




Intersectional Model of Service Use: Understanding Transgender and Nonbinary Healthcare Access


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Abstract

Transgender and nonbinary (TNB) people often have difficulty accessing healthcare services because of the systemic forces of transphobia and cisgenderism. Despite this, there is little theory specifically designed to examine healthcare access among TNB people. We conducted a literature review to identify studies examining TNB healthcare access. We screened a total of 2,050 unique articles for inclusion, resulting in a final sample of 46 articles that met the review criteria. Theories used and key findings were coded to inform the development of the Intersectional Model of Service Use (IMSU) for TNB people. The IMSU builds upon current theoretical frameworks including the Behavioral Model for Vulnerable Populations (BMVP), which proposes that predisposing, enabling, and need factors drive healthcare utilization among vulnerable populations. The IMSU combines the predisposing, enabling, and need factors of the BMVP with TNB-specific healthcare access factors identified through this integrative review. The findings from this review suggest its effectiveness in informing research and interventions aimed at improving healthcare access among TNB people.

Keywords: *transgender, nonbinary, theory, healthcare*

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Introduction

Transgender is a broad term for individuals whose gender does not match their sex assigned at birth and includes people who identify as men/masculine, women/feminine, and identities outside of the gender binary, such as genderqueer, nonbinary, bigender, and agender (Fenway Health, 2010). As of 2022, there were nearly 1.3 million adults (roughly 0.5% of the population) who identified as transgender or nonbinary (TNB) in the United States (Herman et al., 2022). This likely underestimates the number of TNB people, as disclosing a TNB identity can often result in stigma and discrimination (Friley & Venetis, 2021).

Transgender and nonbinary people face significant healthcare access barriers, with research indicating that TNB people are less likely to use both primary and specialty healthcare services than cisgender individuals (Ehrenfeld et al., 2018). Adding to this, since the start of 2021 at least 19 states (Alabama, Arizona, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Missouri, New Hampshire, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Utah, and Wisconsin) have introduced bills designed to restrict TNB minors' access to gender-affirming treatments (Freedom for All Americans, 2022).

Despite the increasing concentration on TNB people, few theoretical models have been designed specifically to study and explain TNB healthcare access. As such, this paper begins by exploring how current theory is used in TNB healthcare access literature. It then uses integrative review methodologies (Whittemore & Knafl, 2005) to identify the primary factors impacting TNB healthcare access and synthesizes these review findings to develop the Intersectional Model of Service Use (IMSU), a population-specific theoretical framework designed to understand TNB healthcare access.

Current TNB Healthcare Access Theories

Various theoretical frameworks have been used to explain how, why, and when people engage with the healthcare system (Andersen, 1968). These approaches generally focused on either economic or social-psychological factors. Economic-based models stressed variables such as income, health insurance, and cost while social-psychological models emphasized individual values, attitudes toward illness and health, and social definitions of illness (Andersen, 1968). In 1968, U.S. medical sociologist Ronald M. Andersen integrated aspects of previous models to develop his Behavioral Model of Health Services Use (BMHU), which has become one of the most widely used models for predicting healthcare access among the general population.

According to the original BMHU (Andersen, 1968), healthcare access is determined by three primary forces: predisposing factors, enabling factors, and need. Predisposing factors are individual characteristics that exist prior to the catalyst for seeking health services and are divided into three categories: demographics (e.g., age, sex, marital status), social structure (e.g., education, race/ethnicity, religion), and beliefs (e.g., values concerning health and illness, attitudes toward health services). Enabling factors are the conditions that permit individuals to access healthcare services, such as income level, health insurance status, provider location, and wait times. Finally, need represents an individual's self-perceived need for healthcare services, along with professional evaluations of service need.

Since its inception, the BMHU has been revised through six major phases (Aday & Andersen, 1974; Andersen, 1968, 1995, 2008; Andersen et al., 2014; Andersen & Newman, 1973), with the most recent iteration appearing in 2014. Each of these phases—in addition to an adaptation specifically tailored for vulnerable populations (Gelberg et al., 2000)—expanded on the original concepts of the BMHU by including contextual healthcare characteristics such as health policy (Aday & Andersen, 1974), emphasizing the relationship between health outcomes and healthcare utilization (Andersen, 1995), and considering how healthcare experiences influence future access (Andersen et al., 2014). Although the original BMHU and its subsequent iterations provided an effective perspective to examine healthcare access generally and among some vulnerable populations, it was not tailored for use with TNB people specifically.

There is a growing body of literature examining barriers and facilitators TNB people face accessing healthcare (e.g., Hostetter et al., 2022; Lerner & Robles, 2017), although there is little consensus on how theory should guide this research. Theory provides an organizing framework for future research, increases efficiency by allowing researchers to test and improve existing theories, and facilitates the application of findings attempting to explain how individual constructs fit together in a cohesive whole (Wacker, 1998). Despite the strengths of current models of healthcare access such as Andersen's BMHU and the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000), none of them fully address the specific needs of TNB

people, and they have only recently begun to be applied to TNB people (e.g., Lerner et al., 2020; Lerner & Robles, 2017). Therefore, the remainder of this paper describes an integrative literature review to identify the most salient TNB-specific healthcare access factors and integrates these findings into traditional healthcare access factors from the BMVP to propose a new integrated theoretical model tailored specifically to TNB healthcare access.

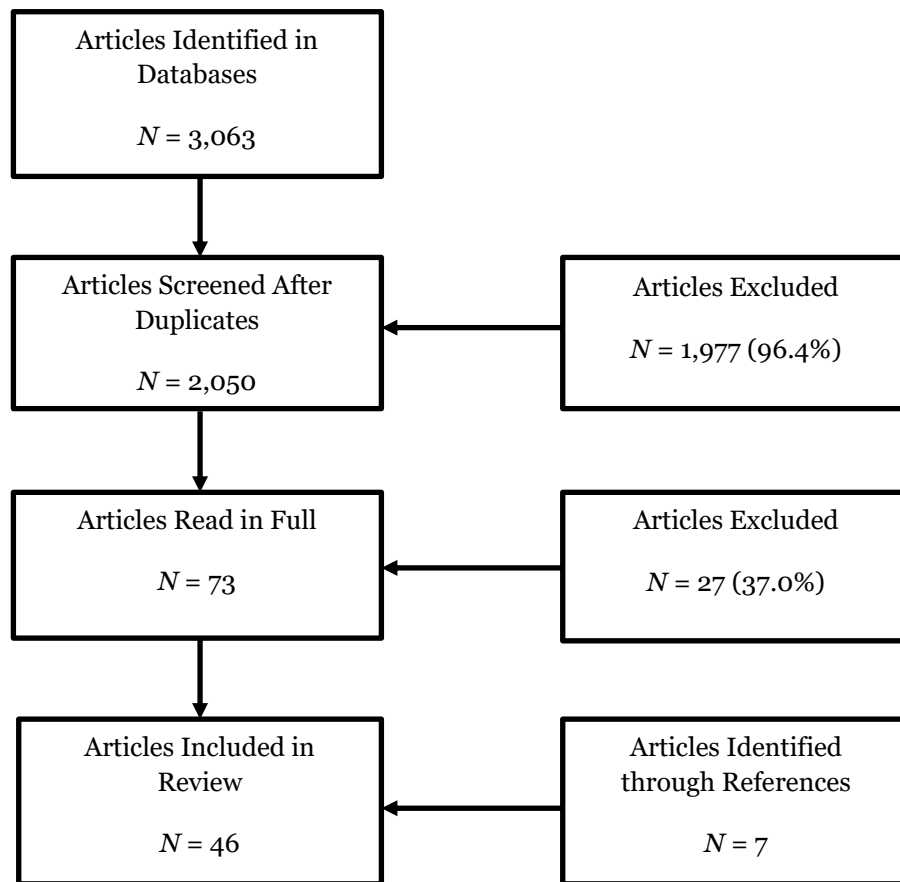
Methods

Literature Search Process

The literature review process was based on a modified integrative review methodology (Whittemore & Knaf, 2005), which allowed for the combination of quantitative and qualitative methodologies through synthesis for theory creation (Torraco, 2016). Four databases (PsychInfo, PubMed, Social Services Abstracts, and the Nursing and Allied Health Database) were searched from August 9 to November 21, 2021. We searched abstracts and titles for the following terms: (*transgender or non-binary or nonbinary or “non binary” or genderqueer or “gender queer” or “gender non-conforming” or “gender non conforming” or “gender nonconforming” or “gender minority”*) AND (*access* or use or availability or utiliz* or barriers or facilitators*) and (*healthcare or “health care” or “medical care” or “medical services” or “medical treatment”*).

We set several inclusion and exclusion criteria to guide the review. To be eligible for inclusion, articles needed to explicitly speak to the unique experiences of TNB people, including both studies that exclusively focused on TNB people and those that performed subgroup analyses of TNB people as part of a larger sample. Additionally, to combat the systematic erasure of TNB voices, all articles included in the review used data obtained directly from TNB people rather than secondary perspectives such as cisgender healthcare staff or medical educators. Articles must have also directly addressed medical healthcare access to be included. Studies based outside of the United States were also excluded, as the United States healthcare system operates within a unique cultural, political, and economic context (Kcomt, 2019). Finally, studies that solely focused on accessing mental health or HIV services were not included. Although a growing body of literature indicates that TNB people also often struggle to access these services (e.g., Snow et al., 2019), restricting the review scope to general and transition-related medical care access allowed for a deeper analysis of this topic.

Figure 1 presents a visual representation of the study selection process. The initial search identified 3,063 articles, a number that was reduced to 2,050 after removing duplicates. An initial screening of titles and abstracts identified 1,977 articles that did not meet the criteria, most frequently because they either did not address the experiences of TNB people, focused on health outcomes rather than access, or studied populations outside of the United States. We read the remaining 73 articles in their entirety and retained 39 in the review. We then scanned the references of these articles, along with the references of two systematic reviews on TNB healthcare, for relevant studies, yielding an additional seven for a total of 46 studies analyzing 39 distinct datasets.

Figure 1. Flow Diagram of the Article Selection Process..

Review Synthesis Process

For the included studies we undertook a five-stage data analysis process for integrative reviews as described by Whittemore and Knafl (2005): data reduction, data display, data comparison, conclusion drawing, and verification. The first stage, data reduction, involves dividing studies included in the review into subgroups to facilitate analysis. As this review was focused on TNB healthcare access theory, articles were separated into those with a specified theoretical framework and those without one. This allowed articles that included theoretical frameworks to be analyzed consecutively, supporting better comparisons regarding how theory is currently being used in regard to TNB healthcare access. All studies then underwent a data extraction process that included study year, author, theoretical foundation, research methods employed, data source, sampling methods, sample size and demographics, study location, and key findings regarding barriers and facilitators to care. The extracted findings were then organized into a data display spreadsheet, the second step of integrative review analysis (Whittemore & Knafl, 2005), which is the process of visually arranging the extracted data from individual studies to facilitate the next step of analysis, data comparison. In this step, study findings were examined to identify patterns, which served as codes that were further combined into the themes of barriers or facilitators to care as part of the fourth step of conclusion drawing (Whittemore & Knafl, 2005). Table 1 provides a summary of identified codes, the articles they originated from, and which codes were combined into the broader themes of barriers and facilitators. Finally, these data underwent a synthesis process, which Torracco (2016) defines as a creative process that integrates existing ideas or theories (e.g., Gelberg et al.'s (2000) BMVP) with new ideas (e.g., integrative review findings) to develop alternative models or conceptual frameworks.

Table 1. Review Analysis Codes Organized Barriers and Facilitators

Codes	Articles Drawn From
Barriers to care	
Denial of care	Abreu et al., 2020; Crockett, 2018; Grant et al., 2010; James et al., 2016; Lerner et al., 2020; Perez-Brumer et al., 2018; Puckett et al., 2018; Radix et al., 2014; Sperber et al., 2005; White Hughto et al., 2017
Discrimination	Abreu et al., 2020; Chung et al., 2021; Cicero & Black, 2016; Corliss et al., 2007; Crockett, 2018; Cruz, 2014; Fix et al., 2020; Glick et al., 2018; Grant et al., 2010; Harrison et al., 2012; Hendrickson et al., 2020; Hussey, 2006; Jaffee et al., 2016; James et al., 2019; Johnson et al., 2019; Kachen & Pharr, 2020; Kcomt et al., 2020; Lerner et al., 2020; Loza et al., 2017; Nemoto et al., 2005; Perez-Brumer et al., 2018; Powell et al., 2021; Puckett et al., 2018; Radix et al., 2014; Romanelli & Hudson, 2017; Rosentel et al., 2016; Shipherd et al., 2012; Sperber et al., 2005; White Hughto et al., 2017; Xavier et al., 2013
Inadequate provider training	Abreu et al., 2020; Austin & Goodman, 2018; Chung et al., 2021; Fix et al., 2020; Gomez et al., 2021; Grant et al., 2010; Gridley et al., 2016; Harb et al., 2019; Hendrickson et al., 2020; Jaffee et al., 2016; Lerner et al., 2020; Lykins et al., 2018; Nemoto et al., 2005; Obedin-Maliver et al., 2011; Pacey et al., 2021; Pampati et al., 2021; Perez-Brumer et al., 2018; Powell et al., 2021; Puckett et al., 2018; Rosentel et al., 2016; Salkas et al., 2018; Sanchez et al., 2009; White Hughto et al., 2017
Affordability and insurance	Abreu et al., 2020; Bakko & Kattari, 2020; Chung et al., 2021; Corliss et al., 2007; Cruz, 2014; Feldman et al., 2021; Fix et al., 2020; Garthe, 2020; Glick et al., 2018; Gonzales & Henning-Smith, 2017; Grant et al., 2010; Gridley et al., 2016; Harb et al., 2019; Hendrickson et al., 2020; Hussey, 2006; James et al., 2016; Kachen & Pharr, 2020; Kcomt et al., 2020; Loza et al., 2017; Morgan, 2003; Pacey et al., 2021; Pampati et al., 2021; Puckett et al., 2018; Radix et al., 2014; Romanelli & Hudson, 2017; Rosentel et al., 2016; Sanchez et al., 2009; Schulz, 2018; Shipherd et al., 2012; Sperber et al., 2005; White Hughto et al., 2017; Xavier et al., 2013
Non-affirming care	Abreu et al., 2020; Chung et al., 2021; Corliss et al., 2007; Crockett, 2018; Fix et al., 2020; Gomez et al., 2021; Gridley et al., 2016; Harb et al., 2019; Hendrickson et al., 2020; Hussey, 2006; Johnson et al., 2019; Loza et al., 2017; Lykens et al., 2018; Morgan, 2003; Nemoto et al., 2005; Pacey et al., 2021; Pampati et al., 2021; Payton, 2015; Puckett et al., 2018; Rosentel et al., 2016; Sperber et al., 2005; Thompson, 2016; Xavier et al., 2013
Identifying and reaching care	Austin & Goodman, 2018; Corliss et al., 2007; Crockett, 2018; Fix et al., 2020; Glick et al., 2018; Gridley et al., 2016; Harb et al., 2019; Hendrickson et al., 2020; James et al., 2016; Johnson et al., 2019; Loza et al., 2017; Lykens et al., 2018; Morgan, 2003; Nemoto et al., 2005; Pacey et al., 2021; Pampati et al., 2021; Puckett et al., 2018; Romanelli & Hudson, 2017; Rosentel et al., 2016; Sanchez et al., 2009; Sperber et al., 2005; Xavier et al., 2013

Continued

Facilitators to care

Creating gender-affirming spaces	Abreu et al., 2020; Crockett, 2018; Fix et al., 2020; Gonzales & Henning-Smith, 2017; Hussey, 2006; Morgan, 2003; Pacey et al., 2021; Pampati et al., 2021
TNB-competent providers	Abreu et al., 2020; Crockett, 2018; Fix et al., 2020; Gonzales & Henning-Smith, 2017; Hussey, 2006; Morgan, 2003; Pacey et al., 2021; Pampati et al., 2021
Support navigating medical systems	Crockett, 2018; Fix et al., 2020; Radix et al., 2014
Social support	Fix et al., 2020; Taliaferro et al., 2019
Access to financial resources	Cruz, 2014; Gonzales & Henning-Smith, 2017

Results

Sample Description

The final sample included 42 (91.3%) peer-reviewed articles and four (8.7%) dissertations. Thirty-four (73.9%) of the identified studies were published in 2016 or later, indicating a recent increased focus on TNB healthcare access. Just over half (24, 52.2%) of identified articles used qualitative methods including in-person interviews (16, 34.8%), focus groups (5, 10.9%), photovoice (1, 2.2%), and written survey responses (1, 2.2%). One article (2.2%) used both interviews and focus groups. Quantitative methods were used in 19 (41.3%) articles, all of which used survey data collection. Six (13.0%) of these collected data specifically for these studies, while the remaining 13 (28.3%) were secondary data analyses of the 2010 National Transgender Discrimination Survey (NTDS; $n = 4$, 8.7%), 2015 U.S. Transgender Survey (USTS; $n = 5$, 10.9%), 2014 Behavioral Risk Factor Surveillance System (BRFSS; 1, 2.2%), 2016 Minnesota Student Survey (1, 2.2%), a dataset of 141 participants collected from a 2008 transgender conference held in Boston (1, 2.2%), and a 452 participant dataset collected from Massachusetts residents in 2013 (1, 2.2%). The remaining three (6.5%) studies used mixed methods that included a quantitative survey and either written free responses (1, 2.2%) or focus groups (2, 4.3%). Sample sizes ranged from one (Cicero & Black, 2016) to 21,930 (Lerner et al., 2020). In general, study samples were relatively small; 25 (54.3%) studies had 50 or fewer participants. The type of healthcare access studied varied across articles, with 15 (32.6%) including information about both general and transition-related care, eight (17.4%) only about transition-related care, nine (19.6%) only about general healthcare, and 14 (30.4%) not specifying what kind of healthcare participants were accessing.

In terms of study location, six (13.0%) were conducted in California, three (6.5%) in New York City, three (6.5%) in Massachusetts, two (4.3%) in Texas, two (4.3%) in Wisconsin, and one each (2.1%) in Florida, Iowa, Minnesota, Nevada, Pennsylvania, Virginia, Illinois, Washington State, Louisiana, and Mississippi. Seven studies (15.2%) provided regional locations rather than specific states: two were conducted in the Midwestern United States, two in the Southeast, and three in the general South. One (Fix et al., 2020) did not provide information about where TNB participants were located. The remaining 12 studies (26.1%) used national samples, four of which came from the NTDS, five from the USTS, one from the BRFSS, one from a national probability sample, and one from a unique dataset that only specified that participants were recruited from around the country.

Review Findings

This integrative review identified the role of theory in TNB healthcare access literature, as well as the key barriers and facilitators TNB people face when attempting to access care.

Use of Theory

The majority (36; 78.3%) of studies did not provide a specific theoretical framework. Of the remaining 10 studies (21.7%) that did explicitly discuss theoretical frameworks, two (4.3%) used versions of Andersen's (1995) Behavioral Model of Health Services Use (BMHU), two were based on Meyer's (2003) minority stress model (4.3%), two focused on Crenshaw's (1990) intersectionality framework, and one article (2.2%) each used Levesque et al.'s (2013) patient-centered healthcare accessibility framework, Levy et al.'s (2001) rejection stigma model, Devor's (2004) model of transsexual identity formation, and postmodernism (Morgan, 2003). Furthermore, half of the 10 articles that discussed a theoretical foundation did so in a cursory matter, with only four articles including theory as a foundational part of study conceptualization.

Incorporating these various theoretical foundations enabled studies to examine TNB healthcare access from different perspectives. For example, nearly every article highlighted the role that discrimination—a key aspect in health outcome-focused theories like the Minority Stress Model (Meyer, 2003) or the Gender Minority Stress and Resilience framework (GMSR; Testa et al., 2015)—plays in the lives of TNB people, both generally and specifically regarding healthcare access. Additionally, the use of Crenshaw's (1990) intersectionality framework allowed researchers to simultaneously consider how intersecting identities (e.g., gender and race) impact healthcare access.

Barriers to Healthcare Access

Articles examining healthcare access among TNB people largely focused on barriers to care. Most articles did not specify if they were asking TNB people about general or transition-related healthcare, though review findings will indicate that information when available. Barriers to access fell into six domains: direct denial of care, discrimination, non-affirming care, insurance issues and out-of-pocket costs, inadequate provider training regarding TNB healthcare issues, and difficulty identifying and reaching healthcare services.

Denial of Care

Ten studies (21.7%) reported specific instances of TNB people being denied care based on their gender, while several other articles included denial of care as part of broader discrimination. According to data from the NTDS and USTS, 19% of TNB people had been refused some form of healthcare in their life because they were TNB (Grant et al., 2010), and 7.85% and 3.05% reported having been denied transition-related care and general medical care, respectively, in the past year alone (James et al., 2016). Further analyses revealed that some communities of color were particularly likely to be denied care (Abreu et al., 2020), with 19% of Black, 22% of Hispanic, 27% of multiracial, and 36% of American Indian TNB people reporting being refused treatment compared to 17% of White TNB people (Grant et al., 2010). Qualitative studies also described high rates of service denial, including examples when doctors hung up on participants, asked them to leave, refused to provide prescriptions, and referred them out to other providers without talking to them (Crockett, 2018; Perez-Brumer et al., 2018; Sperber et al., 2005).

Discrimination

Discrimination was examined in 30 articles (65.2%). Quantitative studies indicated that TNB people were over twice as likely as the general population to avoid accessing care when sick (50.4% compared to 20%), and the most commonly cited reason was a fear of discrimination (Cruz, 2014; Grant et al., 2010; Powell et al., 2021; White Hughto et al., 2017). National rates of healthcare avoidance due to discrimination ranged from 23% (James et al., 2016) to 30% (Jaffee et al., 2016), with even higher rates among TNB people of color (Johnson et al., 2019) and people who reported being visually androgynous (Kcomt et al., 2020). Discrimination was particularly likely in emergency settings where patients did not have a prior relationship

with the provider, and those who reported primarily using emergency services for healthcare needs were almost 3.5 times as likely to avoid accessing healthcare due to fears of discrimination (Cruz, 2014). These discriminatory experiences were typified by Brandon, who described his experience checking in at an emergency department:

They come up and she's like, "that's a girl," pointing at me saying, "no, that's really a girl." It wasn't business-like at all. I was a spectacle. I was a freak show at the circus. It was definitely to draw attention to the fact that my outward appearance didn't match my identification. ... At a hospital, especially in an emergency room, you shouldn't be concerned with somebody's gender identity. ... You should be concerned with their health. And that should be the bottom line. (Cicero & Black, 2016, pp. 26–27)

Experiences of discrimination like this were not unique to Brandon, forcing many TNB people to choose between accessing needed medical services and their physical and emotional safety (Hendrickson et al., 2020; Kachen & Pharr, 2020; Puckett et al., 2018; Rosentel et al., 2016).

Considering the frequency and intensity of discriminatory healthcare experiences, it is no surprise that many TNB people postponed medical care out of fear of anticipated discrimination (e.g., Glick et al., 2018; Harrison et al., 2012). Participants who had experienced previous medical discrimination were between 1.5 and 2.2 times more likely to avoid accessing future care than those who had not, depending on the form of discrimination (Lerner et al., 2020). Even when TNB people had not personally experienced healthcare discrimination, the possibility deterred some participants from accessing care. In one example, 30% of TNB veterans reported that hearing stories of other TNB people being discriminated against made them less likely to access care themselves (Shipherd et al., 2012).

Inadequate Provider Training

Twenty-three (50.0%) articles discussed inadequate provider training as a barrier to healthcare access. Few medical programs specifically provide training on TNB health (Obedin-Maliver et al., 2011), requiring many TNB people to educate their providers about their healthcare needs; 50% of TNB people in the NTDS (Grant et al., 2010) and up to 89% (Hendrickson et al., 2020) of participants in smaller qualitative samples reported needing to educate their providers. Although some study participants expressed understanding that many providers did not receive formal training on treating TNB patients (Rosentel et al., 2016), many emphasized that doctors and other medical providers can and should continue to educate themselves. Inadequate provider training was particularly salient among nonbinary participants who struggled to navigate a system designed around a binary conception of gender. Nonbinary participants described struggling to find adequately trained providers, even in spaces tailored for transgender people. This was summed up by Simone, a 25-year-old White genderqueer participant in a San Francisco-based qualitative study:

[Providers] might have transgender competency training and all that jazz, but at the end of the day, I'm not the kind of trans person you probably got during those trainings. I'm not a man, I'm not a woman. I'm not here for you to just sign off on top surgery, because what if I didn't want that? (Lykens et al., 2018, p. 194)

Perceiving healthcare providers as inadequately trained about TNB people and health was a significant barrier to accessing care for many participants (e.g., Salkas et al., 2018). In one San Francisco-based mixed methods study of 480 transgender women of color, 21% of participants reported they do not go to the doctor because doctors were not knowledgeable about transgender issues. This number was even higher in another New York-based quantitative study that found that 32% of transfeminine participants identified inadequately trained providers as a significant barrier to accessing care (Sanchez et al., 2009). This was substantiated by Lerner et al. (2020) and Jaffee et al. (2016) whose studies reported that TNB people who had previously

needed to educate their providers were between two and four times more likely, respectively, to delay needed general healthcare than participants who had not.

Affordability and Insurance

Thirty-two (70.0%) studies in this review discussed service costs and insurance issues, finding that between 29% (Sanchez et al., 2009) and 42% (Shipherd et al., 2012) of TNB people reported service costs as a significant barrier to accessing healthcare. Affordability concerns translated into healthcare avoidance for many participants (Feldman et al., 2021). Cruz (2014), James et al. (2016), and Grant et al. (2010) found that 25%, 33%, and 48% of surveyed TNB people, respectively, had, at some point in their lives, avoided necessary healthcare because of the costs. This was especially true for nonbinary people, with one study finding that 24.9% of nonbinary people had at least one unmet medical need in the past 12 months because of cost concerns compared to 21.4% of transgender men, 18.1% of transgender women, 13.7% of cisgender women, and 11.1% of cisgender men (Gonzales & Henning-Smith, 2017).

The most commonly reported contributors to high out-of-pocket costs were lack of insurance or insurance that did not cover transition-related services (e.g., Garthe, 2020). Analyses of national samples estimated that between 14% and 29% of TNB people lack insurance compared to 10–11% of cisgender people (Gonzales & Henning-Smith, 2017; James et al., 2016), and those who didn't have health insurance were four times as likely to avoid accessing care than those who did (Cruz, 2014). Even when participants had insurance, most struggled to get their policies to cover their care (e.g., Romanelli & Hudson, 2017). In an evaluation of insurance denials among TNB people, Bakko and Kattari (2020) reported that between 44% and 60.9% of insured TNB people had been denied coverage for gender-affirming care depending on the type of insurance. Adding to this, insurance providers also often require letters from mental health providers verifying a gender dysphoria diagnosis (Schulz, 2018). Such letters added an additional step and cost to an already complicated process, acting as a gatekeeping mechanism for many (Puckett et al., 2018). Participants across studies described a variety of techniques to circumvent insurance issues, including using social networks to share which insurance providers were easier to work with (Rosentel et al., 2016), storing up hormones in case of future insurance denials, and asking providers to code medications for non-transition related uses (Morgan, 2003). Participants also described barriers to accessing care unrelated to transition that was generally tied to a specific gender, particularly among transgender men who had been assigned female at birth and were denied coverage for reproductive and gynecological care because they had male gender markers (Fix et al., 2020; Harb et al., 2019).

Non-Affirming Care

Twenty-three articles (50.0%) discussed non-affirming experiences as a key barrier to accessing healthcare. The most consistent way this manifested was around the use of names and pronouns, including through overly rigid medical records. This was highlighted in a qualitative study that asked focus group participants about their preferred wording about sex and gender on medical forms, as well as fears about how sensitive gender information could be misused (Thompson, 2016). Participants almost universally described wanting a multistep question process that separated sex assigned from birth from gender identity, sharing that increased nuance in medical records would better affirm TNB patient identities and potentially reduce the frequency with which they needed to correct doctors. These concerns were echoed across studies (e.g., Chung et al., 2021; Crockett, 2018; Hussey, 2006; Rosentel et al., 2016), and their frequency often deterred people from accessing care as expressed by one focus group member: "Going to the doctor is completely anxiety-producing and scary. ... Every time I would call ... I would expect not to have my pronouns respected or [for them not to] understand issues. ... I'd rather not take that chance (Johnson et al., 2019, p. 4)."

One area where non-affirming care was especially stressful was when TNB patients were seeking reproductive and gynecological services, and doctors often appeared surprised, uncertain, or confused (Gomez et al., 2021).

Reproductive and gynecological care often brings up significant distress and dysphoria even in affirming settings, leading many TNB people assigned female at birth to avoid accessing care (Harb et al., 2019).

Although many studies talked about providers who were unwilling to acknowledge or affirm patient gender, others reported a “trans broken arm syndrome” (Payton, 2015), which was described by one TNB participant:

Once they find out that you’re transgender, any other illnesses that you may have, they don’t tend to address them as strongly as they might if you weren’t transgender, because they (believe) that is your main problem, that something’s wrong psychologically with you. (Xavier et al., 2013, p. 8)

This fixation on TNB identity often made participants uncomfortable, and over half of TNB patients reported they had been asked irrelevant or inappropriate questions about being TNB when visiting a doctor for something unrelated to their gender (Hendrickson et al., 2020; Morgan, 2003).

Accessing affirming care was particularly challenging for nonbinary participants. Medical forms—even in some transgender-specific clinics—rarely include nonbinary gender options (Lykens et al., 2018). As a result, many nonbinary people adopted a binary transgender label to access care. Nonbinary patients also reported feeling pressured to transition from one binary gender to the other, leading some to independently adjust their hormone dosage when providers refused to support anything other than a binary transition (Lykens et al., 2018).

Identifying and Reaching Care

The final barrier to care was difficulty finding and physically accessing care, which was discussed in 16 articles (34.8%). The lack of providers trained to work with TNB people meant many participants were not able to access any TNB-affirming care (Loza et al., 2017; Sperber et al., 2005). For example, one study found that 47%, 42%, and 33% of participants reported difficulty finding a TNB-knowledgeable primary care physician, endocrinologist, and surgeon, respectively (Austin & Goodman, 2018). It was particularly challenging for participants to identify providers for TNB adults seeking reproductive and gynecological care (Fix et al., 2020). TNB youth also often had difficulty finding providers willing to prescribe them hormones or had to wait until they were 16 or 18 depending on the state, contributing to significant gender dysphoria during puberty (Corliss et al., 2007; Crockett, 2018; Gridley et al., 2016).

Even when participants were able to identify TNB-affirming providers—often through informal TNB social networks (Paceley et al., 2021)—many had to travel long distances to see them, adding significant planning and out-of-pocket costs to an already difficult process (Morgan, 2003). Nearly one-third of participants in one study reported needing to travel more than 10 miles to see their primary care provider (Hendrickson et al., 2020), and other studies found that it was not uncommon for some participants to travel hundreds of miles or cross state lines to access treatment (Johnson et al., 2019; Rosentel et al., 2016). Participants also struggled to access care due to long waitlists. One-third of transfeminine participants in a San Francisco-based study reported they did not access care because of long waitlists for transgender-competent providers (Nemoto et al., 2005).

Healthcare Access Facilitators

Although studies primarily focused on barriers to healthcare access, 14 (30.4%) included at least some discussion of healthcare access facilitators. These facilitators coalesced around five primary areas: creating gender-affirming spaces, TNB-competent providers, support navigating medical systems, social support, and access to financial resources.

Creating Gender-Affirming Spaces

The first facilitator was creating gender-affirming spaces by intentionally using correct patient names and pronouns (Hussey, 2006; Pampati et al., 2021; Perez-Brumer et al., 2018), as well as including TNB people in patient-facing materials (Hendrickson et al., 2020). Medical centers that created TNB-inclusive environments

helped TNB patients feel welcomed and affirmed, reducing fears that they would be discriminated against and increasing the likelihood that they would continue accessing health services.

TNB-Competent Providers

Another facilitator that increased patient comfort in accessing care was appropriately trained and humble medical providers. Patients reported that providers who had experience treating TNB people, asked questions, respected privacy, and did not view TNB people as abnormal increased their likelihood of accessing care in the future (Hussey, 2006; Morgan, 2003). For many patients, having a provider who listened to their needs was more important than any other characteristic because it created an environment of collaboration and safety (Sperber et al., 2005). This was particularly important for transmasculine and nonbinary participants attempting to access reproductive and gynecological care (Gomez et al., 2021).

Support Navigating Medical Systems

A third commonly discussed facilitator was support navigating medical systems largely built around a binary conception of gender. This was accomplished through multiple mechanisms, including the integration of multiple domains of care such as mental health and substance use treatments (Radix et al., 2014). Integrating various services into a single TNB-affirming clinic reduced the distress participants often experienced when accessing care at a new location. Participants also expressed the benefit of provider coordination to prevent repeated discussions about their gender (Morgan, 2003). Finally, in spaces where it was not possible to integrate multiple health services into a single entity, the use of health advocates provided support for TNB patients (Fix et al., 2020).

Social Support

The fourth identified facilitator was social support. Specifically, TNB youth who reported higher levels of connectedness to parents and other adults were more likely to access primary care services (Taliaferro et al., 2019). Similarly, TNB adults expressed that support from other TNB people made it easier to initiate healthcare access, especially for the first time (Fix et al., 2020). One possible explanation for the importance of social support for TNB healthcare access is that TNB people often obtain information about TNB health and healthcare from other TNB people rather than from formal resources (Paceley et al., 2021).

Access to Financial Resources

The fifth and final facilitator was access to financial resources, which helped offset the barrier of high out-of-pocket costs. Specifically, TNB people who had access to health insurance (Sanchez et al., 2009), and those who made more than \$20,000 a year (Cruz, 2014) were more likely to access care. Although access to health insurance and financial resources is relevant for anyone attempting to access healthcare, it is particularly important for TNB people who are more than twice as likely to live in poverty, three times as likely to be unemployed, and 27% more likely to lack health insurance compared to the overall U.S. average (James et al., 2016)

Synthesis of Theory and Review Findings

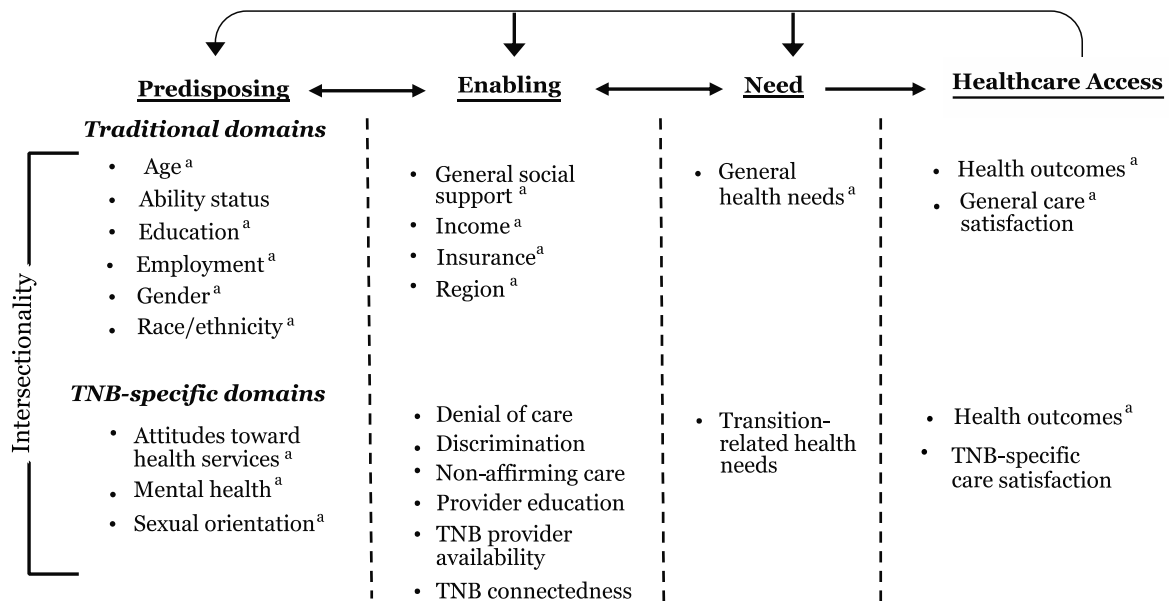
This integrative review identified the three most commonly used theories in exploring TNB healthcare access: adaptations of the Behavioral Model of Health Services Use (BMHU; Andersen, 1995), the Minority Stress Model (Meyer, 2003), and the intersectionality framework (Crenshaw, 1991). The predisposing, enabling, and need factors introduced in the original BMHU and expanded to include vulnerable domains in the BMVP provide a useful structure for studying healthcare access among vulnerable populations, though they are not tailored to the specific needs of TNB people. The minority stress model, though not traditionally applied to healthcare access, highlights the importance of considering population-specific stress factors. Finally, the intersectionality framework acknowledges the importance of considering how an individual's multiple identities intersect to create different experiences of privilege and oppression. Taken separately, these conceptual models represent meaningful—though incomplete—frameworks for analyzing TNB healthcare

access. When integrated, however, their unique perspectives and strengths complement each other to provide a foundation for an improved model specifically designed to examine TNB healthcare access.

This integrated model, which we have titled the Intersectional Model of Service Use (IMSU) and depicted in Figure 2, builds on the work of these previous theories while also considering the specific healthcare access barriers and facilitators identified in this integrative review. It retains the general predisposing, enabling, and need domains introduced by the BMHU, as well as the vulnerable domains of the BMVP. One of the primary limitations of applying the BMVP to TNB healthcare access is that it was initially developed for use among people experiencing homelessness. Indeed, the authors of the BMVP acknowledged that “some of the categories will need to be tailored to specific vulnerable populations when the model is applied to them” (Gelberg et al., 2000, p. 1276). The model we have proposed also builds on the BMVP by acknowledging the reciprocal relationships between predisposing, enabling, and need factors. Although the BMVP acknowledges that health outcomes influence these contributing factors, it does not depict the bidirectional way that they can influence each other. For example, experiencing discrimination in healthcare environments (enabling factor) may lead TNB people to expect negative interactions in the future (predisposing factor).

The IMSU also emphasizes the importance of intersectionality when examining healthcare access among TNB people. Although the traditional factors included in the BMVP apply across populations, many of these factors intersect with TNB identities in a way that amplifies their impact on healthcare access. For example, it is well documented that living in a rural area makes it more difficult to access healthcare due to a scarcity of healthcare services, inadequate public transportation, and long distances to care (Douthit et al., 2015). Although these region and population density factors increase difficulty accessing care across populations, they are especially salient for TNB people who already face difficulties identifying and reaching necessary healthcare services. Intersectional impacts of gender and geographic region represent only one such example of the importance of considering how gender identity intersects with numerous traditional healthcare access factors, including age, race, and ability status.

Figure 2. *The Proposed Intersectional Model of Health Service Use (IMSU)*



Note. This initial IMSU model builds on the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000).

^a Factors included from the BMVP

Discussion

The difficulty many TNB people face accessing healthcare in the United States is a well-documented phenomenon that deserves ongoing research and interventions to address TNB health and healthcare inequities. As part of this effort, there is a need for theoretical models that approach healthcare access with a TNB-first perspective, rather than relying on models initially developed for other populations or outcomes. The extant TNB healthcare access literature largely uses an atheoretical perspective, potentially in part because of the dearth of theories tailored to the experiences and needs of TNB people seeking healthcare. The IMSU addresses this gap and provides an organizing framework to explore and explain TNB healthcare access. It has potential for use in research across TNB populations (e.g., transgender men, transgender women, nonbinary individuals, people who identify as agender or bigender) and in a variety of healthcare settings (e.g., primary care, specialty care, mental health, substance treatment, sexual health), though further research is needed to validate the model across settings. Future research should also use longitudinal data to explore the directionality of the IMSU model. Although it is logical that predisposing factors such as negative perceptions of healthcare providers lead to reduced healthcare access, the inverse direction is also possible; negative experiences with providers while accessing care could result in further negative expectations of healthcare providers.

The IMSU also has promise in informing interventions aimed at improving healthcare access among TNB people. For example, research indicates that providers who receive TNB-specific training have higher levels of TNB health knowledge, more positive attitudes toward TNB people, and feel more confident in their ability to meet the needs of their TNB patients (Click et al., 2020). Implementing TNB-focused education across medical programs (e.g., medical schools, residencies, nursing programs) and systems (e.g., hospitals, outpatient clinics) will better prepare providers to serve TNB people and reduce the frequency with which TNB individuals receive inappropriate care.

Finally, the IMSU has important policy implications. Many of the barriers commonly described by participants in this integrative review stem from system-level issues such as restrictive insurance policies or the lack of discrimination protection for TNB people. Policymakers and stakeholders should advocate for policies requiring insurance providers to cover gender-affirming care, which is classified as medically necessary by the American Medical Association (American Medical Association, 2021). Policy advocates should also continue to fight to eliminate discrimination in the healthcare system, including both federal and state-level protections for TNB people.

Limitations

Although this proposed model has promise for ongoing research on TNB healthcare access, important limitations should be noted. Only 19 states were represented in this review outside of the NTDS, USTS, and BRFSS datasets, all of which were in the eastern half of the United States, other than Texas, California, Nevada, and Washington state. Healthcare policies vary significantly across states, so further research is needed to understand access in additional areas. Moreover, only half ($n = 22$, 52.4%) of studies included nonbinary people, a population that is often erased in a binary-centric health system despite representing one-third of USTS respondents (James et al., 2016). Adding to this, only five (Corliss et al., 2007; Gridley et al., 2016; Pacey et al., 2021; Pampati et al., 2021; Taliaferro et al., 2019) studies included TNB youth in their samples, despite the fact that TNB youth face unique healthcare access issues related to insurance, parental permission, and limited services, particularly in light of recent legislative efforts to restrict youth from accessing gender-affirming care (HRC Foundation, 2023). Future research aimed to better represent these subsets of TNB populations will provide a clearer understanding of their ability to access healthcare and help continue to refine the IMSU.

Furthermore, this integrative review did not evaluate the methodological quality of individual studies due to the complications of comparing study quality across diverse study designs. This decision allowed for a greater variety of study designs and aligns with Whittlemore and Knaff's (2005) guidance on integrative reviews, which recommends that integrative reviews with diverse empirical sources focus data evaluation on sources that represent outliers. Additional, more methodologically homogeneous reviews are needed to understand the quality of research regarding TNB healthcare access.

There is also a need to further validate the factors in the IMSU. Although the model builds on well-established theories such as the BMVP (Gelberg et al., 2000), the GMSR (Testa et al., 2015), and the intersectionality framework (Crenshaw, 1990), it is currently theoretical in nature and requires additional revision and testing. For example, qualitative research should collect data from TNB people providing feedback on the IMSU, and quantitative research should empirically test the IMSU's ability to effectively predict healthcare access among TNB people. Future research is also needed to validate the IMSU's use among various TNB samples, including TNB youth, TNB people of color, nonbinary individuals, and TNB people seeking care in regions outside the United States.

Conclusion

Despite some limitations, the IMSU holds promise as a population-specific theoretical model of healthcare access. It builds upon previous theoretical models of TNB healthcare access by combining the strengths of previously developed theories with integrative review data to tailor access factors to the experiences of TNB people. Future research should continue to revise and assess this model, and interventions aimed to increase TNB people's ability to access healthcare should include factors in both the general and TNB-specific domains. Examples of how service providers can intervene include petitioning for training on TNB people and care, advocating for changes to medical health records to separate sex and gender, and modeling affirming behaviors such as asking patients about their names and pronouns. Policy-oriented professionals should also advocate for policy change designed to combat the structural forces of transphobia and cisgenderism.

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