.043
Constant	-3.654***	.411	0.026	-5.346***	.572	0.005	-3.044***	.409	0.048
χ^2	43.152			38.165			24.990		
df	3			3			3		
Nagelkerke R ²	.087			.104			.051		

Predictor	Tuberculosis			HIV/AIDS			Hepatitis B or C		
	B	SE (B)	e ^B	B	SE (B)	e ^B	B	SE (B)	e ^B
Female	-0.708	.451	0.492	0.969	0.588	2.635	0.574	.315	1.776
White	-1.041**	.364	0.353	-1.405	0.782	0.245	1.508***	.327	4.520
Age	0.051**	.017	1.053	0.062	0.032	1.064	0.096***	.018	1.101
Constant	-3.818***	.591	0.022	-5.993***	1.197	0.002	-6.695***	.716	0.001
χ^2	23.587			10.834			53.162		
df	3			3			3		
Nagelkerke R ²	.078			.089			.169		

Note. N = 763. e^B = exponentiated B.
*p < .05. **p < .01. ***p < .001.

Table 4. Binary Logistic Regression Model for Medical Treatment Receipt.

Predictor	B	SE (B)	e ^B
Female	1.025**	.208	2.788
White	0.419	.190	1.520
Age	0.028***	.012	1.028
Chronic illness diagnosis (any)	0.671***	.203	1.956
Constant	-2.664***	.415	0.070
χ^2	57.523		
df	4		
Nagelkerke R ²	.126		

Note. N = 763. e^B = exponentiated B.
*p < .05. **p < .01. ***p < .001.

et al., 2005; Culbert, 2011; Heilbrun et al., 2008; Koski & Costanza, 2015; Young, 2000). Our first hypothesis predicted that females would have higher rates of chronic disease diagnoses when compared to their male counterparts. Findings partially confirmed this hypothesis and suggested that gender differences were present with regard to asthma, diabetes, and heart trouble diagnoses, as well as having any chronic illness diagnosis; this correlates with the findings of previous studies (e.g., Braithwaite et al., 2005; Harner & Riley, 2013a; Koski & Costanza, 2015). No relationship was found between gender and high blood pressure, arthritis, chronic back pain, tuberculosis, HIV/AIDS, and hepatitis B or C diagnoses, however, which is interesting given the salience of the link between gender and having chronic illnesses in the empirical literature (Belknap, 1996; Braithwaite et al., 2005; Koski & Costanza, 2015; Richie, 2001). It may be that age and race are conditioning the relationships for at least chronic back pain, tuberculosis, and hepatitis B or C, given that significant relationships between gender and these diagnoses were found at the bivariate level.⁵

These findings thus expand on exploratory correctional health care research (Harner & Riley, 2013a; Maruschak, 2008; Maruschak et al., 2015; Wilper et al., 2009) that suggests gender-based differences in physical illness diagnoses are similar to those seen for mental illness diagnoses (Harner & Riley, 2013b; James & Glaze, 2006; Lamb & Weinberger, 1998). Increased understanding of the institutional factors that attribute to the progression of chronic illness in prisons should be further explored, particularly structural factors related to nutritional options, visitation, separation from children, and the overrepresentation of emerging disease and its increasing burden on the correctional health care system (Douglas et al., 2009; Harner & Riley, 2013a; Williams, 2007; Wilper et al., 2009; Woods et al., 2013).

Further results concerning the impacts of age and race on chronic illness prevalence are outside the scope of our hypotheses but are important to note given their placement in the literature (e.g., Binswanger et al., 2012; Braithwaite et al., 2005; Reviere & Young, 2004; Williams, 2007; Wilper et al., 2009). We found significant age and racial differences for all chronic illness diagnoses, with the exceptions of HIV/AIDS or any overall diagnosis. These findings align with previous studies noting that age and race play an integral role in health outcomes in the incarcerated population (Binswanger et al., 2012; Braithwaite et al., 2005; Cloud et al., 2014). It is critical to note, though, that our results concerning arthritis, chronic back pain, and hepatitis B or C determined that individuals who identified as White were more likely to have a chronic illness diagnosis, with the exception of tuberculosis. Those identifying as non-White may therefore actually have comparatively lower rates of chronic illnesses, suggesting that race should be further explored as a correlate of chronic illness.

Individual chronic illness models also identified age as a strong predictor for all diagnoses except diabetes and HIV/AIDS. The bulk of correctional health care literature has pinpointed age as a predictor in disease diagnosis and progression (Dumont et al., 2012; Mears & Cochran, 2012; Wilper et al., 2009), with aging inmates being the primary concern. While our study confirmed the direction of this relationship for most chronic illness diagnoses, we found that being older actually decreased the odds of an asthma diagnosis. This finding may be a hallmark of our gendered approach to studying this phenomenon, given that Williams (2007) found that female inmates' previous smoking habits and lack of physical activity while incarcerated contributed to increased asthma diagnoses in the population.

Our second hypothesis predicted that males were more likely than females to have their medical needs met postrelease. Results from the binary logistic regression model were, however, contrary to this hypothesis. Of those violent offenders involved in the SVORI program who cited medical treatment needs, females were more likely than males to have received treatment postrelease, even after controlling for having a chronic illness. Although females displayed higher odds of having their medical needs met than males, it is important to note that our sample had a greater representation of male inmates, thus limiting the generalizability of these results. Understanding the full scope of

meeting female inmates' medical needs should therefore be further explored using a larger sample of incarcerated females, given that previous literature, as well as this study, suggests that women are exposed to unique chronic illnesses when compared to their male counterparts, have different reproductive health needs, and have higher rates of stress stemming from disconnection from their children while incarcerated (Heilbrun et al., 2008; Koski & Costanza, 2015). Further, previous studies focused on female participation in treatment state that providing transportation and childcare may help to increase the success of gendered-specific programming (Marsh et al., 2000). Despite little knowledge, Cornacchione and Smith (2017) suggest that strengthened communication and social support between females and parole officers may also increase participation in health care access during the reentry process. Our study was unable to specifically examine the impact of these concerns given the limitations of the SVORI questionnaire; however, teasing apart these interactions is an important area for future research, as is the examination of health care concerns among nonviolent inmates.

We found support for the known relationship between age and the likelihood of receiving medical treatment. Studies have shown that individuals who enter prison with a previous chronic illness diagnosis are at a greater risk of contracting an additional illness during incarceration (Maruschak, 2008; Maruschak et al., 2015; Williams, 2007; Wilper et al., 2009). The aging prison population (Cloud et al., 2014; Dumont et al., 2012; Reviere & Young, 2004) could therefore have a significant long-term impact on resource requirement and management, thus distinguishing them as a higher concern for correctional health care service providers as compared to the younger inmate population (Maruschak et al., 2015; Williams, 2007; Wilper et al., 2009).

Unsurprisingly, the final model also determined that having any chronic illness diagnosis increased inmates' likelihood of receiving treatment. What is interesting, however, is that this relationship was not as strong as the association between gender and treatment receipt. This finding gives further credence to the idea that gender plays a strong role in likelihood of receiving medical treatment and points to the importance of viewing inmate health care through a gendered lens.

Conclusion

In summary, the current study identified gender differences in chronic illness diagnoses and medical treatment receipt postrelease among a sample of violent offenders who cited having medical health care needs. Results indicated that after controlling for age and race, females were more likely than males to be diagnosed with any sort of chronic illness, in particular, asthma, diabetes, or heart trouble. We also found that females with health-related needs were more likely than their male counterparts to receive treatment postrelease.

Our findings thus highlight gender as an important concern when addressing the health care needs of inmates, suggesting that correctional health care services should emphasize not only the health needs of male inmates but also the specific health concerns of female inmates. This is particularly true given the ongoing increase in the female prison population (Belknap, 1996; Braithwaite et al., 2005; Harner & Riley, 2013a) and the fact that medical health outcomes may be closely linked to reentry success (B. E. Garland & Hass, 2015; Hammett et al., 2001; Koski & Costanza, 2015; Woods et al., 2013). The exploration of gender-specific treatment needs through medical and preventive advancements may also help to reduce the burden placed on correctional professionals. This imperative is underscored by the need for further research and emphasis on the overall medical needs and treatment of inmates, given that only a small portion of those in our sample who had medical needs actually received treatment. Continuing to explore the gendered nature of emerging chronic illness and treatment needs in correctional settings may help to address gender-specific needs, potentially leading to increased positive outcomes with regard to general well-being, reentry success, and improved correctional resource management. Such insight could also prove invaluable to

correctional and social work officials as it could lead to innovative practices regarding the removal of barriers to proper health care.

Authors' Note

Marc D. Glidden is now affiliated to California State University, Northridge, Northridge, CA, USA.

Acknowledgments

We would like to thank Robert D. Lytle and Brooke Cooley for their helpful comments on earlier versions of this article.

Declaration of Conflicting Interests

The authors disclosed no conflicts of interest with respect to the research, authorship, or publication of this article. For information about *JCHC*'s disclosure policy, please see the Self-Study Program.

Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

ORCID iD

Molly Smith, PhD <https://orcid.org/0000-0001-9697-0797>

Notes

1. Serious and Violent Offender Reentry Initiative (SVORI) was implemented and evaluated in various correctional institutions in the federal penal system and in the following states: Colorado, Florida, Indiana, Iowa, Kansas, Maine, Maryland, Missouri, Nevada, Ohio, Oklahoma, Pennsylvania, South Carolina, and Washington.
2. The following SVORI variables were used to determine whether participants had any chronic health diagnoses at Wave 4: FPMH2a, FPMH5a, FPMH6a, FPMH7a, FPMH9a, FPMH10a, FPMH11a, FPMH12a, and FPMH13a. The questions associated with these variables asked participants "Do you currently have <health diagnosis or condition>?" and gave them a dichotomous response option of yes or no.
3. The original questionnaire asked, "How much do you need medical treatment or physical health care," which was measured on a three-part Likert-type scale (*a lot*, *a little*, and *not at all*). This was later recoded into a dichotomous yes or no variable, whereby the subsample included all respondents who answered positively to this question.
4. This measure simply asked whether the respondent received any medical treatment or not. The SVORI evaluation questionnaire has no non-illness-specific indicators of prescription medication use nor does it ask about the continuing use of specific medications in subsequent waves.
5. Preliminary independent samples *t* tests showed significant relationships by gender for the following chronic illness diagnoses: asthma, $t(224.366) = -2.463, p = .015$; diabetes, $t(182.340) = -3.090, p = .002$; heart trouble, $t(208.160) = -2.042, p = .042$; chronic back pain, $t(224.391) = -2.284, p = .023$; tuberculosis, $t(336.988) = 2.070, p = .039$; and hepatitis B or C, $t(199.550) = -2.262, p = .025$.

References

- Acoca, L. (1998). Defusing the time bomb: Understanding and meeting the growing health care needs of incarcerated women in America. *Crime & Delinquency*, 44, 49–69.
- Belknap, J. (1996). Access to programs and health care for incarcerated women. *Federal Probation*, 60, 34–39.
- Binswanger, I. A., Redmond, N., Steiner, J. F., & Hicks, L. S. (2012). Health disparities and the criminal justice system: An agenda for further research and action. *Journal of Urban Health*, 89, 98–107.
- Braithwaite, R. L., Treadwell, H. M., & Arriola, K. R. (2005). Health disparities and incarcerated women: A population ignored. *American Journal of Public Health*, 95, 1679–1681.

- Cloud, D. H., Parsons, J., & Delany-Brumsey, A. (2014). Addressing mass incarceration: A clarion call for public health. *American Journal of Public Health, 104*, 389–391.
- Cornacchione, J., & Smith, S. W. (2017). Female offenders' multiple goals for engaging in desired communication with their probation/parole officers. *Communication Quarterly, 65*, 1–19.
- Culbert, G. J. (2011). Understanding the health needs of incarcerated men living with HIV/AIDS: A primary health care approach. *Journal of the American Psychiatric Nurses Association, 17*, 158–170.
- Douglas, N., Plugge, E., & Fitzpatrick, R. (2009). The impact of imprisonment on health: What do women prisoners say? *Journal of Epidemiology and Community Health, 63*, 749–754.
- Dumont, D. M., Brockmann, B., Dickman, S., Alexander, N., & Rich, J. D. (2012). Public health and the epidemic of incarceration. *Annual Review of Public Health, 33*, 325–339.
- Garland, B., Wodahl, E. J., & Mayfield, J. (2011). Prisoner reentry in a small metropolitan community: Obstacles and policy recommendations. *Criminal Justice Policy Review, 22*, 90–110.
- Garland, B. E., & Hass, A. Y. (2015). An outcome evaluation of a Midwestern prisoner reentry initiative. *Criminal Justice Policy Review, 26*, 293–314.
- Guerino, P., Harrison, P. M., & Sabol, W. J. (2011). *Prisoners in 2010* (NCJ 236096). Bureau of Justice Statistics.
- Hammett, T. M., Roberts, C., & Kennedy, S. (2001). Health-related issues in prisoner reentry. *Crime and Delinquency, 47*, 390–409.
- Harner, H. M., & Riley, S. (2013a). Factors contributing to poor physical health in incarcerated women. *Journal of Health Care for the Poor and Underserved, 24*, 788–801.
- Harner, H. M., & Riley, S. (2013b). The impact of incarceration on women's mental health: Responses from women in a maximum-security prison. *Qualitative Health Research, 23*, 26–42.
- Heilbrun, K., DeMatteo, D., Fretz, R., Erickson, J., Yasuhara, K., & Anumba, N. (2008). How "specific" are gender-specific rehabilitation needs? An empirical analysis. *Criminal Justice and Behavior, 35*, 1382–1397.
- James, D. J., & Glaze, L. E. (2006). *Mental health problems of prison and jail inmates* (NCJ 213600). Bureau of Justice Statistics.
- Koski, S. V., & Costanza, S. E. (2015). An examination of narratives from women offenders: Are gender-specific reentry efforts needed? *Qualitative Sociology Review, 11*, 70–89.
- Lamb, H. R., & Weinberger, L. E. (1998). Persons with severe mental illness in jails and prisons: A review. *Psychiatric Services, 49*, 483–492.
- Lattimore, P. K., & Visser, C. A. (2013). *Serious and Violent Offender Reentry Initiative (SVORI) multi-site impact evaluation, 2004-2011 [United States]* (ICPSR27101-v1). Inter-University Consortium for Political and Social Research. <http://doi.org/10.3886/ICPSR27101.v1>
- Lynch, J. P., & Sabol, W. J. (2001). *Prisoner reentry in perspective*. Urban Institute.
- Marsh, J. C., D'Aunno, T. A., & Smith, B. D. (2000). Increasing access and providing social services to improve drug abuse treatment for women with children. *Addiction, 95*, 1237–1247.
- Maruschak, L. M. (2008). *Medical problems of prisoners* (NCJ 221740). Bureau of Justice Statistics. <https://www.bjs.gov/content/pub/pdf/mpp.pdf>
- Maruschak, L. M., Berzofsky, M., & Unangst, J. (2015). *Medical problems of state and federal prisoners and jail inmates, 2011-12* (NCJ 248491). Bureau of Justice Statistics. <https://www.bjs.gov/content/pub/pdf/mpsfpi1112.pdf>
- Massoglia, M. (2008). Incarceration as exposure: The prison, infectious disease, and other stress-related illnesses. *Journal of Health and Social Behavior, 49*, 56–71.
- Mears, D. P., & Cochran, J. C. (2012). U.S. Prisoner reentry health care policy in international perspective: Service gaps and the moral and public health implications. *The Prison Journal, 92*, 175–202.
- Messina, N., & Grella, C. (2006). Childhood trauma and women's health outcomes in a California prison population. *American Journal of Public Health, 96*, 1842–1848.
- Reviere, R., & Young, V. D. (2004). Aging behind bars: Health care for older female inmates. *Journal of Women & Aging, 16*, 55–69.

- Richie, B. E. (2001). Challenges incarcerated women face as they return to their communities: Findings from life history interviews. *Crime & Delinquency*, 47, 368–389.
- Sabol, W. J., & Couture, H. (2008). *Prison inmates at midyear 2007* (NCJ 221944). Bureau of Justice Statistics.
- Tapp, C., Milloy, M. J., Kerr, T., Zhang, R., Guillemi, S., Hogg, R. S., Montaner, J., & Wood, E. (2011). Female gender predicts lower access and adherence to antiretroviral therapy in a setting of free healthcare. *BMC Infection Diseases*, 11. <https://doi.org/10.1186/1471-2334-11-86>
- Williams, N. H. (2007). Prison health and the health of the public: Ties that bind. *Journal of Correctional Health Care*, 13, 80–92.
- Wilper, A. P., Woolhandler, S., Boyd, J. W., Lasser, K. E., McCormick, D., Bor, D. H., & Himmelstein, D. U. (2009). The health and health care of US prisoners: Results of a nationwide survey. *American Journal of Public Health*, 99, 666–672.
- Woods, L. N., Lanza, A. S., Dyson, W., & Gordon, D. M. (2013). The role of prevention in promoting continuity of health care in prisoner reentry initiatives. *American Journal of Public Health*, 103, 830–838.
- Young, D. S. (2000). Women's perceptions of health care in prison. *Health Care for Women International*, 21, 219–234.