

Identifying the Transgender Population in the Medicare Program

Kimberly Proctor,^{1,2,†} Samuel C. Haffer,^{1,†,*} Erin Ewald,³ Carla Hodge,¹ and Cara V. James¹

Abstract

Purpose: To identify and describe the transgender population in the Medicare program using administrative data.

Methods: Using a combination of International Classification of Diseases ninth edition (ICD-9) codes relating to transsexualism and gender identity disorder, we analyzed 100% of the 2013 Centers for Medicare & Medicaid Services (CMS) Medicare Fee-For-Service (FFS) “final action” claims from both institutional and noninstitutional providers (~1 billion claims) to identify individuals who may be transgender Medicare beneficiaries. To confirm, we developed and applied a multistage validation process.

Results: Four thousand ninety-eight transgender beneficiaries were identified, of which ~90% had confirmatory diagnoses, billing codes, or evidence of a hormone prescription. In general, the racial, ethnic, and geographic distribution of the Medicare transgender population tends to reflect the broader Medicare population. However, age, original entitlement status, and disease burden of the transgender population appear substantially different.

Conclusions: Using a variety of claims information, ranging from claims history to additional diagnoses, billing modifiers, and hormone prescriptions, we demonstrate that administrative data provide a valuable resource for identifying a lower bound of the Medicare transgender population. In addition, we provide a baseline description of the diversity and disease burden of the population and a framework for future research.

Keywords: administrative data; disease burden; intersectionality; Medicare; transgender

Introduction

Despite increased awareness and greater societal acceptance of people who are transgender, the inability to systematically identify and study the transgender population greatly hampers our capacity to conduct meaningful analysis of this group. Minimal representative national data exist,¹ studies attempting to estimate the size and health needs of the transgender population have generally relied on nonprobability survey samples,² and analyses utilizing more robust research designs have largely focused on single states.³ Furthermore, population-based studies of transgender individuals entitled to Medicare due to age (65 and older),

disability, or end-stage renal disease are nonexistent, demonstrating the need for more and better research focused on sexual and gender minorities, including the transgender population. Toward this end, recent research conducted at the Department of Veterans Affairs suggests the potential utility of using health-care administrative data to identify persons who are transgender.⁴ Expanding on this work, we explore the use of Medicare billing data from the Centers for Medicare & Medicaid Services (CMS), the federal agency that administers the Medicare and Medicaid programs, to identify and describe Medicare’s transgender population.

¹Office of Minority Health, U.S. Centers for Medicare & Medicaid Services, Baltimore, Maryland.

²Center for Medicaid and CHIP Services, U.S. Centers for Medicare & Medicaid Services, Baltimore, Maryland.

³NORC at the University of Chicago, Chicago, Illinois and Bethesda, Maryland.

[†]Cofirst authors.

*Address correspondence to: Samuel C. Haffer, PhD, Office of Minority Health, U.S. Centers for Medicare & Medicaid Services, 7500 Security Boulevard [MS: S2-12-17], Baltimore, MD 21244-1850, E-mail: chris.haffer@cms.hhs.gov



The transgender population includes individuals whose gender identity, gender expression, or gender behavior does not typically conform to the sex they were assigned at birth.⁵ This community experiences a particularly high disease burden, including significantly higher rates of substance abuse,^{6–8} HIV/AIDS,^{9–11} and mental illness.^{10,12,13} Discrimination in the healthcare setting only exacerbates these adverse health outcomes. Twenty-eight percent of transgender persons report postponing medical care when sick due to discrimination, 19% report that doctors have refused to provide them care because of their transgender status, 28% report facing harassment in the medical setting, 2% report facing violence in a doctor's office, and >50% report that they had to teach their doctor about transgender healthcare.² Taken together, transgender persons experience suboptimal health outcomes across a variety of areas while systematically lacking access to the institutions that have the ability to address these medical needs.

Even when transgender persons are able to receive care, insurers routinely deny treatment related to medical transitions. Transitioning is the process of living as the gender with which a transgender person identifies, rather than the gender assigned to them at birth.² Medical transitions include any type of transgender-related surgery, such as sex-reassignment surgery or cosmetic procedures, and hormone therapy, such as taking prescriptions for cross-sex hormones. Medical transitions are particularly relevant for the Medicare program, which covers certain aspects of these medical treatments and includes this information in Medicare claims data.

Until 2015, providers treating patients enrolled in Medicare used the International Classification of Diseases ninth edition (ICD-9) to indicate a patient's specific medical diagnoses when submitting medical claims to CMS. ICD-9 contains multiple diagnosis codes that are transgender specific, including the following codes¹⁴: 302.50 (Transsexualism with unspecified sexual history), 302.51 (Transsexualism with asexual history), 302.52 (Transsexualism with homosexual history), 302.53 (Transsexualism with heterosexual history), 302.6 (Gender Identity Disorder [GID] in children), and 302.85 (GID in adolescents or adults).

CMS also advises providers to utilize two billing modifiers that apply to the transgender population, including the condition code 45 modifier and the KX modifier. Medicare billing modifiers are two-digit codes appended to procedure codes or Healthcare Common Procedure

Coding System (HCPCS) codes that provide additional information about the billed procedures.^{15,16} Providers use billing modifiers to avoid rejection of claims with a gender/procedure conflict. For example, the CMS system will reject a claim where a physician provided a female pelvic examination for a male beneficiary, as female pelvic examinations are considered sex specific (i.e., only for females). Because transgender beneficiaries may have changed their sex on record, they are at a high risk for experiencing gender/procedure conflicts. In this instance, a transman (female to male transition) may have his claim for a medically necessary pelvic examination rejected inappropriately. Therefore, condition code 45 and the KX modifier are used to process claims with gender-specific editing that CMS would normally reject due to gender/procedure mismatches. A list of the gender-specific procedure codes related to condition code 45 and the KX modifier is included in Appendix Table 1.

Similar to diagnosis codes and billing modifiers, CMS also maintains a record of each Medicare beneficiary's prescriptions. The Medicare Part D prescription drug plan covers medically necessary hormones for transgender persons, such as cross-sex hormones. Records of these prescriptions are available in CMS's administrative files and include the generic and brand names of prescription drugs, as well as details about the prescription. A list of hormone therapy-related prescription drugs is included in Appendix Table 2.

As a result, it may be possible to identify transgender Medicare beneficiaries using one or a combination of these diagnosis codes, billing modifiers, and prescription drug events.

Methods

Utilizing the CMS Chronic Conditions Data Warehouse (CCW), which contains CMS data on Medicare and Medicaid beneficiaries and their claims, we analyzed 100% of the CMS Fee-For-Service (FFS) final action claims from both institutional and noninstitutional providers for calendar year 2013. These claims included inpatient and outpatient hospital claims, carrier claims (e.g., physicians, physician assistants, nurse practitioners), and claims from skilled nursing facilities, home health agencies, hospice care, and those relating to durable medical equipment. In total, this covered ~1 billion claims.

In the first component of the analysis, we searched each claim for any occurrence in any position of diagnosis codes 302.50, 302.51, 302.52, 302.53, 302.6, or



302.85. Once we identified the universe of claims meeting our criteria, we used the unique Medicare beneficiary identifier present on each claim to identify unique observations. Following this identification process, we used the unique beneficiary identifier to link to the Medicare Enrollment and Medicare Part D Data in the CCW.

Because administrative records contain a degree of error and the billing modifiers are not unique to the transgender community, the data potentially contain a high probability of producing false positives, in which nontransgender beneficiaries are identified as transgender. To address this concern, we developed a supplementary method for validating the initial classification. The first validation step analyzes the repeated application of ICD-9 codes 302.50, 302.51, 302.52, 302.53, 302.6, and/or 302.85, with persons receiving more than one diagnosis in 2013 having a validated classification. The second and third validation steps analyze the relevant ICD-9 codes over time. If the beneficiary had one or more of these diagnoses in the preceding year (2012) or subsequent year (2014), indicating an ongoing trend of receiving the diagnosis, the classification was validated. The fourth validation step incorporated data on ICD-9 code 259.9 (Unspecified Endocrine Disorder), which is frequently used by the transgender community to combat the perceived stigma of a GID diagnosis. If a beneficiary received at least one diagnosis from the transgender-specific ICD-9 codes and also received a diagnosis of 259.9, the classification was validated. The fifth validation step incorporated prescriptions for sex hormones, with persons receiving a transgender-specific diagnosis code and a prescription for a sex hormone representing a validated classification. The sixth validation step examined the principal diagnosis code and, if the principal diagnosis code was from a transgender-specific ICD-9 code, that observation was validated. Finally, the seventh and eighth validation steps incorporated the billing claims modifiers to validate classifications. If a beneficiary received a relevant ICD-9 code and had at least one claim containing the condition code 45 modifier or the KX modifier, the classification was validated.

Given the limitations of using ICD-9 259.9, sex hormones, and claim modifiers to identify transgender Medicare beneficiaries, these aspects of medically transitioning were only included as validation steps, rather than unique identifiers. Although this conservative approach restricts the size of the cohort, it is the only mechanism for guaranteeing that nontransgender per-

sons are not misclassified as transgender. To demonstrate, there were over 5000 Medicare beneficiaries in 2013 with a claim containing the KX modifier or condition code 45 and a gender/procedure conflict, with only 3.90% of these beneficiaries receiving a transgender-specific ICD-9 diagnosis code. Given our limited ability to determine if the remaining 96.10% of these beneficiaries are transgender or not, we recommend that researchers avoid utilizing these modifiers alone and incorporate additional data, such as ICD-9 codes, to classify beneficiaries as transgender.

Results

Enumerating Medicare's transgender population

Using this methodology, we identified 4098 persons as transgender Medicare beneficiaries. Table 1 demonstrates these findings along with results from the validation logic. This classification method was highly accurate, with 89.26%, or 3658 persons, having enough information in their claims history to validate their classification as transgender. This demonstrates that researchers interested in studying Medicare's transgender population can identify a meaningfully large and accurate population using ICD-9 codes in conjunction with supplementary claims data. This does not imply that the 10.74% of observations not validated are incorrectly classified or that this method identifies all transgender persons enrolled in Medicare, rather, it provides a conservative estimate (lower bound) of Medicare's transgender population and details a methodology for identifying and validating this population using administrative data. Consequently, these tools provide a replicable foundation for researchers interested in analyzing health outcomes in the transgender community.

Table 1 also demonstrates the validation results in greater detail. For individuals identified using only ICD-9 codes, the majority of beneficiaries (66.03%) had more than one claim with a transgender-specific ICD-9 code within the calendar year. Other validation methods, such as using claims from bordering calendar years and hormone prescriptions, had very similar results. Approximately, forty percent of the beneficiaries identified by transgender-specific ICD-9 codes had similar claims in 2012, 2014, filled a prescription for a sex hormone in 2013, or received a transgender-specific principal diagnosis code. A considerably smaller number of transgender beneficiaries had claims with ICD-9 code 259.9 or billing modifiers, although these validation methods did validate >700 observations. In total, the results indicate that our validation methodology



Table 1. Identification and Validation Logic

<i>Transgender Medicare Beneficiaries</i>			
	No. identified	No. validated	% validated
ICD-9 diagnosis codes 302.50, 302.51, 302.52, 302.53, 302.6, 302.85 ^a	4098	3658	89.26
Validation method			
ICD-9 302 series diagnosis code and 1 or more of the following:			
		No. validated	% validated
More than 1 claim with an ICD-9 302 series diagnosis code in 2013		2706	66.03
1 or more claims with an ICD-9 302 series diagnosis code in 2012		1577	38.48
1 or more claims with an ICD-9 302 series diagnosis code in 2014		1937	47.26
1 or more claims with an ICD-9 259.9 diagnosis code in 2013		568	13.86
1 or more prescriptions for a sex hormone in 2013		2005	48.89
Principal diagnosis code is from ICD-9 302 series		1736	42.36
1 or more CC 45 modifier		167	4.08
1 or more KX modifier		26	0.6

Each validation step is calculated independently from all other validation steps, and “% validated” is calculated from the total number of transgender beneficiaries identified (N=4098).

^aReferred to as the 302 series for the purposes of this table.
 ICD-9, International Classification of Diseases ninth edition.

supplements the initial classifications by incorporating additional detail and analyzing the validity of using administrative data to identify the transgender population.

Demographic variability in Medicare’s transgender population

Using this foundation to identify transgender Medicare beneficiaries, analyzing their demographic characteristics also helps describe this population. Results demonstrate that Medicare’s transgender population is racially and ethnically diverse, spans the entire United States, and experiences many chronic conditions. Analyses reported here utilize the entire cohort of 4098 individuals identified as transgender (3658 identified and validated through administrative data and 440 identified but not validated through administrative data). We conducted separate analyses (not shown), which excluded the 440 individuals for whom we have no additional claims-based validation information. However, there were no systematic or substantive differences in the results. Therefore, we report results on the entire cohort.

Beginning with race, the data demonstrate that the transgender Medicare population contains members from all racial and ethnic groups.[‡] This population is racially and ethnically diverse, with substantial representation among Whites, Blacks/African Americans, and Hispanics. Figure 1 displays the distribution of racial

and ethnic identity within the transgender population. In this population of transgender persons, Whites comprise 73.99% of the total population, Blacks/African Americans comprise the next largest group, representing 15.37% of the transgender Medicare population, and Hispanics, Asians/Pacific Islanders (APIs), American Indians/Alaska Natives (AIANs), Unknowns, and Others comprise relatively smaller proportions of the transgender Medicare population. This analysis of the racial and ethnic diversity of the transgender population is significant, as >85% of studies that examine sexual and gender minorities fail to report data on race.²⁰ This lack of data on the racial and ethnic diversity of transgender persons inhibits our ability to understand the intersectionality of gender identity and racial/ethnic identity, which is expected to have important effects on health outcomes. Because research has consistently identified the prevalence of minority health disparities,^{21–26} these disparities may disproportionately affect the diverse transgender community. Therefore, understanding how race and ethnicity interact with transgender identity is an important component of studying transgender health and this analysis provides the foundation for future research on this topic.

The transgender population enrolled in the Medicare program displays a high level of geographic diversity. Figure 2 demonstrates that transgender Medicare beneficiaries reside in every state, with many states containing large populations. California contains the largest number of transgender Medicare beneficiaries,

[‡]Due to the high degree of error in Centers for Medicare & Medicaid Services (CMS’s) race/ethnicity data this analysis uses CMS’s RTI race code to identify a beneficiary’s race.^{17–19}



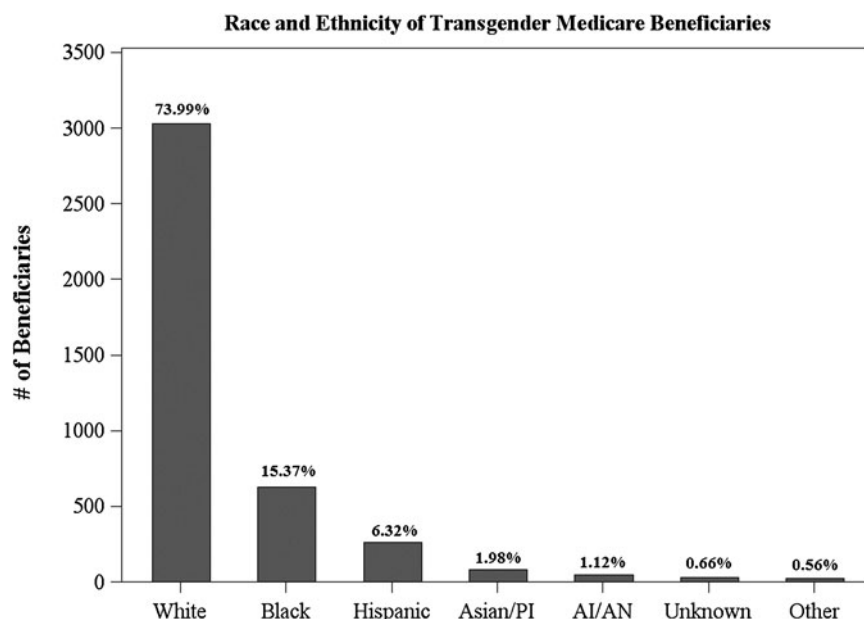


FIG. 1. Racial/ethnic identification of transgender beneficiaries.

with 562 beneficiaries. New York (282), Texas (201), Florida (198), Massachusetts (179), Washington (173), Ohio (146), Minnesota (146), Michigan (145), Pennsylvania (116), Illinois (115), Wisconsin (101), and Georgia (100) also contain large populations,

with each state containing 100 or more transgender beneficiaries. This is an important finding, as it demonstrates that the transgender population spans the entire United States, making transgender health relevant to local providers across the entire country.

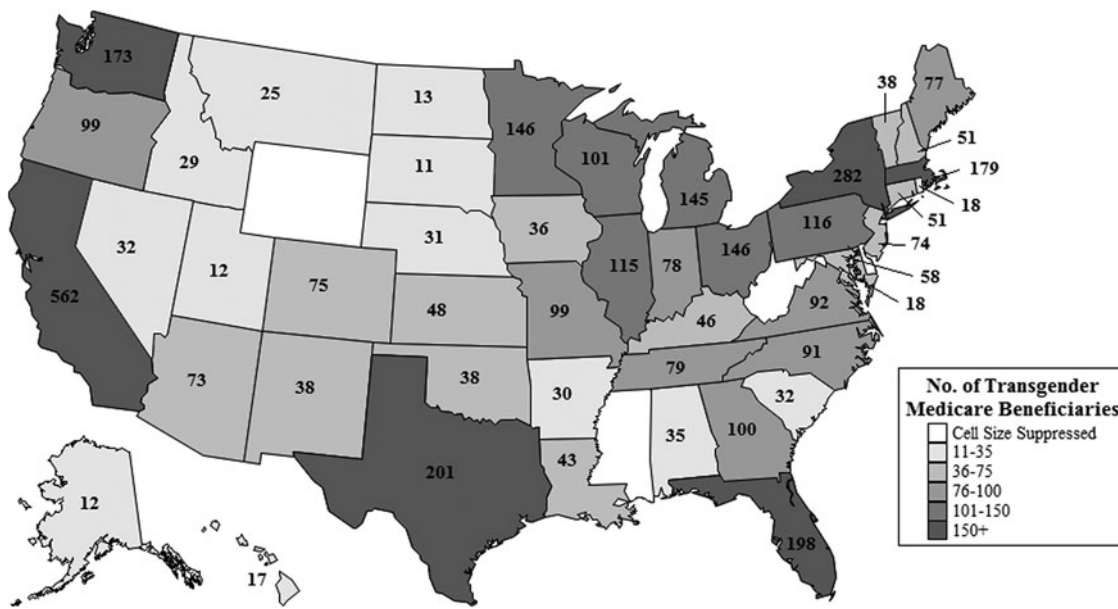


FIG. 2. Geographic distribution of transgender beneficiaries.



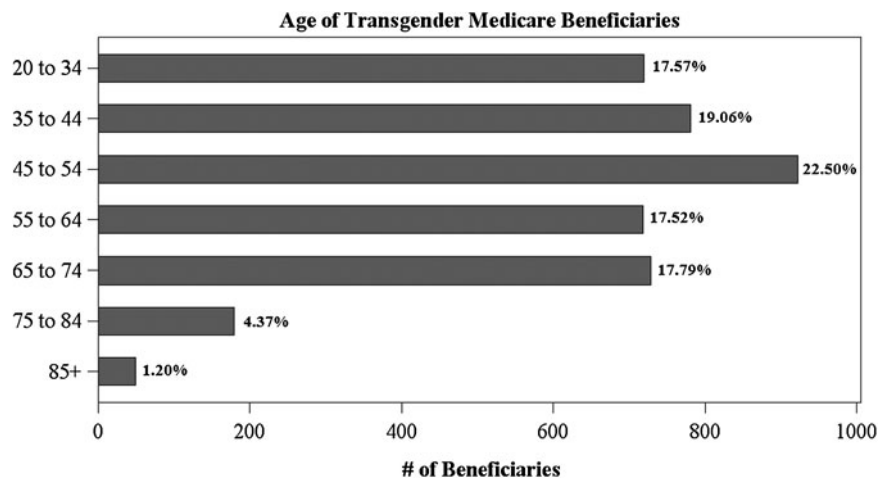


FIG. 3. Age distribution of transgender beneficiaries.

Unlike the racial, ethnic, and geographic distribution of the transgender population, which tends to reflect broader population distributions, the age, original entitlement status, and chronic condition burden of the transgender population appear substantially different. Figure 3 displays the age distribution of the transgender population, showing that the majority of transgender Medicare beneficiaries were under age 65 in 2013 (76.65%). This is a somewhat surprising result, as age is the primary mechanism through which most Americans qualify for Medicare. To demonstrate, 75.55% of the general Medicare population qualified for Medicare through Old Age and Survivors Insurance (OASI), indicating that the majority are age 65 or older. The transgender Medicare population, conversely, primarily qualified for Medicare through Disability Insurance (84.06%), implying that many transgender persons enrolled in the program are disabled. This trend reflects an almost exact reversal of the general population's Medicare eligibility. Thus, the transgender population may be disproportionately disabled relative to the general Medicare population, which suggests an avenue for future research that examines these differences.

Using CMS's chronic condition categories, which analyze 60 chronic medical conditions and other chronic or potentially disabling conditions, Figure 4 highlights the chronic condition prevalence in the Medicare transgender population, demonstrating the significant burden placed on many beneficiaries. This is particularly relevant for depression, which has affected 81.79% of those under the age of 65. Because three-quarters of

the transgender population has been diagnosed with depression at some point during their life, the data suggest that the community disproportionately suffers from depression. Other mental health issues, such as post-traumatic stress disorder, schizophrenia, psychotic disorders, anxiety disorders, and major depressive affective disorders, also affect a large proportion of the population, demonstrating the significant mental health burden facing transgender Medicare enrollees. This echoes findings from previous studies,¹³ which report that there is a high prevalence of depression in the transgender community and transgender persons are more likely to report depression if they have not begun a medical transition. This finding suggests an opportunity for future research that examines the role that receiving medically necessary treatment may play in reducing depression rates and improving the mental health of transgender beneficiaries.

Hyperlipidemia and hypertension also affect the majority of transgender beneficiaries, with 58.49% of beneficiaries reporting either condition. This is especially relevant for those under the age of 65, with a majority of those in this age category reporting these chronic conditions, even though they are typically associated with advancing age.^{26,27} This is consistent with previous studies on the transgender population²⁸ and suggests a need for additional research that analyzes the association between medical transitions and hyperlipidemia/hypertension, which appear to affect a statistically high proportion of the transgender population, relative to their age. Other conditions, such as tobacco



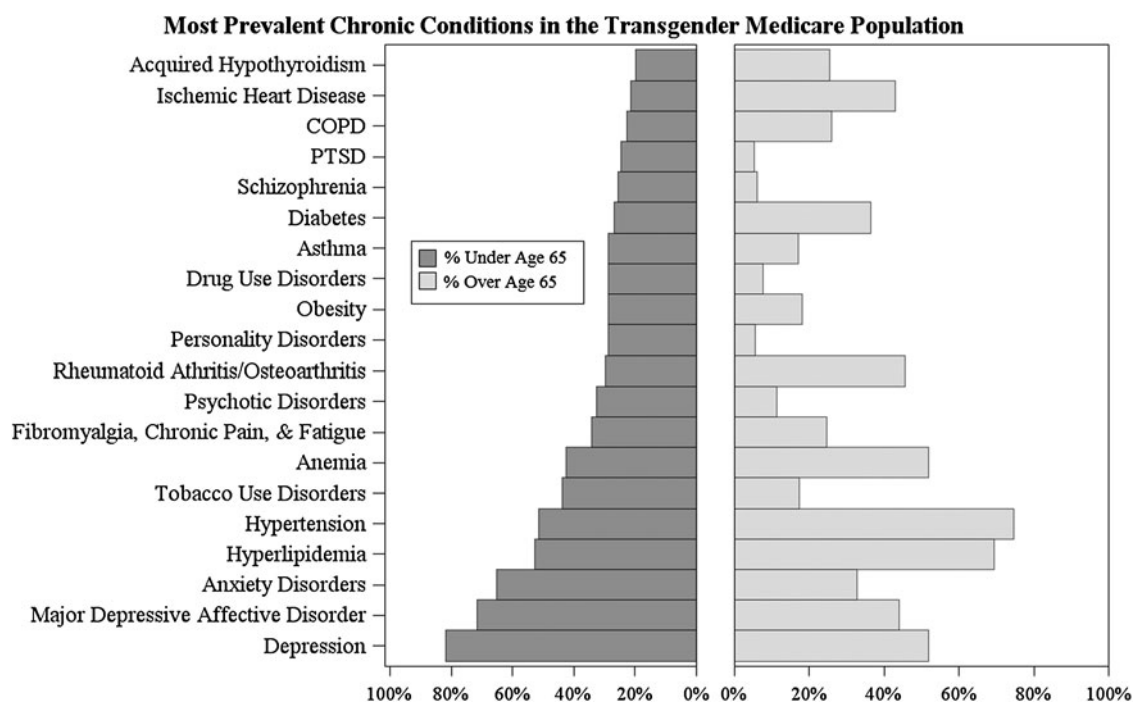


FIG. 4. Chronic conditions and the transgender Medicare population.

and drug use disorders, fibromyalgia, and other forms of chronic pain or fatigue, obesity, anemia, rheumatoid arthritis/osteoarthritis, asthma, diabetes, and heart disease, affect more than one-quarter of the population and reflect the broader trend of the transgender community reporting a disproportionately high disease burden. Future research that examines the causes of these high prevalence rates would help inform the treatment of transgender Medicare beneficiaries and explain why these diseases are manifesting in transgender persons at early ages.

Discussion

Using CMS’s administrative data, we were able to identify and validate nearly 3700 transgender beneficiaries enrolled in Medicare during the 2013 calendar year. Using a variety of claims information, ranging from claims history to additional diagnoses, billing modifiers, and hormone prescriptions, we demonstrate that administrative data provide a valuable resource for studying the transgender population. ICD-9 codes specific to medical transitions are especially useful, with 90% of those identified using this method being validated. Therefore, ICD-9 codes provide an excellent foundation for future research on the transgender pop-

ulation, and we encourage researchers interested in transgender health and health outcomes to utilize this methodology for future research.

The resulting cohort of transgender Medicare beneficiaries also demonstrates the significant racial, ethnic, and geographic diversity of the population. The results indicate that the transgender population is very diverse, containing members of every racial and ethnic group and residing in every U.S. state. Because fewer than 15% of studies on the health status of lesbian, gay, bisexual, and transgender (LGBT) persons include an analysis of race,²⁰ this examination provides an important contribution to health services research. The geographic distribution of transgender Medicare beneficiaries also provides important implications for transgender-specific care. Given that >50% of transgender persons report having to teach their provider about transgender healthcare,² these results suggest that providers across the nation should better prepare for providing care to Medicare’s transgender population, as there is a high probability that providers may encounter transgender patients. This is particularly relevant, given the lack of LGBT outreach across the country, with few agencies providing LGBT-specific training or outreach.²⁹ Because agencies that provide



LGBT-specific services are more likely to address LGBT issues, receive LGBT assistance requests, and understand the unique needs facing the community,²⁹ these results provide support for increasing education and training throughout the provider community. This geographic distribution may also help inform the areas that may benefit most from targeted interventions, such as California, New York, and Texas, which all have large transgender populations.

The data provide particularly valuable insight regarding the burden of chronic conditions in the community, given the incredibly high prevalence of disability and the very high rates of certain conditions. For example, nearly 80% of the transgender community has been diagnosed with depression during their lifetime. Not only does this signal the heightened level of medical need within the community but it also lays the foundation for future research that examines the prevalence and causes of chronic conditions in the transgender community. Future research could compare the chronic condition burden to the burden found in a matched cohort, helping to clarify the role that being transgender plays in affecting health outcomes. By identifying patterns of transgender health disparities, ranging from discrimination and stigma to the potential long-term effects of hormone therapy, health services researchers will be better able to address the care of transgender persons in the medical setting.

Limitations of Medicare's transgender-related data

Although CMS's administrative data contain numerous methods for identifying transgender Medicare beneficiaries, these identification methods are not without limitations. CMS data are limited in their ability to identify all transgender beneficiaries because (1) they only identify transgender persons who are medically transitioning and/or have been diagnosed with GID, (2) their administrative data sets contain unobservable error, and (3) billing modifiers, alternative diagnosis codes, and hormone therapy fail to uniquely identify transgender persons.

Because CMS data are based on medical claims for treatment, they only capture persons who are medically transitioning or who have been diagnosed with GID. Focusing on those who are medically transitioning is problematic, given that only 62% of transgender persons report using hormone therapy.² Although an additional 23% hope to have hormone therapy in the future, only 62% to 85% of transgender persons want or utilize hormone therapy. Therefore, by focusing on medical

transitions, this analysis may underestimate the size of the transgender population. Similarly, using ICD-9 codes related to GID may limit the sample, as GID diagnoses are highly controversial in the transgender community, with many transgender persons avoiding the diagnosis. The primary controversy surrounding the diagnosis is that it is considered a mental disorder, which carries the stigma of mental illness and potentially reinforces the gender binary that treats transgender persons as deviant.³⁰ Because of this, some transgender persons will avoid the GID diagnosis, requesting other nontransgender-specific diagnoses. Among the most commonly used nontransgender-specific diagnosis codes is ICD-9 code 259.9 (Unspecified Endocrine Disorder).^{31,32} Because transgender Medicare beneficiaries may not medically transition and/or may actively resist the GID diagnosis, using CMS data to identify transgender Medicare beneficiaries is expected to represent a conservative estimate of Medicare's transgender community.

Errors inherent to administrative data also pose a methodological problem to using administrative data to identify transgender Medicare enrollees. Numerous studies document the limitations of using administrative data to identify diseases, given wide variation in coding accuracy across conditions and settings.³³ In the Medicare program specifically, a systematic analysis of Medicare claims data compared to medical charts revealed that the percentage of agreement between ICD-9 diagnosis and medical records was, on average, between 73.2% and 78.2%, with accuracy of diagnosis varying substantially across conditions.³⁴ Additional Medicare data validations demonstrate that conditions such as diabetes are highly accurate (100% claims accuracy), while conditions such as alcohol and drug abuse are highly inaccurate (20% claims accuracy).^{35,36} Therefore, one can assume that using ICD-9 codes to estimate the transgender Medicare population contains a degree of inherent coding error, which may distort the population estimates.

The final limitation of using CMS's administrative data is the inability of billing modifiers to uniquely identify transgender beneficiaries. While the ICD-9 codes are specific to the transgender community, the billing modifiers are not. Because condition code 45 applies to both the transgender and intersex community, classifying all persons with a condition code 45 modifier as transgender may falsely classify intersex persons as transgender. Intersex persons are different from transgender persons, as they are born with a



reproductive or sexual anatomy that does not fit typical definitions of male or female,³⁷ making them a distinct subgroup of gender minorities. This measurement problem also affects the KX modifier, which applies to multiple types of claims, rather than only those with a gender/procedure conflict. For example, even though the KX modifier might apply to a claim for a transman receiving a female pelvic examination, it might also apply to a female born and identified beneficiary receiving two pelvic examinations in the same calendar year. Because neither of these modifiers applies solely to the transgender community, they cannot be used as a standalone method for classifying beneficiaries as transgender.

Overall, our results demonstrate that administrative data are a valuable resource for identifying the medically transitioning Medicare transgender population and that using ICD-9 codes and billing modifiers are a valid and replicable method that is relevant to many data systems. Using this method, we have made a number of important contributions to the literature, as there are currently no other studies that use Medicare claims data to identify transgender persons. First, we have developed a framework for identifying transgender persons using administrative data, as well as providing a method for validating these results. By replicating the methods outlined in this analysis, researchers can estimate the size of the transgender population and use this data to further analyze health disparities and outcomes in the transgender community. Second, we have provided a baseline description of the diversity and disease burden of the population, laying the foundation for future research programs that expand on this data and statistically model these relationships. Finally, we have proposed numerous avenues of future work to build upon this analysis, including an examination of the intersection between race and gender identity, an examination of the chronic condition burden of transgender persons relative to a matched cohort, and an examination of the underlying causes of chronic conditions in transgender persons. In conclusion, this analysis helps fill the void regarding research on Medicare's transgender population with the goal of informing and encouraging future research on gender minorities.

Disclaimer

The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Centers for Medicare and Medicaid Services,

the U.S. Department of Health and Human Services, or NORC at the University of Chicago.

Author Disclosure Statement

No competing financial interests exist.

References

1. Graham R, Berkowitz B, Blum R, et al. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington, DC: Institute of Medicine, 2011.
2. Grant JM, Mottet L, Tanis JE, et al. Injustice at every turn: a report of the national transgender discrimination survey: National Center for Transgender Equality; 2011 [August 18, 2015]. Available from: www.thetaskforce.org/static_html/downloads/reports/reports/ntds_full.pdf (accessed November 22, 2016).
3. Fredriksen-Goldsen KI, Kim H-J, Emlert CA, et al. *The aging and health report: disparities and resilience among lesbian, gay, bisexual, and transgender older adults*. Seattle, WA: Institute for Multigenerational Health, 2011.
4. Blossich JR, Brown GR, Shipherd P, et al. Prevalence of gender identity disorder and suicide risk among transgender veterans utilizing veterans health administration care. *Am J Public Health*. 2013;103:e27–e32.
5. American Psychological Association Committee on Lesbian, Bisexual, and Transgender Concerns. *Answers to your Questions about Transgender People, Gender Identity, and Gender Expression 2014* [August 18, 2015]. Available from: www.apa.org/topics/lgbt/transgender.aspx (accessed November 22, 2016).
6. Hughes TL, Eliason M. Substance use and abuse in lesbian, gay, bisexual and transgender populations. *J Prim Prev*. 2002;22:263–298.
7. Jordan KM. Substance abuse among gay, lesbian, bisexual, transgender, and questioning adolescents. *School Psychol Rev*. 2000;29:201–206.
8. Lombardi EL, van Servellen G. Building culturally sensitive substance use prevention and treatment programs for transgendered populations. *J Subst Abuse Treat*. 2000;19:291–296.
9. Herbst JH, Jacobs ED, Finlayson TJ, et al. Estimating HIV prevalence and risk behaviors of transgender persons in the United States: a systematic review. *AIDS Behav*. 2008;12:1–17.
10. Clements-Nolle K, Marx R, Katz M. Attempted suicide among transgender persons: the influence of gender-based discrimination and victimization. *J Homosex*. 2006;51:53–69.
11. Nemoto T, Operario D, Keatley J, Villegas D. Social context of HIV risk behaviours among male-to-female transgenders of colour. *AIDS Care*. 2004;16:724–735.
12. Mustanski BS, Garofalo R, Emerson EM. Mental health disorders, psychological distress, and suicidality in a diverse sample of lesbian, gay, bisexual, and transgender youths. *Am J Public Health*. 2010;100:2426–2432.
13. Rotondi NK, Bauer GR, Scanlon K, et al. Prevalence of and risk and protective factors for depression in female-to-male transgender Ontarians: trans PULSE Project. *Can J Commun Ment Health*. 2012;30:135–155.
14. Centers for Medicare & Medicaid Services. ICD-9 Code Lookup 2015 [August 18, 2015]. Available from: <https://www.cms.gov/Medicare/Coding/ICD9ProviderDiagnosticCodes/codes.html> (accessed November 22, 2016).
15. Centers for Medicare & Medicaid Services—CMS Manual System. Pub 100-04: Transmittal 1877-Instructions Regarding Processing Claims Rejecting for Gender/Procedure Conflict 2009a [August 18, 2015]. Available from: www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R1877CP.pdf (accessed November 22, 2016).
16. Centers for Medicare & Medicaid Services—MLM Matters. MM6638: Instructions Regarding Processing Claims Rejecting for Gender/Procedure Conflict 2009b. Available from: www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM6638.pdf (accessed November 22, 2016).
17. Arday SL, Arday DR, Monroe S, Zhang J. HCFA's racial and ethnic data: current accuracy and recent improvements. *Health Care Financ Rev*. 2000;21:107–116.
18. Waldo DR. Accuracy and bias of race/ethnicity codes in the Medicare enrollment database. *Health Care Financ Rev*. 2004;26:61–72.



19. Zaslavsky AM, Ayanian JZ, Zaboriski LB. The validity of race and ethnicity in enrollment data for Medicare beneficiaries. *Health Serv Res.* 2012;47(3 pt 2):1300–1321.
20. Boehmer U. Twenty years of public health research: inclusion of lesbian, gay, bisexual, and transgender populations. *Am J Public Health.* 2002;92:1125–1130.
21. Gornick ME, Eggers PW, Reilly TW, et al. Effects of race and income on mortality and use of services among Medicare beneficiaries. *N Engl J Med.* 1996;335:791–799.
22. Smedley BD, Stith AY, Nelson AR. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.* Washington, DC: National Academies Press, 2002.
23. Virnig BA, Lurie N, Huang Z, et al. Racial variation in quality of care among Medicare + Choice enrollees. *Health Aff.* 2002;21:224–230.
24. Weech-Maldonado R, Morales LS, Elliott M, et al. Race/ethnicity, language, and patients' assessments of care in Medicaid managed care. *Health Serv Res.* 2003;38:789–808.
25. Sequist TD, Schneider EC. Addressing racial and ethnic disparities in health care: using federal data to support local programs to eliminate disparities. *Health Serv Res.* 2006;41(4 pt 1):1451–1468.
26. Schneider KM, O'Donnell BE, Dean D. Prevalence of multiple chronic conditions in the United States' Medicare population. *Health Qual Life Outcomes.* 2009;7:82.
27. Freid VM, Bernstein AB, Bush MA. Multiple chronic conditions among adults aged 45 and over: trends over the past 10 years. *Women.* 2012;45:64.
28. Shipherd JC, Mizock L, Maguen S, Green KE. Male-to-female transgender veterans and VA health care utilization. *Int J Sex Health.* 2012;24:78–87.
29. Knochel KA, Croghan CF, Moore RP, Quam JK. Training, geography, and provision of aging services to lesbian, gay, bisexual, and transgender older adults. *J Gerontol Soc Work.* 2012;55:426–443.
30. Lev AI. Disordering gender identity: gender identity disorder in the DSM-IV-TR. *J Psychol Human Sex.* 2006;17:35–69.
31. Mayer G. *Providing Cross-Gender Hormone Therapy for Transgender Patients* Boston, MA: The Fenway Institute, 2013 [August 18, 2015]. Available from: www.lgbthealtheducation.org/wp-content/uploads/Providing-Cross-Gender-Hormone-Therapy-to-Transgender-Patients.pdf (accessed November 22, 2016).
32. Callen-Lorde Community Health Center. *Protocols for the Provision of Cross Gender Hormone Therapy 2012* [August 18, 2015]. Available from: www.tmeltzer.com/assets/callen-lorde-revised-protocols.pdf (accessed November 22, 2016).
33. Yasmeen S, Romano PS, Schembri ME, et al. Accuracy of obstetric diagnoses and procedures in hospital discharge data. *Am J Obstet Gynecol.* 2006;194:992–1001.
34. Fisher ES, Whaley FS, Krushat WM, et al. The accuracy of Medicare's hospital claims data: progress has been made, but problems remain. *Am J Public Health.* 1992;82:243–248.
35. Fowles JB, Fowler EJ, Craft C. Validation of claims diagnoses and self-reported conditions compared with medical records for selected chronic diseases. *J Ambul Care Manage.* 1998;21:24–34.
36. Fowles JB, Lawthers AG, Weiner JP, Garnick DW. Agreement between physicians' office records and Medicare Part B claims data. *Health Care Financ Rev.* 1995;16:189–199.
37. Intersex Society of North America. *What is Intersex?* 2015 [August 18, 2015]. Available from: www.isna.org/faq/what_is_intersex (accessed November 22, 2016).

Cite this article as: Proctor K, Haffer SC, Ewald E, Hodge C, James CV (2016) Identifying the transgender population in the Medicare program, *Transgender Health* 1:1, 250–265, DOI: 10.1089/trgh.2016.0031.

Abbreviations Used

AIANs = American Indians/Alaska Natives
 APIs = Asians/Pacific Islanders
 CCW = Chronic Conditions Data Warehouse
 CMS = Centers for Medicare & Medicaid Services
 FFS = Fee-For-Service
 GID = Gender Identity Disorder
 HCPCS = Healthcare Common Procedure Coding System
 ICD-9 = International Classification of Diseases ninth edition
 LGBT = lesbian, gay, bisexual, and transgender
 OASI = Old Age and Survivors Insurance

Appendix Table 1. Gender-Specific Procedure Codes Related to Condition Code 45 and the KX Modifier

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
0071T	Female	U/s leiomyomata ablate <200	57545	Female	Remove cervix/repair pelvis
0072T	Female	U/s leiomyomata ablate >200	57550	Female	Removal of residual cervix
00842	Female	Anesth amniocentesis	57555	Female	Remove cervix/repair vagina
00846	Female	Anesth hysterectomy	57556	Female	Remove cervix/repair bowel
00851	Female	Anesth tubal ligation	57558	Female	D and c of cervical stump
00865	Male	Anesth removal of prostate	57700	Female	Revision of cervix
00906	Female	Anesth removal of vulva	57720	Female	Revision of cervix
00908	Male	Anesth removal of prostate	57800	Female	Dilation of cervical canal
00914	Male	Anesth removal of prostate	58100	Female	Biopsy of uterus lining
00920	Male	Anesth genitalia surgery	58110	Female	Bx done w/colposcopy add-on
00921	Male	Anesth vasectomy	58120	Female	Dilation and curettage
00922	Male	Anesth sperm duct surgery	58140	Female	Myomectomy abdominal method
00924	Male	Anesth testis exploration	58145	Female	Myomectomy vaginal method
00926	Male	Anesth removal of testis	58146	Female	Myomectomy abdominal complex
00928	Male	Anesth removal of testis	58150	Female	Total hysterectomy
00930	Male	Anesth testis suspension	58152	Female	Total hysterectomy
00932	Male	Anesth amputation of penis	58180	Female	Partial hysterectomy
00934	Male	Anesth penis nodes removal	58200	Female	Extensive hysterectomy
00936	Male	Anesth penis nodes removal	58210	Female	Extensive hysterectomy
00938	Male	Anesth insert penis device	58240	Female	Removal of pelvis contents
00940	Female	Anesth vaginal procedures	58260	Female	Vaginal hysterectomy
00942	Female	Anesth surgery on vaginal/urethral	58262	Female	Vaginal hysterectomy including t/o

(continued)



Appendix Table 1. (Continued)

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
00944	Female	Anesth vaginal hysterectomy	58263	Female	Vaginal hysterectomy w/t/o and vaginal repair
00948	Female	Anesth repair of cervix	58267	Female	Vaginal hysterectomy w/urinary repair
00950	Female	Anesth vaginal endoscopy	58270	Female	Vaginal hysterectomy w/enterocele repair
00952	Female	Anesth hysteroscope/graph	58275	Female	Hysterectomy/revise vagina
01960	Female	Anesth vaginal delivery	58280	Female	Hysterectomy/revise vagina
01961	Female	Anesth cs delivery	58285	Female	Extensive hysterectomy
01962	Female	Anesth emergency hysterectomy	58290	Female	Vaginal hysterectomy complex
01963	Female	Anesth cs hysterectomy	58291	Female	Vaginal hysterectomy including t/o complex
01965	Female	Anesth inc/missed ab procedure	58292	Female	Vaginal hysterectomy t/o and repair complex
01966	Female	Anesth induced ab procedure	58293	Female	Vaginal hysterectomy w/uro repair complex
01967	Female	Anesth/analg vaginal delivery	58294	Female	Vaginal hysterectomy w/enterocele complex
01968	Female	Anes/analg cs deliver add-on	58300	Female	Insert intrauterine device
01969	Female	Anesth/analg cs hysterectomy add-on	58301	Female	Remove intrauterine device
0336T	Female	Lap ablat uterine fibroids	58321	Female	Artificial insemination
0500F	Female	Initial prenatal care visit	58322	Female	Artificial insemination
0501F	Female	Prenatal flow sheet	58323	Female	Sperm washing
0502F	Female	Subsequent prenatal care	58340	Female	Catheter for hysteroigraphy
0503F	Female	Postpartum care visit	58345	Female	Reopen fallopian tube
11976	Female	Remove contraceptive capsule	58346	Female	Insert heyman uteri capsule
19300	Male	Removal of breast tissue	58350	Female	Reopen fallopian tube
3015F	Female	Cerv cancer screen docd	58353	Female	Endometrial ablate thermal
36460	Female	Transfusion service fetal	58356	Female	Endometrial cryoablation
37788	Male	Revascularization penis	58400	Female	Suspension of uterus
46744	Female	Repair of cloacal anomaly	58410	Female	Suspension of uterus
46746	Female	Repair of cloacal anomaly	58520	Female	Repair of ruptured uterus
46748	Female	Repair of cloacal anomaly	58540	Female	Revision of uterus
50722	Female	Release of ureter	58541	Female	Lsh uterus 250g or less
51845	Female	Repair bladder neck	58542	Female	Lsh w/t/o ut 250g or less
51920	Female	Close bladder-uterus fistula	58544	Female	Lsh w/t/o uterus above 250g
51925	Female	Hysterectomy/bladder repair	58545	Female	Laparoscopic myomectomy
52010	Male	Cystoscopy and duct catheter	58546	Female	Laparomyomectomy complex
52270	Female	Cystoscopy and revise urethra	58548	Female	Lap radical hyst
52275	Male	Cystoscopy and revise urethra	58550	Female	Laparo-assst vaginal hysterectomy
52285	Female	Cystoscopy and treatment	58552	Female	Laparovaginal hysterectomy including t/o
52402	Male	Cystourethro cut ejaculatory duct	58553	Female	Laparovaginal hysterectomy complex
52450	Male	Incision of prostate	58554	Female	Laparovaginal hysterectomy w/t/o complex
52601	Male	Prostatectomy (turp)	58555	Female	Hysteroscopy dx sep procedure
52647	Male	Laser surgery of prostate	58558	Female	Hysteroscopy biopsy
52648	Male	Laser surgery of prostate	58559	Female	Hysteroscopy lysis
52649	Male	Prostate laser enucleation	58560	Female	Hysteroscopy resect septum
52700	Male	Drainage of prostate abscess	58561	Female	Hysteroscopy remove myoma
53210	Female	Removal of urethra	58562	Female	Hysteroscopy remove fb
53215	Male	Removal of urethra	58563	Female	Hysteroscopy ablation
53230	Female	Removal of urethra lesion	58565	Female	Hysteroscopy sterilization
53235	Male	Removal of urethra lesion	58570	Female	Tlh uterus 250g or less
53410	Male	Reconstruction of urethra	58571	Female	Tlh w/t/o 250g or less
53415	Male	Reconstruction of urethra	58572	Female	Tlh uterus over 250g
53420	Male	Reconstruct urethra stage 1	58573	Female	Tlh w/t/o uterus over 250g
53425	Male	Reconstruct urethra stage 2	58578	Female	Laparo proc uterus
53430	Female	Reconstruction of urethra	58579	Female	Hysteroscope procedure
53440	Male	Male sling procedure	58600	Female	Division of fallopian tube
53442	Male	Remove/revise male sling	58605	Female	Division of fallopian tube
53502	Female	Repair of urethra injury	58611	Female	Ligate oviduct(s) add-on
53505	Male	Repair of urethra injury	58615	Female	Occlude fallopian tube(s)
53510	Male	Repair of urethra injury	58660	Female	Laparoscopy lysis
53515	Male	Repair of urethra injury	58661	Female	Laparoscopy remove adnexa
53520	Male	Repair of urethra defect	58662	Female	Laparoscopy excise lesions
53600	Male	Dilate urethra stricture	58670	Female	Laparoscopy tubal cautery
53601	Male	Dilate urethra stricture	58671	Female	Laparoscopy tubal block
53605	Male	Dilate urethra stricture	58672	Female	Laparoscopy fimbrioplasty
53620	Male	Dilate urethra stricture	58673	Female	Laparoscopy salpingostomy
53621	Male	Dilate urethra stricture	58679	Female	Laparoscopy procedure oviduct-ovary
53660	Female	Dilation of urethra	58700	Female	Removal of fallopian tube
53661	Female	Dilation of urethra	58720	Female	Removal of ovary/tube(s)
53665	Female	Dilation of urethra	58740	Female	Adhesiolysis tube ovary

(continued)



Appendix Table 1. (Continued)

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
53850	Male	Prostatic microwave thermotx	58750	Female	Repair oviduct
53852	Male	Prostatic rf thermotx	58752	Female	Revise ovarian tube(s)
53855	Male	Insert prost urethral stent	58760	Female	Fimbrioplasty
53860	Female	Transurethral rf treatment	58770	Female	Create new tubal opening
54000	Male	Slitting of prepuce	58800	Female	Drainage of ovarian cyst(s)
54001	Male	Slitting of prepuce	58805	Female	Drainage of ovarian cyst(s)
54015	Male	Drain penis lesion	58820	Female	Drain ovary abscess open
54050	Male	Destruction penis lesion(s)	58822	Female	Drain ovary abscess percut
54055	Male	Destruction penis lesion(s)	58825	Female	Transposition ovary(s)
54056	Male	Cryosurgery penis lesion(s)	58900	Female	Biopsy of ovary(s)
54057	Male	Laser surgery penis lesion(s)	58920	Female	Partial removal of ovary(s)
54060	Male	Excision of penis lesion(s)	58925	Female	Removal of ovarian cyst(s)
54065	Male	Destruction penis lesion(s)	58940	Female	Removal of ovary(s)
54100	Male	Biopsy of penis	58943	Female	Removal of ovary(s)
54110	Male	Treatment of penis lesion	58951	Female	Resect ovarian malignancy
54111	Male	Treat penis lesion graft	58952	Female	Resect ovarian malignancy
54112	Male	Treat penis lesion graft	58953	Female	Tah rad dissect for debulk
54115	Male	Treatment of penis lesion	58954	Female	Tah rad debulk/lymph remove
54120	Male	Partial removal of penis	58956	Female	Bso omentectomy w/tah
54125	Male	Removal of penis	58957	Female	Resect recurrent gyn mal
54130	Male	Remove penis and nodes	58958	Female	Resect recur gyn mal w/lym
54135	Male	Remove penis and nodes	58960	Female	Exploration of abdomen
54150	Male	Circumcision w/regional block	58970	Female	Retrieval of oocyte
54160	Male	Circumcision neonate	58974	Female	Transfer of embryo
54161	Male	Circum 28 days or older	58976	Female	Transfer of embryo
54162	Male	Lysis penil circumic lesion	58999	Female	Genital surgery procedure
54163	Male	Repair of circumcision	59000	Female	Amniocentesis diagnostic
54164	Male	Frenulotomy of penis	59001	Female	Amniocentesis therapeutic
54200	Male	Treatment of penis lesion	59012	Female	Fetal cord puncture prenatal
54205	Male	Treatment of penis lesion	59015	Female	Chorion biopsy
54220	Male	Treatment of penis lesion	59020	Female	Fetal contract stress test
54230	Male	Prepare penis study	59025	Female	Fetal nonstress test
54231	Male	Dynamic cavernosometry	59030	Female	Fetal scalp blood sample
54235	Male	Penile injection	59050	Female	Fetal monitor w/report
54240	Male	Penis study	59051	Female	Fetal monitor/interpret only
54250	Male	Penis study	59070	Female	Transabdom amnioinfus w/us
54300	Male	Revision of penis	59072	Female	Umbilical cord occlusion w/us
54304	Male	Revision of penis	59074	Female	Fetal fluid drainage w/us
54308	Male	Reconstruction of urethra	59076	Female	Fetal shunt placement w/us
54312	Male	Reconstruction of urethra	59100	Female	Remove uterus lesion
54316	Male	Reconstruction of urethra	59120	Female	Treat ectopic pregnancy
54318	Male	Reconstruction of urethra	59121	Female	Treat ectopic pregnancy
54322	Male	Reconstruction of urethra	59130	Female	Treat ectopic pregnancy
54324	Male	Reconstruction of urethra	59135	Female	Treat ectopic pregnancy
54326	Male	Reconstruction of urethra	59136	Female	Treat ectopic pregnancy
54328	Male	Revise penis/urethra	59140	Female	Treat ectopic pregnancy
54332	Male	Revise penis/urethra	59150	Female	Treat ectopic pregnancy
54336	Male	Revise penis/urethra	59151	Female	Treat ectopic pregnancy
54340	Male	Secondary urethral surgery	59160	Female	D and c after delivery
54344	Male	Secondary urethral surgery	59200	Female	Insert cervical dilator
54348	Male	Secondary urethral surgery	59300	Female	Episiotomy or vaginal repair
54352	Male	Reconstruct urethra/penis pros	59320	Female	Revision of cervix
54360	Male	Penis plastic surgery	59325	Female	Revision of cervix
54380	Male	Repair penis	59350	Female	Repair of uterus
54385	Male	Repair penis	59400	Female	Obstetrical care
54390	Male	Repair penis and bladder	59409	Female	Obstetrical care
54400	Male	Insert semirigid prosthesis	59410	Female	Obstetrical care
54401	Male	Insert self-contd prosthesis	59412	Female	Antepartum manipulation
54405	Male	Insert multi-comp penis prosthesis	59414	Female	Deliver placenta
54406	Male	Remove multi-comp penis pros	59425	Female	Antepartum care only
54408	Male	Repair multi-comp penis prosthesis	59426	Female	Antepartum care only
54410	Male	Remove/replace penis prosthesis	59430	Female	Care after delivery
54411	Male	Remov/replc penis pros comp	59510	Female	Cesarean delivery
54415	Male	Remove self-contd penis pros	59514	Female	Cesarean delivery only
54416	Male	Remv/repl penis contain pros	59515	Female	Cesarean delivery

(continued)



Appendix Table 1. (Continued)

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
54417	Male	Remv/replic penis pros compl	59525	Female	Remove uterus after cesarean
54420	Male	Revision of penis	59610	Female	Vbac delivery
54430	Male	Revision of penis	59612	Female	Vbac delivery only
54435	Male	Revision of penis	59614	Female	Vbac care after delivery
54440	Male	Repair of penis	59618	Female	Attempted vbac delivery
54450	Male	Preputial stretching	59620	Female	Attempted vbac delivery only
54500	Male	Biopsy of testis	59622	Female	Attempted vbac after care
54505	Male	Biopsy of testis	59812	Female	Treatment of miscarriage
54512	Male	Excise lesion testis	59820	Female	Care of miscarriage
54520	Male	Removal of testis	59821	Female	Treatment of miscarriage
54522	Male	Orchiectomy partial	59830	Female	Treat uterus infection
54530	Male	Removal of testis	59840	Female	Abortion
54535	Male	Extensive testis surgery	59841	Female	Abortion
54550	Male	Exploration for testis	59850	Female	Abortion
54560	Male	Exploration for testis	59851	Female	Abortion
54600	Male	Reduce testis torsion	59852	Female	Abortion
54620	Male	Suspension of testis	59855	Female	Abortion
54640	Male	Suspension of testis	59856	Female	Abortion
54650	Male	Orchiopexy (fowler-stephens)	59857	Female	Abortion
54660	Male	Revision of testis	59866	Female	Abortion (mpr)
54670	Male	Repair testis injury	59870	Female	Evacuate mole of uterus
54680	Male	Relocation of testis(es)	59871	Female	Remove cerclage suture
54690	Male	Laparoscopy orchiectomy	59897	Female	Fetal invas px w/us
54692	Male	Laparoscopy orchiopexy	59898	Female	Laparo proc ob care/deliver
54699	Male	Laparoscope proc testis	59899	Female	Maternity care procedure
54700	Male	Drainage of scrotum	64435	Female	N block inj paracervical
54800	Male	Biopsy of epididymis	74440	Male	X-ray male genital tract
54830	Male	Remove epididymis lesion	74445	Male	X-ray examination of penis
54840	Male	Remove epididymis lesion	74710	Female	X-ray measurement of pelvis
54860	Male	Removal of epididymis	74740	Female	X-ray female genital tract
54861	Male	Removal of epididymis	74742	Female	X-ray fallopian tube
54865	Male	Explore epididymis	74775	Female	X-ray examination of perineum
54900	Male	Fusion of spermatic ducts	76801	Female	Ob us <14 weeks single fetus
54901	Male	Fusion of spermatic ducts	76802	Female	Ob us <14 weeks addl fetus
55000	Male	Drainage of hydrocele	76805	Female	Ob us >= 14 weeks snl fetus
55040	Male	Removal of hydrocele	76810	Female	Ob us >= 14 weeks addl fetus
55041	Male	Removal of hydrocele	76811	Female	Ob us detailed snl fetus
55060	Male	Repair of hydrocele	76812	Female	Ob us detailed addl fetus
55100	Male	Drainage of scrotum abscess	76813	Female	Ob us nuchal meas 1 gest
55110	Male	Explore scrotum	76814	Female	Ob us nuchal meas add-on
55120	Male	Removal of scrotum lesion	76815	Female	Ob us limited fetus(s)
55150	Male	Removal of scrotum	76816	Female	Ob us follow-up per fetus
55175	Male	Revision of scrotum	76817	Female	Transvaginal us obstetric
55180	Male	Revision of scrotum	76818	Female	Fetal biophys profile w/nst
55200	Male	Incision of sperm duct	76819	Female	Fetal biophys profile w/o nst
55250	Male	Removal of sperm duct(s)	76825	Female	Echo examination of fetal heart
55300	Male	Prepare sperm duct x-ray	76826	Female	Echo examination of fetal heart
55400	Male	Repair of sperm duct	76827	Female	Echo examination of fetal heart
55450	Male	Ligation of sperm duct	76828	Female	Echo examination of fetal heart
55500	Male	Removal of hydrocele	76830	Female	Transvaginal us non-ob
55520	Male	Removal of sperm cord lesion	76831	Female	Echo examination uterus
55540	Male	Revise hernia and sperm veins	76941	Female	Echo guide for transfusion
55550	Male	Laparo ligate spermatic vein	76945	Female	Echo guide villus sampling
55559	Male	Laparo proc spermatic cord	76946	Female	Echo guide for amniocentesis
55600	Male	Incise sperm duct pouch	76948	Female	Echo guide ova aspiration
55605	Male	Incise sperm duct pouch	77057	Female	Mammogram screening
55650	Male	Remove sperm duct pouch	78761	Male	Testicular imaging w/flow
55680	Male	Remove sperm pouch lesion	80055	Female	Obstetric panel
55700	Male	Biopsy of prostate	81025	Female	Urine pregnancy test
55705	Male	Biopsy of prostate	81500	Female	Onco (ovar) two proteins
55706	Male	Prostate saturation sampling	81503	Female	Onco (ovar) five proteins
55720	Male	Drainage of prostate abscess	81507	Female	Fetal aneuploidy trisom risk
55725	Male	Drainage of prostate abscess	81508	Female	Ftl cgen abnor two proteins
55801	Male	Removal of prostate	81509	Female	Ftl cgen abnor three proteins

(continued)



Appendix Table 1. (Continued)

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
55810	Male	Extensive prostate surgery	81510	Female	Ftl cgen abnor three anal
55812	Male	Extensive prostate surgery	81511	Female	Ftl cgen abnor four anal
55815	Male	Extensive prostate surgery	81512	Female	Ftl cgen abnor five anal
55821	Male	Removal of prostate	82120	Female	Amines vaginal fluid qual
55831	Male	Removal of prostate	82143	Female	Amniotic fluid scan
55840	Male	Extensive prostate surgery	82731	Female	Assay of fetal fibronectin
55842	Male	Extensive prostate surgery	84112	Female	Eval amniotic fluid protein
55845	Male	Extensive prostate surgery	84135	Female	Assay of pregnanediol
55860	Male	Surgical exposure prostate	84138	Female	Assay of pregnanetriol
55862	Male	Extensive prostate surgery	84152	Male	Assay of psa complexed
55865	Male	Extensive prostate surgery	84153	Male	Assay of psa total
55866	Male	Laparo radical prostatectomy	84154	Male	Assay of psa free
55870	Male	Electroejaculation	84163	Female	Pappa serum
55873	Male	Cryoablate prostate	84830	Female	Ovulation tests
55875	Male	Transperi needle place pros	85460	Female	Hemoglobin fetal
55876	Male	Place rt device/marker pros	85461	Female	Hemoglobin fetal
55899	Male	Genital surgery procedure	88141	Female	Cytopath c/v interpret
55970	Male	Sex transformation m to f	88142	Female	Cytopath c/v thin layer
55980	Female	Sex transformation f to m	88143	Female	Cytopath c/v thin layer redo
56405	Female	I and d of vulva/perineum	88147	Female	Cytopath c/v automated
56420	Female	Drainage of gland abscess	88148	Female	Cytopath c/v auto rescreen
56440	Female	Surgery for vulva lesion	88150	Female	Cytopath c/v manual
56441	Female	Lysis of labial lesion(s)	88153	Female	Cytopath c/v redo
56442	Female	Hymenotomy	88154	Female	Cytopath c/v select
56501	Female	Destroy vulva lesions sim	88155	Female	Cytopath c/v index add-on
56515	Female	Destroy vulva lesion/s compl	88164	Female	Cytopath tbs c/v manual
56605	Female	Biopsy of vulva/perineum	88165	Female	Cytopath tbs c/v redo
56606	Female	Biopsy of vulva/perineum	88166	Female	Cytopath tbs c/v auto redo
56620	Female	Partial removal of vulva	88167	Female	Cytopath tbs c/v select
56625	Female	Complete removal of vulva	88174	Female	Cytopath c/v auto in fluid
56630	Female	Extensive vulva surgery	88175	Female	Cytopath c/v auto fluid redo
56631	Female	Extensive vulva surgery	88267	Female	Chromosome analysis placenta
56632	Female	Extensive vulva surgery	88269	Female	Chromosome analysis amniotic
56633	Female	Extensive vulva surgery	89264	Male	Identify sperm tissue
56634	Female	Extensive vulva surgery	89300	Female	Semen analysis w/huhner
56637	Female	Extensive vulva surgery	89310	Male	Semen analysis w/count
56640	Female	Extensive vulva surgery	89320	Male	Semen anal vol/count/mot
56700	Female	Partial removal of hymen	89321	Male	Semen anal sperm detection
56805	Female	Repair clitoris	89329	Male	Sperm evaluation test
56810	Female	Repair of perineum	89330	Male	Evaluation cervical mucus
56820	Female	Examination of vulva w/scope	89331	Male	Retrograde ejaculation anal
56821	Female	Examination/biopsy of vulva w/scope	99500	Female	Home visit prenatal
57000	Female	Exploration of vagina	99501	Female	Home visit postnatal
57010	Female	Drainage of pelvic abscess	A4261	Female	Cervical cap contraceptive
57020	Female	Drainage of pelvic fluid	A4264	Female	Intratubal occlusion device
57022	Female	I and d vaginal hematoma pp	A4266	Female	Diaphragm
57023	Female	I and d vaginal hematoma non-ob	A4267	Male	Male condom
57061	Female	Destroy vaginal lesions simple	A4268	Female	Female condom
57065	Female	Destroy vaginal lesions complex	A4269	Female	Spermicide
57100	Female	Biopsy of vagina	A4281	Female	Replacement breast pump tube
57105	Female	Biopsy of vagina	A4282	Female	Replacement breast pump adpt
57106	Female	Remove vagina wall partial	A4283	Female	Replacement breast pump cap
57107	Female	Remove vagina tissue part	A4284	Female	Replacement breast pump shield
57109	Female	Vaginectomy partial w/nodes	A4285	Female	Replacement breast pump bottle
57110	Female	Remove vagina wall complete	A4286	Female	Replacement breastpump lok ring
57111	Female	Remove vagina tissue compl	A4326	Male	Male external catheter
57112	Female	Vaginectomy w/nodes compl	A4327	Female	Female urinary collect dev cup
57120	Female	Closure of vagina	A4328	Female	Female urinary collect pouch
57130	Female	Remove vagina lesion	C9739	Male	Cystoscopy prostatic imp 1-3
57135	Female	Remove vagina lesion	C9740	Male	Cysto impl 4 or more
57150	Female	Treat vagina infection	E0325	Male	Urinal male jug type
57155	Female	Insert uteri tandem/ovoids	E0326	Female	Urinal female jug type
57156	Female	Ins vaginal brachytx device	E0602	Female	Manual breast pump
57160	Female	Insert pessary/other device	E0603	Female	Electric breast pump

(continued)



Appendix Table 1. (Continued)

HCPCS	Valid sex	Code description	HCPCS	Valid sex	Code description
57170	Female	Fitting of diaphragm/cap	E0604	Female	Hosp grade elec breast pump
57180	Female	Treat vaginal bleeding	G0027	Male	Semen analysis
57200	Female	Repair of vagina	G0101	Female	Ca screen; pelvic/breast exam
57210	Female	Repair vagina/perineum	G0102	Male	Prostate ca screening; dre
57220	Female	Revision of urethra	G0103	Male	Psa screening
57230	Female	Repair of urethral lesion	G0123	Female	Screen cerv/vaginal thin layer
57240	Female	Repair bladder and vagina	G0124	Female	Screen c/v thin layer by md
57250	Female	Repair rectum and vagina	G0141	Female	Scr c/v cyto, autosys and md
57260	Female	Repair of vagina	G0143	Female	Scr c/v cyto, thin layer, rescr
57265	Female	Extensive repair of vagina	G0144	Female	Scr c/v cyto, thin layer, rescr
57267	Female	Insert mesh/pelvic flr addon	G0145	Female	Scr c/v cyto, thin layer, rescr
57268	Female	Repair of bowel bulge	G0147	Female	Scr c/v cyto, automated sys
57270	Female	Repair of bowel pouch	G0148	Female	Scr c/v cyto, autosys, rescr
57280	Female	Suspension of vagina	G0202	Female	Screeningmammographydigital
57282	Female	Colpopexy extraperitoneal	G0416	Male	Biopsy prostate 10–20
57283	Female	Colpopexy intraperitoneal	G0417	Male	Biopsy prostate 21–40
57284	Female	Repair paravag defect open	G0418	Male	Biopsy prostate 41–60
57285	Female	Repair paravag defect vaginal	G0419	Male	Biopsy prostate: >60
57287	Female	Revise/remove sling repair	G0458	Male	Ldr prostate brachy comp rat
57288	Female	Repair bladder defect	G8806	Female	Transab or transvag us
57289	Female	Repair bladder and vagina	G8807	Female	Doc reas no us
57291	Female	Construction of vagina	G8808	Female	No transab or transvag us
57292	Female	Construct vagina with graft	G8809	Female	Rh-immunoglobulin order
57295	Female	Revise vaginal graft through vagina	G8810	Female	Doc reas no rh-immuno
57296	Female	Revise vaginal graft open abd	G8811	Female	No rh-immunoglobulin order
57307	Female	Fistula repair and colostomy	P3000	Female	Screen pap by tech w md supv
57308	Female	Fistula repair transperine	P3001	Female	Screening pap smear by phys
57310	Female	Repair urethrovaginal lesion	Q0091	Female	Obtaining screen pap smear
57311	Female	Repair urethrovaginal lesion	S0610	Female	Annual gynecological examina
57320	Female	Repair bladder-vagina lesion	S0612	Female	Annual gynecological examina
57330	Female	Repair bladder-vagina lesion	S4005	Female	Interim labor facility globa
57335	Female	Repair vagina	S4011	Female	IVF package
57400	Female	Dilation of vagina	S4013	Female	Complete GIFT case rate
57410	Female	Pelvic examination	S4014	Female	Complete ZIFT case rate
57415	Female	Remove vaginal foreign body	S4015	Female	Complete IVF nos case rate
57420	Female	Examination of vagina w/scope	S4016	Female	Frozen IVF case rate
57421	Female	Examination/biopsy of vaginal w/scope	S4017	Female	IVF canc a stim case rate
57423	Female	Repair paravag defect lap	S4018	Female	F EMB trns canc case rate
57425	Female	Laparoscopy surg colpopexy	S4020	Female	IVF canc a aspir case rate
57426	Female	Revise prosth vaginal graft lap	S4021	Female	IVF canc p aspir case rate
57452	Female	Examination of cervix w/scope	S4022	Female	Asst oocyte fert case rate
57454	Female	Bx/curett of cervix w/scope	S4023	Female	Incomplete donor egg case rate
57455	Female	Biopsy of cervix w/scope	S4025	Female	Donor serv IVF case rate
57456	Female	Endocerv curettage w/scope	S4026	Male	Procure donor sperm
57460	Female	Bx of cervix w/scope leep	S4027	Female	Store prev frozen embryos
57461	Female	Conz of cervix w/scope leep	S4028	Male	Microsurg epi sperm asp
57500	Female	Biopsy of cervix	S4030	Male	Sperm procure init visit
57505	Female	Endocervical curettage	S4031	Male	Sperm procure subs visit
57510	Female	Cauterization of cervix	S4035	Female	Stimulated IUI case rate
57511	Female	Cryocautery of cervix	S4037	Female	Cryo embryo transf case rate
57513	Female	Laser surgery of cervix	S4040	Female	Monit store cryo embryo 30 d
57520	Female	Conization of cervix	S4989	Female	Contracept IUD
57522	Female	Conization of cervix	S4993	Female	Contraceptive pills for bc
57530	Female	Removal of cervix	S9001	Female	Home uterine monitor with or
57531	Female	Removal of cervix radical	S9436	Female	Lamaze class
57540	Female	Removal of residual cervix	S9437	Female	Childbirth refresher class
			S9438	Female	Cesarean birth class
			S9439	Female	VBAC class

HCPCS, Healthcare Common Procedure Coding System.



Appendix Table 2. Sex Hormones

Avodart
Briellyn
Cenestin
Climara
CombiPatch
Delestrogen
Depo-Estradiol
Depo-Provera
Depo-Testosterone
Dutasteride
Estrace
Estradiol
Estradiol Cypionate
Estradiol Valerate
Estradiol Valerate
Estradiol/Norethindrone Acetate
Estrogen, Conjugated/M-Progesterone Acetate
Estrogens, Conjugated
Estrogens, Conjugated, Synthetic A
Estrogens, Esterified
Estropipate
Estropipate
Ethinyl Estradiol/Drospirenone
Ethinodiol D-Ethinyl Estradiol
Finasteride
Fluoxymesterone
Fortesta
Gianvi
Gildess Fe
Junel
Junel Fe
Ketoconazole
Ketoconazole
Leuprolide Acetate
Loryna
Lupron Depot
Medroxyprogesterone Acetate
Menest
Microgestin
Microgestin Fe
Mononessa
Necon
Norelgestromin/Ethinyl Estradiol
Norethindrone A-Ethinyl Estradiol/Ferrous Fumarate
Norethindrone A-E Estradiol
Norethindrone-Ethinyl Estradiol
Norethindrone-Mestranol
Norgestimate-Ethinyl Estradiol
Norgestimate-Ethinyl Estradiol
Norgestrel-Ethinyl Estradiol
Nortrel
Ocella
Ogestrel
Ortho Evra
Ortho Tri-Cyclen
Ortho Tri-Cyclen Lo
Ortho-Cyclen
Philith
Premarin
Prempo
Progesterone
Progesterone

(continued)

Appendix Table 2. (Continued)

Progesterone, Micronized
Spironolactone
Spironolactone
Sprintec
Syeda
Testim
Testosterone
Testosterone Cypionate
Testosterone Cypionate
Testosterone Enanthate
Testosterone Enanthate
Tri-Linyah
TriNessa
Tri-Previfem
Tri-Sprintec
Xolegel
Zovia 1-35E



Publish in Transgender Health

- Immediate, unrestricted online access
- Rigorous peer review
- Compliance with open access mandates
- Authors retain copyright
- Highly indexed
- Targeted email marketing

liebertpub.com/trgh

