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Health Correlates of Criminal Justice Involvement in 4,793 Transgender Veterans

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Abstract

Purpose: Transgender (TG) persons are overrepresented in prison settings and in the U.S. veteran population. Health disparities studies of large populations of transgender people involved with the criminal justice system have not been published to date.

Methods: We studied a large cohort of TG veterans who received care in Veterans Health Administration (VHA) facilities during 2007–2013 ($n = 4,793$) and a 3:1 matched control group of veterans without known TG identification ($n = 13,625$). Three hundred twenty six ($n = 138$ TG, 188 non-TG) had received VHA services in programs designed to address the needs of justice involved (JI) veterans. We linked patients in each of the three groups to their medical and administrative data.

Results: TG veterans were more likely to be justice involved than controls (2.88% vs. 1.38%; $P < .0001$). Compared to non-TG JI veterans, TG JI veterans were more likely to have a history of homelessness (80% vs. 67%; $P < .05$) and to have reported sexual trauma while serving in the military (23% vs. 12%; $P < .01$). Significant health disparities were noted for TG JI veterans for depression, hypertension, obesity, posttraumatic stress disorder, serious mental illness, and suicidal ideation/attempts.

Conclusion: These data suggest that TG veterans experience a number of health risks compared to non-TG veterans, including an increased likelihood of justice involvement. TG veterans involved with the criminal justice system are a particularly vulnerable group and services designed to address the health care needs of this population, both while incarcerated and when in the community, should take these findings into account in the development of health screenings and treatment plans.

Key words: disparity, incarceration, justice, transgender, veteran.

Introduction

Until recently, the literature on veterans involved with the criminal justice system and their health issues was limited by the lack of systematically obtained data on this population while the popular press sought to fill this vacuum with reports about violence perpetrated by combat veterans.[1,2] State-level studies explored connections between limited cohorts of veterans and incarceration,[3] but national studies began to emerge only after the establishment of programs designed to assist justice involved (JI) veterans obtain health care after jail/prison release.[4] With the advent of these Veterans Justice Programs (VJP) for treatment[5] and early intervention that may prevent incarceration[6,7] between 2007–2009, it became possible to identify JI veterans using VHA national databases.[8–10] These programs were developed to address the fact that approximately 10% of those arrested and incarcerated have served in the Armed Forces of the United States, accounting for 703,000 veterans under correctional supervision in 2007;[11] approximately 3% of veterans receiving treatment in VHA facilities had a history of JI in 2011.[5] As noted by the National Research Council, a high percentage of those with JI nationally come from disadvantaged populations, including members of racial and ethnic minorities, people with mental illnesses, homeless persons, or membership in two or more vulnerable groups.[12] Transgender (TG) persons are also overrepresented in prison systems,[13] and in the veteran population, where it is estimated that the prevalence is at least twice as high in veterans as would be predicted based on population estimates.[14] This

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observation is consistent with the theory of ''flight into hypermasculinity,'' where young adults, predominantly of male birth sex, who are experiencing feelings associated with an emerging, ego-dystonic, and TG identity seek to ''purge'' those feelings by choosing environments and/or occupations associated with unambiguous stereotypical masculinity, such as military service.[15,16]

While certain aspects of JI in the veteran population have been defined, such as associations with alcohol and substance use, homelessness, and racial/ethnic minority status, the TG veteran population with JI has not been studied. Substantial health disparities have been previously described for TG veterans compared to non-TG peers utilizing a large cohort ($n = 5{,}135$) of TG veterans who have received VHA health care.[17,18] While only 1% of control group veterans in those studies had a JI history, TG veterans were three times more likely to have been incarcerated or involved in a court diversion program.[18] In addition to substantial health disparities and higher rates of suicidality, TG veterans were also more likely to have reported traumatic sexual experiences while on active duty, to have lower incomes, and higher likelihoods of homelessness than non-TG veterans.[18]

This investigation sought to describe characteristics associated with JI in a sample of veterans with TG identification and to determine whether health disparities exist when compared to non-TG veterans with a JI history.

Methods

In 2007, VHA established the Health Care for Re-entry Veterans program[4,19] to assist incarcerated veterans about to be released in gaining access to VHA and community resources with the intent of reducing recidivism. Veterans Justice Outreach, a second outreach program, works with Veterans Treatment Courts to assist veterans who are in diversion programs.[19] Services provided under these two VJP programs are documented in VHA databases, to include the electronic health record (EHR). Study participants came from a larger study examining health disparities among a cohort of TG veterans and a matched veteran control group. The development of these cohorts is described elsewhere and is summarized below.[17,18] Veterans who accessed VHA care between fiscal years (FY)2007–2013 were eligible ($n = 18{,}418$).

Data sources

Encounter data came from multiple sources: Medical SAS Inpatient (FY1998–2013) and Outpatient datasets (FY2000–2013), and non-VHA care files (FY1996–2013). Demographic information, service characteristics, and enrollment data were supplemented with data from VHA's Corporate Data Warehouse, the Health Eligibility Center Enrollment Files, and the Vital Status Files (VSF). A spreadsheet maintained by the VHA Planning System Support Group (PSSG) was used to classify each patient's residential area as urban or rural. The study was approved by the East Tennessee State University/Mountain Home VA institutional review board and all requirements for the protection of health information were followed.

Study design

Transgender identity was established by one of the following International Classification of Diseases, Ninth Revision, Clinical Modification codes[20] listed during an encounter in the electronic health record: 302.3 (Transvestic Fetishism [TF]), 302.5x (Transsexualism), 302.6 (Gender Identity Disorder Not Otherwise Specified [GID NOS]), or 302.85 (GID in Adolescents or Adults). VHA records conflate ''sex'' and ''gender'' therefore no distinctions can be made between the two. Likewise, gender identity data are not currently collected in the patient enrollment process. Since 2011, veterans have been able to change their designated sex/gender in their records by applying at any VA facility, without the need for any medical or legal documentation. Veterans with clinical stop codes (encounters) for Veterans Justice Outreach or Health Care for Re-entry Veterans services were considered to have a JI history.

Measures

Social determinants of health

Several structural issues known to be associated with health disparities were recorded.[9,21–24] Rural patients lived in a zip code in a rural area as defined by VHA PSSG. Veterans with a history of homelessness were those who had either an ICD-9-CM diagnosis of V60.0 (lack of housing) or clinical stop codes in their EHR that indicated receipt of services designated for homeless patients. While income and education level are not universally collected, some veteran's priority groups are defined by low-income status during a means test and can serve as proxies.

Mental health and medical illnesses

Cohort definitions using ICD-9-CM classifications of various mental health and medical illnesses are maintained by the VHA. Patients were classified as having the condition if the relevant diagnostic code was present in the electronic health record at least once.

Data analysis

Chi-square statistics and t-tests were used to examine differences in TG and non-TG veterans. Odds ratios (OR) were used to examine characteristics associated with JI. Models were adjusted to account for significant differences between TG and non-TG veterans. For JI veterans, ORs were used to determine health outcome differences. The P-value is given for chi-square statistics and t-tests. A 95% confidence interval (CI) is reported for each OR. The point estimate of the OR is significant at $P < .05$ when the confidence interval does not include 1. Variance inflation factors and tolerance diagnostics were conducted to assess potential multicollinearity in regression-based models.[25] Only the direct effects of TG identity are reported from the logistic models. Additionally, the effect of the number of VJP encounters is also reported from the adjusted models. All data were analyzed using SAS Enterprise Guide 5.1 (Cary, NC).

Results

Characteristics of the eligible cohort ($n = 18{,}418$) comparing TG and non-TG veterans are described in Table 1. TG and non-TG veterans were similar in terms of age, gender, race, having other insurance coverage, and period of service. However, TG veterans were significantly less likely to be

TABLE 1. CHARACTERISTICS OF TG AND NON-TG VETERANS ($N = 18,418$)

	Transgender (n = 4793)		*Non-Transgender* (n = 13625)		
	n	%	n	%	X^2
Gender					.69
Female	1484	30.96	4131	30.32	
Male	3309	69.04	9494	69.68	
Race					2.34
Black	361	7.53	1056	7.75	
Hispanic	184	3.84	521	3.82	
White	3865	80.64	11007	80.79	
Other	215	4.49	622	4.57	
Missing	168	3.51	419	3.08	
Marital Status					1138.55***
Married	1071	22.35	6353	46.63	
Previously Married	2178	45.44	3919	28.76	
Single, Never married	1320	27.54	2319	17.02	
Widowed	210	4.38	596	4.37	
Missing	14	0.29	438	3.21	
Rural					143.48***
No	2845	59.36	6718	49.31	
Yes	1948	40.64	6907	50.69	
Religious/Spiritual Affiliation					12.06**
No	1317	27.48	3397	24.93	
Yes	3476	72.52	10228	75.07	
Ever Homeless					1100.81***
No	3291	68.66	12150	89.17	
Yes	1502	31.34	1475	10.83	
Other Insurance					<.01
No	2270	47.36	6446	47.41	
Yes	2523	52.64	7179	52.69	
Priority Group					682.15***
Service-connected disability 50% or more	1471	30.69	3213	23.58	
Catastrophically disabled	357	7.45	351	2.58	
Low-income	1554	32.42	3363	24.68	
Other	1411	29.44	6698	49.16	
Period Served					.28
World War II	59	1.23	161	1.18	
Korean	195	4.07	541	3.97	
Vietnam	3037	63.36	7400	54.31	
Gulf	1082	22.57	3804	27.92	
Multiple	383	7.99	657	4.82	
None/Unknown	37	0.77	1061	7.79	
Combat					12.14**
No	4177	87.15	12128	89.01	
Yes	616	12.85	1497	10.99	
Military Sexual Trauma					411.59***
No	4014	83.75	12741	93.51	
Yes	779	16.25	884	6.49	
Deceased					7.03*
No	4360	90.97	12560	92.18	
Yes	433	9.03	1065	7.82	
Jail Involvement					45.84***
No	4655	97.12	13437	98.62	
Yes	138	2.88	188	1.38	
					t
Age (Mean ± SD)	55.53 ± 13.49		55.33 ± 13.55		−.85

*$P < .01$; **$P < .001$; ***$P < .0001$.
TG, transgender; SD, standard deviation.

married, live in a rural area, or to report a religious or spiritual affiliation. TG veterans were more likely to report ever being homeless, serving in combat, reporting MST, and to be in a priority group corresponding to 50% or more service connected disabled, catastrophically disabled, and low income.

Table 2 describes those characteristics associated with JI among the entire cohort of TG and non-TG veterans. TG veterans were over twice as likely to have JI. Odds were also significantly increased for male gender, homelessness, and reporting MST in TG veterans. Compared to whites, blacks had a substantially increased odds of JI. Previously married and single veterans also had increased odds of JI compared to married Veterans. Odds were also increased for veterans who were 50% or more service connected disabled, catastrophically disabled, and of low income. Vietnam and Gulf War era veterans, and those serving during multiple periods, had substantially increased JI odds compared to veterans with ''unknown'' or other wartime service. Odds were reduced for age, rural geography, having outside insurance and being deceased. Crude models were therefore adjusted for marital status, rural geography, religious/spiritual affiliation, homelessness, priority group, combat service, MST, and deceased. The effects for age, gender, black race, previously married and single, homelessness, outside insurance, low-income and deceased status remained significant at $P < .05$.

We also examined differences in TG and non-TG veterans who had JI histories ($n = 326$; Table 3). TG veterans were less likely to be of male gender or live in a rural area. However, JI TG veterans were more likely than JI non-TG veterans to report homelessness, have outside insurance, and to report MST. VJP encounters did not significantly differ between the groups, indicating that there was no apparent disparity in access to these services in the groups' mean number of encounters. We also examined the conditional indirect effects of TG status on mental and medical health outcomes through VJP encounters. However, TG ($M = 4.10$, $SD = 6.70$) and non-TG veterans ($M = 3.63$, $SD = 6.23$) had similar VJP encounters at the VHA ($t = -0.67$, $P = .51$). As such, there was no evidence of VJP as a mediator. Additionally, there was no evidence of a moderated effect for TG identity and VJP involvement.

Table 4 describes the direct effects of TG identity and VJP encounters on health outcomes. JI TG veterans had significantly increased odds for depression, hypertension, obesity, posttraumatic stress disorder, serious mental illness, and suicidal ideation/attempts. The following direct effects were retained in the models after adjusting for gender, rural geography, ever homeless, other insurance, and reporting MST: hypertension, obesity, and suicidal ideation/attempts.

Discussion

TG veterans are at elevated risk for JI and have substantial disparities in some mental health and medical conditions compared to other veterans with or without JI. As in previous studies of incarcerated persons, homelessness and alcohol use disorders are highly associated with JI in TG veterans.[8,10] Multiple other conditions and adverse social determinants of health are more likely to be present in JI TG veterans.

Table 2. Sample Characteristics of Justice Involved TG and Non-TG Veterans ($N = 18,418$)

Characteristic	*OR* (95% CI)	*AOR*[1] (95% CI)
Age	0.97 (0.96–0.98)	0.97 (0.97–0.98)
Gender		
Female	—	—
Male	2.40 (1.77–3.23)	2.63 (1.90–3.64)
Race		
Black	3.23 (2.43–4.31)	1.85 (1.36–2.51)
Hispanic	1.61 (0.97–2.70)	1.31 (0.77–2.22)
White	—	—
Other	2.49 (1.68–3.70)	2.22 (1.47–3.35)
Missing	0.84 (0.39–1.79)	1.14 (0.52–2.51)
Marital Status		
Married	—	—
Previously Married	4.84 (3.47–6.75)	2.12 (1.49–3.03)
Single, Never married	4.74 (3.32–6.77)	2.07 (1.42–3.02)
Widowed	1.89 (0.92–3.89)	1.25 (0.60–2.61)
Missing	0.75 (0.18–3.09)	1.09 (0.26–4.58)
Rural		
No	—	—
Yes	0.61 (0.48–0.76)	0.92 (0.73–1.18)
Religious/Spiritual Affiliation		
No	—	—
Yes	1.04 (0.81–1.34)	1.03 (0.79–1.34)
Ever Homeless		
No	—	—
Yes	14.69 (11.48–18.79)	10.87 (8.33–14.19)
Other Insurance		
No	—	—
Yes	0.37 (0.30–0.48)	0.55 (0.43–0.70)
Priority Group		
Service-connected disability 50% or more	1.93 (1.41–2.65)	1.25 (0.90–1.74)
Catastrophically disabled	4.91 (3.20–7.51)	1.41 (0.90–2.22)
Low-income	3.07 (2.31–4.08)	1.41 (1.05–1.91)
Other	—	—
Period Served		
World War II	NA	NA
Korean	0.75 (0.14–4.08)	0.56 (0.10–3.22)
Vietnam	5.18 (1.92–13.97)	1.30 (0.45–3.73)
Gulf	5.54 (2.03–15.09)	1.82 (0.63–5.23)
Multiple	7.85 (2.75–22.39)	1.75 (0.58–5.34)
None/Unknown	—	—
Combat		
No	—	—
Yes	1.05 (0.75–1.47)	1.18 (0.83–1.69)
Military Sexual Trauma		
No	—	—
Yes	2.03 (1.51–2.74)	1.09 (0.80–1.49)
Deceased		
No	—	—
Yes	0.32 (0.16–0.62)	0.28 (0.14–0.54)
Transgender		
No	—	—
Yes	2.12 (1.70–2.65)	0.91 (0.72–1.15)

[1]Models adjusted for marital status, rural, religious/spiritual affiliation, homelessness, priority group, combat, military sexual trauma, and deceased.

OR, odds ratio; AOR, adjusted odds ratio; CI, confidence interval; NA, cell size too small to calculate.

TABLE 3. CHARACTERISTICS OF JUSTICE-INVOLVED TG AND JUSTICE-INVOLVED NON-TG VETERANS ($N = 326$)

	Transgender (n = 138)		*Non-Transgender* (n = 188)		
	n	%	n	%	X^2
Gender					10.29**
Female	32	23.19	19	10.11	
Male	106	76.81	169	89.89	
Race					
Black	27	19.57	36	19.15	3.74
Hispanic	8	5.80	8	4.26	
White	83	60.14	128	68.09	
Other	16	11.59	13	6.91	
Missing	4	2.90	3	1.60	
Marital Status					4.29
Married	22	15.94	22	11.70	
Previously Married	76	55.07	95	50.53	
Single, Never married	37	26.81	63	33.51	
Widowed	3	2.17	6	3.19	
Missing	0	0.00	2	1.06	
Rural					5.37*
No	98	71.01	110	58.51	
Yes	40	28.99	78	41.49	
Religious/Spiritual Affiliation					.35
No	32	23.19	49	26.06	
Yes	106	76.81	139	73.94	
Ever Homeless					6.39*
No	28	20.29	62	32.98	
Yes	110	79.71	126	67.02	
Other Insurance					10.03**
No	84	60.87	145	77.13	
Yes	54	39.13	43	22.87	
Priority Group					3.37
Service-connected disability 50% or more	42	30.43	41	21.81	
Catastrophically disabled	12	8.70	19	10.11	
Low-income	56	40.58	81	43.09	
Other	28	20.29	47	25.00	
Period Served					.76
World War II	0	0.00	0	0.00	
Korean	2	1.45	0	0.00	
Vietnam	80	57.97	114	60.64	
Gulf	43	31.16	54	28.71	
Multiple	13	9.42	16	8.51	
None/Unknown	0	0.00	4	2.13	
Combat					.75
No	124	89.86	163	86.70	
Yes	14	10.14	25	13.30	
Military Sexual Trauma					7.57**
No	106	76.81	166	88.30	
Yes	32	23.19	22	11.70	
Deceased					.31
No	135	97.83	182	96.81	
Yes	3	2.17	6	3.19	
					t
Age (Mean ± SD)	49.20 ± 12.27		50.24 ± 11.13		.80
VJP Encounters (Mean ± SD)	4.10 ± 6.70		3.63 ± 6.23		−.67

*$P < .05$; **$P < .01$.
VJP, Veterans Justice Programs.

TABLE 4. EFFECTS OF TG STATUS AND VJP INVOLVEMENT ON MEDICAL AND MENTAL HEALTH PROBLEMS ($N=326$)

	Transgender ($n=138$)		Non-Transgender ($n=188$)		*Unadjusted*	*Adjusted*[1]		
					Group	Group	VJP Encounters	Group X VJP Encounters
	n	%	*n*	%	*OR (95% CI)*	*OR (95% CI)*	*OR (95% CI)*	*OR (95% CI)*
Acute myocardial infarction	1	0.72	5	2.66	0.27 (0.03–2.31)	—	—	—
Alcohol abuse	89	64.49	110	58.51	1.29 (0.82–2.03)	1.59 (0.80–3.14)	1.21 (1.05–1.40)	0.87 (0.74–1.03)
Benign prostatic hyperplasia	15	10.87	15	7.98	1.41 (0.66–2.98)	—	—	—
Breast cancer	1	0.72	2	1.06	0.68 (0.06–7.56)	—	—	—
Cardiac arrest	0	0	0	0	—	—	—	—
Cerebral vascular disease	6	4.35	6	3.19	1.38 (0.30–0.58)	—	—	—
Chronic obstruction pulmonary disease	28	20.29	31	16.49	1.29 (0.73–2.27)	—	—	—
Cirrhosis	4	2.90	5	2.66	1.09 (0.29–4.15)	—	—	—
Congestive heart failure	5	3.62	6	3.19	1.14 (0.34–3.82)	—	—	—
Depression, major	64	46.38	56	29.79	2.04 (1.29–3.22)	1.22 (0.66–2.26)	1.02 (0.97–1.07)	1.08 (0.97–1.19)
Depression, other	114	82.61	112	59.57	3.23 (1.90–5.46)	1.50 (0.65–3.47)	1.10 (1.01–1.21)	1.21 (0.91–1.62)
Diabetes	24	17.39	23	12.23	1.51 (0.81–2.81)	—	—	—
Eating disorders	3	2.17	3	1.60	1.37 (0.27–6.89)	—	—	—
HIV	9	6.52	0	0	—	—	—	—
Hypercholesterolemia	60	43.48	73	38.83	1.21 (0.78–1.89)	1.18 (0.74–2.06)	1.03 (0.98–1.09)	0.97 (0.91–1.05)
Hypertension	75	54.35	74	39.36	1.83 (1.18–2.86)	1.96 (1.11–3.46)	0.99 (0.93–1.03)	0.96 (0.89–1.05)
Ischemic heart disease	21	15.22	20	10.64	1.51 (0.78–2.91)	—	—	—
Obesity	48	34.78	40	21.28	1.97 (1.20–3.24)	2.38 (1.29–4.38)	1.05 (1.00–1.10)	0.97 (0.90–1.04)
Panic disorder	12	8.70	17	9.04	0.96 (0.44–2.08)	—	—	—
Posttraumatic stress disorder	69	50.00	66	35.11	1.85 (1.18–2.89)	1.48 (0.84–2.59)	1.02 (0.97–1.07)	0.99 (0.92–1.07)
Prostate cancer	3	2.17	2	1.06	2.07 (0.34–12.54)	—	—	—
Renal disease, chronic	12	8.70	12	6.38	1.40 (0.61–3.21)	—	—	—
Renal disease, end stage	1	0.72	0	0	—	—	—	—
Serious mental illness	74	53.62	54	28.72	2.87 (1.81–4.54)	1.85 (0.99–3.46)	1.03 (0.98–1.08)	1.09 (0.97–1.21)
Suicidal ideation/attempt	67	48.55	45	23.94	3.00 (1.87–4.81)	2.13 (1.14–4.00)	1.03 (0.98–1.09)	1.03 (0.94–1.14)
Tobacco use	92	66.67	112	59.57	1.36 (0.86–2.15)	1.35 (0.71–2.55)	1.12 (1.01–1.24)	0.96 (0.83–1.10)
Traumatic brain injury	30	21.74	28	14.89	1.59 (0.90–2.81)	—	—	—

[1]Models adjusted for gender, rural, ever homeless, other insurance, and military sexual trauma.
HIV, human immunodeficiency virus.

We determined that JI TG veterans were more likely to have some mental illnesses, and suicidality, than matched control group veterans. Erickson and colleagues used a state level cohort analysis of incarcerated veterans to examine the risk of incarceration after release from VA inpatient units in veterans with mental illness compared to those without.[3] Medical illnesses were not an independent risk factor for incarceration after adjusting for substance use disorders. It has long been known that there is a strong association between substance use disorders and JI.[3,26] Our prior studies of TG veterans that did not focus on JI,[17,18] found a higher likelihood for substance use disorders, and of reporting sexual victimization while on active duty for TG veterans compared to non-TG veterans with similar JI later in life. This finding is similar to that reported by Wallace and colleagues, who concluded that exposure to trauma is associated with incarceration in men.[27] The association between chronic homelessness and JI is well-known,[8] and is replicated in the TG veteran population.

Braithwaite noted numerous health disparities in incarcerated women, relating this finding to the ''quadruple burden'' of class (low SES), race (mostly African-American), gender (female), and status as a criminal.[28] We have previously suggested a similar phenomenon for TG veterans who are members of racial minorities,[17] and there appears to be evidence of a similar effect of membership in multiple vulnerable populations traditionally linked to discrimination in our results. Within the entire study group, black TG veterans were substantially more likely to have JI than black non-TG veterans, suggesting that the combination of membership in two stigmatized groups (racial and gender minorities) is associated with higher likelihoods of JI. We are unable to comment on causality or directionality of this association based on these analyses. We previously reported that black TG veterans were three times more likely to have JI than white TG veterans, and that both groups were more likely to have JI than non-TG matched veterans.[17]

Braithwaite also noted that there were substantial gaps in research and public policy to address health disparities in incarcerated women, and that the criminal justice system ''is a system created by males, for males,''[28] which is analogous to the original design of VA health care facilities, policies, and procedures. Clearly, the criminal justice system is not designed to equitably manage the health and mental health concerns of TG inmates,[29] most of whom are transwomen, and this has been the subject of litigation in Federal District Courts nationally.[13]

Porter found that those convicted of crimes, but who did not serve time were less likely to engage in harmful health behaviors like eating diets rich in fat and calories and smoking cigarettes.[30] The role of health behavior is critical in the understanding of later onset disease. We were unable to ascertain health risk behaviors in our population that predate diagnoses of disease in the electronic health record.

One possible source of health disparities in JI veterans is differential access to, or utilization of, care in spite of having similar access within VHA. While veterans are incarcerated, they are not eligible for VA benefits, including health care and medications, as well as cash payments they would otherwise be receiving. Kulkani examined the question of whether a lifetime history of incarceration is associated with recent access to medical and dental care in Los Angeles County, using the 2007 Los Angeles County Health Survey.[31] This study included persons with incarceration histories and found that they had similar health and insurance status compared to those in the same county without a history of incarceration.[31] However, those with incarceration histories were less likely to access routine medical care or have a consistent source of care. Incarceration history was independently associated with disparities in access to care.[31] Kulkani[31] also suggested that since a history of incarceration is predictive of negative health outcomes later in life, it may be useful to collect such information routinely for the electronic health record. This is not currently a routine practice in most health care systems, including VHA, but we suggest that this change be considered based on these data and our results.

Wakefield cited the role of a criminal record in the United States in producing long term effects of stigma, exclusion from the labor force, and increasing the likelihood of poverty and inequalities that include health disparities.[32] The U.S. prison incarceration rate in 2013 was 716/100,000,[33] substantially lower than our group of TG veterans (2480/100,000 with incarceration or diverted sentences). Non-TG veterans had involvement with the criminal justice system at a similar rate as the general population (1000/100,000 incarcerated or diverted from incarceration).

Our prior work demonstrated that TG veterans compared to non-TG controls had a substantially increased risk of suicidality independent of incarceration status.[14,17,34] Wortzel et al. reported on the state of the literature for incarcerated veterans and suicidality and noted that veteran status alone, and incarceration status, alone, confer higher suicide risks and that the combination of those two factors would likely represent a population with markedly enhanced risk.[35] They noted that the literature was sparse on this topic and that studies of suicide risk in incarcerated veterans were lacking. The findings in our study suggest that JI TG veterans, a subgroup with at least three overlapping demographics associated with higher suicidality, are at elevated risk for suicidality and that prison officials and VA staff working with JI TG veterans should be proactive in addressing this issue.

Limitations of the study

This study has several limitations that should be considered in the interpretation of the results. Case ascertainment for JI is likely to be incomplete, given that veteran status is not systematically reported to VHA from the thousands of county jails and other locales where the legal system interfaces with veterans. Disclosure of veteran status by inmates is voluntary and some veterans may be motivated to nondisclose their status since veteran's benefits are suspended during periods of incarceration. Veterans who are not eligible for care due to military discharges under less than honorable conditions are not eligible for VJP services and might not be identified. However, unlike prior studies of JI veterans that have focused solely on incarceration,[9,10] thereby excluding those who would likely be incarcerated if not for diversion programs that benefit veterans, we sought to be more inclusive of JI veterans by including both categories.

Due to reliance on a diagnosis-based definition of TG status, this study likely underestimates the TG veteran population, focusing only on those TG veterans with a clinical psychiatric diagnosis. Therefore generalizability of findings

may be limited to those with a psychiatric diagnosis, likely a minority of VHA-treated TG veterans.[36,37] Although the analyses conducted in this article derive from the largest cohort of TG patients studied to date in the United States, the number of JI patients was limited to 138 TG and 188 non-TG veterans. Although we were unable to find any studies that assess disparities in a larger group of JI transgender people, a more robust sample size of JI TG patients could possibly yield different results.

Finally, medical health disparities in those conditions for which adequate sample sizes for analysis were available included hypertension and obesity. It should be noted, however that where disparities were previously noted in the TG group irrespective of JI status,[17] the cell sizes in this study of JI veterans were inadequate for analysis (e.g., HIV disease, cardiac arrest, renal disease), therefore it is currently unknown what other medical disparities exist for JI TG veterans compared to JI non-TG veterans.

Conclusion

This is the first study to examine health disparities in TG veterans who have known involvement with the criminal justice system. Using a matched case-control method, it is clear that JI TG veterans suffer from a number of significant health and mental health disparities compared to matched non-TG veterans with similar JI. An understanding of disparities is crucial to the goal of eliminating them in health care systems. It is possible that there are persistent effects of incarceration on later health outcomes in the TG population, given the differential health disparities noted compared to non-TG matched controls and the previously described earlier age at death from at least one condition (i.e., suicide[34]).

The findings in this study suggest that those involved with medical care or outreach efforts for TG veterans involved with the criminal justice system need to be aware of the potential for substantial health disparities and the need to address multiple medical and psychiatric disorders in any care/aftercare plan.

Additional research should seek to understand the effects of having multiple memberships in vulnerable populations at increased risk for negative health outcomes. One such approach focuses on the additive relationship of various co-occurring psychological (e.g., depression, suicidality), social (e.g., stigma), and structural (e.g., homelessness, incarceration) conditions on health outcomes. Consistent with recent research in this area,[38,39] we propose a syndemic framework in future analyses to better understand TG-related disparities. Promising results could lead to improvements that could reduce the effects of these conditions for TG-veterans and other vulnerable populations.

Disclaimer

The views expressed in this article are those of the authors and do not necessarily represent those of the United States Government, the Department of Veterans Affairs, the Office of Health Equity, or East Tennessee State University.

Author Disclosure Statement

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