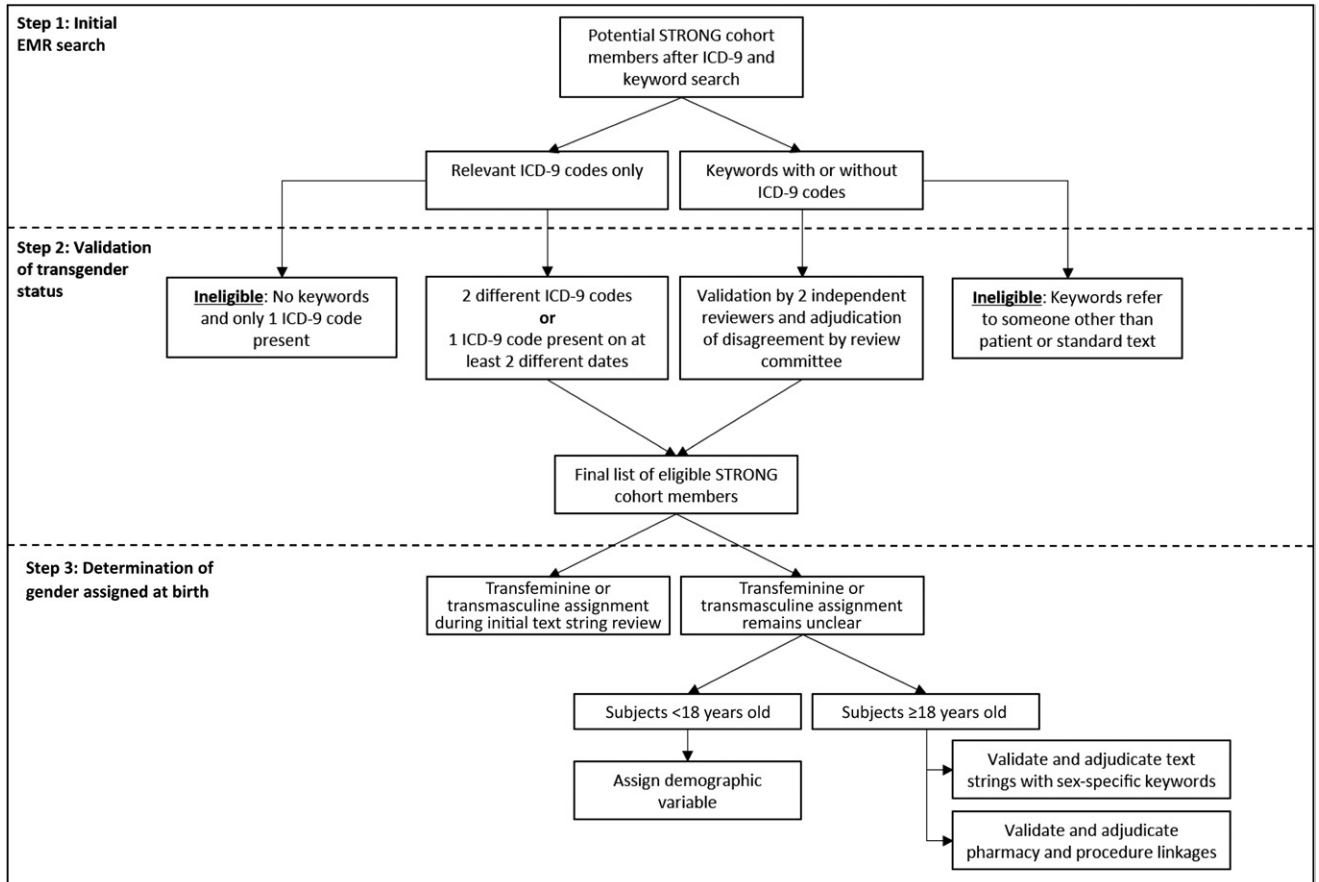


Supplemental Information



SUPPLEMENTAL FIGURE 1
Cohort ascertainment flow diagram.

SUPPLEMENTAL TABLE 5 ICD-9 Codes^{54,55} and Keywords Used to Identify Potentially Eligible Persons Among KPGA, KPSC, and KPNC Members

ICD-9 Diagnostic Codes ^a	ICD-9 V Codes ^b and Internal KP Codes	Keywords
302.5: transsexualism	V49.89 and 121141596: other conditions influencing health (transgender)	Transgender
302.50: transsexualism with unspecified sexual history (also known as transsexualism not otherwise specified)	V45.77 and 121141596: acquired absence of genital organs (history of sex reassignment surgery)	Transsexual
302.51: transsexualism with asexual history	V07.8 and 12124952: other specified prophylactic measure (male-to-female hormone supplementation)	Transvestite
302.52: transsexualism with homosexual history	V07.8 and 12124310: other specified prophylactic measure (female-to-male hormone supplementation)	Gender identity
302.53: transsexualism with heterosexual history		Gender dysphoria
302.85: gender identity disorder in adolescents or adults		Gender reassignment
302.6: gender identity disorder in children		
302.3: transvestic fetishism		

KPGA, Kaiser Permanente Georgia; KPNC, Kaiser Permanente Northern California; KPSC, Kaiser Permanente Southern California.

^a Only ICD-9 codes were used because cohort ascertainment ended at the end of 2014, before *International Classification of Diseases, 10th Revision* codes became available.

^b ICD-9 V codes are used for the supplementary classification of factors influencing health status. Because V codes may cover several conditions, they have to be used in conjunction with internal KP codes to ensure specificity.

SUPPLEMENTAL TABLE 6 Keywords Used for Determining Gender Assigned at Birth

	Keyword Type	Keywords
Transfeminine	Anatomy related	Testes, testicular, penis, penile, prostate, prostatic, prostate-specific antigen (PSA), scrotum, neovagina, neo-vagina, neo vagina, sperm, erection
	Hormonal therapy	Estrogen, anti-androgen, progesterone, Aldactone, Avodart, cenestin, climara, cyprostat, cyproterone, delestrogen, depo-estradiol, divigel, dutasteride, elestrin, enjuvia, estrace, estradiol, estroderm, estrogel, estrosorb, flutamide, finasteride, Lupron, medroxyprogesterone, Premarin, prempphase, prempo, propecia, Proscar, prometrium, Provera, spironolactone
	Procedure	Castration, orchiectomy, penectomy, vaginoplasty, breast augmentation, breast enlargement, laryngeal shave, feminization, electrolysis, hair transplant, collagen, silicone, voice therapy
Transmasculine	Anatomy related	Ovary, ovaries, ovarian, cervix, uterus, uterine, vagina, Papanicolaou test, menstrual bleeding, menses
	Hormonal therapy	Android, androderm, androge, axiron, delatestryl, depo-testosterone, striant, testim
	Procedure	Vaginectomy, phalloplasty, metoidioplasty, mastectomy, hysterectomy, oophorectomy

SUPPLEMENTAL TABLE 7 ICD-9 Codes^{54,55} Used to Ascertain Mental Health Diagnosis Categories

Diagnosis Category	ICD-9 Codes
Anxiety disorders	300.x, 309.2, 309.8
Attention deficit disorders	314.x
Autism spectrum disorders	299.x
Bipolar disorders	296.x, 301.11, 301.13
Conduct and/or disruptive disorders	312.81, 312.82, 312.89, 313.81, 313.89, 312.9
Depressive disorders	296.2, 296.3x, 296.82, 298.00, 301.12, 309.0, 309.1, 309.28, 311
Eating disorders	307.1, 307.5x
Other psychoses	297.1, 297.3, 298.8, 298.9, 301.22
Personality disorders	301.x
Schizophrenia spectrum disorders	295.x
Self-inflicted injuries ^a	E95.x, E98.x
Substance use disorders	291.x, 292.x, 303.x ^b , 304.x ^b , 305.x ^b
Suicide ideation	V62.84

x, any digit.

^a Includes possible self-inflicted injury and self-inflicted poisoning.

^b Excludes 303.x3, 304.x3, 305.x3, 305.1.

SUPPLEMENTAL TABLE 8 Prevalence of Mental Health Diagnoses in TGNC Children Ages 3–9 Years Relative to Those in Referent Groups, Excluding the Index Date

Categories of Mental Health Disorders	Prevalence in Transfeminine Subjects, N (%)	PR (95% CI) in Transfeminine Subjects		Prevalence in Transmasculine Subjects, N (%)	PR (95% CI) in Transmasculine Subjects	
		Versus Reference Males	Versus Reference Females		Versus Reference Males	Versus Reference Females
All diagnoses of interest						
Ever before index date	42 (26.1)	2.2 (1.7–3.0) ^a	4.1 (3.0–5.7) ^a	26 (28.9)	2.4 (1.6–3.5) ^a	4.1 (2.7–6.1) ^a
6 mo before index date	37 (23.0)	3.7 (2.6–5.2) ^a	6.9 (4.5–10.6) ^a	19 (21.1)	2.7 (1.7–4.4) ^a	4.9 (2.8–8.5) ^a
Anxiety disorders						
Ever before index date	13 (8.1)	2.9 (1.4–5.7) ^b	4.1 (1.9–8.4) ^b	11 (12.2)	4.1 (2.1–8.2) ^a	4.5 (2.2–9.0) ^a
6 mo before index date	9 (5.6)	7.5 (2.6–21.1) ^b	9.0 (2.9–29.4) ^b	6 (6.7)	4.2 (1.2–13.5) ^b	5.0 (1.4–17.2) ^b
Attention deficit disorders						
Ever before index date	24 (14.9)	2.9 (1.9–4.5) ^a	5.3 (3.3–8.6) ^a	11 (12.2)	2.0 (1.1–3.6) ^a	4.9 (2.4–10.0) ^a
6 mo before index date	22 (13.7)	3.9 (2.4–6.2) ^a	7.2 (4.0–12.8) ^a	9 (10.0)	1.8 (0.7–4.0) ^b	5.3 (1.8–14.7) ^b
Autism spectrum disorders						
Ever before index date	5 (3.1)	1.3 (0.4–3.3) ^b	6.0 (1.5–22.3) ^b	0	NC	NC
6 mo before index date	5 (3.1)	1.9 (0.5–5.2) ^b	12.7 (2.7–64.8) ^c	0	NC	NC
Conduct and/or disruptive disorders						
Ever before index date	11 (6.8)	2.6 (1.2–5.4) ^b	11.6 (4.2–32.4) ^b	7 (7.8)	5.5 (1.8–15.9) ^b	9.8 (2.8–36.5) ^b
6 mo before index date	7 (4.4)	5.3 (1.7–15.8) ^b	72.2 (9.2–3273.4) ^c	^d	13.7 (2.3–95.1) ^c	20.5 (2.9–229.2) ^c
Depressive disorders						
Ever before index date	6 (3.7)	4.3 (1.3–12.1) ^b	4.6 (1.4–13.4) ^b	9 (10.0)	24.5 (6.7–111.2) ^c	11.1 (3.6–34.7) ^b
6 mo before index date	^d	4.3 (0.7–19.2) ^c	6.0 (0.9–31.4) ^c	7 (7.8)	37.2 (6.9–372.6) ^c	24.7 (5.5–150.7) ^c
Eating disorders						
Ever before index date	^d	3.7 (0.8–12.6) ^c	6.7 (1.4–28.8) ^c	0	NC	NC
6 mo before index date	^d	10.0 (0.1–787.4) ^c	10.0 (0.1–784.0) ^c	0	NC	NC

NC, not calculated because there were 0 cases among transgender subjects.

^a Logistic regression with log link and approximate 95% CIs adjusted for use (high versus low).

^b Logistic regression with exact 95% CIs adjusted for use (high versus low).

^c Adjusted results were not calculated because there were a small number of cases; crude estimates from logistic regression with exact 95% CIs were reported.

^d Fewer than 5 cases were not reported.

SUPPLEMENTAL TABLE 9 Prevalence of Mental Health Diagnoses in TGNC Adolescents Ages 10–17 Years Old Relative to Those in Referent Groups, Excluding the Index Date

Categories of Mental Health Disorders	Prevalence in Transfeminine Subjects, <i>N</i> (%)	PR (95% CI) in Transfeminine Subjects		Prevalence in Transmasculine Subjects, <i>N</i> (%)	PR (95% CI) in Transmasculine Subjects	
		Versus Reference Males	Versus Reference Females		Versus Reference Males	Versus Reference Females
All diagnoses of interest						
Ever before index date	270 (63.2)	2.0 (1.8–2.2) ^a	2.4 (2.2–2.6) ^a	422 (64.43)	1.9 (1.8–2.1) ^a	2.3 (2.1–2.5) ^a
6 mo before index date	195 (45.7)	3.8 (3.3–4.4) ^a	4.6 (4.0–5.3) ^a	336 (51.30)	3.8 (3.5–4.2) ^a	4.6 (4.2–5.1) ^a
Anxiety disorders						
Ever before index date	147 (34.4)	3.4 (2.9–4.1) ^a	2.8 (2.4–3.3) ^a	224 (34.2)	3.0 (2.7–3.5) ^a	2.5 (2.2–2.9) ^a
6 mo before index date	85 (19.9)	9.1 (6.6–12.5) ^a	5.0 (3.9–6.5) ^a	137 (20.9)	7.4 (5.9–9.4) ^a	4.6 (3.8–5.6) ^a
Attention deficit disorders						
Ever before index date	99 (23.2)	1.4 (1.2–1.7) ^a	3.6 (2.9–4.4) ^a	101 (15.4)	0.9 (0.7–1.1) ^a	2.3 (1.8–2.8) ^a
6 mo before index date	55 (12.9)	2.0 (1.5–2.7) ^a	5.3 (3.8–7.3) ^a	59 (9.0)	1.3 (1.0–1.8) ^b	3.7 (2.6–5.2) ^b
Autism spectrum disorders						
Ever before index date	30 (7.0)	3.0 (1.8–4.7) ^b	19.4 (9.6–41.3) ^b	23 (3.5)	1.1 (0.7–1.8) ^b	4.8 (2.6–8.6) ^b
6 mo before index date	21 (4.9)	4.3 (2.3–7.8) ^b	216.9 (34.7–8992.3) ^c	16 (2.4)	1.9 (1.0–3.4) ^b	11.1 (4.7–27.6) ^b
Bipolar disorders						
Ever before index date	21 (4.9)	6.0 (3.1–11.5) ^b	6.6 (3.4–12.7) ^b	32 (4.9)	5.2 (3.1–8.5) ^b	5.0 (3.0–8.2) ^b
6 mo before index date	11 (2.6)	7.4 (2.7–20.3) ^b	6.7 (2.6–17.3) ^b	17 (2.6)	5.9 (2.8–12.3) ^b	9.3 (4.2–21.2) ^b
Conduct and/or disruptive disorders						
Ever before index date	58 (13.6)	2.0 (1.5–2.6) ^a	4.7 (3.4–6.5) ^a	55 (8.4)	1.1 (0.8–1.5) ^b	2.8 (2.0–4.0) ^b
6 mo before index date	19 (4.5)	2.8 (1.5–4.9) ^b	7.7 (3.8–15.8) ^b	22 (3.4)	2.6 (1.5–4.5) ^b	5.6 (3.0–10.4) ^b
Depressive disorders						
Ever before index date	175 (41.0)	3.7 (3.2–4.3) ^a	2.8 (2.4–3.2) ^a	341 (52.1)	4.4 (3.9–4.9) ^a	3.5 (3.1–3.8) ^a
6 mo before index date	123 (28.8)	10.7 (8.1–14.0) ^a	5.0 (4.0–6.1) ^a	250 (38.2)	10.7 (8.8–12.8) ^a	6.9 (5.9–8.0) ^a
Eating disorders						
Ever before index date	18 (4.2)	5.7 (2.9–11.2) ^b	2.5 (1.3–4.4) ^b	27 (4.1)	4.1 (2.4–6.8) ^b	2.3 (1.4–3.6) ^b
6 mo before index date	11 (2.6)	11.1 (3.7–36.7) ^b	4.2 (1.8–9.6) ^b	18 (2.8)	17.2 (6.7–50.0) ^b	5.6 (2.8–11.0) ^b
Psychoses						
Ever before index date	16 (3.8)	11.8 (4.9–29.7) ^b	7.4 (3.4–16.1) ^b	30 (4.6)	7.6 (4.3–13.4) ^b	8.6 (4.8–15.7) ^b
6 mo before index date	6 (1.4)	7.1 (1.8–29.7) ^b	59.8 (7.2–2755.8) ^c	16 (2.4)	11.7 (4.7–31.8) ^b	17.7 (6.5–55.4) ^b
Personality disorders						
Ever before index date	9 (2.1)	11.1 (3.4–38.7) ^b	8.0 (2.7–23.4) ^b	14 (2.1)	6.7 (2.9–15.7) ^b	4.6 (2.1–9.9) ^b
6 mo before index date	^d	29.7 (2.4–1562.3) ^c	14.8 (1.7–178.2) ^c	8 (1.2)	26.5 (6.3–155.7) ^c	26.6 (6.4–155.9) ^c
Schizophrenia spectrum disorders						
Ever before index date	5 (1.2)	49.7 (5.5–2357.0) ^c	24.9 (4.1–261.7) ^c	11 (1.7)	11.8 (3.9–39.6) ^b	27.5 (8.1–118.9) ^c
6 mo before index date	^d	^e	14.8 (1.7–178.2) ^c	7 (1.1)	69.6 (8.9–3139.2) ^c	34.8 (6.6–344.4) ^c
Self-inflicted injuries						
Ever before index date	10 (2.3)	2.5 (1.1–5.5) ^b	2.6 (1.1–5.7) ^b	52 (7.9)	10.9 (6.9–17.3) ^b	6.1 (4.0–9.0) ^b
6 mo before index date	6 (1.4)	59.8 (7.2–2757.2) ^c	14.9 (3.5–72.3) ^c	26 (4.0)	133.0 (33.2–1159.2) ^c	12.9 (6.4–27.0) ^b
Substance use disorders						
Ever before index date	29 (6.8)	2.1 (1.3–3.3) ^b	2.5 (1.6–3.9) ^b	42 (6.4)	1.7 (1.2–2.5) ^b	2.3 (1.5–3.3) ^b
6 mo before index date	18 (4.2)	2.6 (1.4–4.7) ^b	4.5 (2.3–8.5) ^b	29 (4.4)	2.3 (1.4–3.6) ^b	4.9 (2.9–8.2) ^b
Suicidal ideation						
Ever before index date	27 (6.3)	10.3 (5.4–19.9) ^b	6.4 (3.6–11.4) ^b	60 (9.2)	12.5 (7.9–19.8) ^b	6.6 (4.5–9.6) ^b
6 mo before index date	15 (3.5)	38.2 (12.1–158.8) ^c	15.4 (5.8–45.4) ^b	39 (6.0)	21.8 (10.8–47.5) ^b	13.5 (7.6–24.7) ^b

^a Logistic regression with log link and approximate 95% CIs adjusted for use (high versus low).

^b Logistic regression with exact 95% CIs adjusted for use (high versus low).

^c Adjusted was not calculated because of the small number of cases; crude estimates from logistic regression with exact 95% CIs were reported.

^d Fewer than 5 cases were not reported.

^e Not calculated because there were 0 cases among referents.

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