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Evaluation of healthcare for transgender veterans

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ABSTRACT

Purpose: To identify the cohort of veterans diagnosed with gender dysphoria obtaining care through VA Northern California Healthcare System (VANCHCS), and evaluate their care.

Methods: Using ICD-10 criteria, we identified veterans with a diagnosis of gender dysphoria. We stratified these individuals by self-identified gender, and evaluated their medical records for gender affirming-hormone therapy and access to behavioral health, endocrine, speech pathology, and dermatology resources.

Results: Of the 148 Veterans found, 95 identified as transwomen, 43 as transmen, and 10 as non-binary. Non-binary Veterans were excluded from further analysis. Transmen were significantly younger than transwomen (42±13.7 vs 51.5±15.9 yrs., p< 0.001 by t-test). Transwomen were more likely to be Air Force Veterans than transmen (21.1% vs 17.1%), and less likely to be Army Veterans (38.9% vs 43.9%), but were more likely to see a Endocrinologist (83.2% vs 72.1%) and Speech Therapist (44.2% vs. 25.6%). Gender affirming hormone therapy for transwomen included combinations of gonadotropin-releasing hormone analogs, spironolactone, finasteride, estradiol, and progesterone, whereas for transmen, testosterone was the sole therapy. The majority of our Veterans (65 transwomen (68.4%) and 38 transmen (88.4%) had not undergone gender-affirming surgery. Only 59 transwomen (62%) had measurements of prostate-specific antigen (PSA). Both groups were followed comparably in Behavioral Health Clinics (87.4% for transwomen, 90.7% for transmen). Only 35 transwomen (36.8%) were seen in Dermatology clinics for gender specific needs.

Conclusion: Our patients and their management were diverse. We conclude that care for transgender Veterans could be enhanced by a more consistent, team-based approach to therapy.

Introduction

Over the last decade there have been a handful of studies investigating care for lesbian, gay, bisexual, and transgender (LGBT) Veterans through the Veterans Health Administration (VHA). A study by Kauth et al. (2014) specifically identified a 40% increase in transgender Veterans receiving care within two years following the VHA directive in 2011 for transgender Veterans. The study found an increase in both incidence and prevalence of transgender Veterans identified in VHA records. Blosnich, et al. further investigated the prevalence of persons with the ICD-9 diagnosis of gender identify disorder (GID), currently referred to as gender dysphoria (GD) in the ICD-10) (Blosnich et al., 2013). Results of an electronic medical record (EMR) analysis from 2000-2011 noted prevalence of persons with gender dysphoria was higher in the VHA (22.9/100,000 persons) as compared to persons with GID in the general US population (4.3/100,000 persons).2 Similarly, the 2015 United States Transgender Survey documented that 18% of the respondents have served in the military (including Veterans and active duty), and 15% of respondents were Veterans, compared with 8% in the general U.S. population (National Center for Transgender Equality).

In 2011 the VHA issued a directive (VHA Directive 1341) which mandated medically necessary care for transgender Veterans. Revised in 2018, this document confirms "…policy regarding the respectful

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delivery of health care to transgender and intersex Veterans who are enrolled in the Department of Veterans Affairs (VA) health care system…" and addresses cross-sex hormone therapy (CSHT (now referred to as gender-affirming hormone therapy)), behavioral health care, preoperative evaluation, and post-operative care following gender confirmation/affirmation surgery (GCS), among other issues, including respect for the Veteran's self-identified gender identity and preferred name, gender-consistent pronouns, and preferred-gender-appropriate clinical health screens (VHA Directive 1341, 2018).

Since the VHA directive, there have been efforts made to increase competency for VHA medical providers treating LGBT Veterans and overall access to services. A study by Donaldson, et al. piloted an online tool for healthcare providers treating LGBT Veterans (Donaldson et al., 2019). Lehavot and coworkers investigated transgender veteran satisfaction with medical and behavioral health care through the VHA (Lehavot et al., 2017). The study found that many transgender Veterans were satisfied with their care, however, subpopulations with additional behavioral health diagnoses such as depression and/or posttraumatic stress disorder (PTSD) reported barriers to accessing care. Goldbach and colleagues, reflected on the continued gaps in providers' understanding of health care needs for LGBT service members and Veterans (Goldbach and Castro, 2016).

There is some information on the value of interdisciplinary care for gender-dysphoric Veterans. A few studies have looked at the relationship between transgender Veterans and behavioral health diagnoses including suicide ideation and/or intent. A study by Tucker, et al. highlighted research suggesting the prevalence of suicide ideation and/or attempts is significantly higher for transgender Veterans as compared to cisgender Veterans (Tucker et al., 2019). In addition, Tucker and colleagues found a potential protective effect for symptoms of depression and SI for transgender Veterans with access to transition-related medical interventions (TRMIs) (Tucker et al., 2018).

We evaluated the status of healthcare provided to transgender Veterans in a large Veterans Affairs (VA) health care system, comprising urban and rural populations, in Northern California. As of May 31, 2018, 86,327 Veterans were enrolled in our system (Personal communication, S. Brass, October 3, 2018). We wished to assess how many of these Veterans were receiving multidisciplinary care in keeping with current guidelines, such as those promoted by the World Professional Association for Transgender Health (WPATH (The World Professional Association for Transgender Health)) and the Endocrine Society (Hembree et al., 2017). In general, these guidelines call for coordinated care from behavioral health, speech therapy, dermatology, and endocrinology, as well as other specialties, as warranted. Specifically, we wished to identify Veterans at VANCHCS who identify as transgender, evaluate which resources are being used by these Veterans, and evaluate if resource utilization is consistent for these Veterans, regardless of who is providing care. In addition, since there have been reports linking "hypermasculine" behavior of gender-dysphoric men (Brown, 1988), we reviewed the medical records of our identified Veterans for branch of military service (Army, Navy, Air Force, Marine Corps, Coast Guard) as a crude index of "masculinity." We also reviewed data for current active duty military to document relative troop strength in the different branches of the military (Military of the United States, 2019), in order to compare our patient distribution with the current active duty service distribution.

Methods

Identification of trans veterans

We surveyed the VANCHCS database for all Veterans seen in the 5 years prior to August 2018. With the exception of Dermatology services, VANCHCS consistently offered gender affirming specialty services (to include Behavioral Health, Speech Pathology and Endocrinology) during the study period. We used a variety of diagnostic categories: ICD-10: F64.xx—gender identity, ICD-9: 302.6 and 302.85 (gender identity in children, adolescents and adults, respectively) and SNOMED (Systematized Nomenclature of Medicine): Gender identity listings.

Data analysis

Medical records in the Veterans identified as above were surveyed manually for self-identified gender identity, age, branch of military, previous gender-confirming surgery subtypes (if any). The same reviewer also surveyed the records for clinical services used: Behavioral health services, Speech Pathology, Dermatology, Endocrinology, use of gender-affirming hormone therapy, gender-confirming surgery and subtypes (e.g., breast reduction or augmentation, orchiectomy, etc.), and healthcare maintenance (such as prostate health monitoring in transwomen, use of mammography, etc.). Gender-affirming hormone measurements were performed in the VANCHCS clinical laboratory, using standard methods. If there were multiple measurements, those values closest to the end of our survey period were counted. Both non-VA care and care at other VA facilities were "counted." For example, if a Veteran enrolled in VANCHS received care at another VA or civilian facility, that was considered.

The transgender survey provided historical data on service in different branches of the military (National Center for Transgender Equality), while on-line resources provided current estimates of active duty service (Military of the United States, 2019).

Statistical analysis was conducted using SAS® software version 9.4 for Windows® (SAS Institute Inc., Cary, NC) and consisted of the Satterthwaite t-test and Fisher's Exact Test.

The study, as a data retrieval project, was considered a quality improvement project and was exempted from further human studies requirements, such as obtaining informed consent from the subjects.

Results

Trans Veterans (N = 148) were identified in our health care system. Their data is shown in Table 1. They are classified by self-identified gender as previously described. The majority were transwomen (n=95). Transmen (n=43) were significantly younger. Ten identified as nonbinary or declined to state; this group was not further analyzed since the numbers were so few.

In addition, this Table outlines our Veterans' access to multiple services. It should be recalled that access to some clinical services (GCS, some Dermatology) is limited by VA policy. As transwomen were more likely to see Endocrine providers than transmen (NS), this may reflect the more complex hormone regimens often required to yield congruence with physical and hormonal changes and gender. In addition, transwomen were more likely to see Speech Therapy for gender affirming voice therapy than transmen ($p<0.05$). Finally, patients seeing Endocrine were more likely to see Dermatology than others ($p<0.01$) and patients seeing Endocrine were more likely to see Speech than those who did not ($p<0.001$).

Table 2 reviews service by military branch of our Veterans and compares our population to those who responded to the U.S. Transgender Survey as well as current estimates of active duty personnel. Transwomen were more likely to be Air Force Veterans than transmen, but less likely to be Army Veterans, but these differences were slight, and not statistically significant. Service in other branches was not significantly different for transmen or transwomen. Comparison to survey respondents and current active duty personnel was not evaluated from a statistical perspective but rather shown for illustrative purposes only.

The age distribution of our transwomen and transmen is shown in the Fig. 1. Transmen were younger, $p<0.001$ (Satterthwaite correction). In addition, the results were not normally distributed, particularly for the transwomen, suggesting that both groups had a significant number of younger Veterans.

Twenty-eight of the transmen (n=43) were identified as being on testosterone replacement (65.1%). Of these, 25 (89.3%), had testos-

Table 1
Characteristics of Trans Veterans.

Parameter	Non-binary	T-women (MTF)	Transmen (FTM)	P*
Number	10	95	43	
Age (years ± SD)	52.4 ± 16.7	51.4 ± 15.9	42 ± 13.7	<0.001[$]
Branch of military (A-N-AF-MC-CG) (%)	40-0-50-10-0	38.9-25.3-21.1-8.4-6.3	43.9-24.3-17.1-9.8-4.9	0.95
MHC	8	89 (93.7%)	41 (95.3%)	0.78
Speech	1	42 (44.2%)	11 (25.6%)	0.04
Dermatology	2	35 (36.8%)	1 (2.3%)	<0.001
Endo	6	79 (83.2%)	31 (72.1%)	0.1
CSHT	7	87 (91.6%)	35 (81.4%)	0.09
Top surgery	2	21 (22.1%)	14 (32.6%)	0.29
Bottom surgery	1 hystx (10%)	6 orchx, 24 bottom (31.6)	2 hystx, 3 bottom (11.6%)	0.011
PSA	5 (7 birth male)	59 (62.1%)	13 (30.2%)	
Mammo	2	33 (34.7%)	7 (16.3%)	

* Statistical tests are only for differences between MTF and FTM. Non-binary data are shown for informational purposes only; P<0.05 considered significant.
[$] Satterthwaite t test, all other p-values obtained from Fisher's exact test.

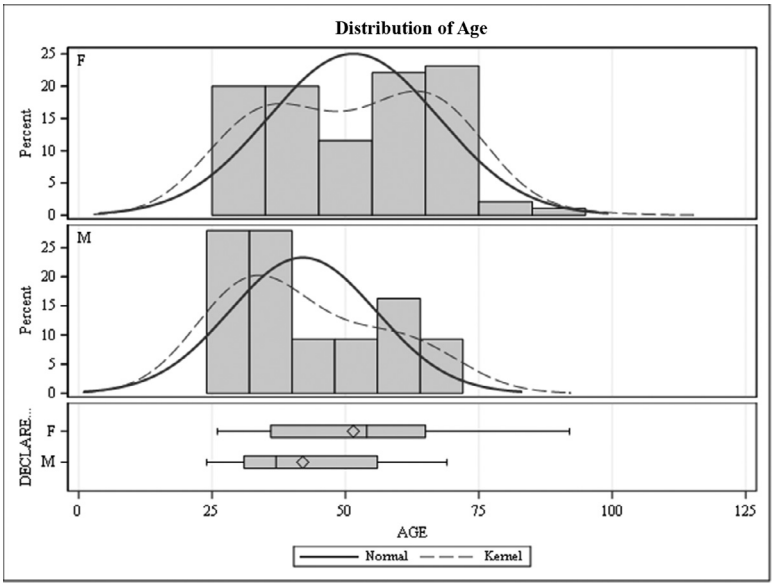

Fig. 1. Age distribution for transwomen (F) and transmen (M). The actual age distribution for both groups is shown as well as the potential normal distribution that was not observed.

Table 2
Branch of Military Service by Declared Gender (%).

Group	Army	Navy	USAF	USMC	USCG
Trans women	47.8	20.9	21.9	8.8	6.6
Trans men	43.9	24.4	17.1	9.8	4.9
USTS* (exc. Reserve)	28	22	18	7	1
Active duty (2018)**	35	24.2	23.9	13.6	3.1

*USTS=United States Transgender Survey (ref. 3).
**Wikipedia (ref. 13).

terone measured: Mean ± SD: 448.4 ± 294.6 ng/dL. Of the transwomen (n=95), 74 (77.9%) were on gender affirming therapy: 25 were on estradiol monotherapy (26.3%), 17 on finasteride-leuprolide-estradiol-spironolactone (17.9%), 13 on finasteride-estradiol-spironolactone (13.7%), 9 on estradiol-spironolactone (9.5%), 4 on finasteride-estradiol (4.2%), 2 on leuprolide-estradiol-spironolactone (2.1%), and 1 each on leuprolide, estradiol-spironolactone-progesterone, finasteride-spironolactone, and finasteride-estradiol-leuprolide-spironolactone-progesterone (1.1% each). Of the patients on estradiol monotherapy, all but four had undergone orchiectomy or full gender-confirming surgery. Estradiol measurements were available in 67 of the transwomen (90.5%): Mean ± SD: 159.7±236.7 pg/mL.

Discussion

Trans Veterans represent a small but not insignificant population of patients. Transmen tend to be younger and there are subpopulations within transmen and transwomen. Among both transmen and transwomen, there was a substantial fraction of younger Veterans. These Veterans may be more articulate about their identity and needs than older individuals.

One limitation of our study is that only specific ICD-10 codes were used in our search, which does not identify the entire population of veterans who identify as transgender or gender non-binary. In addition, we acknowledge that some providers do not use ICD-10 codes for gender dysphoria; they may use codes such as E34.9 (Endocrine disorder, unspecified) or other endocrine or behavioral health diagnoses. There is also uncertainty on the validity of diagnostic coding in electronic health records (Blosnich et al., 2018; Horsky et al., 2017). Furthermore, we acknowledge there are individuals who identify as transgender and do not present with dysphoria and these individuals would not be identified within the constraints of this search. With this knowledge, our data is likely under-reported.

Despite these limitations, we did identify some general patterns in our data collection related to age, branch of service, and distribution of services provided to trans Veterans. While we found transwomen were slightly more likely to be Air Force Veterans than transmen, and less

likely to be Army Veterans, we could neither confirm nor refute earlier suggestions that trans members of the military seek a hyper-masculine environment (Brown, 1988). In addition, while the trans population serves in the military in numbers proportionally greater than the population at large, harassment remains a common problem (Beckman et al., 2018).

Although the majority of transgender veterans from our search were seen by behavioral health services, it is suggested that additional focus on identifying providers with specialized knowledge of gender issues is warranted. Current VA guidelines encourage referral to behavioral health services, but are not retroactive, so many trans Veterans may be receiving other services without behavioral health. Some may also be receiving behavioral health services in other systems, or have already received these services and no longer participate. While military service appears to attenuate the suicide risk and isolation of the Trans population (Beckman et al., 2018), the repeal of "Don't Ask, Don't Tell" in 2011, which addressed discrimination based on sexual orientation, did not end prohibition on transgender military service, and many trans Veterans experience barriers in identity documents, health care, employment, family acceptance, and homelessness (Hoy-Ellis et al., 2017; Harrison-Quintana and Herman, 2013). We should be proactively encouraging our Veterans to seek behavioral health services.

Similarly, we are perplexed by transmen getting PSA measured, and suspect provider ignorance and inattention monitoring a Veteran receiving testosterone.

Our search revealed that majority of the veterans identified received Endocrinology services. Additionally, veterans who saw Endocrinology were more likely to be referred to additional disciplines such as Dermatology and Speech Pathology. There were some limitations noted with Dermatology services restrictions by mandate and by a limited pool of providers able or willing to perform the limited (i.e., laser treatment of genital skin for those undergoing GCS) which likely further limited services sought and obtained. Investigation regarding treatment outcomes and patient satisfaction with individual services was not evaluated for the data of this study but warrants further investigation.

While most of our patients were seen by endocrine providers, there was a wide spectrum of gender-affirming hormone therapy, particularly for transwomen, comprising spironolactone, finasteride, estradiol (topical, sublingual and/or intramuscular), progesterone, and/or gonadotropin-releasing hormone analogues in various combinations, some administered within the VA system and some without. Some Veterans entered the system already being treated and so it is impossible to ascertain start dates. There are other issues regarding long-term health consequences of gender-affirming hormone therapy: Brown and Jones (Brown and Jones, 2015) have pointed out that the risk of breast cancer is comparable across trans populations. We still need to provide care appropriate for birth gender since the possible mitigating effects of gender-affirming hormone therapy is unknown. Gender-affirming hormone therapy does not seem to be associated with increased surgical risk (Boskey et al., 2018). Our data on gender-affirming hormone therapy shows a wide range of values. Current VA guidelines recommend a total testosterone goal of 320-1000 ng/dL (measured half way between injections or at least one week after starting topical testosterone), and estradiol of 200 pg/mL. Our measures suggest incomplete adherence to these guidelines both in terms of attention to monitoring and/or adjustment of doses. Our analysis is limited since we did not monitor dose adjustments after the study period, and some of our Veterans are getting treated outside of our system and those results are not available. Nonetheless, these data suggest an opportunity to improve care by optimizing gender-affirming hormone therapy for these Veterans.

Although we were able to identify some transgender veterans who obtain care through VA NCHCS, we identify the need to improve integration of care between disciplines and long-term follow-up (Lutwak et al., 2014, Kauth et al., 2019). Curricula have been developed to address these issues (Shipherd et al., 2016). Current efforts in the VA system comprise several different lines: e-Consults are being used to help guide primary care providers (Shipherd et al., 2016) (but this requires initiative on the part of the providers). Some stations have developed guidelines for providers' use (Hashemi et al., 2018). VA health care systems generally comprise both rural and urban facilities (Bukowski et al., 2017); our data did not allow us to assess if there were differences between these settings. Other limitations in care (e.g., some dermatologic procedures, gender-affirming surgery) reflect national VA policy that hopefully will be addressed in the future.

In summary, we identify the importance of interdisciplinary care for treating individuals who identify as transgender or gender non-binary. This model of care not only involves identifying providers with specialized training to meet the needs of this population but also requires a systematic approach for Veterans to have knowledge of services available. The goal of this paper was to evaluate the services provided to this population to identify areas for continued improvement. Further investigation into ways to identify transgender Veterans who may benefit from services, patient satisfaction measures, and outcome data from services provided is recommended.

Author Statement

The authors report no commercial associations that might create a conflict of interest, actual or potential.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Peer Review Summary

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