

Transgender-inclusive health policies: A systematic review of effects on trans health and trans people's values and preferences

Arjee J. Restar

Yale University

Maria I. Rodriguez

Oregon Health and Science University

Emerson Dusic

University of Michigan

Dil Singh

University of Washington

Avery Everhart

University of British Columbia

S. Wilson Cole

Queery Research Consulting

Kellan E. Baker

Movement Advancement Project

Ayden I. Scheim

scheim@law.ucla.edu

University of California - Los Angeles

Systematic Review

Keywords: Health policy, public policy, transgender, nonbinary, gender diverse

Posted Date: June 5th, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-9887690/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License. [Read Full License](#)

Additional Declarations: The authors declare potential competing interests as follows: AIS serves on the Board of Directors of Global Action for Trans Equality. The remaining authors declare that they have no competing interests.

Abstract

Background

Gender-inclusive health policies include laws, policies, and regulations that provide insurance coverage for gender-affirming care, promote stigma reduction and inclusion in healthcare settings, and mandate non-discriminatory treatment for transgender, nonbinary, and gender diverse (“trans”) people.

Methods

We conducted a systematic review (PROSPERO CRD42023465905) on the health effects of gender-inclusive health policies among trans people. We searched six databases and grey literature from January 1, 2013, through April 1, 2024, with no language restrictions. The effectiveness review included quantitative studies assessing the effects of gender-inclusive health policies compared to policies that do not promote inclusion or that restrict access to gender-affirming or inclusive care. Data were narratively synthesized. ROBINS-E and GRADE were used to assess study risk of bias and certainty. Using the same search, we reviewed data on trans people’s values and preferences related to health policies and evaluated confidence in the cumulative evidence using GRADE-CERQual.

Results

Of the 2399 articles we screened, we included six studies, all from the United States, in the effectiveness review. Outcome data were available in three categories: access and utilization of health services, mental health, and experiences of stigma and discrimination. Evidence indicated that gender-inclusive health policies improve access to gender-affirming health care (e.g., surgery, prescribed versus unprescribed hormone therapy) and health insurance while reducing health care avoidance. Limited evidence indicated that policies prohibiting gender identity discrimination in health insurance reduced suicidality and psychological distress. The evidence was rated as very low certainty due to observational study designs and the likelihood of residual confounding in some studies. We included 19 studies from nine countries in the review of values and preferences, finding that trans people were less likely to report healthcare avoidance in the presence of inclusive health policies. Implementation gaps limited the perceived impact of such policies and may reduce their effectiveness. We had moderate-to-high confidence in the qualitative findings.

Conclusions

Gender-inclusive health policies may improve trans health, particularly by increasing access to gender-affirming medical care and reducing avoidance of general health care. To inform policy development, research should evaluate specific policy provisions, assess the extent of policy implementation, use quasi-experimental designs, and examine policies beyond the United States.

BACKGROUND

Transgender, nonbinary, and gender diverse (“trans”) people globally experience profound disparities in access to health care, quality of care, and health outcomes.^{1,2} These disparities result from multilevel stigma, including stigma embedded in laws, policies, and implementation protocols that govern the organization and delivery of healthcare.³ Conversely, health policies that aim to promote inclusion in and access to healthcare services for trans people may reduce health and healthcare disparities. Such gender-inclusive health policies (GIHP) may include national and subnational laws or policies that provide insurance coverage for gender-affirming care (e.g., hormone therapy, surgery), promote use of gender-inclusive language, guide health sector protocols for interactions with trans people, provide for trans-inclusive facilities (e.g., bathrooms, wards), mandate nondiscrimination on the basis of gender identity, offer trans-inclusive gender markers in health information systems, and/or require engagement of trans people and communities in activities such as health communications or quality improvement. These policies may influence health and healthcare experiences directly by providing care that was previously unavailable (e.g., through eliminating or reducing denial of care), as well as by promoting healthcare engagement among trans people.⁴

The impacts of interpersonal and structural stigma on trans health, particularly in the United States, have been synthesized in previous reviews.^{5,6} There is a paucity of research, however, about the health impacts of GIHP for trans people globally. To inform a

forthcoming trans health guideline,⁷ the World Health Organization (WHO) commissioned a systematic review on the impact of GIHP on the health of trans people and their access to and utilization of health services. We also synthesized available research on the values and preferences of trans people regarding GIHP and implementation considerations.

METHODS

This review aims to answer the following question: “Do gender-inclusive provisions within health laws, policies, regulations, and protocols improve the health and well-being of trans and gender diverse people?” This review follows the WHO Handbook for Guideline Development⁸ and the 2020 PRISMA reporting guidelines.⁹ The review protocol was registered in PROSPERO (CRD42023465905).

Search strategy and selection criteria

Eligibility for the effectiveness review was determined using the Population, Intervention, Comparator, Outcome (PICO) framework.

Population

Transgender (trans) and gender diverse adults, defined as individuals whose gender identity differs from their sex/gender assigned at birth, inclusive of intersex persons for whom this definition applies. As the WHO guideline focuses on adults, studies focusing exclusively on minors (< 18 years) were excluded.

Intervention

Provisions of national or sub-national health policies, regulations or protocols that are specifically focused, or include a focus, on gender-inclusive care for trans and gender diverse people. For this review, laws and policies are rules, directives, and regulations established by governments. Laws are generally enacted by legislative bodies and enforceable by courts, while policies are often enacted by the executive branch or government agencies. This review also includes policies and protocols (directives for policies) implemented by health systems or health facilities if such policies and protocols are explicitly operationalizing a relevant government law or policy. Articles employing composite measures of policies (e.g., indices of policies reflecting structural stigma towards trans people across multiple institutions) were eligible if at least 75% of items pertained to health policy.

Comparator

Provisions of national or sub-national policies, regulations or protocols that (a) do not promote trans inclusion or address stigma and discrimination towards trans people or (b) that explicitly restrict access to gender-inclusive healthcare (including but not limited to gender-affirming care).

Outcomes: The following outcomes were examined: (1) Health services access (including access to information on trans health and denial of service as a result of policy); (2) Discrimination in healthcare settings; (3) Stigma in healthcare settings; (4) Utilization of health services; (5) Violence experienced in healthcare settings, including experiences of medically unnecessary interventions/examinations; (6) Quality of life, including quality of sexual and reproductive life; (7) Satisfaction with health services; (8) Suicidal behaviors (i.e. suicide ideation, attempted suicide, suicide mortality); (9) Physical health (e.g. HIV, sexually transmitted infections, non-communicable diseases, etc.); (10) Mental health conditions (e.g. depression and anxiety, including recovery or relapse rate); (11) Gender incongruence/gender dysphoria; (12) Mortality; and (13) Substance use (e.g., drug and alcohol use). The outcomes are listed in order of importance, as ranked by members of the WHO Guideline Development Group.

For the effectiveness review, we included any original quantitative studies published in peer-reviewed journals or grey literature sources. There were no geographic or language restrictions, and articles were translated into English when necessary. We excluded conference abstracts, reviews, and perspective or opinion articles.

In collaboration with a research librarian, we searched Ovid MEDLINE/PubMed, Embase, PsycInfo, CINAHL, Web of Science Core Collection, and Global Medicus Indicus databases. We also searched for grey literature via keyword searches on the websites of organizations working in the areas of gender, health, and human rights (see Additional File 1). We also contacted authors of relevant conference abstracts to identify any subsequent publications. Our search strategy was guided by three primary concepts: trans and gender diverse people, policy, and health outcomes (see Medline search strategy, Additional File 2). To ensure timeliness of the

findings, we limited our search to articles published on or after January 1, 2013, following the release of World Professional Association for Transgender Health Standard of Care Guidelines v.7.¹⁰ Searches were conducted on April 1, 2024.

Review Management, Screening, and Data Extraction

We utilized Endnote v.20.0 (Clarivate, Philadelphia Pennsylvania) to collect and deduplicate all the articles from each database, then transferred nonduplicate articles to Covidence software for review management, screening, and extraction. Each article was screened by at least two trained independent reviewers (AB, ED, and DS) both at the title/abstract and full-text screening stages, with a senior member (AR) to resolve any discrepancies in screening decisions. Reasons for exclusion at the full-text stage were documented. Similarly, at the data extraction stage, data from each article were extracted by at least two independent reviewers using a standardized extraction form programmed in Covidence. Differences in extraction were resolved through consensus via team discussions. Data extracted included bibliographic information, study design, study characteristics, GIHP intervention/exposure information, analytic approach, outcome measures (e.g., effect estimates, 95% confidence intervals, p-values, covariates), main conclusions, limitations, and if applicable, data on values and preferences.

Synthesis, Risk of Bias Assessment, and Certainty in Cumulative Evidence

Based on the study findings and our a priori evidence synthesis protocol, we utilized narrative synthesis methods to describe our findings. The limited number of included studies also restricted the synthesizing of results by type of GIHP (e.g., national or sub-national gender-inclusive health policies, regulations or protocols). Therefore, we narratively described how GIHP were operationalized in each study.

To assess the risk of bias in each study, we utilized Cochrane Risk of Bias 2.0,¹¹ ROBINS-I,¹² or ROBINS-E¹³ as appropriate based on the study design. Risk of bias assessment was conducted by two independent reviewers, and any discrepancies were resolved through consensus via team discussions. All included studies were observational studies of exposures; therefore, we only used the ROBINS-E.

We summarized quantitative findings via GRADE Evidence Profile tables using GRADEPro.¹⁴ Certainty for each outcome was judged as either high, moderate, low, or very low based on the risk of bias, consistency, directness, and precision of the effect estimates, as well as publication bias. For reporting, outcomes were grouped into the following categories based on data availability: (1) access and utilization of health services, (2) mental health, and (3) experiences of stigma and discrimination.

We assessed certainty for each outcome group (e.g., mental health) and specific outcome (e.g., suicidality). Forest plots without summary statistics (pooled OR, I-statistic, etc.) were created via Stata 17 (Stata Inc., College Station, Texas, US)¹⁵ when outcomes were too disparate to combine. This is consistent with recommendations for rating the certainty of evidence using GRADE in the absence of meta-analytic estimates.¹⁶ In addition to the narrative synthesis, the forest plot enables visualization of the findings to look for overall trends and (non)overlap of confidence intervals. Where there was only one study contributing to a given outcome, the study's information was given (e.g., relative effect and 95% CI). When available, numbers of patients with and without the exposure, and with and without the outcome were included. For some studies, only partial information was reported, so study populations were calculated, when possible, with available information. Adjusted effect sizes (primarily odds ratios) were used when available. At a minimum, number of total study participants are reported, and control event rates were calculated with information reported in the studies and are listed in the footnotes.

Values and Preferences Review

At the title and abstract screening stage for the effectiveness review, we used the Covidence "tagging" feature to identify articles potentially containing original qualitative and/or quantitative data on the values and preferences of trans adults regarding GIHP. One reviewer screened the tagged studies, as well as all studies selected for full-text review, for inclusion in the values and preferences review.

Values and Preferences Synthesis and Confidence in Cumulative Evidence

We used the CASP checklist¹⁷ to evaluate qualitative studies with values and preferences data. We then synthesized both qualitative and quantitative values and preferences data via the GRADE-CERQual Interactive Summary of Qualitative Findings tool,¹⁸ and confidence in each synthesized finding was judged as low, moderate, or high based on coherence, adequacy, relevance, and methodological limitations. The synthesized findings were organized using the WHO INTEGRATE evidence-to-decision making criteria.¹⁹

RESULTS

Search Results

A total of 4,350 records, including 4,303 peer-reviewed articles and 47 grey literature reports, were identified from the selected databases, of which 1951 were removed after deduplication. A total of 2399 articles were screened, of which 157 were assessed for eligibility at full-text review. Of those, six articles met PICO eligibility criteria, and 19 were included in the review of values and preferences. Details of the selection process, including reasons for exclusion, are displayed in Fig. 1.

Included PICO Studies

Table 1 shows the study characteristics of the six included PICO-eligible articles.^{20–25} There were four cross-sectional surveys,^{20,21,24,25} one controlled before-after design,²³ and one cohort study.²² All were conducted in the United States (US), of which five were national and one was specific to California.²³ Three studies reported on health service outcomes,^{20,21,23} two on mental health,^{22,25} and two on experiences of stigma and discrimination.^{20,24} Two studies were assessed to be at low risk of bias,^{22,23} two were at high risk,^{15,18} and two were at very high risk of bias.^{6,19} GRADE Evidence Profiles for all outcomes are provided in Additional File 3. The overall certainty of evidence was judged as very low for each category (health services, mental health, stigma and discrimination) and all sub-outcomes received a judgment of low or very low certainty.

Table 1
Description of studies included in PICO review by outcome

Reference	Country	Trans Analytic N	Study design	Subgroup	Exposure	Outcome	Association Effect size (95% CI)	Risk of bias
ACCESS AND UTILIZATION OF HEALTH SERVICES								
Hughes 2022	US	11,994	Cross- sectional survey	Currently on gender- affirming hormones; Adults 18+	State-specific healthcare policy stigma score (4 item index): (1) private insurance protections for trans people, (2) whether or not Medicaid covers trans- specific healthcare, (3) state-wide nondiscrim- ination protections, and (4) religious exemption laws	Skip care due to cost Uses prescribed hormones only Supplements with non- prescribed hormones Uses non- prescribed hormones only Does not have health insurance	Highest vs. lowest state- level healthcare policy stigma score: aRR = 1.52 (1.36–1.69) aRR = 1.01 (1.00–1.02) aRR = 0.80 (0.63–0.97) aRR = 1.69 (1.02–2.36) aRR = 1.80 (1.42, 2.19)	High
Goldenberg 2020	US	18,421	Cross- sectional survey	Adults 18+	Transgender- related state policies: (1) religious exemption laws; (2) private health insurance policy with trans protections; (3) public insurance (Medicaid) policy on trans-specific care	<i>Religious exemption law</i> (broad vs. none): Ever used gender-related therapy or counseling Ever used hormones <i>Inclusive private health insurance</i> : Ever used gender-related therapy Ever used hormones <i>Inclusive public health insurance</i> : Ever used gender-related therapy Ever used hormones	aOR = 0.84 (0.74–0.96) aOR = 0.93 (0.79–1.09) aOR = 1.06 (0.93–1.21) aOR = 1.15 (0.96–1.36) Policy excludes trans-specific care (vs. no policy): aOR = 0.70 (0.55–0.90) Policy includes trans-specific care: aOR = 1.26 (1.06– 1.49) Policy excludes trans-specific care: aOR = 0.90 (0.67– 1.20) Policy includes trans-specific care: aOR =	Very High

Reference	Country	Trans Analytic N	Study design	Subgroup	Exposure	Outcome	Association Effect size (95% CI)	Risk of bias
							0.97 (0.77–1.23)	
Schoenbrunner 2023	US (California)	25,252	Controlled Before/After	Adults 18+	State-wide health insurance gender non-discrimination policy	Probability of undergoing gender-affirming surgery associated with policy implementation (CA vs. control states)	Adjusted difference-in-difference (aDiD) estimate = 12.1% (10.3%-13.9%) aDiD for insured patients = 13.4% (11.5%-15.4%) aDiD for self-pay patients = -22.6% (-32.8% to -12.5%)	Low
MENTAL HEALTH								
McDowell 2020	US	Individuals: 28,980 Person-years: 106,705	Cohort Study	Private insurance at any point 2009–2017	State policies prohibiting gender identity discrimination by private insurers	Suicidality diagnosis code (states with policy change in 2013, 2014, 2015, or 2016 versus control states) Inpatient mental health hospitalization	<i>2013 policy change:</i> in 2013: aOR = 1.16 (0.77–1.73) in 2014: aOR = 1.19 (0.85–1.67) in 2015: aOR = 0.94 (0.73–1.20) in 2016: aOR = 0.82 (0.65–1.03) in 2017: aOR = 1.29 (0.90–1.88) <i>2014 policy change:</i> in 2014: aOR = 0.84 (0.68–1.04) in 2015: aOR = 0.72 (0.58–0.90) in 2016: aOR = 0.48 (0.41–0.57) in 2017: aOR = 0.77 (0.58–1.03) <i>2015 policy change:</i>	Low

Reference	Country	Trans Analytic N	Study design	Subgroup	Exposure	Outcome	Association Effect size (95% CI)	Risk of bias
							in 2015: aOR = 1.10 (0.79– 1.52)	
							in 2016: aOR = 0.50 (0.39– 0.64)	
							in 2017: aOR = 0.81 (0.47– 1.38)	
							<i>2016 policy change:</i>	
							in 2016: aOR = 0.93 (0.81– 1.07)	
							in 2017: aOR = 0.61(0.44– 0.85)	
							<i>2013 policy change:</i>	
							in 2013: aOR = 0.83 (0.70– 0.99)	
							in 2014: aOR = 1.12 (0.93– 1.36)	
							in 2015: aOR = 0.71 (0.54– 0.91)	
							in 2016: aOR = 0.76 (0.60– 0.97)	
							in 2017: aOR = 0.85 (0.62– 1.19)	
							<i>2014 policy change:</i>	
							in 2014: aOR = 1.28 (1.03– 1.58)	
							in 2015: aOR = 1.02 (0.78– 1.34)	
							in 2016: aOR = 0.86 (0.71– 1.04)	
							in 2017: aOR = 0.87 (0.64– 1.17)	
							<i>2015 policy change:</i>	
							in 2015: aOR = 0.74 (0.58– 0.94)	

Reference	Country	Trans Analytic N	Study design	Subgroup	Exposure	Outcome	Association Effect size (95% CI)	Risk of bias
							in 2016: aOR = 0.61 (0.52– 0.72) in 2017: aOR = 0.79 (0.63– 0.99) 2016 policy change: in 2016: aOR = 0.90 (0.71– 1.15) in 2017: aOR = 0.81 (0.57– 1.16)	
Lombardi 2024	US	24,781	Cross- sectional survey	Adults 18+	State-level ban on health insurance exclusions for transgender- specific healthcare	Psychological distress (mean)	$\beta = -0.239$, SE = 0.091, $p <$ 0.01	Very High
EXPERIENCES OF STIGMA AND DISCRIMINATION								
Clark 2022	US	2,024	Cross- sectional survey	Adults 18+	State-level healthcare policy protection index score*	Healthcare avoidance due to anticipated mistreatment, past year	Interaction between lifetime healthcare discrimination and state- level healthcare policy protections: aOR = 1.33 (0.88–2.02), $p = 0.177$ Main effect of state-level healthcare policy protections: aOR = 0.85 (0.65–1.11), $p = 0.223$	High
Hughes 2022	USA	11,994	Cross- sectional survey	Currently on gender- affirming hormones; Adults 18+	State-level healthcare policy stigma score (4 item index)**	Healthcare avoidance due to anticipated mistreatment, past year	Highest vs. lowest state- level healthcare policy stigma score: aRR = 1.36 (1.12– 1.60)	High
<p>Abbreviations: OR=unadjusted odds ratio; aOR=adjusted odds ratio; adj=adjusted; SE=standard error; aRR=adjusted robust Huber-White maximum likelihood algorithm; CI=confidence interval; aDiD: Adjusted Difference-in-differences analysis</p> <p>*Items included (1) private health insurance nondiscrimination laws; (2) health insurance providers banned from excluding coverage for transgender-specific care; (3) state Medicaid policies related to coverage of transgender-specific care; (4) transgender-inclusive health benefits for state employees; (5) state criminalizes exposure to and/or transmission of HIV.</p> <p>**Items included (1) private insurance protections for trans people; (2) whether or not Medicaid covers trans-specific healthcare; (3) state-wide nondiscrimination protections; (4) religious exemption laws.</p>								

Healthcare Access and Utilization

Two cross-sectional surveys^{20,21} and one controlled before-after study²³ examined relationships between US state-level GIHP and healthcare utilization. Across the studies, there were a total of 55,667 non-unique trans participants; two studies used data from the 2015 US Transgender Survey.^{6,17}

The controlled before-after study²³ reported on the change in the number of gender-affirming surgeries attributable to the implementation of a California state law prohibiting gender identity discrimination in health insurance. There was low certainty evidence (due to the observational study design) that the law was associated with a 12.1% increase (95% CI: 10.3% to 13.9%) in the probability of undergoing gender-affirming surgery in California, as compared to control states. Consistent with a causal association, this effect was concentrated among insured patients.

The two cross-sectional studies examined associations between several GIHP (e.g., private and public insurance protections for transgender-specific care, absence of religious exemptions) and receipt of gender-affirming hormone therapy or prescribed (versus unprescribed) hormone use (Fig. 2).^{20,21} There was very low certainty evidence that GIHP (operationalized via scores on an index of these policies) are associated with less non-prescribed hormone use (adjusted relative risk [aRR] comparing lowest to highest healthcare stigma scores = 0.59; 95% CI: 0.42 to 0.98) and lower levels of being uninsured among trans and gender diverse people (aRR = 0.56; 95% CI: 0.46 to 0.70).²⁰ GIHP had limited impact on receipt of hormone therapy overall (adjusted Odds Ratios [aOR] for specific policies ranged from 0.93 to 1.15, and all CIs crossed 1.0).²¹ There was very low-certainty evidence that GIHP are associated with access to gender-related counseling (e.g., inclusive public health insurance policies; aOR = 1.26; 95% CI: 1.06 to 1.49).²¹ Evidence for both studies was of very low certainty due to high risk of bias, particularly related to residual confounding at the state level.

Mental Health

One cohort study²² (n = 28,980) and one cross-sectional study (n = 24,781)²⁵ examined the impact of GIHP in the US on mental health. Overall, there was very low certainty evidence that GIHP may improve mental health among transgender and nonbinary people. The cohort study was at low risk of bias while the cross-sectional study was at very high risk of bias, due primarily to residual confounding and overadjustment (e.g., for medical gender affirmation and discrimination, which are potential mediators).

The cohort study used a private health insurance database and difference-in-difference analyses to examine the impact of policies prohibiting gender identity in private health insurance that were adopted by 20 US states and the District of Columbia, with outcomes of insurance claims related to suicidality and inpatient mental health hospitalization.²² States were grouped into four cohorts for analysis based on the year of policy implementation (2013 to 2016). Estimates of policy effect were generated for each cohort versus control states, annually from 2014 to 2017. There was low certainty that nondiscrimination policies in private insurance reduced suicidality and inpatient mental health hospitalizations in some observation years (Fig. 3). For suicidality, aORs ranged from the lowest aOR of 0.48 (95% CI: 0.41 to 0.57) to the highest aOR of 1.29 (95% CI: 0.90 to 1.88). For mental health hospitalizations, the largest protective effect of the policies was seen among the 2015 policy change cohort in the year following implementation (aOR = 0.61; 95% CI: 0.52 to 0.72). An increased risk of inpatient mental health hospitalization was also observed in some cohort years, with one statistically significant increase among the 2014 policy change cohort in the year of implementation (aOR = 1.28, 95% CI: 1.03 to 1.58).

The cross-sectional study examined the impact of US state laws banning exclusion of gender-affirming medical care from public health insurance (Medicaid) plans on psychological distress among 2015 US Transgender Survey participants.²⁵ There was very low certainty that this GIHP may have reduced psychological distress, with a small estimated reduction of 0.239 points on a 24-point scale.

Experiences of Stigma and Discrimination

Two cross-sectional studies with 14,018 participants assessed the impact of GIHP on experiences of stigma and discrimination, specifically avoiding care due to fear of mistreatment.^{20,24} GIHP was operationalized as scores on US state-level GIHP indices including policies such as health insurance nondiscrimination, bans on insurance exclusions of gender-affirming care, inclusive health benefits for state employees, religious exemptions, and non-criminalization of exposure/transmission of HIV. Overall, there was very low certainty evidence that GIHP reduces stigma-related healthcare avoidance. For example, in the study of 11,994 2015 US

Transgender Survey participants on hormone therapy,²⁰ living in states with the lowest versus highest healthcare policy stigma scores was associated with less healthcare avoidance (aRR = 0.74; 95% CI: 0.63 to 0.89). Results of both studies are shown in Fig. 4. The studies were not meta-analyzed because of heterogeneous exposure coding and modeling approaches. Certainty was very low because both studies were at high risk of bias due to the potential for residual state-level confounding, and because of imprecision.

Values and preferences review

A full description of the 18 included studies on trans people's values and preferences related to GIHP is available in Additional File 4. The studies were conducted in China,²⁶ India,²⁷ the US,^{28–32} Brazil,^{33–36} Spain,³⁷ Argentina,^{38,39} South Africa,⁴⁰ Egypt,⁴¹ and Canada,⁴² one study was conducted globally.⁴³ In regards to study design, 13 studies employed qualitative interviews, two used focus groups, and three used quantitative surveys. Two studies were from the grey literature, and 16 were peer-reviewed. Most studies focused on trans adults of any gender (n = 12); four studies also interviewed healthcare or social service providers. The trans sample sizes ranged from n = 6 to n = 50 for qualitative studies and n = 30 to n = 12,037 for quantitative studies.

The GRADE-CERQual Summary of Findings and Evidence Profile tables, organized according to WHO INTEGRATE criteria, are shown in Additional File 4. Based on the included studies, we have moderate confidence that trans people are more likely to access healthcare in the presence of GIHP.^{30,38,42} Conversely, we have high confidence that proposed policies allowing denial of healthcare services to trans people (e.g., on the basis of provider religious beliefs) are distressing to trans people and reduce their willingness to openly access physical and mental healthcare services.^{29,31} With regard to feasibility and health system considerations, we have moderate confidence that uneven adoption of GIHP, and a lack of universal implementation standards within jurisdictions, creates barriers and delays to gender-affirming healthcare.^{30,32} For example, even in US states where GIHP prohibit discrimination in insurance coverage for gender-affirming surgery, navigating approval and reimbursement processes can be extremely challenging and require substantial advocacy by patients and peer navigators.³⁰ Nevertheless, trans people in multiple countries reported that GIHP were important tools in advocacy for equitable access to health services; we have moderate confidence in this finding.^{30,38,39,42}

Related to feasibility and health system considerations, we have high confidence that even when GIHP require coverage of gender-affirming care, insufficient health system capacity and/or persistent gaps in insurance coverage can leave trans and gender diverse people unable to access care or force them to pay out-of-pocket and/or seek potentially unregulated care.^{26,27,33,34,40} Illustrating this finding, trans and gender diverse people in Brazil, India, and South Africa reported that public healthcare facilities, particularly outside major urban centers, were generally unable to provide specialized gender-affirming care services.^{27,33,40} Trans and gender diverse people underscored the importance of coupling GIHP with provider and health system interventions, as reflected in findings regarding human rights and socio-cultural acceptability. Specifically, we have high confidence trans and gender diverse people experienced discrimination from healthcare staff even in the presence of GIHP^{34,35} and that a lack of provider knowledge and implementation gaps around existing GIHP created barriers to realizing their rights as patients.^{33,35,36,38,39} Relatedly, even in settings with GIHP mandating nondiscrimination in the public health system, trans and gender diverse people generally reported more negative experiences with public (versus private) healthcare services (moderate confidence), which they sometimes attributed to a lack of resources and training.^{27,33,34,38,40} Finally, regarding societal implications, we have moderate confidence that policies requiring that trans and gender diverse people meet strict diagnostic criteria to access publicly funded gender-affirming care reduce access to care and perceived quality of care which, in turn, increases exposure to stigma and negative mental health outcomes.^{26,36,41}

DISCUSSION

In our global systematic review on the effectiveness of gender-inclusive health policies for transgender and gender diverse populations, we found just six eligible articles, all focused on GIHP in the US. These studies indicated that GIHP are associated with improved access to gender-affirming healthcare, including gender-affirming surgery,²³ prescribed (versus unprescribed) hormone therapy,²⁰ health insurance coverage,²⁰ and gender-related counseling,²¹ they are also associated with less avoidance of healthcare due to anticipated stigma.^{20,24}

Regarding mental health, there was some evidence that policies prohibiting gender identity discrimination in private and public health insurance may be beneficial. Specifically, these policies were associated with reductions in suicidality and mental health hospitalizations in some study years²² and with small reductions in psychological distress, respectively.²⁵ Importantly, mental health

outcomes are conceptually less proximate to GIHP than access to healthcare and healthcare stigma. Moreover, in the context of rapid change and regression in GIHPs in the US and other Global North countries, research suggests trans people may be unclear about GIHP in effect in their jurisdiction, and that this confusion has negative mental health consequences.⁴⁴

The overall certainty of evidence was very low due to observational study designs, the potential for residual confounding, and imprecision in some cases. In addition, while three studies examined specific GIHP related to nondiscrimination in health insurance plans,^{22,23,25} the others used policy index exposures. Although research employing policy indices can highlight the impact of structural stigma on trans people's health,⁴⁵ this approach does not identify which specific policies are effective and thus should be implemented. Therefore, additional research is needed that evaluates the health effects of specific gender-inclusive health policies using rigorous policy analysis methods (e.g., difference-in-difference and other quasi-experimental approaches that account for state-level confounding⁴⁶). As these methods generally require temporality, longitudinal data will allow researchers to observe policy effects over time and make clearer causal claims. Evaluations of policies outside the US are also urgently needed. For example, an ongoing study is examining the impact of South Africa's differentiated HIV service delivery model for trans people, with baseline data published since our search,⁴⁷ however, recent cuts in US global health funding and policies that deny the existence of trans people threaten such research.⁴⁸

Bolstering the limited data from comparative quantitative studies, qualitative and quantitative research on trans people's values and preferences showed clear agreement that GIHP are beneficial in a range of settings spanning high-, medium-, and low-income countries. Specifically, trans people linked GIHPs to increased uptake of healthcare services and greater ability to advocate for the right to health. Qualitative findings highlighted GIHP implementation challenges, including a lack of implementation standards and workforce training, policies requiring extensive diagnostic processes to access gender-affirming care (exceeding clinical guidelines from the World Professional Association for Transgender Health⁴⁹), and limited health system capacity to implement specialized gender-affirming care services. These implementation gaps may reduce the effectiveness of GIHP and should be considered in the design of future policies. Evaluations of GIHP should strive to measure both the establishment and the implementation (including enforcement) of these policies.

In addition to the abovementioned limitation in the geographic scope of available effectiveness research, this review was subject to several important limitations. First, although our searches included a wide range of terms for the health outcome concept, it is possible that using an outcome filter excluded potentially relevant studies. However, we piloted the strategy and conducted sensitivity analyses to ensure that seminal studies were captured by the search. Second, we identified studies on values and preferences by screening records from the same search, introducing the possibility that we did not capture relevant studies without the health outcomes specified by the search strategy. Finally, due to the small number of studies with heterogenous exposures and/or outcomes, we could not conduct meta-analyses.

Conclusions

Taken together, the findings of our reviews underscore the benefits of GIHP for trans populations, particularly regarding access to inclusive and affirming healthcare. Our findings also show the importance of continuing to implement and evaluate GIHPs, including an expanded scope to a wider range of health outcomes and geographic settings.

Our review on the perspectives of trans people globally further indicates that full implementation of GIHP is essential for ensuring these policies have their intended effects. Although GIHP were perceived as valuable advocacy tools, they are insufficient without coordinated communication to interest-holders, clinical education, and accountability mechanisms across health systems and in both urban and non-urban areas. Governments should thus ensure that there are adequate resources in place to enable full, sustained, and equitable implementation of GIHP. Research is needed to assess the effects of implementation gaps, particularly in public health systems in low-resource settings, and policy solutions are needed to overcome them. Lastly, governments and political leaders globally are increasingly implementing laws and policies that restrict trans people's rights and access to healthcare. These laws threaten gains made by GIHP and may worsen health inequities.⁵⁰ Evaluating the health effects of both inclusionary and exclusionary policies is critical to informing public health and policy responses.

Declarations

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable.

Competing interests

AIS serves on the Board of Directors of Global Action for Trans Equality. The remaining authors declare that they have no competing interests.

Funding

World Health Organization through a grant from the Elton John AIDS Foundation.

Authors' contributions

AIS, AJR, MIR, AE, and KEB developed the review protocol. AJR, ED, DS, AE, and AIS conducted screening and data extraction. AJR, ED, DS, SWC, and AIS assessed risk of bias. SWC and AIS conducted the GRADE assessment. AJR and AIS administered and supervised the project. MIR provided methodological guidance. AIS and AJR drafted the manuscript. All authors read and approved the final manuscript.

Acknowledgments

We thank Teresa E. Jewell for assistance in curating the search strategy. We are grateful for the guidance and assistance of WHO staff Evelyn Boy-Mena, Dr. Lianne Marie Gonsalves, Maeve Brito de Mello, Rachel Hammonds, and Anna Coates, as well as methodologist Dr. Nandi Siegfried.

Availability of data and materials

All data generated or analysed during this study are included in this published article and its supplementary information files.

References

1. Scheim AI, Rich AJ, Zubizarreta D, Malik M, Baker KE, Restar AJ et al (2024) Health status of transgender people globally: A systematic review of research on disease burden and correlates. *PLoS ONE* 19(3):e0299373. 10.1371/journal.pone.0299373
2. Reisner SL, Poteat T, Keatley J, Cabral M, Mothopeng T, Dunham E et al (2016) Global health burden and needs of transgender populations: a review. *Lancet* 388(10042):412–436
3. Hughto JMW, Reisner SL, Pachankis JE (2015) Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. *Soc Sci Med* 147:222–231
4. Stroumsa D (2014) The state of transgender health care: policy, law, and medical frameworks. *Am J Public Health* 104(3):e31–e38. 10.2105/AJPH.2013.301789
5. Tebbe EA, Budge SL Factors that drive mental health disparities and promote well-being in transgender and nonbinary people. *Nat Rev Psychol* 2022:1–14. 10.1038/s44159-022-00109-0 PMID – 36187743.
6. Lattanner MR, McKetta S, Pachankis JE, Hatzenbuehler ML (2025) State of the Science of Structural Stigma and LGBTQ+ Health: Meta-Analytic Evidence, Research Gaps, and Future Directions. *Annu Rev Public Health* 46(1):213–231. 10.1146/annurev-publhealth-071723-013336

7. World Health Organization WHO announces the development of a guideline on the health of trans and gender diverse people. 18 December 2023 <https://www.who.int/news/item/18-12-2023-who-announces-the-development-of-a-guideline-on-the-health-of-trans-and-gender-diverse-people>
8. World Health Organization (2014) WHO handbook for guideline development. World Health Organization
9. Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD et al (2021) The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 372:n71. 10.1136/bmj.n71 PMID – 33782057
10. Coleman E, Bockting W, Botzer M, Cohen-Kettenis P, DeCuypere G, Feldman J et al (2012) Standards of care for the health of transsexual, transgender, and gender-nonconforming people, version 7. *Int J Transgenderism* 13(4):165–232
11. Sterne JA, Savović J, Page MJ, Elbers RG, Blencowe NS, Boutron I et al (2019) RoB 2: a revised tool for assessing risk of bias in randomised trials. *BMJ* ;366
12. Sterne JA, Hernán MA, Reeves BC, Savović J, Berkman ND, Viswanathan M et al (2016) ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions. *BMJ* ;355
13. Higgins JPT, Morgan RL, Rooney AA, Taylor KW, Thayer KA, Silva RA et al (2024) A tool to assess risk of bias in non-randomized follow-up studies of exposure effects (ROBINS-E). *Environ Int* 186:108602. 10.1016/j.envint.2024.108602
14. McMaster University and Evidence Prime. GRADEpro GDT: GRADEpro Guideline Development Tool (2023) www.grade.pro.org
15. Cochrane Collaboration Review Manager (RevMan) 5.3. 2024.
16. Murad MH, Mustafa RA, Schunemann HJ, Sultan S, Santesso N (2017) Rating the certainty in evidence in the absence of a single estimate of effect. *Evid Based Med* 22(3):85–87. 10.1136/ebmed-2017-110668
17. Critical Appraisal Skills Programme. CASP Qualitative Studies Checklist (2018) <https://casp-uk.net/casp-tools-checklists/> Accessed 1 June 2023
18. The Norwegian Institute of Public Health (developed by the Epistemonikos Foundation, Megan Wainwright Consulting and the Norwegian Institute of Public Health for the GRADE-CERQual Project Group) GRADE-CERQual Interactive Summary of Qualitative Findings (iSoQ). Version 1.0. Oslo, Norway.
19. Rehfuss EA, Stratil JM, Scheel IB, Portela A, Norris SL, Baltussen R (2019) The WHO-INTEGRATE evidence to decision framework version 1.0: integrating WHO norms and values and a complexity perspective. *BMJ Glob Health* 4(Suppl 1):e000844. 10.1136/bmjgh-2018-000844
20. Hughes LD, Gamarel KE, King WM, Goldenberg T, Jaccard J, Geronimus AT (2022) State-level policy stigma and non-prescribed hormones use among trans populations in the United States: A mediational analysis of insurance and anticipated stigma. *Ann Behav Med* 56(6):592–604
21. Goldenberg T, Reisner S, Harper G, Gamarel K, Stephenson R (2020) State-level transgender-specific policies, race/ethnicity, and use of medical gender affirmation services among transgender and other gender-diverse people in the United States. *Milbank Q* 98(3):802–846
22. McDowell A, Raifman J, Progovac AM, Rose S (2020) Association of nondiscrimination policies with mental health among gender minority individuals. *JAMA psychiatry* 77(9):952–958
23. Schoenbrunner A, Beckmeyer A, Kunnath N et al (2023) Association Between California's State Insurance Gender Nondiscrimination Act and Utilization of Gender-Affirming Surgery. *JAMA* 329(10):819–826
24. Clark KD, Luong S, Lunn MR, Flowers E, Bahalkeh E, Lubensky ME et al (2022) Healthcare mistreatment, state-level policy protections, and healthcare avoidance among gender minority people. *Sex Res Soc Policy* 19(4):1717–1730
25. Lombardi E, Sahni H (2024) The Impact of Anti-discrimination Legislation on Transgender People within the USA. *Sexuality Res Social Policy* 21(1):76–85
26. Amnesty International (2019) I need my parents' consent to be myself: Barriers to gender-affirming treatments for transgender people in China. London: (<https://www.amnesty.org/en/documents/asa17/0269/2019/en/>)
27. Arora L, Bhujang P, Sivakami M (2022) Understanding discrimination against LGBTQIA+ patients in Indian hospitals using a human rights perspective: an exploratory qualitative study. *Sex Reproductive Health Matters* 29(2):2104678
28. Stroumsa D, Crissman HP, Dalton VK, Kolenic G, Richardson CR (2020) Insurance coverage and use of hormones among transgender respondents to a national survey. *Ann Fam Med* 18(6):528–534
29. Babbs G, Wolfe HL, Ulrich MR, Raifman J, Lipson SK (2024) Sexual and Gender Minority University Students Report Distress Due to Discriminatory Health Care Policies. *Stigma Health* 9(4):601–604. 10.1037/sah0000459

30. Dozier R (2023) How Navigators Influence Insurance Coverage for Gender-Affirming Surgeries: A Qualitative Study. *Permanente J* 27(1):72
31. Grzanka PR, Spengler ES, Miles JR, Frantell KA, DeVore EN (2020) Sincerely held principles or prejudice? The Tennessee Counseling Discrimination Law. *Couns Psychol* 48(2):223–248
32. Kirkland A, Talesh S, Perone AK (2021) Health insurance rights and access to health care for trans people: The social construction of medical necessity. *Law Soc Rev* 55(4):539–562
33. Tagliamento G, Paiva V (2016) Trans-specific health care: challenges in the context of new policies for transgender people. *J Homosex* 63(11):1556–1572
34. Gomes DF, Teixeira ER, Sauthier M, Paes GO (2022) Restrição de políticas públicas de saúde: um desafio dos transexuais na atenção básica. *Escola Anna Nery* 26:e20210425
35. de Sousa Nogueira FJ, Aragão TAP (2019) Política Nacional de Saúde Integral LGBT: o que ocorre na prática sob o prisma de usuários (as) e profissionais de saúde. *Saúde e pesquisa* 12(3):463–470
36. Oliveira I, Romanini M (2020) (Re) escrevendo roteiros (in) visíveis: a trajetória de mulheres transgênero nas políticas públicas de saúde. *Saúde e Sociedade* 29:e170961
37. Langarita JA, Grau JM, Albertín P (2023) Local government policies on sexual and gender diversity in Spain. Experiences from Alt Empordà. *Local Government Stud* 49(3):451–470
38. Arístegui I, Radusky PD, Zalazar V, Romero M, Schwartz J, Sued O (2017) Impact of the Gender Identity Law in Argentinean transgender women. *Int J Transgenderism* 18(4):446–456
39. Boy M, Rodríguez MF (2022) The implementation of the Gender Identity Law in still cis heteronormed times. Dynamics of (in) attention to transgender people in the field of health in the Conurbano Bonarense. *Revista Colombiana de Sociologia* 45(1):461–478
40. Zambezi D, Viljoen F (2024) Access to healthcare services for transgender people in South Africa: assessing healthcare experiences and human rights. *Int J Transgender Health*. ;25(4):791–803. DOI: 0.1080/26895269.2023.2273364
41. Noralla N (2024) Access Denied: A qualitative Study on transgender health policy in Egypt. *Soc Sci Med* 348:116867. 10.1016/j.socscimed.2024.116867
42. Wright I, Gahagan J (2024) Improving gay, bisexual and transgender inclusion in blood and plasma donation policies and programmes in Canada: A qualitative study. *Vox Sang* 119(7):656–663. 10.1111/vox.13636
43. Global Action for Trans Equality (GATE). Trans and Gender Diverse Communities' Values and Preferences for HIV, Hepatitis, and STI Services: A Qualitative Study. New York (2022) <https://gate.ngo/trans-values-and-preferences-hiv-services/>. Accessed 1 June 2023
44. Hughto JMW, Meyers DJ, Mimiaga MJ, Reisner SL, Cahill S (2022) Uncertainty and Confusion Regarding Transgender Non-discrimination Policies: Implications for the Mental Health of Transgender Americans. *Sex Res Soc Policy* 19(3):1069–1079. 10.1007/s13178-021-00602-w
45. Hatzenbuehler ML, Lattanner MR, McKetta S, Pachankis JE (2024) Structural stigma and LGBTQ+ health: a narrative review of quantitative studies. *Lancet Public Health* 9(2):e109–e127. 10.1016/S2468-2667(23)00312-2
46. Dimick JB, Ryan AM (2014) Methods for evaluating changes in health care policy: the difference-in-differences approach. *JAMA* 312(22):2401–2402
47. Bothma R, Pettifor A, Maphosa I, Ndlovu P, Imrie J, Poteat T (2025) Exploring healthcare experiences of transgender people in the Jabula Uzibone study, South Africa: a longitudinal implementation science study. *J Int Aids Soc* 28(Suppl 3):e26503. 10.1002/jia2.26503
48. Gamarel KE, Restar AJ, Reisner SL, Operario D (2025) Transgender erasure is a crisis for HIV science. *Lancet HIV* 12(8):e539–e541
49. Coleman E, Radix AE, Bouman WP et al (2022) Standards of Care for the Health of Transgender and Gender Diverse People, Version 8. *Int J Transgender Health* 23(sup1):S1–S259. 10.1080/26895269.2022.2100644
50. Restar AJ, Rodriguez-Diaz CE, Breslow AS, Correll-King W, Kershaw T, Operario D, Gamarel K (2025) Reinforcing social safety for transgender and non-binary communities amidst global legislative threats. *Lancet* 406(10499):110–113

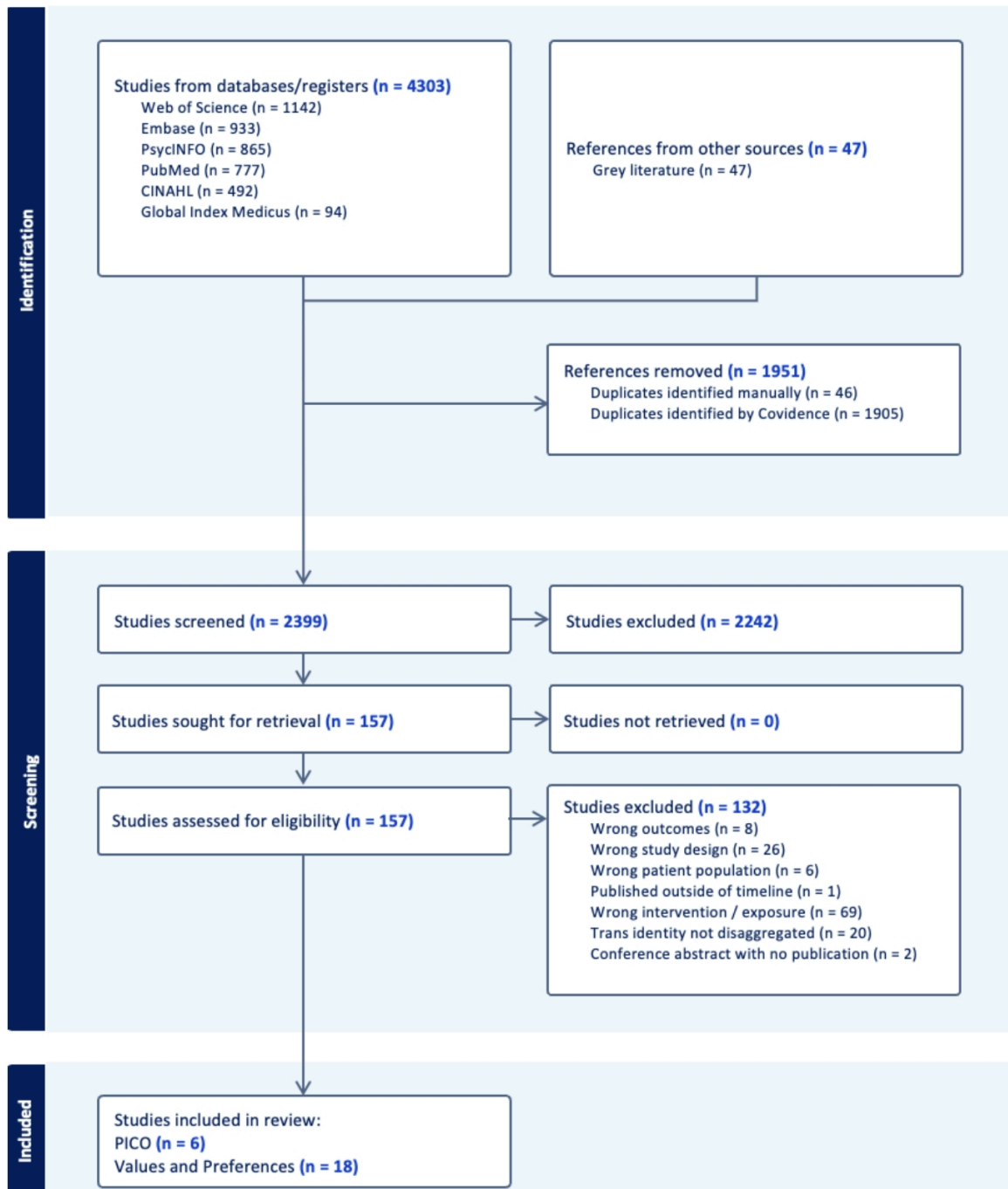


Figure 1

PRISMA Flow Chart

Gender Inclusive Health Policy & Healthcare Utilization

aRR or aOR

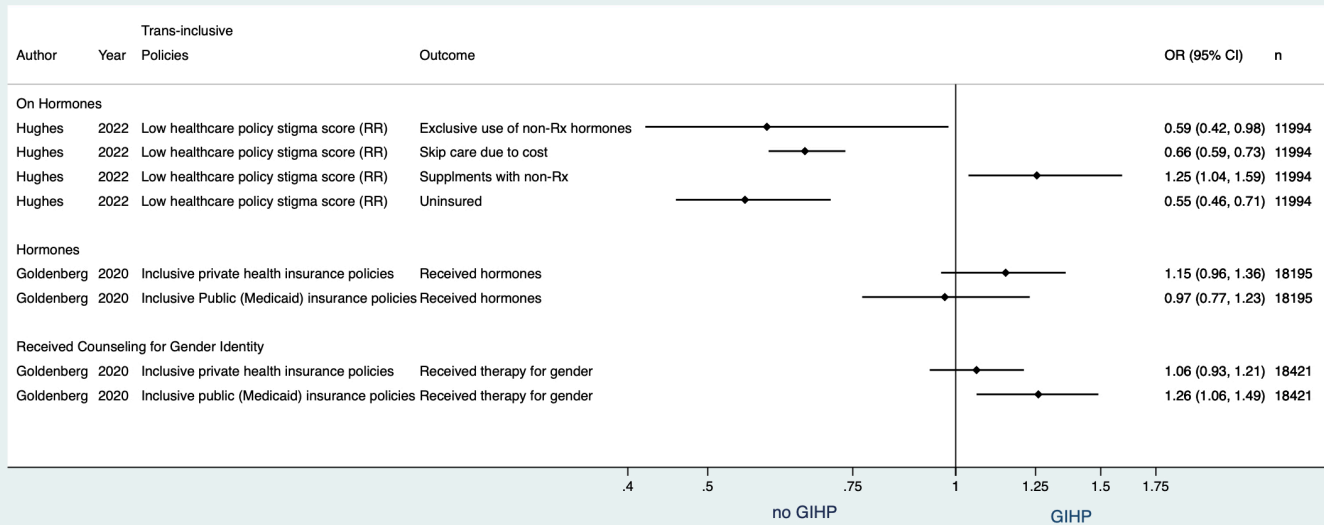


Figure 2

Forest plot of healthcare access and utilization outcomes

Gender Inclusive Health Policy & Mental Health

aRR, Difference-in-difference Analysis

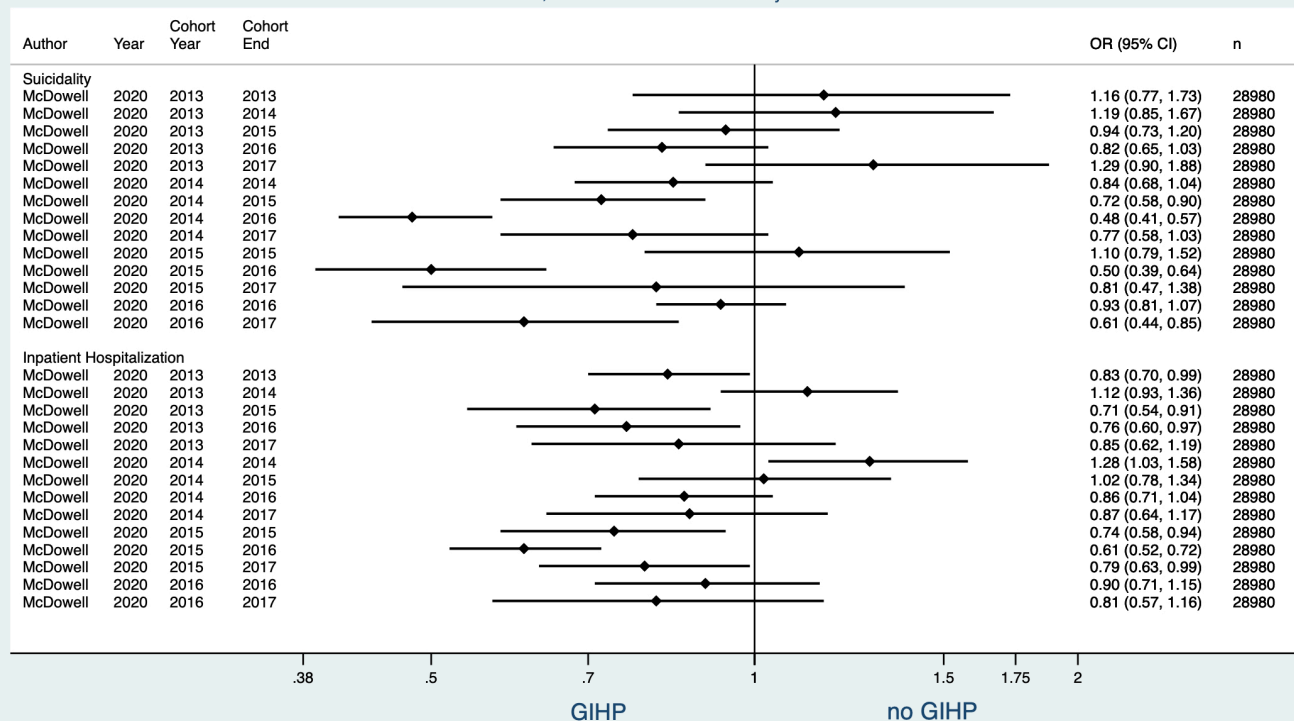


Figure 3

Forest plot of outcomes from McDowell et al.²²

Gender Inclusive Health Policy & Discrimination

aORs

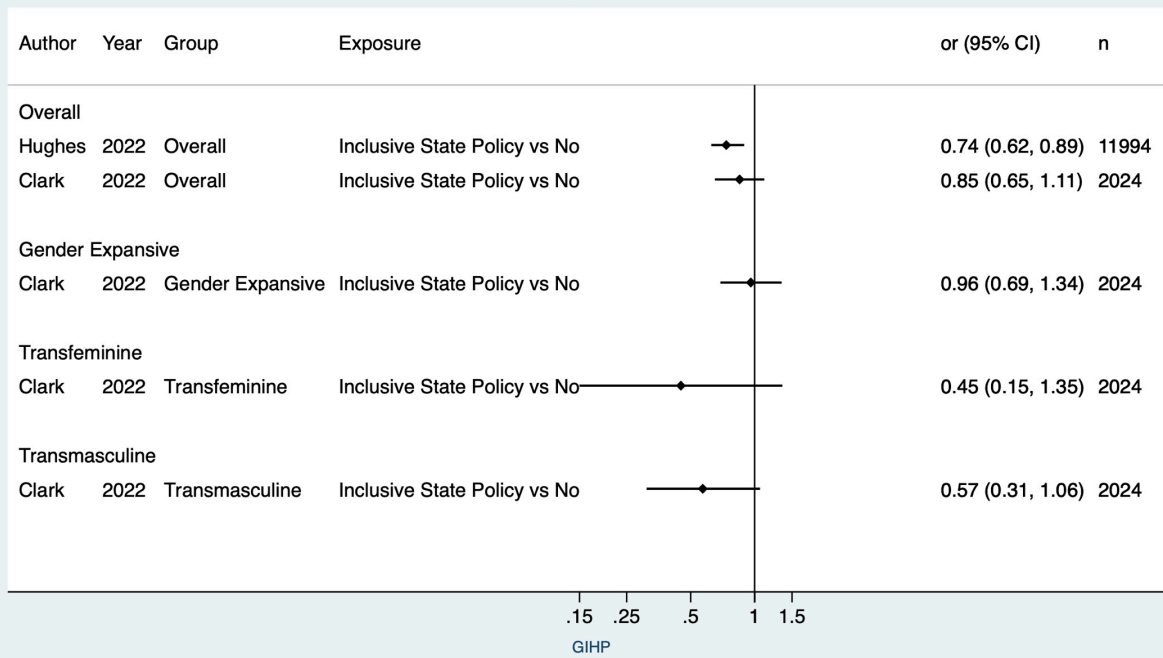


Figure 4

Forest plot of stigma and discrimination outcomes

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- [SupplementaryMaterials612026.docx](#)