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Developing, Refining, and Testing the Intersectional Model of Service Use: A Transgender and Nonbinary-Specific Model of Healthcare Access

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Transgender and nonbinary (TNB) people are more likely to experience negative health outcomes than cisgender (i.e., not TNB) people, but less likely to access healthcare services due to the systemic forces of transphobia and cisgenderism. Despite this, there are few theoretical models of healthcare access specifically designed for TNB people. This three-paper dissertation addresses this gap by developing, refining, and testing the Intersectional Model of Service Use (IMSU), a population-specific framework for researching TNB healthcare access. Manuscript one describes how the initial IMSU was developed from an integrative review of currently available TNB healthcare access literature. This initial IMSU was then revised in manuscript two using qualitative data collected in nine focus group held across the state of Colorado. The revised IMSU was then quantitatively tested in manuscript three using hierarchical logistic regression analyses. Results from manuscript three indicated that the inclusion of TNB-specific healthcare access factors of the IMSU significantly improved its ability to account for healthcare access variance. Specific factors that were significantly associated with healthcare access included self-reporting a disability, sexual orientation, income, the length of time participates needed to wait to access transition-related healthcare, and whether or not participants had changed their gender marker on state-issued identification.

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by

Jarrod Call

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Abstract

Transgender and nonbinary (TNB) people are more likely to experience negative health outcomes than cisgender (i.e., not TNB) people, but less likely to access healthcare services due to the systemic forces of transphobia and cisgenderism. Despite this, there are few theoretical models of healthcare access specifically designed for TNB people. This three-paper dissertation addresses this gap by developing, refining, and testing the Intersectional Model of Service Use (IMSU), a population-specific framework for researching TNB healthcare access. Manuscript one describes how the initial IMSU was developed from an integrative review of currently available TNB healthcare access literature. This initial IMSU was then revised in manuscript two using qualitative data collected in nine focus group held across the state of Colorado. The revised IMSU was then quantitatively tested in manuscript three using hierarchical logistic regression analyses. Results from manuscript three indicated that the inclusion of TNB-specific healthcare access factors of the IMSU significantly improved its ability to account for healthcare access variance. Specific factors that were significantly associated with healthcare access included self-reporting a disability, sexual orientation, income, the length of time participates needed to wait to access transition-related healthcare, and whether or not participants had changed their gender marker on state-issued identification.

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Chapter One: Introduction

Transgender and nonbinary (TNB) people face significant healthcare access barriers and are one of the most medically underserved populations (Cicero et al., 2019). The issue of TNB healthcare access remains contentious in the United States, with 27 states lacking any nondiscrimination protections for lesbian, gay, bisexual, transgender, or queer (LGBTQ) people. Furthermore, at least 13 states (Alabama, Arkansas, Florida, Georgia, Louisiana, Missouri, Montana, New Hampshire, North Carolina, South Carolina, Tennessee, Texas, and Utah) introduced bills in 2021 aimed at restricting TNB minors' access to gender-affirming treatments such as hormones or surgery (Freedom for All Americans, 2021) despite opposition from the American Medical Association (AMA; 2021b). Thus far in 2022, Arizona, Kansas, and Ohio have also introduced bills targeting TNB minor's access to affirming care, increasing the state count to at least 16 (Freedom for All Americans, 2022). Despite the increasing political focus on TNB people, research has only recently begun to explore factors impacting their ability to access healthcare. For example, a 2021 review of TNB healthcare access literature conducted by the dissertation author as part of a comprehensive examination identified a total of 37 articles that asked TNB people about their ability to access healthcare, two-thirds of which were published within the last 5 years.

Because research exploring TNB healthcare access remains relatively nascent, few theoretical models have been developed to specifically study and explain healthcare access among this population. Instead, current literature is largely atheoretical or uses frameworks designed to predict healthcare access generally, such as Andersen's Behavioral Model of Health Services Use (BMHU; Andersen, 1968), or among other vulnerable populations, such as the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000). Another body of TNB health-related literature draws from population-specific frameworks such as the Minority Stress Model (Meyer, 2003) or Gender Minority Stress and Resilience Model (GMSR; Testa et al., 2015) which were designed to explain TNB health outcomes rather than healthcare access.

These existing theoretical models provide important, though incomplete, frameworks to study TNB healthcare access. As TNB healthcare research continues to expand, however, it is increasingly important that theoretical models account for the unique needs of this population. As such, this three-paper dissertation builds upon existing literature by developing the Intersectional Model of Service Use (IMSU), a population-specific theoretical framework designed to understand TNB healthcare access. The first paper uses an integrative literature review to propose the IMSU, and the subsequent two papers then use a sequential exploratory mixed-methods approach (Creswell, 2013) to refine and test the IMSU.

Problem Statement: Difficulty Accessing Healthcare Among TNB People

Key Terms and Definitions

Gender, Sex Assigned at Birth, and TNB Identities

In order to provide a foundation of common language, this dissertation begins by defining key terms and concepts relevant to TNB healthcare access. The language used to describe gender is complex and continually evolving, so any in-depth exploration of TNB people should begin by defining these important concepts. Although “sex” and “gender” are often colloquially used interchangeably, they have specific and distinct definitions (Roberts & Fantz, 2014). Sex is assigned male or female at birth based on physical characteristics resulting from chromosomal and hormonal differences (Jenkins et al., 2016). Although sex is often considered dichotomous, it is important to note that there are a number of people who are intersex, meaning their anatomy does not develop according to traditional expectations of male or female (Fenway Health, 2010), and states are beginning to permit individuals to legally recognize intersex on birth certificates, starting with New York in 2016 (O’Hara, 2019). Gender, however, is a social construct that describes how an individual experiences, expresses, and identifies with social perceptions of maleness or femaleness (Valenta et al., 2018). Individuals whose sex assigned at birth and gender match are considered cisgender. 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, as well as identities outside of the gender binary, such as genderqueer, nonbinary, bigender, and agender (Fenway Health, 2010). Literature focusing on nonbinary identities is particularly lacking, with most research collapsing them into the broader transgender population (Scandurra et al., 2019). As such, whenever possible, this dissertation will intentionally use the terms “transgender” to refer to transmasculine and transfeminine people, “nonbinary” to refer to individuals who identify outside of the gender binary, and “transgender and nonbinary” (TNB) as an inclusive term incorporating all of these identities.

It is also necessary to note that gender is distinct from sexual orientation, which is defined by a person’s emotional and sexual attraction to others (Fenway Health, 2010).

Sexual orientation includes identities such as gay, lesbian, queer, bisexual, pansexual, and asexual. Despite the important differences between gender and sexual orientation, most of the available literature focuses on lesbian, gay, bisexual, and transgender (LGBT) people as a monolithic group, with a relatively small—though growing—proportion of studies specifically examining healthcare access issues among transgender people (Cicero et al., 2019). Even fewer studies include the experiences of nonbinary individuals (Cicero et al., 2019).

As of 2016, there were approximately 1.4 million individuals (roughly 0.6% of the population) who identified as TNB in the United States, which was a twofold increase from 2011 (Flores et al., 2016). This substantial growth is likely related to shifts in how society views people of diverse gender identities; as society becomes more affirming of diverse expressions of gender, it is likely that an even greater proportion of the population will feel safe disclosing TNB identities, though there remains a need for more recent population estimates, including ones that delineate specific identities under the TNB umbrella.

Healthcare Access

Healthcare access definitions have varied over time, with most definitions focusing on the ability of individuals to seek and obtain necessary health services from providers (Kcomt, 2019). In their systematic review of healthcare access, Levesque, Harris, and Russell (2013) suggested defining healthcare access as a series of opportunities to "identify healthcare needs, to seek healthcare services, to reach the healthcare resources, to obtain or use healthcare services, and to actually be offered services appropriate to the needs for care" (p. 4). Healthcare utilization is a related term often used in the literature and is when patients successfully access and use healthcare services (Andersen, 1995). Although the term access is sometimes used solely in relation to the initial contact with healthcare providers (Levesque et al., 2013), factors influencing a patient's ability to continue to engage remain salient throughout the utilization process. As such, this dissertation applies the term access to both the initial and subsequent potential interactions with healthcare providers. Importantly, this dissertation distinguishes between healthcare access and healthcare quality, satisfaction, or outcomes. Although these aspects of health and healthcare are important, the intention of this dissertation was to develop, revise, and test a theoretical model focused on TNB healthcare access. As such, healthcare quality, satisfaction, and outcomes are only discussed when they directly impact access to healthcare.

Gender-affirming, Transition-related, and General Healthcare

It is also important to define the healthcare services used by TNB people. Gender-affirming care (also referred to as transition-related care) refers to services that help align one's physical characteristics and gender. This type of care has been linked to increased wellbeing among TNB people and is considered medically necessary by the American Medical Association (AMA, 2021a) and the World Professional Association of Transgender Health (WPATH, 2016). Gender-affirming care includes services such as hormone replacement therapy (HRT), chest reconstruction surgery ("top surgery"), and "bottom" surgeries such as vaginoplasty or phalloplasty (Puckett et al., 2018). Although approximately 85% of TNB people report either having received or being interested in some form of transition-related medical care (Grant et al., 2010), many decide not to transition medically, and this decision is independent of one's TNB identity. In addition to transition-related healthcare needs, TNB people access healthcare for general health needs unrelated to their TNB identities. When possible, this examination will distinguish between general and transition-related care access, although the majority of available research discussing TNB healthcare access includes both under a broader umbrella of healthcare access (Kcomt, 2019).

Transphobia and Cisgenderism

The difficulty accessing care TNB people experience is primarily due to the systemic forces of transphobia and cisgenderism (Kcomt, 2019). Transphobia has been defined as fear of or "emotional disgust toward individuals who do not conform to society's gender expectations" (Hill & Willoughby, 2005, p. 533). This fear results in anti-trans bias that manifests itself through discrimination and violence toward TNB people. Cisgenderism is a related concept that describes an ideology that presumes cisgender identities are ideal, devaluing non-cisgender identities in the process (Ansara & Hegarty, 2012). While transphobia operates at the individual and interpersonal levels, cisgenderism operates across societal and cultural levels such as language and the law (Bettcher, 2014). Together, transphobia and cisgenderism operate to perpetuate the oppression and marginalization of TNB people.

Transgender and Nonbinary Health Inequities

Transgender and nonbinary people experience negative health outcomes across multiple domains as a result of systemic and structural oppression (Bauer et al., 2009). According to a large international systematic review and meta-analysis, approximately 20% of transgender women have HIV—a number nearly 50 times higher than the general adult population (Baral et al., 2013). In fact, transgender women may have the highest rate of HIV out of any at-risk population (Wilson et al., 2013). Additionally, TNB people experience higher rates of heart disease (Alzahrani et al., 2019), diabetes (Wierckx et al., 2013), substance abuse (Reisner et al., 2015), anxiety and depression (Budge et al., 2013), and non-suicidal self-injury (Grant et al., 2011) than do cisgender people. According to the US Transgender Survey (USTS), which is the largest survey examining the experiences of TNB people in the United States with 27,715 participants, 39% of TNB people reported experiencing severe psychological distress compared to 12% of the general population (James et al., 2016). Particularly troubling is the suicide rate among TNB individuals. Transgender youth are five to six times more likely to attempt suicide than their cisgender peers (Clark et al., 2014; Di Giacomo et al., 2018), and 28%-52% of transgender people report a lifetime suicide attempt depending on the specific sample (Testa et al., 2017).

TNB Healthcare Access

One contributing factor to these disparate negative health outcomes is that TNB people often struggle to access appropriate healthcare, with research indicating that TNB adults are less likely to utilize both primary and specialty healthcare services than cisgender adults (Ehrenfeld et al., 2018). This utilization disparity also extends to preventative care, with only 35% of TNB young adults reporting having received a routine check-up in the past year (McRee et al., 2018) compared to 49%-58% of general population young adults (Adams et al., 2015), as well as gynecological care, with only 27% of TNB people with a cervix reporting getting a pap test in the last year compared to an estimated 43% of cisgender women (James et al., 2016). A similar trend is seen among TNB youth. TNB high school students are less likely than their cisgender peers to have utilized healthcare for any reason (Taliaferro et al., 2019), as well as specifically for routine preventative care (Rider et al., 2018).

These lower rates of healthcare utilization are not because TNB people do not need healthcare services. A Philadelphia-based study (Kenagy, 2005) found that over half of transgender participants had difficulty accessing one or more healthcare services in the past year, while another Virginia-based study (Bradford et al., 2013) found more than a quarter of TNB people reported needing but not being able to access at least some kind of transgender-specific healthcare (hormone therapy, gender-affirming surgery, gender-related counseling, or gynecological care) that year. Adding to this, a study based in Chicago found that 14% of transgender people had difficulty accessing some form of emergency healthcare (Kenagy & Bostwick, 2005). These access disparities largely result from the system-level forces of transphobia and cisgenderism, which make it more difficult for TNB people to access care than their cisgender counterparts (Kcomt, 2019).

Ramifications of Healthcare Access Issues

Barriers to healthcare access have tangible costs. One specific example of this is found in the recent debate around gender-affirming care in the U.S. military. In April 2019, the Trump administration implemented a policy banning the use of hormones or gender-affirming surgery among service members under the rationale that it would prevent “tremendous medical costs and disruption” associated with gender-affirming care (Trump, 2017). Research, however, indicates that denying access to transition-related healthcare actually leads to increased mental health service utilization, often offsetting short-term cost savings (Padula et al., 2016). Furthermore, cost analyses estimate the average annual cost of gender-affirming care per TNB military service member at $438, which equates to only $2.64 annually per service member when spread across the entire service force (Belkin, 2015). Although the system-wide cost of TNB healthcare is relatively small, individual procedures are often cost-prohibitive at tens of thousands of dollars. In January of 2021, the Biden administration reversed this policy (Ryan et al., 2021) and advised the Veteran Affairs (VA) in June of that year to include gender-confirming surgery as part of its healthcare coverage, ending a ban originally enacted in 2013 (Kornfield, 2021). This example specifically applies to gender-affirming care in the military, though additional cost-effectiveness analyses indicated that increasing TNB access to healthcare generally resulted in an overall reduction of costs (Padula et al., 2016).

Difficulty accessing healthcare also has significant physical and mental health implications. As previously noted, TNB people are disproportionately likely to experience negative health outcomes tied to high rates of mortality including HIV, substance abuse, heart disease, and diabetes (Alzahrani et al., 2019; Baral et al., 2013; Reisner et al., 2015; Wierckx et al., 2013), and restricted healthcare access perpetuates these inequities. Being unable to access transition-related healthcare forces many TNB people outside of the medical system to engage in riskier behaviors such as sharing hormones, obtaining them online or from the street, or injecting silicone at home (Radix et al., 2014; Xavier et al., 2013). These non-medically supervised transition-related procedures have been associated with significant health complications including pulmonary embolisms and death (Murariu et al., 2015). Most troublingly, TNB individuals who delay medical care out of fear of discrimination are more than three times as likely to be depressed and almost four times as likely to have attempted suicide in the past year (Seelman, Colón-Diaz, et al., 2017).

Application to Social Work

Inaccessible healthcare for TNB people represents a significant social justice issue, and social workers should lead efforts designed to improve TNB healthcare access. Healthcare has been designated as a fundamental human right (World Health Organization, 1946, 2017), and extant literature clearly documents the ways in which TNB people have—both historically and currently—been denied access to competent and affirming healthcare. As a profession, social workers are called to "help meet the basic human needs of all people, with particular attention to the needs and empowerment of people who are vulnerable, oppressed, and living in poverty" (National Association of Social Workers, 2008, p. 1). As such, social workers have a responsibility to engage in efforts to reduce healthcare access inequities among TNB people.

The values and perspectives of social work uniquely position it to contribute to these efforts. From its inception, social work has recognized how individual and social characteristics interact to influence social outcomes. This person-in-environment framework was conceptualized through Mary Richmond's (1922) writings on social casework and continues to inform social work research and practice. Inequities in healthcare access among TNB people stem from reciprocal relationships between the lived experiences of individual TNB people and the oppressive social systems designed to impair healthcare access in the service of transphobia and cisgenderism (Kcomt, 2019). Any effective framework designed to explain and address these access inequities must simultaneously account for both individual and social factors, emphasizing the capability—and obligation—for social workers to advance theory, research, and advocacy around TNB healthcare access.

As will be discussed in greater depth below, there are few theoretical models designed to explain healthcare access among TNB people. A TNB-specific model of healthcare access will provide an important foundation for ongoing research and advocacy. Social work, through its social justice values and person-in-environment perspective, is particularly well-positioned to contribute to future efforts to improve healthcare access among TNB people.

Positionality and Personal Accountability

As I conclude this first section of my dissertation, I want to acknowledge my positionality to this topic and take accountability for the ways my privileged identities have contributed to the marginalization of TNB people. As a White, gay, able-bodied graygender man who grew up in a religious middle-class home with two college-educated parents, I approach the topic of TNB healthcare access with humility, recognizing that I do not fully understand the experiences of the TNB community. Although my personal relationship with my gender continues to evolve, I have never personally experienced gender dysphoria, and I am generally read as cisgender by society. The privilege associated with presenting as a cisgender man is real and profound, and I actively seek to remember this with humility and use my privilege to advocate for social justice.

In my early 20s, a large portion of the religious community I grew up in rejected me because of my sexual orientation identity, and in a very real way, the queer community became a family that supported, sustained, and saved me during that time. As I immersed myself in queer spaces, I quickly realized that I hold immense privilege within my community. My racial and gender identities have contributed to the marginalization of TNB people, both from the general public and within the queer community. Despite being initiated and sustained in large part by transgender women of color, the LGBTQ rights movement has often prioritized White cisgender gay men at the expense of TNB people and queer people of color. As Ilana Schwartzman, a Salt Lake rabbi, said, “because of my differences and because of my sameness, I stand as a bridge between those who have power and privilege and those who cry themselves to sleep at night because they don’t” (personal communication, 2016). With this dissertation, along with my broader scholarly work, I seek to use my position of privilege to elevate the voices of TNB people, dismantle barriers limiting their ability to access healthcare, and honor their place in my queer community and family.

Theoretical Foundations of TNB Healthcare Access

Theories of Healthcare Access

As will be further discussed in the first manuscript, a variety of theoretical frameworks have been used to examine healthcare access including the Behavioral Model of Health Service Use (BMHU), which has subsequently become one of the most commonly used theories of healthcare access. Since its creation, the BMHU has been revised through six major phases (Aday & Andersen, 1974; Andersen, 1968, 1995, 2008; Andersen et al., 2014; Andersen & Newman, 1973), most recently in 2014. Each of these phases—in addition to an adaptation specifically tailored for vulnerable populations called the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000)—added to the original concepts of the BMHU and further improved the model. Although the original BMHU and its subsequent iterations provided an effective perspective from which to examine healthcare access generally and among some vulnerable populations, it was not specifically designed for use with TNB people.

TNB Health Outcome Theories

Population-specific health outcome theories have also been applied to TNB healthcare access, including the Minority Stress Model (Meyer, 2003) and the Gender Minority Stress and Resilience model (GMSR; Testa et al., 2015). Minority stress is the additional distress experienced by individuals with marginalized identities due to discrimination and societal stigmatization (Meyer, 1995). The concept is rooted in philosophical traditions such as social evaluation (Pettigrew, 1967), symbolic interactionism (Stryker & Statham, 1985), and various theories of social stress (Lazarus, 1966; Pettigrew, 1967). Meyer (1995, 2003) then proposed the minority stress model to explain mental health concerns among lesbian, gay, and bisexual (LGB) people and operationalized minority stress as experiences of discrimination and violence, expectations of rejection, internalized homophobia, and concealment of one's sexual orientation. These minority stressors were organized according to a distal-proximal conceptualization, where objective events and conditions such as violence (distal) contribute to subjective individual perceptions and appraisals such as internalized homophobia (proximal), which in turn impact health outcomes among LGB people.

Although the Minority Stress Model conceptualized the sexual orientation-related stressors faced by LGB people, it did not account for the unique stressors experienced by TNB people. In 2012, Hendricks and Testa introduced a version of the Minority Stress Model adapted for TNB people. This conceptual model was further formalized in 2015 with the creation of the GMSR, which operationalized the constructs of minority stress and social support in the lives of TNB people (Testa et al., 2015). The GMSR adopted the distal-proximal conceptualization of stress found in the Minority Stress Model (Meyer, 2003) and proposed four distal stress factors (gender-related discrimination, gender-related rejection, gender-related victimization, and non-affirmation of gender identity), three proximal stress factors (internalized transphobia, negative expectations for future events, and nondisclosure), and two resilience factors (community connectedness and pride) for TNB people.

The Need for New Theory

Despite the strengths of these theories, none of them fully address the specific needs of TNB people attempting to access healthcare. Both the Minority Stress Model and the GMSR were designed to explain physical and mental health outcomes among LGB and TNB people, though they have been recently used to examine healthcare access (e.g., Johnson et al., 2019; Rider et al., 2018). Andersen's BMHU was developed to predict healthcare access among general populations, yet has begun to be applied to TNB people (e.g., Lerner et al., 2020; Lerner & Robles, 2017). These applications of theory to TNB healthcare access represent meaningful—though incomplete—frameworks for future research, practice, and policy. Although individually they account for either population or outcome (e.g., healthcare access) factors, there remains a need for a model accounting for both simultaneously. Therefore, in the first paper of this dissertation, I present an integrative review of TNB healthcare access research, analyze theorized used along with their strengths and weaknesses, and then propose the Intersectional Model of Service Use (IMSU), a new theoretical model tailored specifically to TNB healthcare access. This model is then revised and tested in the subsequent papers through a sequential exploratory mixed methods study designed to incorporate TNB perspectives of healthcare access generally and about the proposed model specifically.

Research Questions

This dissertation seeks to answer the following two overarching research questions:

1) What factors do TNB people consider most important in their ability to access healthcare?
2) Based on the results from question 1, how effectively does a new theoretical model (i.e., the IMSU) designed to explain TNB healthcare access describe TNB people's ability to access healthcare?

To answer these questions, this dissertation includes an integrative literature review, a qualitative analysis, and a quantitative analysis in three separate papers. Each paper has its own research questions, though all will work together to create, refine, and test the IMSU.

Paper 1 Research Questions

1) What are the dominant theories used (historically and currently) to examine TNB healthcare access?
2) What are the primary shortcomings of currently used theories?
3) What factors would a new model of TNB healthcare access (i.e., the IMSU) that addresses the shortcomings of currently used theories include, and how would these factors relate to each other?

Paper 2 Research Questions

1) How do the lived experiences of TNB people inform the proposed IMSU model?

2) To what extent do members of the TNB community find the newly proposed theoretical model acceptable and appropriate?
3) What modifications to the original IMSU are needed based on feedback from TNB individuals?

Paper 3 Research Questions

1) Which IMSU factors are significantly associated with healthcare access among TNB people?
2) Do gender-specific IMSU domains improve prediction of TNB healthcare access beyond that of traditional IMSU domains alone?

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Chapter Two: Manuscript One

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

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Abstract

Transgender and nonbinary (TNB) people often have difficulty accessing general and TNB-specific healthcare services such as hormone therapies, gender affirming surgeries, and gynecological care because of the systemic forces of transphobia and cisgenderism. Despite this, there is little theory specifically designed to examine healthcare access among TNB people. A literature review was conducted to identify studies examining TNB healthcare access. A total of 2,050 unique articles were screened for inclusion, resulting in a final sample of 46 articles that met review criteria. These articles were analyzed in full, with specific focus on theoretical frameworks used. 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. Although further research is needed to test the utility of the IMSU, 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

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, as well as identities outside of the gender binary, such as genderqueer, nonbinary, bigender, and agender (Fenway Health, 2010). As of 2016, there were nearly 1.4 million individuals (roughly 0.6% of the population) who identified as transgender or nonbinary (TNB) in the United States (Flores et al., 2016). 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). Furthermore, a study in Philadelphia (Kenagy, 2005) found that over half of transgender participants had difficulty accessing one or more healthcare services in the past year, while another study in Virginia (Bradford et al., 2013) found more than a quarter of TNB people reported being unable to access at least one kind of needed transgender-specific healthcare (hormone therapy, gender-affirming surgery, gender-related counseling, or gynecological care) that year. Adding to this, at least 16 states (Alabama, Arizona, Arkansas, Florida, Georgia, Kansas, Louisiana, Missouri, Montana, New Hampshire, North Carolina, Ohio, South Carolina, Tennessee, Texas, and Utah) have introduced bills since the start of 2021 designed to restrict TNB minors' access to gender-affirming treatments such as hormones or surgeries (Freedom for All Americans, 2022).

Despite the increasing concentration on TNB people, there are few theoretical models designed specifically to study and explain TNB healthcare access. A robust population-specific theoretical model will provide an organizing framework for ongoing research to explore, explain, and ultimately implement interventions to increase healthcare access among TNB people. 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

Theories of Healthcare Access

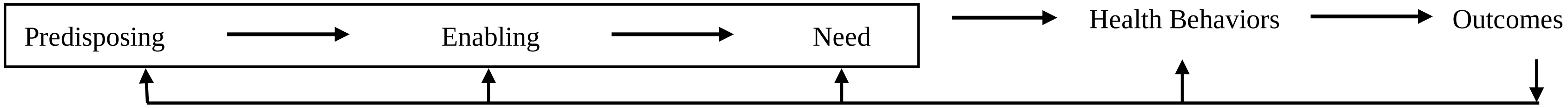
Various theoretical frameworks have been used to explain how, why, and when people engage with the healthcare system (Andersen, 1968). The development of theoretical models to explain health service use began in earnest in the 1960s through the work of scholars such as Weeks (1961); Stoeckle, Zola, and Davidson (1963); Rosenthal (1964); Wirick and Barlow (1964); Schuman (1965); Rosenstock (1966) and Feldstein (1966). These approaches generally focused on either economic or social-psychological factors. Economic-based models stressed variables such as income, health insurance, and service price, while social-psychological models emphasized individual values, attitudes toward illness and health, and social definitions of illness (Andersen, 1968). Then, in 1968, U.S. medical sociologist Ronald M. Andersen integrated aspects of these models to develop his Behavioral Model of Health Services Use (BMHU), which—along with its subsequent adaptations—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, location and accessibility of providers, and provider wait times. Finally, need represents an individual's self-perceived need for healthcare services, along with healthcare 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 depicted in Figure 1.1 (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 the probability of 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.

Figure 1.1

The Behavioral Model for Vulnerable Populations (Gelberg et al., 2000)



Traditional Domains	**Demographics** - Age - Gender - Marital Status - Veteran Status **Health beliefs** - Values concerning health - Attitudes toward health services - Knowledge about disease **Social Structure** - Ethnicity - Employment - Social networks - Occupation - Family size - Religion	**Personal/ Family Resources** - Regular source of care - Insurance - Income - Social support - Perceived barriers to care **Community Resources** - Residence - Region - Health services resources	**Perceived Health** - General population health conditions **Evaluated Health** - General population health conditions	**Personal Health Practices** - Diet - Exercise - Adherence to care **Use of Health Services** - Ambulatory care - Inpatient care - Alternative healthcare - Long-term care	**Health Status** - Perceived health - Evaluated health **Satisfaction with Care** - General satisfaction - Technical quality - Interpersonal aspects - Coordination - Communication - Financial aspects - Time spent with clinician - Access/ Availability/ Convenience - Continuity - Comprehensiveness - Administrative hassle
Vulnerable Domains	**Social Structure** - Country of birth - Acculturation/ Immigration/Literacy **Sexual orientation** **Childhood characteristics** - Residential history/Homelessness - Living conditions - Mobility - Length of time in community - Criminal behavior/history - Victimization - Mental Illness - Psychological resources - Substance abuse	**Personal/ Family Resources** - Competing needs - Hunger - Public benefits - Self-help skills - Ability to negotiate system - Case manager/ Conservator - Transportation - Telephone - Information Sources **Community Resources** - Crime rates - Social Services resources	**Perceived Health** - Vulnerable population health conditions **Evaluated Health** - Vulnerable population health conditions	**Personal Health Practices** - Food sources - Hygiene - Unsafe sexual behaviors	

The Need for a New Model

Although 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; Warner & Mehta, 2021), there is little consensus on how theory should guide this research. Theory provides an organizing framework for future research and discussion, increases efficiency by allowing researchers to test and improve existing theory, and facilitates the application of research 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 attempting to access healthcare, 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.

Review Methodology

Literature Search Process

The literature review process was based on a modified integrative review methodology (Whittemore & Knafl, 2005). This methodology was chosen because it allowed for the combination of quantitative and qualitative methodologies through synthesis, which is the process of integrating existing ideas with new ideas for theory creation (Torraco, 2016). The review was not a formal systematic review, though some systematic methods were used to strengthen the review process. Four databases (PsychInfo, PubMed, Social Services Abstracts, and the Nursing and Allied Health Database) were searched from August 9 to November 21, 2021. Abstracts and titles were searched 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")*.

Several inclusion and exclusion criteria were set to guide the review. To be eligible for inclusion, articles needed to explicitly speak to the unique experiences of TNB people, rather than including them solely as part of the larger LGBTQ community. This included studies that exclusively focused on TNB people, as well as studies 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 that focused solely on quality of care, patient satisfaction, or health outcomes without connecting them back to access were excluded. 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 both mental health and HIV care are critical, and a growing body of literature indicates that TNB people also often struggle to access these services (Fontanari et al., 2019; e.g., Snow et al., 2019), restricting the scope of this review to general and transition-related medical care access allowed for a more in-depth analysis of this topic.

Figure 1.2 presents a visual representation of study selection. The initial search identified 3,063 articles, which 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. The remaining 73 articles were read in their entirety, and 39 were retained in the review. The references of these articles, along with the references of two systematic reviews on TNB healthcare, were scanned for relevant studies, yielding an additional seven for a total of 46 studies analyzing 39 distinct datasets.

Review Synthesis Process

Included studies were coded for a list of characteristics including year, author, theoretical foundation, research methods employed (quantitative or qualitative), data source, sampling methods, sample size and demographics, study location, and key results. This data was then organized and presented using a conceptual structure focused on the use of theory, barriers to healthcare access, and facilitators to healthcare access. Next, these data underwent a synthesis process, which Torraco (2016) defines as a creative process that integrates existing ideas or theories (e.g., Gelberg's (2000) BMVP) with new ideas (e.g., integrative review findings) to develop alternative models or conceptual frameworks. As articles are read, coded, and analyzed, researchers develop hypotheses about the underlying relationships between various findings, driving future research to test out the postulated model.

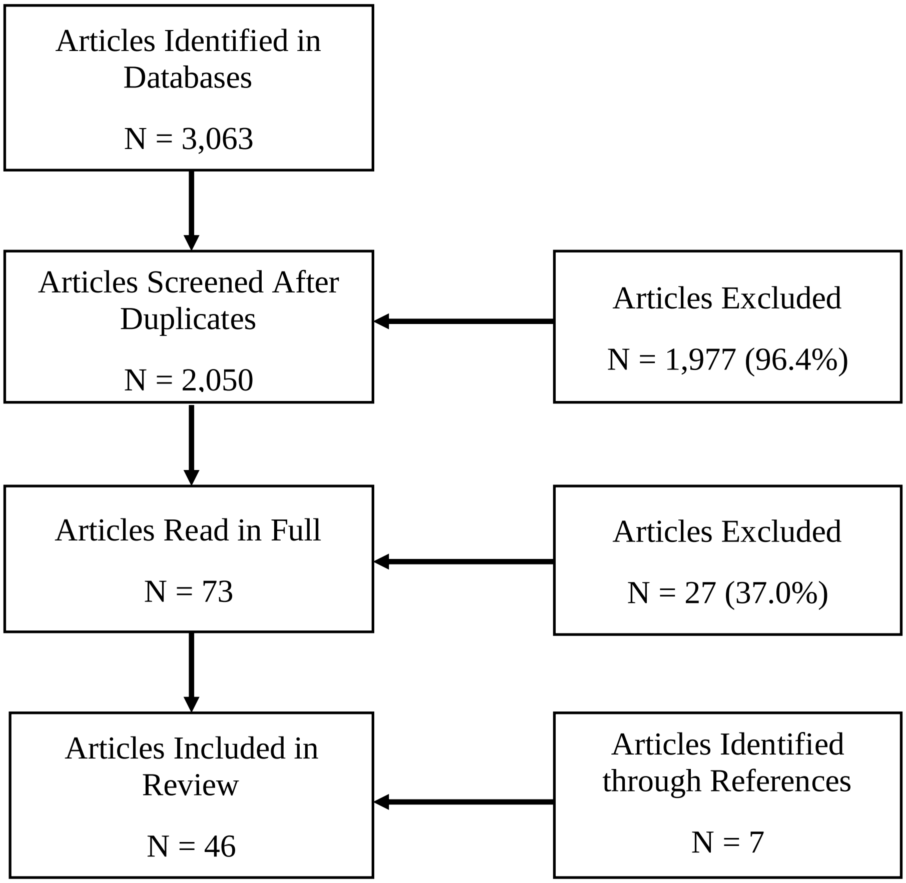
Results

Description of Sample

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,

Figure 1.2

Flow Diagram of the Article Selection Process



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 1 (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 in San Francisco, one in Los Angeles, one in the Northern half of the state, and one statewide), three (6.5%) in New York City, three (6.5%) in Massachusetts (two in Boston and one statewide), two (4.3%) in Texas (one in El Paso, one statewide), two (4.3%) in Wisconsin (one in Milwaukee and one statewide) and one each (2.1%) in Florida; Iowa; Minnesota;

Nevada; Pennsylvania; Virginia; Chicago, Illinois; Seattle, Washington; New Orleans, Louisiana; and Jackson, 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, with participants primarily located in Georgia, Alabama, Tennessee, and North and South Carolina. 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 included 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.

Building on these various theoretical foundations enabled studies to examine TNB healthcare access from different perspectives, each adding important elements. 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. Eight studies (17.4%) 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 at some point compared to 17% of White TNB people (Grant et al., 2010). Qualitative studies also described high rates of service denial, with most participants indicating they had been denied care at least once and many describing multiple incidences of service denial (Crockett, 2018; Perez-Brumer et al., 2018; Sperber et al., 2005). One transfeminine adult described her experience: “I’ve been turned down by five different doctors before I came here…because I wanted to start my transition” (Perez-Brumer et al., 2018, p. 5). Experiences like this were repeated across studies where participants described doctors who hung up on them, asked them to leave, refused to provide prescriptions, and referred them out to other providers without talking to them.

Discrimination. Discrimination was examined in 28 articles (60.9%), making it the most frequently discussed barrier to accessing healthcare. 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). 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; Thompson, 2016) and people who reported being visually androgynous (Kcomt et al., 2020). Regional studies also clearly documented the impact of discrimination on healthcare access across states including Mississippi (Perez-Brumer et al., 2018), California (Corliss et al., 2007), Virginia (Xavier et al., 2013), Texas (Loza et al., 2017), and South and North Carolina (Johnson et al., 2019). 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 their 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, a qualitative study participant who described his experience in the emergency department when he was approached by a group of staff members after checking in:

> 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 shouldn't be concerned with how they present. 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. 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 and mixed methods 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. This was described in a focus group of transgender men by one participant who said “I think they have a responsibility to be educated about us before we walk in there. It’s important that they listen while we’re there, but it’s important that they have some prior knowledge that’s out there and available” (Sperber et al., 2005, p. 87).

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:

> You know, just recognizing too that, they [the 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? And no, I don’t want a crazy high dose of [Testosterone], so what then? (Lykens et al., 2018, p. 194)

Perceiving healthcare providers as inadequately trained or needing to be educated about TNB people and health was a significant barrier to accessing care for many participants. 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 which found that 32% of transfeminine participants identified inadequately trained providers as a significant barrier to accessing care (Sanchez et al., 2009). This was substantiated across additional studies reporting that TNB people who had previously needed to educate their providers were between two (Lerner et al., 2020) and four (Jaffee et al., 2016) times more likely to delay needed general healthcare than participants who had not.

Affordability and Insurance. Twenty-six (56.5%) 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. Concerns over affordability 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 avoided needed healthcare because of costs at some point in their lives. This was especially true for nonbinary identifying 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 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 lacking insurance or having 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. 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 (for example, Spironolactone is an anti-testosterone blocker sometimes prescribed as a diuretic, though breast enlargement is a side effect; 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; Xavier et al., 2013).

Non-Affirming Care. Sixteen articles (34.8%) discussed non-affirming care as a key barrier to accessing healthcare. The most consistent way this manifested was around the use of names and pronouns, whether through overly rigid medical records or less knowledgeable medical staff. Issues around medical records were 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. Nearly every participant reported encountering medical staff who refused or failed to use correct names or pronouns, including in public waiting room spaces. 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 … not a lot of hope that it is going to turn out okay. Kind of expecting the worst. Every time I would call … I would expect not to have my pronouns respected or [for them not to] understand issues. Going in I know I am going to have to explain things … 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’s 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 more easily. Nonbinary patients also reported feeling pressured to fully 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 complete 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). In one study surveying attendees of the Southern Comfort Transgender Conference in Atlanta who had attempted to access care, 47%, 42%, and 33% reported difficulty finding a 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; Xavier et al., 2013). 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 specifically because of long waitlists for transgender-competent providers (Nemoto et al., 2005). These barriers were amplified for participants who spoke a language other than English (Fix et al., 2020), with 13% of transmasculine participants in New York City citing language barriers as a primary obstacle to accessing care (Sanchez et al., 2009).

Facilitators to Healthcare Access

Although studies primarily focused on barriers to healthcare access, some (*n* = 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 that listened to their needs was more important than any other provider characteristic because it created an environment of safety and collaboration (Sperber et al., 2005). This was particularly important for transmasculine and nonbinary participants who were 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 for the first time. Participants also expressed the benefit of coordination between providers so that patients did not have to repeatedly have 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 served to 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 (Hoffman & Paradise, 2008), 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 United States average (James et al., 2016)

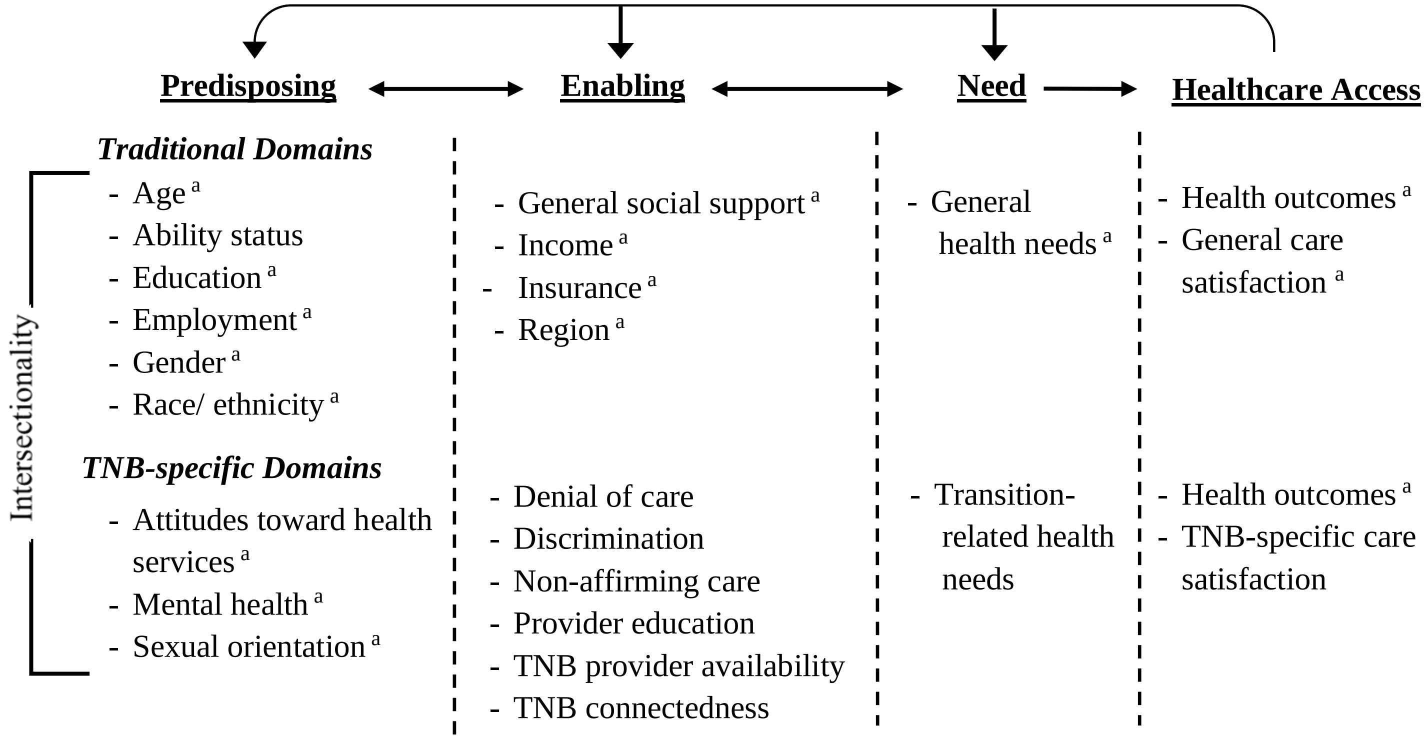
Synthesis of Theory and Review Findings

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, 1990). 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, each of 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, titled the Intersectional Model of Service Use (IMSU) and depicted in Figure 1.3, 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 IMSU accomplishes this by incorporating the barriers and facilitators from this integrated review into the vulnerable domains from the BMVP. This proposed model also builds upon 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).

Figure 1.3

The Proposed Intersectional Model of Service Use (IMSU)



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

[a] Factors included from the BMVP

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 seeking care, 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. Indeed, research indicates that TNB people living in rural areas are more than three times as likely to drive over an hour to a primary care provider than their cisgender LGB peers (Whitehead et al., 2016). 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.

Discussion and Future Directions

The difficulty many TNB people face accessing healthcare in the United States is a well-documented phenomenon (e.g., Cicero et al., 2019) 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 issues 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 to improve healthcare access among TNB people. The TNB-specific enabling domain, in particular, represents a useful area for medical professionals, social workers, other mental health providers, and policy advocates to target. For example, study participants frequently described avoiding care after non-affirming experiences including being misgendered or deadnamed, which is when someone refers to a TNB person by their birth name rather than their correct chosen name and can cause significant distress (Faris, 2019). This is likely related to the infrequency of TNB health training in medical schools or residency programs (Obedin-Maliver et al., 2011). Furthermore, 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. Policy makers 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, 2021a). In one example, the Centers for Medicare and Medicaid Services (CMS) recently approved the first request to include gender-affirming care as part of Colorado's 2023 Essential Health Benefits benchmark, eliminating the need for many TNB Coloradans to spend tens of thousands of dollars to receive necessary care (CMS, 2021). Policy advocates should also continue to fight for legislation designed 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, there are important limitations to note. As with any review, the quality of findings depends on the methods, rigor, and amount of available research. Research regarding TNB healthcare remains relatively nascent, and there is a need for ongoing research to better understand the needs of TNB people seeking to access healthcare. 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; Paceley 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. 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.

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 that can be used in future research. It builds upon previous theoretical models of TNB healthcare access by combining the strengths of previously developed theories (e.g., the organizational structure of the BMVP, the GMSR’s focus on TNB-specific stress and resilience factors, and the importance of considering the impact of multiple identities simultaneously from the intersectionality perspective) and using 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 to better meet the needs of this population. 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. Social workers and other policy-oriented professionals should also intervene by advocating for policy change aimed to combat the structural forces of transphobia and cisgenderism.

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Chapter Three: Manuscript Two

"Either You Shut Up and Say Nothing…Or Stand Up and Get Smacked Down:" Refining the Intersectional Model of Service Use for Transgender and Nonbinary Healthcare Access

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Abstract

The Intersectional Model of Service Use (IMSU) is a newly developed model to better understand and explore healthcare access among transgender and nonbinary (TNB) people. The IMSU was initially developed by extending previous theories of healthcare access to include TNB-specific access factors, and this study further refines the model using a two-stage qualitative analysis process. In stage one, seven focus groups with a total of 46 TNB people were conducted across Colorado and included questions related to identifying healthcare information, improving the healthcare system, and accessing healthcare. Focus group data underwent a thematic coding process, and identified themes were used to refine the IMSU. This revised model was then presented to two additional focus groups (n=16) to elicit further feedback on the model, and another thematic analysis cycle was conducted to further refine the IMSU. Findings from focus groups resulted in improvements to the IMSU including adding additional factors (e.g., size-related stigma, gender markers, model of care, privacy concerns) and relocating factors (e.g., mental health, sexual orientation). The revised IMSU provides a useful heuristic model for ongoing research and intervention focused on TNB healthcare access. Future research should continue to develop and test the IMSU.

Keywords: Transgender, Nonbinary, Theory, Healthcare, Qualitative

As of 2016, there were approximately 1.4 million transgender and nonbinary (TNB) people living in the United States, representing around 0.6% of the population (Flores et al., 2016). Transgender is a broad term for people whose gender does not match their sex assigned at birth, while cisgender describes people whose gender and sex assigned at birth are in alignment. Nonbinary people are those who identify outside of the gender binary, including genderqueer, agender, Two-Spirit, and other nonbinary identities (Fenway Health, 2010). The estimated size of the TNB population is almost certainly an undercount, as the number of people who feel comfortable openly identifying as TNB has increased in recent years. Indeed, the TNB population estimate doubled from 700,000 just 5 years earlier (Gates, 2011).

Transgender and nonbinary people face significant structural barriers to accessing healthcare (Kcomt, 2019), exacerbating already significant health outcome inequities stemming from the structural forces of transphobia and cisgenderism and placing additional stress upon TNB people (e.g., Alzahrani et al., 2019; Baral et al., 2013; Bauer et al., 2009). For example, TNB people have significantly higher rates of heart disease (Alzahrani et al., 2019), diabetes (Wierckx et al., 2013), and HIV (Baral et al., 2013) than do cisgender people, and up to half of TNB people report attempting suicide at some point in their lives (Testa et al., 2017).

Research regarding TNB health and healthcare access is relatively nascent; a recent review of literature conducted in preparation for this study (Call & Holloway, 2022) identified 46 articles addressing TNB healthcare access, 74% of which were published in 2016 or later. As a result, there are few theoretical frameworks designed specifically to explore TNB healthcare access. Rather, most studies use an atheoretical approach or adapt theories developed for other populations or outcomes including Andersen's Behavioral Model of Health Services Use (BMHU; Andersen, 1968), a general population healthcare access model; the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000), an adaptation of the BMHU that adds a vulnerable domain specific to people experiencing homelessness; or the Gender Minority Stress and Resilience framework (GMSR; Testa et al., 2015), a TNB-specific theory that explains health outcomes rather than healthcare access.

Development of the Intersectional Model of Service Use

Although these frameworks have merit, none of them fully address the unique healthcare access factors experienced by TNB people. This need led to the creation of the Intersectional Model of Service Use (IMSU) for TNB people (Call & Holloway, 2022). This model uses the general structure of the BMHU and BMVP by dividing healthcare access factors into predisposing, enabling, and need factors. Predisposing factors are individual factors that exist before individuals initiate the process of seeking healthcare services (e.g., age, race/ethnicity, education). Enabling factors include resources or conditions that empower or impede individuals from accessing healthcare (e.g., income, health insurance, accessibility and availability of providers). Need factors are personal and professional perceptions of how important it is to seek health services. The IMSU (depicted in Figure 2.1) builds upon this foundational structure by using data from an integrative review to adapt the vulnerable healthcare access domain introduced in the BMVP to the needs and experiences of TNB people.

The IMSU also incorporates the concept of intersectionality first introduced by Kimberlé Crenshaw (1990), which is a framework for understanding how a person's individual identities combine to create unique experiences of discrimination and privilege. For example, previous research indicates that people of color (Ohlson, 2020) and TNB people (Kcomt, 2019) both face increased barriers to healthcare access compared to their White or cisgender counterparts, respectively. According to the intersectionality framework, the experience of TNB people of color attempting to access healthcare goes beyond a simple summation of the impact of race and gender, a perspective sometimes referred to as the multiple jeopardy approach (Vu et al., 2019). Rather, race and gender intersect to create a set of experiences unique to people who hold both marginalized racial and gender identities. Research supports this perspective; TNB people of color report experiencing healthcare discrimination based on both their gender and race, amplifying structural barriers beyond either marginalized identity individually (Howard et al., 2019).

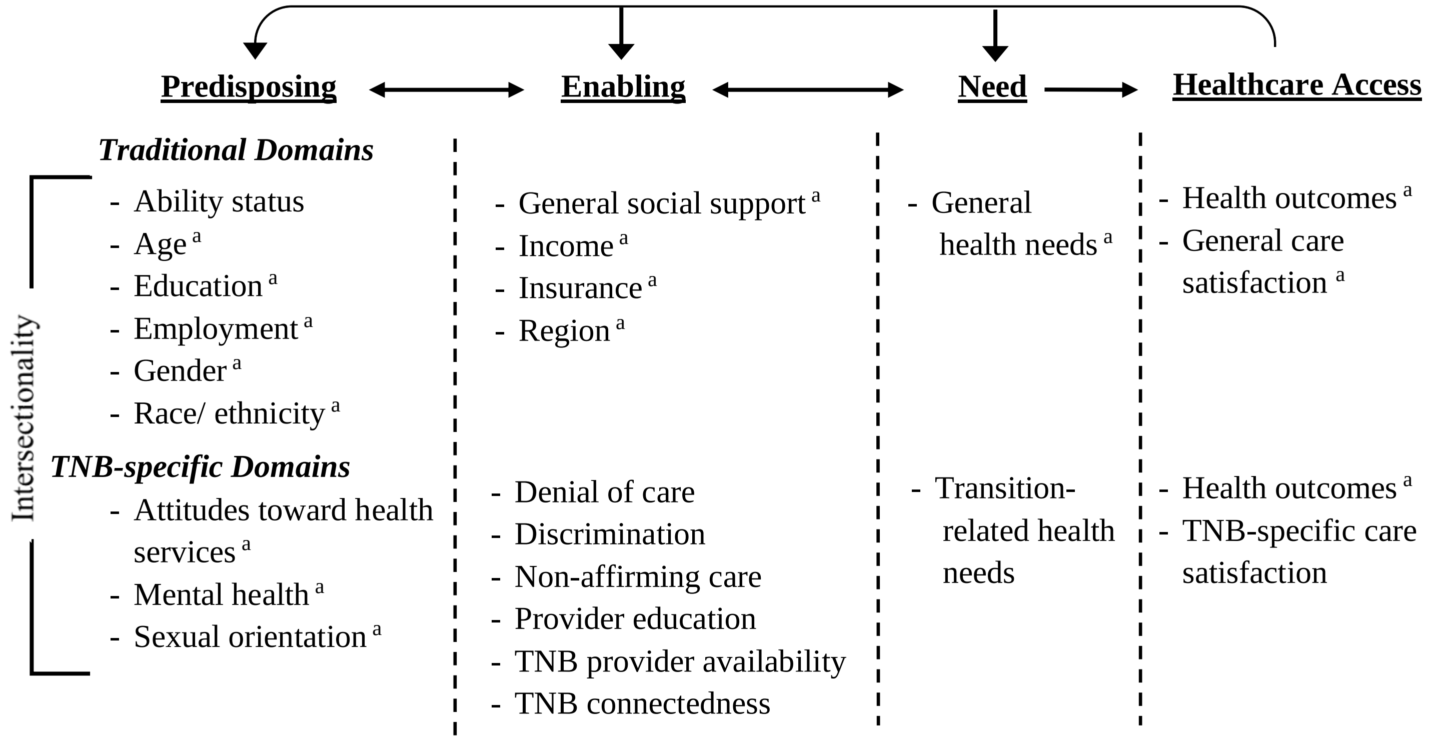
Furthermore, this perspective aligns with the intersectionality paradox approach, which describes how the intersection of low status (e.g., marginalized racial, gender, or sexual orientation) and high status (e.g., White, cisgender male, or high SES) identities impact public health (Vu et al., 2019). Notably, research indicates that holding privileged identities does not fully mitigate the impact of holding marginalized identities. For example, maternal education has been identified as a protective factor against infant mortality generally (Vu et al., 2019), though the infant mortality rate among Black women with more than 13 years of education remained almost 3 times higher than non-Latino White women (Mathews & MacDorman, 2010). This research, along with work from others such as Bowleg (2012), highlights the benefits of conceptualizing multiple intersectional identities simultaneously through an intersectionality paradox perspective rather than viewing each identity as discrete factors.

The IMSU represents an important step in theoretical development, providing a population-specific foundation to examine the issue of TNB healthcare access. Due to its recency, however, it is untested beyond its initial conceptualization, and future research is needed to further refine and test the model. As such, this paper uses qualitative focus group data from TNB people who have recently accessed healthcare to refine the model and gather direct feedback on the IMSU. Specifically, this manuscript seeks to answer the following research questions:

1) How do the lived experiences of TNB people accessing healthcare align with the IMSU?
2) To what extent do members of the TNB community find the newly proposed theoretical model acceptable and appropriate?
3) What modifications to the IMSU are needed based on feedback from TNB individuals?

Figure 2.1

The Intersectional Model of Health Service Use (IMSU)



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

[a] Factors included from the BMVP

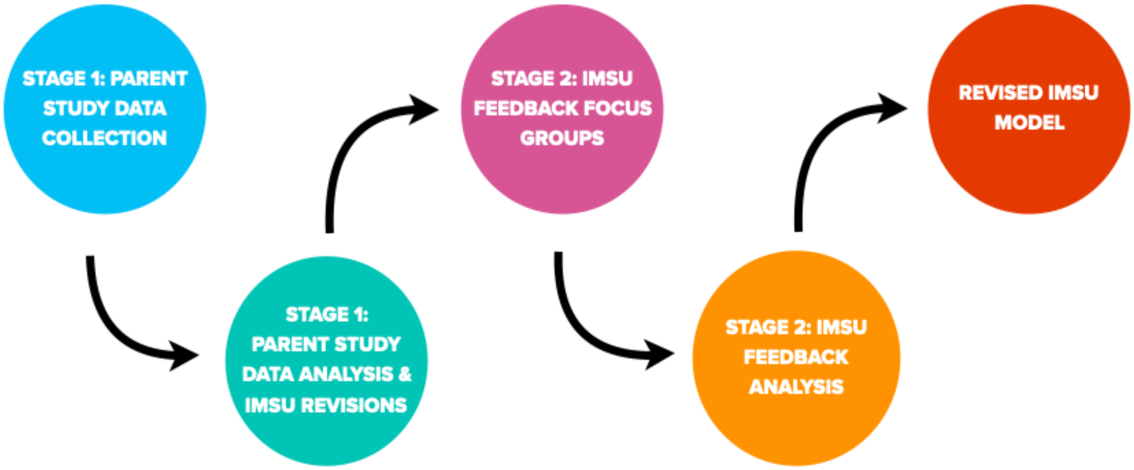
Methods

Study Design

This study used a two-stage qualitative data collection and analysis process (see Figure 2.2). The first stage consisted of focus group data derived from the Transgender Health Literacy in Colorado project (i.e., the parent study) to revise the IMSU. During stage two, additional focus group data were collected to provide feedback on the revised model. Both stages obtained verbal consent from all participants and were approved by the University of Denver Institutional Review Board (IRB).

Figure 2.2

Visual Depiction of Two-Stage Study Design



Data Collection and Analysis

Stage One: Parent Study

Stage one used data from seven focus groups conducted across Colorado in partnership with One Colorado, an LGBTQ advocacy organization located in Denver. Participants were recruited by emailing One Colorado’s listserv, advertising on social media sites (Facebook and Instagram), and sending targeted emails to TNB community leaders in regions where focus groups were to be held. Participant identities were protected by asking participants to only share their first names, keeping demographic information in a separate password-protected file from their first names and contact information, and only linking names and demographics via participant ID numbers. Audio files were deleted from recorders once transferred to a password-protected folder on the University OneDrive. Participants across stages were informed that they were able to skip any questions and researchers provided resources for TNB-affirming professional support in case participating in focus group discussions created discomfort.

Stage-one focus groups centered on TNB people's experiences with healthcare and included questions related to identifying healthcare information, improving the healthcare system, and accessing healthcare. A full description of focus group questions is located in Appendix A. Focus groups were conducted in Denver (*n*=9), Aurora (*n*=11), Grand Junction *(n*=7), Durango (*n*=4), Fort Collins (*n*=7), Colorado Springs (*n*=2), and online (*n*=6), for a total of 46 participants. Focus groups were facilitated by members of an LGBTQ-focused research team, over half of which identified as TNB. Participants were provided a $20 grocery gift card for their time. Each group was audio recorded and transcribed verbatim, including false starts and repeated words, by an MSW research assistant. Identifying information (names, local organizations, etc.) were removed as part of the transcription process. Data validation was conducted twice by reading the transcripts while listening to audio, once by the MSW research assistant and again by the parent study faculty sponsor.

Each de-identified, validated transcript was then analyzed using Dedoose (SocioCultural Research Consultants, LLC, 2009) through a six-step thematic analysis process as outlined by Braune and Clarke (2006): becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. The first step, data immersion, was accomplished by reading all transcripts prior to any coding and reviewing each transcript at least two more times during the coding process. The dissertation author then developed an initial codebook (step two; see Appendix B) based on factors of the original IMSU. The initial codebook was reviewed and revised twice by two doctoral student research assistants holding TNB identities: once prior to any coding and once midway through the coding process to add inductive codes arising from the data. Each transcript was double coded by the dissertation author and one of the doctoral research assistants. Once coding was completed, potential themes were developed (step three) based on code frequencies. These themes were reviewed in a team meeting (step four), and each theme was given a name and description (step five). Finally, representative quotes were selected for each theme (step six; Braun & Clarke, 2006). The final themes were then used to revise the original IMSU by adding new factors based on data themes and removing factors not represented in the data.

Stage Two: Model Revision Feedback Groups

Upon completion of the first stage, participants were recruited for stage two through a combination of snowball and purposive sampling. Participants from the parent study were contacted and asked if they wanted to participate in stage two focus groups to provide feedback on the revised model, as well as if they would share study information with other TNB Coloradans. Participants were also recruited through TNB-focused social media groups and targeted emails to TNB community leaders across the state. As TNB people experience healthcare access differently based on their identities (Kattari et al., 2019), a combination of maximum variation and criterion sampling (Emmel, 2013) was used to ensure that a range of races, genders, and geographic regions were represented.

Two online, semi-structured focus groups were facilitated by the dissertation author and one research assistant. These focus groups began with the author presenting a visual depiction of the IMSU and explaining the model, followed by questions to elicit feedback on which parts of the model participants would add, remove, or change. The specific questions can be found in Appendix A. These focus groups were video recorded and transcribed, then underwent a similar iterative coding process as the first-round focus groups. Analyzed data were then used to further refine the IMSU as described in the results section. Focus group participants were provided a $25 gift card for their involvement.

Participant Characteristics

Stage one consisted of 46 participants from seven focus groups held across Colorado. Group members were largely White (*n* = 31; 67.4%), with the remaining 30% identifying as biracial (*n* = 7; 15.2%), Latino/Hispanic (*n* = 3; 6.5%), Asian (*n* = 3; 6.5%), or Native American (*n*=2; 4.4%). Half (n=23; 50.0%) identified as transgender women/ transfeminine, 30% (*n* = 14) as transgender men/transmasculine, and 20% (*n* = 9) as some sort of gender expansive identity including nonbinary, bigender, genderqueer, and intersex. A wide variety of sexual orientations were represented; 12 participants (26.1%) identified as bisexual, eight (17.4%) as pansexual, six (13.0%) as queer, six (13.0%) as straight/heterosexual, four (8.7%) as lesbian, two (4.3%) as asexual, two (4.3%) as demisexual, one (2.2%) as gay, and five (10.9%) as an additional sexual orientation. Participant ages ranged from 19-72, with a mean age of 39.5 (*SD* = 16.6).

Stage two consisted of two online focus groups with a total 16 participants from across Colorado, two whom had also participated in the stage one parent study. This sample was also largely White (*n* = 12; 75%), with the remaining participants identifying as Black (*n* = 3; 18.7%) or Latino (*n* = 1; 6.3%). Participants ranged in age from 22 to 68, with a mean age of 32 (*SD* = 11.0). Five (31.3%) of the sample identified as transgender men/ transmasculine, another 5 (31.3%) identified as non-binary, two (12.5%) as transgender women/transfeminine, and four (25.0%) as female. In terms of sexual orientation, five (31.3%) participants self-described themselves as queer, four (25.0%) as bisexual, two (12.5%) each as straight, lesbian, and pansexual, and one (6.3%) as gay.

As some focus groups took place in communities with small TNB populations, specific city names are not associated with participant quotes in the findings to protect participants living in these locations from potential identification. Instead, when city size is pertinent, focus group locations are described as either metropolitan if the population is greater than 200,000 (Denver, Aurora, Colorado Springs) and non-metropolitan if the population is less than 200,000 (Fort Collins, Grand Junction, Durango).

Results

Study Findings

Participants largely voiced support for the IMSU as originally proposed. There were, however, additional themes in the data that supported moving or eliminating IMSU factors, as well as themes that were not represented in the original IMSU. As the IMSU expanded upon the BMVP (Gelberg et al., 2000), which has been validated for use in other populations (e.g., Gunness, 2019; Heidari et al., 2020; Victor et al., 2018), the findings of this study focus on the eight healthcare access factors new to the IMSU: ability status, discrimination, denial of care, non-affirming care, provider education, TNB provider availability, TNB connectedness, and transition-related health needs. While not the focus of this manuscript, these focus group data also supported the traditional domain factors that were included in both the BMVP and the IMSU, providing additional support for these domain factors within this population.

Model Concurrence

Participants largely supported retaining six of the eight IMSU factors not found in the BMVP as initially proposed: ability status, denial of care, provider education, TNB provider availability, TNB connectedness, and transition-related health needs. While these additional factors were primarily included in the TNB-specific domain, ability status was added to the traditional predisposing domain of the IMSU.

Ability Status. Ability came up across focus groups, with participants expressing that many healthcare providers and clinics appeared ill-equipped to support patients with disabilities. This was exemplified by an experience shared by one non-metropolitan participant about the check-in process at a medical clinic:

> The other part is they make you go through all these forms, and my hands don’t work. Literally. I mean, they hurt if I use them for more than, like, two to three minutes, and there are all these forms, which I didn’t need to fill out. All I wanted to do was talk to somebody with a PhD and see if they would write me a letter. I wrote all this out, and then I fill all these forms out, and my hands are killing me, and then I went in, and I

> said, “this is what I need” and they said, “well, we can’t help you. Try to go to the place down on [Redacted] and see if they can help you there.” I wasted like four hours. My hands are killing me because they didn’t listen to me.

In particular, participants who had been diagnosed with diabetes described significant barriers to accessing healthcare services that both met their medical needs and affirmed their genders. This challenge was expressed by one metropolitan participant who shared,

> I’m not your normal type 2 diabetic. I’m your one in 2 million type 2 diabetic…being on HRT. How many [providers] are actually going to be able to take that and run with it?

Although having a disability is an important healthcare access factor for all populations, it can be particularly salient for TNB health where there is limited research regarding possible medication interactions.

Denial of Care. Participants also reiterated the role that being denied care played in their ability to and interest in accessing healthcare services. Multiple participants described situations where doctors refused to treat them, including one non-metropolitan participant who said,

> I ended up getting turned away from like two doctors’ offices before I could find somebody who would take me to do HRT.

The reasons for service denial ranged from provider unfamiliarity with TNB health to blatant refusal to treat someone because of their gender. The clearest example of this came from a participant in the metropolitan group who shared,

> I saw a doctor who refused to prescribe me hormones, telling me “men don’t take those.”

Situations like this occurred even when seeking out care not related to transition as described by an online participant who visited a new clinic for the first time:

> I went in, and they pretty much refused to treat me. So I would like to see something where healthcare providers can’t discriminate, because that was devastating. And [my appointment] wasn’t even related to me being trans. I was just sick.

Of note, each group had members who had been denied care, and most participants indicated they had heard of other TNB people who had been denied services, highlighting the importance of service denial as a TNB healthcare access factor.

Provider Education. One of the most consistently discussed themes was insufficient provider education, forcing TNB patients to educate their providers about TNB people and their healthcare needs. Many participants reported that their providers were almost entirely unfamiliar with TNB identities, and participants described having to educate providers about topics like pronouns and the difference between gender and sexuality. Experiences like this were summed up by one online participant who described a recent healthcare visit:

> I went in for just primary care stuff…and they were completely uneducated on being transgender and were asking me why [I] made this choice and were really encouraging me to stop hormones…That was pretty difficult to deal with.

Inadequate provider training also extended into the realm of medical treatments, with participants in every group describing situations where their doctors turned to patients for healthcare information. Most frequently, this took the form of physicians asking patients about treatment trajectories:

> I saw my primary for a checkup, and they asked “so, will we need to do mammograms as you get older?” And I’m like, “you should know! Shouldn’t you be telling me?” It’s like…the doctors have more questions for us than we have for the doctors.

Similar experiences were echoed across focus groups, and participants expressed that they learned to come to appointments prepared with healthcare information. In one case, a non-metropolitan participant shared that

> I had to print out an article in the Journal of Endocrinology and bring it in to my [doctor].

The frequency with which these experiences occurred was described as a source of exhaustion that deterred some participants from seeking care, while lowering their trust in their providers’ knowledge and ability. This fatigue was communicated by another participant who stated,

> [Providers] legitimately do not know how to deal with us. They just ask invasive questions that they think are reasonable, but you’ve had to answer 50, 60, 70 times in your life, and you’re so over it.

TNB Provider Availability. Participants also affirmed the difficulty many of them faced scheduling appointments with TNB-competent providers, requiring extensive wait times or traveling long distances for care. Although this theme showed up in every focus group, it was particularly salient in groups held outside of major metropolitan areas. This was described in an exchange between two focus group participants living in a non-metropolitan area:

> Proximity and availability of these services is a big deal…It goes back to rural care…there is no rural access.” “Right, it’s 6 months to a year to get a consult time…and you still have to go to Denver to get the big stuff done.

TNB Connectedness. Participants also consistently espoused the importance of being connected to other TNB people when identifying and accessing healthcare. For many participants, TNB community provided the only reliable source to identify affirming providers after repeatedly encountering outdated resource lists or providers who self-reported as being affirming but were not actually competent in TNB health. Although most participants leveraged their TNB networks informally to access care, one participant formalized this resource by creating a collaborative TNB-produced provider list:

> I run a transgender support group, and I got tired of being asked [about how to find an affirming provider], so I built a resource list where TNB people could put down recommendations.

Transition-Related Health Needs. Finally, participants supported the inclusion of transition-related health needs in the IMSU. For many participants, transition-related care was viewed as an essential part of their overall wellbeing, despite being categorized as elective by many providers and insurers. This was described by one metropolitan participant who stated:

> All of these are [considered] elective anyways. [Providers are] like, “oh, you just want to change your body for fun?” I’m not on testosterone for kicks and giggles. I’m on it because I like not feeling like garbage all the time. I want to get top surgery not because I’m a confused lesbian, but because I legitimately have a lot of dysphoria.

Although many TNB people choose to medically transition, not all do, and participants who were not interested in transition-related services expressed feeling less need to access medical care.

Model Revisions

Removal of Discrete Discrimination Factor. Experiences of healthcare discrimination were described throughout both stages of data collection. When the revised model was presented to the second-stage model feedback focus groups, however, participants expressed that discrimination is a key underlying mechanism across healthcare access factors. Indeed, when reviewing analytic codes, nearly every excerpt that the research team coded as discrimination was also coded with another factor, highlighting the close relationship between discrimination and other healthcare access factors. As such, discrimination was removed from the model as a discrete factor, instead acknowledging that systemic forces such as transphobia and cisgenderism result in a milieu of discrimination that manifests itself through healthcare access barriers including being denied care, receiving non-affirming care, and gender-related insurance denials. Thus, rather than including a general omnipresent factor, we elected to include discrimination as it manifested in specific forms (e.g., denial of care, non-affirming care).

Splitting Non-affirming Care into Non-affirming Providers and Non-affirming Environment. Experiencing non-affirming medical care was discussed in every group and was the most frequently discussed healthcare access factor. Participants consistently described experiences of non-affirming care as reasons to avoid healthcare, including medical personnel who deadnamed or misgendered patients, providers asking invasive or inappropriate questions, non-affirming physical spaces, and rigid paperwork and automated systems. Non-affirming language was described throughout the process of seeking care, beginning with initial phone calls and including interactions with staff and medical providers. The pervasiveness of misgendering and deadnaming was highlighted in one of the non-metropolitan focus groups, where one participant shared that,

> there were some people I talked to on the phone who…even though I told them, “these are my pronouns and my name,” they would deadname and misgender me.”
>
> This was later followed up by another participant who shared that “I told a provider once I prefer they/them pronouns, and they’re like, “so, she?”

Participants also shared that they avoided medical care because of how frequently they were asked invasive and inappropriate questions largely unrelated to their care:

> There’s definitely a fine line between questions that are acceptable for providers to ask us if it’s to better our care, and some that are just kind of nosy and have nothing to do with the reason why I came in in the first place. You wouldn’t ask a cis person about what’s going on with their genitals; why would you ask a trans person the same thing if it has nothing to do with why you’re there?

Notably, participants often described scenarios where either their provider or the healthcare environment was affirming while the other was not. This was demonstrated by one participant living outside of the metropolitan area who shared that their

> doctor is wonderful, his nurse is wonderful, but some of the staff in the clinic…[groans].

When directly discussed during the second-stage model feedback groups, participants suggested separating non-affirming care into non-affirming providers and non-affirming environments, because even when providers used affirming language, most medical paperwork and systems were structured around a binary and cisnormative conceptualization of gender. Importantly, as completing medical forms is typically the first step after arriving at a medical office, participants reported that forms often set a negative tone for the remainder of the visit:

> One thing with the competence for me is paperwork and forms. There’s a lot of misgendering and awkwardness that can come from having to select a box.

Notably, even participants who had not personally experienced non-affirming paperwork were hesitant to seek care after hearing the reports of others:

> We have a lot of problems with medical intake forms and names and pronouns…I’ve got a charmed life, but other people have had problems with this sort of stuff, and when it gets back to one of us from another source, it’s a real betrayal of trust and is dangerous for some of us that aren’t out.

Similarly, other participants described scenarios where they had affirming experiences with support staff, medical settings, or paperwork, but were treated poorly by medical providers.

Although the vast majority of discussions around providers and environments focused on negative experiences, there were a few participants who expressed that affirming healthcare encounters enhanced their experiences and increased their likelihood of accessing future services. As one online focus group participant shared,

> it is great when the staff treat you the way you want to be treated. They’re aware. They get the pronouns. They know the language. That’s nice. It’s why I go to the doctor I go to.

Increased focus on intersectionality. The original IMSU sought to highlight the importance of intersectionality when exploring TNB healthcare access. Throughout both stages of data collection, participants repeatedly reiterated this focus across identities, particularly in terms of race and age. Participants of color expressed that in addition to barriers caused by transphobia, they also frequently experience racism in healthcare environments, further impeding their ability to access appropriate care. As one participant expressed,

> White trans people are treated better on, like, every level…you cannot discuss that people are trans without discussing that it's mostly trans people of color who get slammed with this sort of nasty bullshit.

In another example of race and gender intersectionality, one participant of color described their difficulty finding racial representation in gender confirming surgical results:

> Like top surgery results, a lot of it is White-centered…I am so conscious that I want to get surgery, so I'll take whatever I can get. Which sucks because I should know someone is able to operate on me because they have had experience working on other folks that have darker skin tones, not just the typical average [White] person they are working with.

Further, the importance of considering racial intersectionality was also affirmed by White participants, who acknowledged situations where they received more affirming care than did TNB people of color.

Participants also highlighted the ways in which age intersects with gender when seeking to access healthcare services. On one end of the spectrum, many participants described the difficulty youth often face accessing transition-related services like:

> HRT, surgery, or even hormone blockers, especially if the parents aren't on board.

On the other end, older participants described situations where they were prevented from accessing transition-related treatments because they were beyond age cutoffs:

> When it came time to get my bottom surgery…they wouldn't do it because I was too old. I believe they still won't do people over the age of 60…so they had to send me out of town.

When the topic of intersectionality was raised in the second-stage member-checking groups, participants suggested changing the visualization of the model to further emphasize the intersectionality piece, as well as moving the predisposing factors of sexual orientation and mental health from the TNB-specific domain to the general domain. These changes are represented in the final version of the IMSU depicted in Figure 2.3.

Model Additions

Focus group data also identified four factors that were important to TNB healthcare access but had not been included in the original IMSU: gender markers, models of care, privacy issues, and body size stigma.

Gender Markers. Although gender was included generally in the original IMSU, participants consistently expressed facing additional barriers to care based on medical systems struggling to account for corrected gender markers. Most commonly, participants described instances where they were denied services at some point in the care continuum (e.g., by their provider, insurer, or pharmacist) because their gender marker was different than what service providers expected for a specific intervention. In one example, a participant shared that:

> One of the biggest issues I've recently become aware of is if you change your gender marker, it can affect what healthcare procedures your insurance will cover. If you change your gender marker—let's say you change it legally to male—but you need a hysterectomy, a lot of times insurance companies will say, "no."

Similar issues were reported across the care continuum, with participants expressing doctors and pharmacists had refused to prescribe or fill hormones because their gender marker was different than what was anticipated by the system. The fear of being denied care was present even among participants who had not personally experienced complications based on their gender markers but anticipated they eventually would:

> there is a long process to getting everything updated…I have a birth certificate, a passport, a driver's license, and all my insurance information. Those all need to be in line. What happens if I'm denied care because they're not?

While most participants expressed frustration with the way medical systems handled gender markers, a few reported positive experiences that increased their likelihood of seeking care:

> I would say, my experience at [REDACTED] has been really good. The first time I saw my, my general practitioner there, I said, "hey, I want to get my gender marker changed," and they pulled up on the computer the exact form you need and did it right then and there in the first 20 minutes that I had met this person.

Participants who expressed interacting with providers and systems equipped to navigate gender marker changes shared that they felt affirmed and supported. For these participants, having positive experiences with providers improved their attitudes about healthcare services, increasing their likelihood of future healthcare access.

Model of Care. Participants also shared that the model of care used by medical providers influenced whether or not they were interested in and able to access healthcare. The most recent World Professional Association for Transgender Health (WPATH) Standards of Care recommend that patients receive a diagnosis of gender dysphoria and a letter of support from a mental health professional prior to receiving gender-affirming treatments (Coleman, 2016). This additional step was viewed by participants as gatekeeping that added cost and complexity to an already difficult process, deterring some participants from accessing care. According to a participant in one of the model feedback groups:

> Last time I tried to figure anything out for surgery I needed two letters, both written within six months…That just puts so much extra hoop jumping in there…You have to hope you can schedule surgery in a time and a place that is reasonable that you can take off work for. And during all that, you have to have so many meetings with separate therapists for them to decide, yes, you are trans and mentally stable enough in order to be worthy of these surgeries.

Adding to the logistical burden of acquiring letters, participants expressed that it was uncomfortable for them to get a diagnosis to access care because it pathologized their gender. This concern was shared across groups, with one participant stating that

> we have to have a formal diagnosis [for insurance], so I feel more comfortable paying out of pocket so I don’t have to deal with that. It’s not necessarily because it’s private information, there’s just nothing wrong with me

that needs to be diagnosed. This was echoed in another group when a participant stated that the requirement to get a letter “was my number one concern. I was really worried that when I started treatment it would basically be a constant test…that you would be constantly proving you’re trans enough, or feminine enough, or whatever the case may be.

In response to these concerns about gatekeeping requirements, participants largely expressed support for an “informed consent” model of care where TNB patients no long need referral letters to access transition-related services (Dietz & Halem, 2016). There were, however, two participants who voiced support for a gatekeeping model of care over an informed consent model, sharing that the additional steps played an important role in their transition processes:

> I mean, call me ruthless, but I still think there should be a little bit of gatekeeping in place to help us think. I did 4 years of therapy before I decided to go on hormones. I needed that.

Privacy Issues. Another frequently cited healthcare access factor centered around concerns about privacy. Participants in every group shared experiences where either they or someone they knew had been inappropriately outed when seeking medical services, particularly in waiting rooms when initially checking in. This was exemplified by a participant who shared their experience getting some basic bloodwork done for a physical. After providing medical staff with their insurance card, the participant waited for close to an hour when:

> they called me to the desk and asked very loudly, “Is your name (insert deadname here)?” Part of me doesn’t know if that’s a HIPPA violation technically, but at the same time it just felt so private…I just wish providers would be a bit more sensitive when it came to things like name or gender marker change.

This fear of not having their privacy respected influenced some participants to forgo accessing treatments, particularly in settings like emergency rooms where they had even less of a relationship with medical providers and staff.

For many participants, being outed in medical settings could have substantial professional and safety implications. In one example, a participant shared their concern that inadequate privacy protections could lead them to lose their job:

> I am in the oil and gas industry, and one of my biggest concerns is being outed to my company and clients…Your sexual orientation is typically not going to be outed on your [insurance] paperwork but being transgender is.

Participants also frequently described how situations like this went beyond personal discomfort and presented significant safety threats. According to another participant,

> It’s not so much privacy as safety…when someone finds out that I’m transgender, especially because I am stealth for the most part, there is that moment of awkwardness or side eye…and that presents a real sort of safety concern…I’m very open about being transgender, but when you’re put in a position with someone who is uncomfortable with the idea of “transness,” then you[‘re] suddenly questioning if you

> are safe because you don’t know how they are going to react. Like, can I be a safe human being while being my true self?

Body Size Stigma. Finally, participants emphasized the importance of body size and the associated size and weight discrimination as a predisposing factor in accessing healthcare, particularly in how it acted as a gatekeeper to accessing transition-related services. Participants described experiencing negative interactions with providers because of their size as demonstrated by one participant’s interaction with a nurse at the end of a medical appointment:

> On the way out the door, the woman pats my knee and is like, “yeah, you know, we’ll just bill this as a diabetes checkup because you could stand to lose the weight anyways”…You’re telling me I need to lose weight because I’m at risk for diabetes, when I’m talking to you about my HRT, which had nothing to do with that.

The ways that gender and sizeism intersect was highlighted in both stage-two model feedback focus groups, where participants explicitly asked us to include it in the IMSU. Prior to receiving transition-related services, many providers required patients to be under a certain body mass index (BMI). The seemingly capricious nature of these requirements was captured by one participant who shared their difficulty accessing services due to BMI requirements:

> It’s been like a 3-year process trying to get top surgery. You have to be a certain BMI…but for Medicaid you have to be at that weight sustained for 6 months before qualifying for the surgery. So even though I only had to lose 5 pounds, I had to stay there for 6 months. At the time, I played rugby and broke my leg and ankle, so I had gained back like 10 pounds right at the end of that 6 months. When I lost that 10

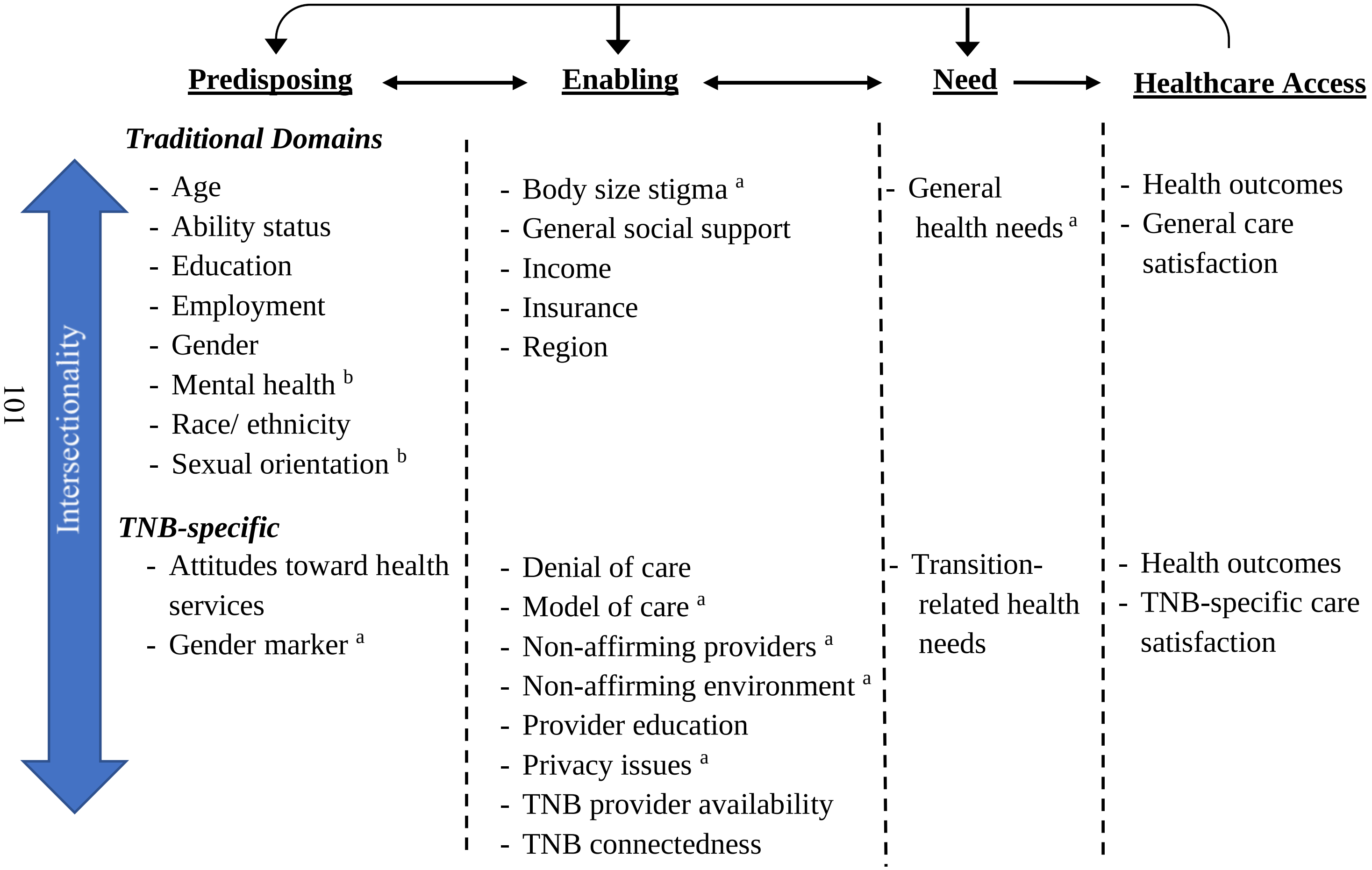
> pounds again very easily, it reset the 6-month completely over…so even though every time I’ve been within 5 or 10 pounds, it has continued to reset that time repeatedly.

Model Revision

Taken together, these findings largely corroborate the IMSU as originally proposed while highlighting key factors that were not included in the original model or were revised based on participant feedback. A revised IMSU that incorporates these findings is presented in Figure 2.3.

Figure 2.3

A Revised Intersectional Model of Health Service Use (IMSU)



[a]New IMSU factors. [b]Relocated IMSU factors.

Discussion

This study used qualitative focus group data to refine the IMSU, a recently introduced healthcare access model tailored to the needs of TNB people. The nine focus groups with 62 participants produced data that largely corroborated the IMSU as initially conceptualized, while providing evidence to add seven new factors and change three existing factors. Furthermore, participants reiterated the importance of intersectionality, prompting visual changes to the model to more clearly highlight its centrality in any exploration of healthcare access.

These model refinements represent important changes to the IMSU that align with the extant literature. The addition of body size stigma during the second-stage focus groups is particularly salient considering research documents a clear pattern of fat-shaming and sizeism in healthcare settings (Chrisler & Barney, 2017), while also indicating that BMI requirements are often determined arbitrarily and act as a significant barrier for TNB people accessing transition-related services (e.g., Brownstone et al., 2021; Martinson et al., 2020). Furthermore, there is evidence that delaying gender-affirming surgical procedures for BMI requirements may not actually improve patient outcomes (Pittelkow et al., 2020).

The most commonly described barrier to healthcare access was non-affirming care throughout the healthcare system, with participants highlighting the roles of medical providers, support staff, and healthcare environments. As such, any intervention designed to make services more affirming should include all patient-facing staff rather than only focusing on care providers. Indeed, the importance of extending trainings on gender-affirming care beyond physicians and nurses has been highlighted by recent efforts to develop gender affirming healthcare centers: “discrimination from [any] member of the hospital staff would be devastating to both the patient and program. Therefore, training of all personnel is of the upmost importance” (Kim et al., 2022, p. 500). Any such trainings should also reiterate the importance of maintaining patient privacy, particularly when initially checking patients in.

Participants also described how difficult it can be to change legal gender markers, as well as how rigid medical records systems struggled to update after such a change. Furthermore, participants who had not experienced difficulties based on gender marker changes expressed that hearing about other TNB people who had made them less likely to seek care themselves. This represents a form of anticipatory stigma, and research suggests that anticipating and avoiding transphobic situations can be an important form of coping among TNB populations (Mizock & Mueser, 2014). Research also indicates that TNB people who are able to correct their name and gender markers on identity documents experience lower rates of harassment and are treated with more respect by healthcare providers (Loza et al., 2021). Policy makers should advocate to simplify this process. Notably, Colorado recently passed the Identity Documents for Transgender Persons Bill (more commonly known as Jude’s Law; 2019), which makes it easier for Coloradans to update their birth certificate name and gender and went into effect during first-stage data collection. Future research should explore how legislation like this impacts TNB people’s ability to successfully navigate medical systems. Medical organizations should also work toward implementing systems that have more inclusive gender options, allow more flexibility when a patient changes their name or gender marker, and does not deny necessary treatments or insurance coverage after a gender marker change (e.g., a transgender man with a cervix who needs to be screened for cervical cancer).

The revised IMSU also adds privacy concerns. While patient privacy is important to every patient and is legally protected under the Health Insurance Portability and Accountability Act (HIPAA; 1996), privacy is particularly crucial for TNB people as unwanted gender identity disclosure (i.e., being outed) can present significant physical and emotional risk for patients, particularly those living in regions that have discriminatory cultures or laws regarding TNB people (Gleason et al., 2016). Furthermore, research indicates that being outed has been associated with other negative outcomes including job loss and financial insecurity (White Hughto et al., 2015).

Adding model of care as an enabling factor also highlights the importance of shifting to a medical model where TNB patients have more power to determine which gender-affirming services they do or do not want to access. Much of the current "gatekeeping" model is based on the recommendations outlined in the 7th edition of WPATH's Standards of Care (Coleman, 2016), which is currently being revised with an 8th edition announced to be released later this year. While it is uncertain which specific changes will be made, it is likely that these revised standards will have significant implications across TNB health, including provider education, medical system policy, and requirements for patients to access gender-affirming services. Ideally, the revised guidelines would remove recommendations that TNB people obtain a gender dysphoria diagnosis or mental health letter, both of which make it more difficult for TNB people to receive medically-necessary care.

The decision to remove discrimination as a discrete factor from the model resulted from direct participant feedback and is not intended to minimize the key role that discrimination plays in the lives of TNB people generally, as well as specifically when accessing healthcare. Rather, it is an acknowledgement that discrimination operates as a systemic force across multiple factors, such as in the way that participants described being misgendered by providers or denied insurance coverage because of their TNB identities. The infusion of discrimination across both formal and informal institutions and practices is known as structural discrimination, which acknowledges that discrimination is pervasive and often extends beyond formal and legal definitions to impact marginalized people (Skadegård & Jensen, 2018). As such, ongoing efforts to improve healthcare access must also include active efforts to combat structural discrimination wherever it is found, whether it is manifesting itself as providers deadnaming a patient in a health clinic, insurance agencies denying medically-necessary claims for TNB people, or the lack of TNB-specific health training across medical school education (Obedin-Maliver et al., 2011).

Finally, participants across study stages emphasized the importance of considering intersectionality in any attempt to improve TNB healthcare access. Although factors such as gender, race, body size, ability status, and mental health are important factors in any model designed to explain healthcare access (e.g., Andersen et al., 2014; Gelberg et al., 2000), participants consistently expressed that these factors interacted with their TNB identities to further impact their ability to access healthcare. Indeed, there has been a growing acknowledgement among researchers regarding the importance of intersectionality in TNB health research (e.g., Howard et al., 2019; Lacombe-Duncan, 2016; Wesp et al., 2019), and future research should continue to explore TNB health and healthcare across intersectional identities.

These revisions to the IMSU strengthen its usefulness as a conceptual framework to understand TNB healthcare access. As a model designed for and by TNB people, it highlights the unique experiences of TNB people seeking care, while also considering general access factors that are present across populations. Future research can and should continue to improve and assess the model, including quantitative research to directly test its effectiveness in predicting healthcare access among TNB people.

Limitations

Although the findings from this study support the IMSU as a useful framework for studying TNB healthcare access, they must be interpreted in the context of study limitations. Given the study's regional sample, further research is needed to validate the IMSU as a generalizable model. Furthermore, although the sample was more racially diverse than the general Colorado population (United States Census Bureau, 2021), two-thirds of the sample identified as White. As such, future research should include more diverse samples to better understand how the IMSU operates across racial identities, particularly considering the significance that intersectionality plays in the model and in the study data. Additionally, it is likely that participants who were comfortable participating in a focus group were more likely to be out as TNB, potentially excluding participants who may have felt uncomfortable discussing their gender in a group setting. Some research indicates that TNB people who are not fully out are more likely to avoid seeking care (Kcomt et al., 2020), and future research should examine barriers and facilitators to care specifically among this subgroup.

Conclusion

The IMSU is a novel and useful framework for ongoing research regarding TNB healthcare access, and this study further refines it to be an even more effective tool. The additional factors represent important areas of focus in research and advocacy to improve healthcare access, and the revised factors more fully demonstrate the important role of intersectionality when working with multiply marginalized populations.

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Appendix A

Focus Group Questions

First-round Focus Group Questions (Secondary Data Analysis)
1) Generally, where do transgender and nonbinary individuals go to find information about healthcare?
2) What do you wish healthcare providers knew about providing care to TNB individuals?
3) If you could design a healthcare system to best serve TNB clients, what would it include?
4) What impact have your experiences with healthcare as a TNB individual had on your health?
5) Some TNB folx feel like the healthcare system denies them control in making their own healthcare decisions. What would help individuals more effectively navigate that system?
6) What haven’t we talked about that you think is important to understanding health literacy for TNB folx?
Second-round Focus Group Questions (Primary Data Analysis)
1) Tell me about a time you attempted to access healthcare but struggled or were unable to do so.
2) Tell me about a time you had a positive experience accessing healthcare.
3) How does this model match your experiences accessing healthcare? (Model described and depicted prior to asking)
4) How does it differ?
5) What changes would you make?

Appendix B

Codebook

Code (Origin)	Summary	Example Quote	Revision /Application
Intersectionality (Deductive)	Participants (particularly in stage two) emphasized the importance of considering intersectional identities.	"Particularly folks who share multiple intersecting identities within the trans community, whatever they are, often are left underserved. More so than the rest of their folks, rest of the folks in the community."	Increased visibility in IMSU figure
Traditional Predisposing Codes			
Age (Deductive)	Participants described situations where minors and older adults were denied care because of their ages.	"[They] wouldn't do my surgery because I was too old…I believe they still have that, where they won't do people over the age of 60."	Retained
Ability status (Inductive)	Participants described situations where physical disabilities or pre-existing conditions made it difficult to seek healthcare.	"It sucks, because I'm facing the complications of diabetes and for me, it's I'm not your normal type 2 diabetic. I'm your one in 2 million type two diabetic, um, exacerbate that number even further of being on HRT"	Added
Education (Deductive)	Participants expressed that education helped increase healthcare access because of how complicated the current medical system is in the United States.	"Tans people are more likely to suffer from various types of mental illness, physical related things, because--not because we're trans--but, because this shit's hard. You combine all of that and it turns into	Retained

		a system where only educated, well-off people are able to navigate it.”	
Employment (Deductive)	Employment impacted healthcare access indirectly because of how it impacted income, insurance (particularly among people who were anxious about using insurance provided by their job), and schedule flexibility to make appointments.	“it keeps you in employment, assuming that you, you got this far, you’ve got employment, you have health insurance at work. You’re stuck there. ‘Cause if you, if you go out, you’re, what are you gonna do? You know? W-w-what resources do you have?”	Retained
Mental Health (Deductive)	Participants described mental health issues (particularly depression) as a barrier to seeking both general and transition-specific healthcare.	“I was told that I had to come back after a year and sit and think about whether or not I wanted HRT, because I was too depressed to transition. And it turns out, transitioning was what helped me not be depressed.”	Moved from TNB-specific predisposing domain to traditional predisposing domain
Race/ ethnicity (Deductive)	Participants described situations where they (for participants of color) or others were treated poorly in medical settings because of their race.	“White trans people are treated better on, like, every level…you cannot discuss that people are trans without discussing that it’s mostly trans people of color who get slammed with this sort of nasty bullshit.”	Retained
Sexual Orientation (Deductive)	Sexual orientation impacted healthcare access indirectly by impacting whether or not healthcare professionals provided affirming care, which in turn influenced	“Ask about our orientation, our partners, uh, don’t assume we’re sexually active or what sort of sexual activity we engage in.”	Moved from TNB-specific predisposing domain to traditional predisposing domain

	how likely participants were to return.		
TNB-Specific Predisposing Codes			
Gender (Deductive)	Gender was infused throughout all focus groups with particular focus on how nonbinary participants encountered binary male/female paperwork and struggled to get providers to use their correct pronouns.	"all those years that I identified as nobinary and I was going by a gender-gray nonbinary name, it always felt like an uphill battle and very often I just gave up fighting"	Retained
Attitudes toward health services (Deductive)	Participants generally described having negative perspectives of health services, demonstrating a form of anticipatory stigma that reduced their interest in accessing care.	"It's hard to know if you can trust your doctor and if they think they know things that they don't know, or they don't treat you well. It can just be really frightening and vulnerable, and I think a lot of people end up lying to their physicians."	Retained
Gender Marker (Inductive)	Several participants expressed frustration with the need to include their legal name and sex assigned at birth on medical and insurance documents, as required by health care and insurance organizations. When interacting with healthcare and insurance organizations, participants explained by having this information on file led to being "deadnamed" and to denial of insurance coverage for medical procedures that did not correspond with their gender identity.	"sometimes it'll just be an automatic denial if the gender doesn't match what they think should receive that treatment with the pharmacy."	Added

Traditional Enabling Codes			
General Social Support (Deductive)	General social support was important for participants by encouraging them to seek help and providing an outlet after negative healthcare experiences.	“More support than anything else. Information you can get on your own, but the support, ya know, where they would… help you gain confidence.”	Retained
Body size stigma (Inductive)	Participants (particularly in stage two groups) described situations where they were denied gender-affirming surgeries because of BMI requirements that felt arbitrary and harmful.	“It’s been like a 3 year process of me trying to get top surgery now. So, you have to be a certain BMI, and for my height that was 215 lbs. So the first time I went in to get approved I was 220 lbs. And so I very easily lost that 5 lbs, but for Medicaid they said that you have to be at that weight sustained for 6 months before you will qualify for the surgery. So even though I only had to lose 5 lbs, I then had to stay at 215 for 6 months.”	Added
Income (Deductive)	Participants described income as an important facilitator to accessing care. For participants who did not have insurance, out-of-pocket costs reached more than $5,000.	“I think universal healthcare would address, is the massive income disparity issues that we have in our, in our community. I mean, I think, y’all are social workers, you’re pretty aware of the fact that we’re unemployed at twice the rate and when we are employed, we’re underpaid at every level of education. Uh, and insurance	Retained

		obviously in this country depends on your ability to hold a job.”	
Insurance (Deductive)	Some participants who had insurance had high deductibles which creates out-of-pocket costs, while others had health insurance through their employer, which often did not cover transition-related costs. Many participants could not medically transition due to the expenses of their care or lack of insurance coverage.	““I think we’re largely powerless in many ways. The electrolysis was mentioned earlier, and my insurance was covering it with no deductible, and I’ve just been informed informally, never officially, that now I have a deductible that could amount to fifty percent payment, so drastically altering what I have available.”	Retained
Region (Deductive)	Participants expressed that living in more rural areas increased their difficulty reaching care due to long distances and inadequate transit infrastructure. They also described feeling more worried about non-affirming care in areas outside of the metropolitan area.	“I think you mentioned the transportation piece, I know that’s a big issue for a lot or people. I’m fortunate, being in [metro area], to have access to multiple resources as needed but for trans folks around the state, country that aren’t in those areas, it can be really challenging.”	Retained
TNB-Specific Enabling Codes			
Denial of care (Deductive)	Participants described frequently being denied care, either because providers stated they were unfamiliar with HRT and did not feel comfortable or directly refusing to treat TNB people.	“I ended up getting turned away from like 2 different doctors’ offices before I could find somebody who would take me to do HRT and stuff like that.”	Retained
Discrimination (Deductive)	Discrimination was consistently described across domains (e.g.,	For me it's hard to separate [IMSU factors] out like this,	Removed from model (because

	being denied care, deadnamed, or misgendered). Participants in stage two recommended eliminating this factor as it was represented in other factors.	because when I think of age, I think of youth not being able to access HRT or surgery or even hormone blockers…Or I think about how sometimes there's gate keeping with mental health or…or body size, so many people are denied surgeries because they're told their BMI—which is bullshit—won't be good for results…So it's, it's hard for me to separate those out in this way."	represented in other factors)
Model of care (Inductive)	Several participants described the World Professional Association for Transgender Health Standards of Care (WPATH) as a means of gatekeeping their access to affirming medical care.	"That was my number one concern, what I was really worried about when I started treatment was that it would be like basically a constant test, like the thing with the gatekeeping, that you would be constantly proving that you're trans enough or that you're feminine enough, or whatever the case may be."	Added
Non-affirming care (Deductive)	Participants near universally described experiences with trans-incompetent providers. Coded examples included experience medical malpractice/mistreatment (e.g., being give the wrong doses of important medications), attempting to force medical	"I told a provider once I prefer 'they/them' and they're like, 'so she?'"	

	decisions on patients, using patients to learn about TNB health, deadnaming patients and using incorrect pronouns (even after being informed or receiving intake paperwork with correct information), asking invasive and inappropriate questions, conflating sex and gender, lacking knowledge about TNB health, and violating confidentially in appointments, meetings, or waiting spaces.		
Provider education (Deductive)	Participants described frequently needing to educate their providers, reporting that visiting the doctor meant going over “trans 101” answering the same questions over and over, sometimes even to the same provider multiple times.	“It’s almost like the doctors have more questions for us than questions that we have for doctors.”	Retained
Privacy issues (Inductive)	Participants consistently described situations where their privacy was violated, particularly in waiting rooms. Many participants pointed out that privacy was an issue of safety with how frequent violence against TNB people is.	“It’s not so much privacy as safety…when someone finds out that I’m transgender, especially because I am stealth for the most part, there is that moment of awkwardness or side eye…and that presents a real sort of safety concern”	Added
TNB Provider availability (Deductive)	Participants described long wait times for gender-confirming surgeries, seeing a provider with experience	“Like, the wait list is… Yeah, I think the way this, the way the lady quoted me, she was like, “yeah, you’re	Retained

	providing healthcare to TNB people, as well as extended appeals processes win insurance companies to get services covered (particularly "gendered" procedures like mammograms).	gonna be lucky if you get in in three years."	
TNB connectedness (Deductive)	Participants shared means in which they acquired information through peers and TNB-focused online networks. These were the primary means in which information was found. Participants also shared that at times this could be difficult because there was no clear cut way to search for something.	"When I first transitioned, I relied mainly on word a mouth., I actually visited a plastic surgeon who gave me the contact information of another trans woman, and I met up with her and we just really sat down, and she walked me through her experience."	"When I first transitioned, I relied mainly on word a mouth. I actually visited a plastic surgeon who gave me the contact information of another trans woman, and I met up with her and we just really sat down, and she walked me through her experience."
Need and Outcome Codes			
General Health needs (Deductive)	Participants described situations where they struggled to get care they needed because providers didn't understand their general health needs post-transition.	"You still need to do prostate things on trans women and still need to do, um, if you've got the organs, then the paps on transmen."	Retained
Transition-related health	In addition to general health needs, participants	"Pharmacy professionals need a lot	Retained

needs (Deductive)	described accessing healthcare specifically for transition-related reasons. Participants who expressed a desire for medical transition services were more likely to seek care, even though the care was often difficult to access.	more training. So many stories of female-to-male having to argue as to why they need syringes, argue as to why they need the testosterone, or you know, changing to a different pharmacy, now "are you sure you need this?" type verbiage."	
Satisfaction with care (Deductive)	Participants described multiple situations where dissatisfaction with care led them to avoid future healthcare access. This was particularly common in emergency and reproductive health settings.	"Originally, I started going to the doctor more than I ever had in my life previous, but of course you know ER visits and stuff make me a little more hesitant to go and like with my dislocations, I'll spend a lot longer trying to get them in myself before I go."	Retained

Chapter Four: Manuscript Three

Testing the Intersectional Model of Service Use to Predict Transgender and Nonbinary Healthcare Access

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Abstract

Transgender and nonbinary people (TNB) experience significant barriers that impede their ability to access affirming healthcare, further exacerbating health inequities. Despite this, few theoretical models have been developed to specifically examine TNB healthcare access. The Intersectional Model of Service Use (IMSU) is a newly developed healthcare access model to address this gap. This study quantitatively tests the IMSU on a state-wide sample (n=279) of TNB people. Results indicated that the inclusion of TNB-specific factors significantly improved the IMSU's ability to account for variance in healthcare access. Self-reporting a disability and having changed one's gender marker was associated with increased odds of past-year healthcare access controlling for other factors. Identifying as asexual (compared to identifying as gay or lesbian), having an annual household income of between $50,000 and $70,000 (compared to less than $30,000), and longer wait times to see an affirming provider were significantly associated with lower odds of healthcare access. These findings provide preliminary support for the IMSU as a useful framework for understanding TNB healthcare access. Future research should continue to test the IMSU on larger, more diverse samples.

Transgender and nonbinary (TNB) people are both more likely to experience health problems (e.g., Alzahrani et al., 2019; Baral et al., 2013) and less likely to access healthcare services than cisgender (i.e., not TNB) people (Ehrenfeld et al., 2018). For example, research documents higher rates of diabetes (Wierckx et al., 2013), HIV (Reback et al., 2018; Wilson et al., 2013), heart disease (Alzahrani et al., 2019), substance misuse (Reisner et al., 2015), experiencing violence (Newcomb et al., 2019), non-suicidal self-injury (Grant et al., 2011), and suicide (Testa et al., 2017) among TNB people than their cisgender counterparts. These health and healthcare inequities stem from the systemic forces of cisgenderism and transphobia (Kcomt, 2019), which privilege the identities and experiences of cisgender people and increase TNB people's risk of discrimination, harassment, and violence, including in healthcare settings (Kattari & Hasche, 2016). Indeed, many TNB people report avoiding healthcare services to prevent possible discriminatory experiences (Goldberg et al., 2019; Kachen & Pharr, 2020). There are at least 1.4 million TNB people living in the United States (Flores et al., 2016), though precise estimates are difficult as TNB people may feel uncomfortable disclosing their gender identities because they fear negative responses (Friley & Venetis, 2021). Although the percentage of people in the United States who identify as TNB is a relatively small proportion of the overall population, they represent an important group for ongoing research and intervention aimed to address these widespread negative health outcomes.

Despite the prevalent health inequities TNB people experience, research is only beginning to explore what factors impact healthcare access among this population. According to a recent scoping review, there were only 46 articles focused on TNB healthcare access, 74% of which were published in 2016 or later (Call, 2022). Furthermore, these studies either used an atheoretical approach or adapted theoretical models originally designed for other populations or outcomes. For example, two of the most frequently cited models included the Behavioral Model for Vulnerable Populations (BMVP; Gelberg et al., 2000), which was designed to explore healthcare access among people experiencing homelessness, and the Gender Minority Stress and Resilience Model (GMSR; Testa et al., 2015), which seeks to explain health outcomes, not healthcare access, among TNB people. Although these models provide a useful foundation to study TNB healthcare access, they do not fully account for the population-specific factors experienced by TNB people seeking healthcare services.

This lack of theory designed specifically to explain TNB healthcare access led to the creation of the Intersectional Model of Service Use (IMSU; Call, 2022), which builds upon previous models by adding TNB-specific healthcare access factors identified in the extant literature and qualitative focus group data. The IMSU represents an important development in TNB healthcare scholarship, though its effectiveness in predicting TNB healthcare access remains untested. As such, this study uses quantitative data to assess the IMSU's effectiveness in predicting healthcare access among TNB people.

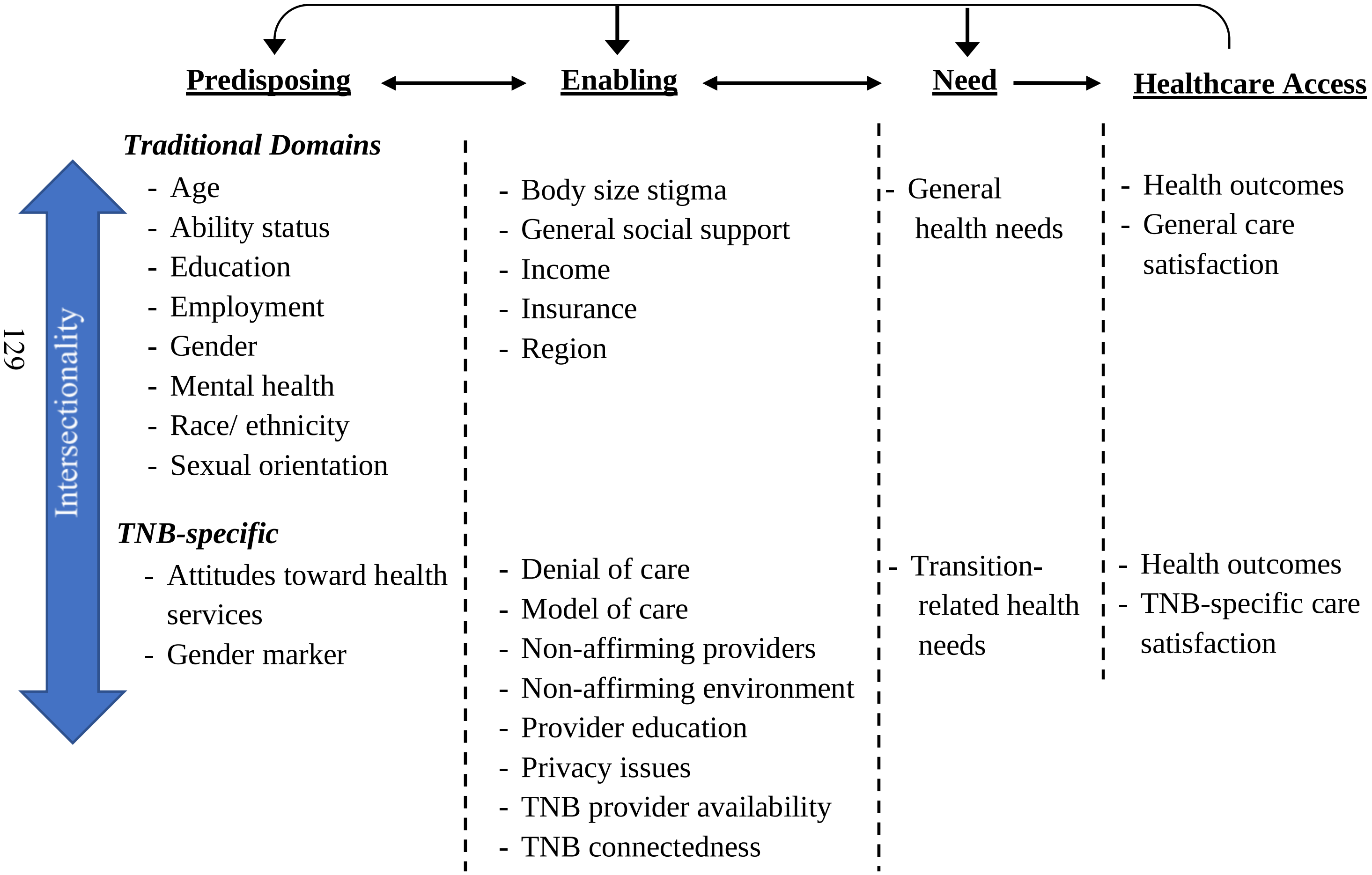
IMSU Development

The IMSU was developed through a combination of review and qualitative methodologies. First, an integrative review of TNB healthcare access literature was conducted to identify factors impacting healthcare access among TNB people (see Call, 2022 for details about the review process). These TNB access factors were then used to create an initial version of the IMSU modeled after the structure of the BMVP (Gelberg et al., 2000), which categorizes access factors into predisposing, enabling, and need factors. Predisposing factors are demographic and social conditions that impact an individual’s decision to seek care (e.g., age, race/ethnicity, sex), enabling factors include resources or conditions that help or hinder one’s ability to access care (e.g., income, health insurance), and need represents perceptions about how important it is to seek care. The IMSU builds upon this foundational structure by adding the TNB-specific healthcare access factors identified in the integrative review to the traditional factors included in general population healthcare access models like the BMVP.

Once this initial version of the IMSU was developed, secondary qualitative data from seven focus groups of TNB people (*n* = 46) were used to further refine the model. This revised model was then presented to participants in two additional TNB focus groups (*n* = 16) to elicit direct feedback on how effectively the model represented the experiences of TNB people attempting to access care (see Call et al., 2022 for a detailed explanation of the revision process). The final version of the IMSU (presented in Figure 3.1) incorporates all of the data and feedback collected during the focus groups, resulting in a comprehensive model that accounts for both general and TNB-specific healthcare access factors.

Figure 3.1

The Intersectional Model of Health Service Use (IMSU; Call et al., 2022)



Theory Testing

Although theory building represents a key step in the process of scientific discovery, it is incomplete without theory testing (Colquitt & Zapata-Phelan, 2007). According to the Theory Construction Methodology (TCM) introduced by Borsboom et al., (2021), effective theory development consists of five steps, the first three of which pertain to theory building and the last two with theory testing. The steps are 1) identifying relevant phenomena (e.g., TNB healthcare access), 2) formulating an initial “prototheory” that connects phenomena through abductive reasoning, 3) developing a formal theoretical model that depicts relationships between relevant constructs, 4) testing how effectively the formal theoretical model explains the phenomenon of interest, and 5) using this information to evaluate the usefulness of the newly developed theory. Until now, research involving the IMSU has concentrated on the first three theory building steps (Call, 2022; Call et al., 2022), providing a foundation to further develop the IMSU through theory testing.

The Present Study

This paper focuses on the fourth step of the TCM by quantitatively testing how effectively the IMSU predicts healthcare access among a sample of TNB adults living in Colorado. Specifically, our study seeks to answer the following research questions: 1) Which IMSU factors are significantly associated with healthcare access among TNB people? and 2) Do gender-specific IMSU domains improve prediction of TNB healthcare access beyond that of traditional IMSU domains alone? We hypothesized that including these TNB-specific factors in the IMSU would more effectively predict TNB healthcare access than relying solely on traditional domain factors.

Methods

Participants and Procedures

This study used a cross-sectional quantitative survey design to test the revised IMSU among a sample of TNB Coloradans. Participant sampling was conducted in partnership with One Colorado, the state's leading LGBTQ advocacy organization. Recruitment flyers, emails, and social media posts containing a description of the study and a link to the online Qualtrics survey were distributed by emailing One Colorado's listserv, posting on social media groups serving TNB Coloradans, and research team members sharing across their networks. Data collection for this dissertation was conducted from April 2022 to May 2022, though the survey remained open to allow researchers to advertise the survey in other venues, including at local pride events, particularly in rural regions that have fewer TNB-focused organizations. As such, the analyses described in this dissertation manuscript will be repeated on the full sample once data collection is completed later this year. It is anticipated that the full sample will include approximately 600 TNB Coloradans, which is in line with previous surveys conducted by One Colorado (One Colorado, 2014). At the time that these dissertation analyses were conducted, a total of 279 participants were included after removing likely fraudulent responses from respondents who took the survey multiple times, were located outside of the state, or incorrectly answered seriousness check questions which instruct respondents which answer to select as suggested by Lawlor et al. (2021). Further security measures to improve the integrity of the data included using CAPTCHAs and browser cookies to help minimize potential bots from taking the survey (Teitcher et al., 2015).

Measures

Healthcare Access

Healthcare access was measured through the dichotomous question “in the last year, have you seen a doctor or health care provider” (no/yes).

Traditional Predisposing Domain

The traditional predisposing domain of the IMSU consists of sociodemographic characteristics including age, gender, ability status, body size-related stigma, education, employment, mental health, race/ ethnicity, and sexual orientation. Age was measured through a single free-response question, while race/ ethnicity (African American/ Black, Alaskan Native/Inuit/First Nations, American Indian/ Native American, Latino/a/x or Hispanic, Middle Eastern, Native Hawaiian/Pacific Islander, White, Biracial/Multiracial/Multiethnic, another race not listed, please specify), gender (agender, genderqueer, genderfluid, intersex, nonbinary, Two-Spirit, transgender woman, transgender man, woman, man, a gender identity not listed above, please specify), and sexual orientation (asexual/aromantic, bisexual, gay, heterosexual/straight, lesbian, pansexual, queer, same gender loving, or a sexual orientation not listed above, please specify) instructed participants to select however many response options that matched their identities. Ability status was measured by the question “do you have one or more disabilities or impairments?” Participants who indicated they had a disability or impairment could then report which applied to them. Education was measured with the question “what is the highest degree or level of school you have completed” (less than high school, no diploma; high school graduate, diploma, or equivalent such as GED; trade/technical/vocational training; some college credit, no degree; 2-year college/associates degree; 4-year college/bachelor's degree; master's degree; professional degree; doctorate degree; a level of schooling not mentioned above, please specify). Employment status was assessed with a single item asking respondents to indicate their employment and/or school status (employed full time, employed part time, unemployed and seeking work, unemployed and currently not seeking work, self-employed, retired, student, on disability, or another employment or student status not listed, please specify). Mental health symptoms were measured using the PHQ-2 and GAD-2, two validated Likert-type screeners for depression and anxiety based on the commonly used PHQ-9 and GAD-7 respectively (Löwe et al., 2005; Staples et al., 2019). A previous psychometric analysis of these shortened versions found that the PHQ-2 had good internal consistency (α=0.83) and excellent discriminatory validity, while the GAD-2 had good internal consistency (α=0.81) and acceptable discriminatory validity (Staples et al., 2019). For this specific sample, both the PHQ-2 (α= 0.61) and GAD-2 (α=0.68) had acceptable internal consistency. For analyses, the categorical variables of race, gender, sexual orientation, education, and employment status were recoded to combine categories that had few observations.

Traditional Enabling

General social support was measured by the first subscale of the Berlin Social-Support Scales (BSSS; Schulz & Schwarzer, 2003), a battery of self-report scales with strong internal consistency (DiMillo et al., 2019) designed to measure social support. The first subscale contains eight Likert-type questions about perceived social support that has been previously used in conjunction with TNB social support measures to examine the role of general social support and TNB connectedness (Pflum et al., 2015). The perceived social support BSSS subscale had good internal consistency (α=0.85) in this sample. Income was measured through a single item asking participants about their household income, which was defined as the total income among people who share finances. A set of ordinal response options were provided in $10,000 increments up to $100,00, as well as options for $100,000 to $150,000 and more than $150,000. For analyses, income categories with few observations were combined to form a five-level variable that included under $30,000; $30,000 to $49,999; $50,000 to $69,999; $70,000 to $89,999, and above $90,000. Region was measured with a single categorical question asking participants to indicate which Colorado county they currently live in. Counties were then classified as metropolitan or non-metropolitan according to the census classification system (U.S. Census Bureau, 2020). Health insurance was assessed through the question "What type of health insurance do you currently have?" Respondents were provided a list of insurance providers in Colorado, as well as a space to write in other insurers. For the current analyses, this was collapsed into a dichotomous variable indicating whether or not participants had health insurance. Body size-related stigma was measured by a series of questions asking participants if they had ever experienced difficulty accessing or had been treated poorly when seeking general or transition-related medical treatment because of reactions to their weight or body size (no; yes, in the past year; yes, more than a year ago; not applicable).

Gender-specific Predisposing

Participant gender marker status was measured through the question, "have you legally changed your gender marker on your driver's license or state-issued ID?" (Yes, I have changed my gender marker; no, but I am planning on changing; no, I don't want to change my gender marker; no, I am unable to change my gender marker; I do not have a driver's license or state-issued ID). This question was then collapsed into a dichotomous yes/no question. Attitudes toward health services were assessed through a single Likert-type question: "In general, my views about formal medical services (such as doctors, nurse practitioners, medical clinics, hospitals, etc.) are: (very negative, somewhat negative, neither negative nor positive, somewhat positive, very positive).

Gender-specific Enabling

Denial of care was measured through two questions where participants could indicate if they had been refused general or transition-related healthcare services in the past year, more than a year ago, or never. Model of care was determined through the question, "does your current medical doctor/healthcare provider or insurance company require a diagnosis of gender dysphoria in order to provide any transition-related healthcare service?" Responses were collapsed into yes, no, and unsure. Provider and environmental gender affirmation were measured through two Likert-type questions about participants' most recent provider with five response options ranging from strongly disagree to strongly agree: "when seeking medical care, my gender is affirmed by my doctor/primary care physician" and "when seeking medical care, my gender is affirmed by non-medical support staff (e.g., receptionists)." Provider education was assessed through the question "have you ever had to educate a doctor/medical provider on how to provide you with inclusive healthcare?" (Yes, one provider; yes, more than one provider; no; not applicable). As TNB people report experiencing privacy violations across the entire spectrum of medical providers and support staff, privacy was measured by three Likert-type questions where participants could indicate how strongly they feel their privacy has been respected by their doctor/medical provider, nurse or other medical providers, and non-medical office staff. The five response options ranged from strongly disagree to strongly agree. Responses were averaged across the three questions to determine a general measure of privacy with acceptable internal consistency (α=0.69). The length of time participants needed to wait to see an affirming provider was used as a proxy for TNB-affirming provider availability: “please indicate how long you typically have to wait to see an affirming provider for transition-related care” (less than 1 month, 1 to 3 months, 3 to 6 months, longer than 6 months, not applicable). Finally, TNB connectedness was measured using three items from the 5-item community connectedness subscale of the GMSR (Testa et al., 2015). Each item was a 7-point Likert-type scale ranging from strongly disagree to strongly agree. Internal reliability for subscales of the GMSR ranged from 0.61 to 0.93 in previously published psychometric research (Testa et al., 2015), but was lower than desired (α = 0.51) in this specific sample when using all five items. As such, additional analyses were conducted to determine how individual items impacted the reliability of the scale. The two items in the original subscale (“I’m not like other people who share my gender identity” and “I feel isolated and separate from other people who share my gender identity”) that were least correlated with other responses were removed, resulting in a Cronbach’s alpha of α = 0.62 for the included three items. As a sensitivity analysis, both versions of the scale were included in analyses, with no significant changes.

Need Domains

General health need was measured by the question, “how would you rate your current physical health” (excellent, very good, good, fair, poor). Transition-related health need was measured with a Likert-type question that asked participants how important receiving transition-related health services were to them (not at all important, slightly important, moderately important, very important, extremely important).

Analyses

Basic descriptive statistics were used to summarize participant characteristics. For research question 1, a series of bivariate logistic regressions were run for each of the IMSU factors to identify which factors were significantly associated with past-year healthcare access. In order to maintain sufficient power for the sample size, we were unable to include every IMSU factor in the multivariate hierarchical logistic analysis. To address this, only IMSU factors that were significant with *p*-values of less than .05 at the bivariate level were included in the multivariate analysis.

A two-block hierarchical logistic regression approach was used for research question 2. Block 1 included only traditional domain factors significantly related to healthcare access at the bivariate level and block 2 included both traditional and TNB-specific factors. Odds ratios (ORs) and 95% confidence intervals were used to determine which individual variables in the full model were statistically significant, and the Wald $\chi 2$ test was used to determine whether the addition of TNB-specific factors significantly increased the amount of variance explained by the model compared to the model only containing traditional factors. All statistical analyses were conducted using Stata 16.0 (StataCorp, 2019).

Of the 279 participants in the sample, 81 (29.03%) had missing data on at least one of the variables included in the analyses. All variables had under 5% missing data other than if participants lived in a metropolitan county (5.38%) or had ever had to teach a provider about providing affirming healthcare (10.75%). As neither of these variables were significant at the bivariate level, none of the variables included in the final model had above 5% missingness, justifying the use of listwise deletion to manage missing data without incurring substantial power reduction, resulting in a final analytic sample of n=250 (Allison, 2001). As a form of sensitivity analysis, bivariate analyses were also run after conducting multiple imputation, and patterns of significance remained the same across both imputed and non-imputed datasets. The final hierarchical model was conducted on non-imputed data as precise estimates of model fit are difficult to obtain on imputed datasets (Miles, 2016). To limit redundancy, only regression results using non-imputed data are reported, but detailed results from the bivariate sensitivity analyses are available upon request.

Results

Participant Demographics

The present study included a sample of 279 TNB adults between the ages of 19 and 64 with a mean age of 29.3 (SD = 6.46). Approximately two-thirds (69.7%) of participants had accessed healthcare in the past year. The majority (59.0%) of the sample was White, with 19.4% identifying as African American or Black, followed by 4.7% who identified as Latino/a/x or Hispanic, 11.2% as multiracial, and 6.5% as an additional racial identity. In terms of gender, 37.6% identified as nonbinary/genderqueer, 33.3% as transgender women/women, 21.0% as transgender men/men, and 9.0% as intersex or agender. Slightly under half (42.8%) of the sample identified as bisexual or pansexual, 27.0% as gay or lesbian, 15.8% as queer, 10.1% as straight or heterosexual, and 4.3% as asexual or aromantic. Most (62.0%) of the sample were employed full time, graduated from college with at least a bachelor's degree (47.8%), and had health insurance (96.0%). Half of the sample had an annual household income above $50,000, with the remaining half being split between participants with an annual income of less than $30,000 (21.0%) and those with an income between $30,000 and $50,000 (30.0%). A majority of participants (80.3%) lived in an urban county, reported having had to educate at least one provider about providing affirming care (60.7%), and had been denied healthcare at some point (50.2%). Additionally, most participants reported experiencing wait times of between 1 and 3 months (37.0%) or between 3 and 6 months (27.5%) to see a provider for transition-related healthcare services. Additional sample characteristics are included in Table 3.1.

Bivariate Logistic Regression Analyses

Traditional Domain Factors

Results from the bivariate logistic regression analyses are shown in Table 3.2. Compared to identifying as gay or lesbian, identifying as bisexual/pansexual (OR = 2.22, 95% CI [1.18-4.12], $p = .013$) or queer (OR = 3.59, 95% CI [1.41-9.13], $p = .007$) was associated with higher odds of past year healthcare access. Identifying as straight/heterosexual or asexual/aromantic was not significant at the bivariate level. Compared to having a high school diploma or less education, having a college undergraduate (OR = 2.45, 95% CI [1.08-5.54], $p = .032$) or graduate (OR= 28.0, 95% CI [3.39-231.3], $p = .002$) degree was associated with increased healthcare access, as was having undergone trade, technical, or vocational training (OR = 3.0, 95% CI [1.04-8.64], $p = .042$). Having attended college without obtaining a degree was not significant at the bivariate level. Income was also significantly associated with healthcare access.

Compared to participants who made less than $30,000 a year, those who made $30,000-$49,000 (OR = 0.28, 95% CI [0.12-0.64], $p = .002$) or $50,000-$69,999 (OR = .25, 95% CI [0.11-0.59], $p = .002$) had lower odds of past-year healthcare access. Self-reporting a disability (OR = 7.89, 95% CI [2.75-22.63], $p = <.001$), being unemployed (OR = 10.50, 95% CI [1.38-8.01], $p = .023$), higher levels of social support (OR = 2.99, 95% CI [1.82-4.90], $p =<.001$) and having insurance (OR = 4.26, 95% CI [1.21-14.92], $p =.024$) were all significantly associated with increased odds of healthcare access at the bivariate level. Age, gender, race, depression, anxiety, living in an urban county, and overall current health rating were not significant at the bivariate level.

TNB-Specific Domain Factors

Participants who had changed their gender marker on their driver’s license or other state-issued ID (OR = 4.80, 95% CI [2.39-9.65], $p = <.001$) were more likely to have accessed healthcare at the bivariate level compared to those who had not changed their gender marker. Compared to never having been denied healthcare, having been denied healthcare more than a year ago (OR = 0.35, 95% CI [0.19-0.64], $p = <.001$) or within the past year (OR = 0.46, 95% CI [0.22-0.98], $p =.044$) were associated with reduced odds of healthcare access. Participants who had to wait between 3-6 months (OR = 0.15, 95% CI [0.33-0.70], $p =.016$) or longer than 6 months (OR = 0.11, 95% CI [0.02-0.60] , $p =.010$) to access transition-related care were also less likely to have accessed healthcare at the bivariate level compared to those who had to wait less than 1 month. Finally, indicating stronger feelings of privacy being respected in medical spaces was associated with increased odds of past year healthcare access at the bivariate level (OR = 1.78, 95% CI [1.29-2.46], $p =<.001$). Attitudes about healthcare, whether a provider required a letter from a mental health provider, affirming provider or staff experiences, TNB connectedness, and perceived importance of transition-related services were not significantly associated with healthcare access at the bivariate level.

Hierarchical Logistic Regression Analysis

Block 1 included traditional domain factors and had a pseudo R^2 of 0.25. When all other traditional domain factors were controlled for, ability status, sexual orientation, income, and social support were all significantly associated with healthcare access. Identifying as asexual or aromantic was associated with decreased odds of accessing care (OR= 0.09, 95% CI [0.01-0.83], *p=.033*) compared to identifying as gay or lesbian. Having an annual household income of between $30,000 and $50,000 (OR=0.37, 95% CI [0.14-0.96], *p=.040*) or $50,000 and $70,000 (OR= 0.21, 95% CI [0.07-0.59] , *p=.003*) was also associated with decreased access compared to having an annual household income of less than $30,000. Finally, self-reporting a disability (OR=7.27, 95% CI [1.59-33.25], *p=.010*) and higher levels of social support (OR=2.57, 95% CI [1.40-4.69], *p=.002*) were associated with increased odds of accessing care when controlling for other traditional domain factors.

Block 2 included both traditional and TNB-specific factors that were significant at the bivariate level and had a pseudo R^2 of 0.36. This represented a ΔR^2 of .11, and adding the TNB-specific domain to the IMSU significantly improved the model's ability to predict healthcare access among this sample of TNB adults (Wald $\chi^2 = 25.94$, $p = .002$). Controlling for all other domain and TNB-specific domain factors, participants who reported a household income between $50,000 and $69,999 had reduced odds (OR = 0.29, 95% CI [0.09-0.96], *p=.043*) of having accessed healthcare in the past year compared to those who reported a household income of less than $30,000. Similarly, participants who had to wait between 3 and 6 months (OR = 0.11, 95% CI [0.01-0.89], *p=.038*) or longer than 6 months (OR = 0.04, 95% CI [0.00-0.45], *p=.009*) to access transition-related services had lower odds of accessing care than those who had to wait less than 1 month. Identifying as asexual or aromantic (OR = 0.06, 95% CI [0.01-0.68], *p=.023*) was also associated with decreased odds of healthcare access compared to identifying as gay or lesbian. The only factor significantly associated with increased odds of healthcare access was self-reporting a disability (OR = 7.43, 95% CI [1.34-41.04], *p=.022*). All other included factors were nonsignificant when controlling for both traditional and TNB-specific domain factors.

Discussion

As research aimed to understand, predict, and ultimately improve TNB healthcare access continues to expand, it is increasingly important that researchers develop and implement theoretical perspectives designed to account for the unique experience of TNB people. This study builds upon previous efforts by quantitatively testing the IMSU among a sample of TNB Coloradans to identify which factors were significantly associated with healthcare access and determine whether or not the addition of TNB-specific factors improved the IMSU's ability to predict healthcare access beyond traditional factors included in previously developed models such as the BMVP (Gelberg et al., 2000). Results indicated that self-reporting a disability and changing the gender marker on one's driver's license or state-issued ID were associated with increased healthcare access, while identifying as asexual or aromantic and having an annual household income of between $50,000 and $70,000 was associated with decreased access compared to identifying as gay or lesbian or having an annual income of less than $30,000 respectively. Furthermore, including TNB-specific factors significantly improved the amount of variance explained by the model compared to only including the traditional factors.

The finding that self-reporting a disability was associated with higher odds of healthcare access was curious given recent studies where TNB participants expressed that having a disability made it harder for them to access care (Call et al., 2022). One possible explanation for the opposite finding in this study is that participants were allowed to self-report any form of disability, including mental health concerns and a variety of physical health needs. It is possible that the wording of this question caused it to overlap with the need domain, and participants who indicated some form of disability were more likely to seek care because they perceived themselves as having higher levels of medical need, which has been correlated to healthcare access in previous research (e.g., Andersen, 1995; Gelberg et al., 2000).

Data also indicated that identifying as asexual or aromantic was associated with decreased odds of accessing care. Research regarding sexual orientation and healthcare access is mixed, with some studies identifying it as a relevant access factor (e.g., Tabaac et al., 2020) and others finding it to be nonsignificant (e.g., Charlton et al., 2018). Orientation has, however, consistently been associated with negative health outcomes (Charlton et al., 2018), suggesting its importance when studying factors connected to healthcare, including access. The finding that asexual and aromantic participants in particular were less likely to have accessed care is notable, as asexual or aromantic people are often overlooked in the extant literature (Dean et al., 2016). Although this study does not identify why asexual and aromantic people may be less likely to access healthcare, previous research has identified that asexual people report higher levels of stigma than people holding other marginalized orientation identities (Rothblum et al., 2020). As anticipatory stigma has been associated with delayed healthcare access among TNB people in other studies (Shipherd et al., 2012), it is possible that asexual and aromantic TNB people may be more likely to delay or avoid care out of fear of discrimination than non-asexual or -aromantic TNB individuals. Furthermore, research has only recently begun to simultaneously explore the intersections of gender and orientation (e.g., Guz et al., 2020), and additional research is needed to better understand how orientation impacts healthcare access and outcomes across gender identities, both within and without TNB populations.

Income was also significantly associated with healthcare access, which supports other research frequently identifying it as an important healthcare access factor generally (Okunrintemi et al., 2019), as well as specifically among TNB populations (Call et al., 2022). Notably, participants with an annual income between $50,000 and $70,000 had reduced odds of having accessed care than those who made under $30,000. While this initially appears to contradict research indicating that higher incomes are associated with increased access, it is important to emphasize that this data was cross-sectional in nature, precluding any attempt to understand directionality. TNB people with lower incomes are more likely to experience health problems (Seelman, Young, et al., 2017), and it is possible that added health need counteracted any positive impact of additional financial resources. Additionally, although insurance status was nonsignificant in this sample—likely due to the small number of uninsured participants—the cutoff for Medicaid income eligibility in Colorado is $18,075 for a one-person household and $30,630 for a three-person household, so it is possible that qualifying for Medicaid offset the impact of reduced income in this sample, particularly because Colorado Medicaid explicitly covers gender-affirming care including hair removal (Cabrera & Cheevers, 2019), a procedure that is rarely covered by insurance policies (Thoreson et al., 2020). Future research should continue to explore the relationships between income, insurance, and healthcare access.

The finding that changing one's gender marker on a driver's license or state-issued ID was associated with increased healthcare access is intriguing given previous research indicating that some TNB people report experiencing difficulties with healthcare paperwork and insurance denials after changing their gender markers (Cicero et al., 2019). However, research suggests that aligning one's gender marker to correctly match one's identity improves health outcomes and attenuates the negative impact of gender-based mistreatment (Restar et al., 2020), and it is possible that this counterbalanced any increased distress caused by exclusionary paperwork and insurance policies. The finding that gender marker change was positively associated with healthcare access highlights the importance of advocating to make this process easier for TNB people. In fact, Colorado recently enacted the Identity Documents for Transgender Persons Bill (more commonly known as Jude's Law; 2019) to make it easier for TNB Coloradans to update their birth certificate name and gender. Researchers should examine the impacts of such legislation and policy makers should continue to advocate for such changes. Furthermore, practitioners working with TNB people should educate themselves about regional policies regarding gender marker changes and assist clients who are interested in changing their gender markers.

The finding that longer wait times to access transition-related care was related to lower odds of healthcare access aligns with research indicating that having to wait longer to access care is associated with adverse health outcomes and decreased care satisfaction (Ansell et al., 2017), which may deter patients from seeking care in the future. This may be especially salient for TNB people, as research indicates that TNB people are particularly likely to experience long wait times for healthcare services (Hostetter et al., 2022). Indeed, one San Francisco-based study reported that one-third of transfeminine participants did not access care, specifically noting long waitlists for transgender-competent providers (Nemoto et al., 2005). These long wait times likely stem, at least in part, from the general dearth of TNB-specific training in medical programs (e.g., Fung et al., 2020; Obedin-Maliver et al., 2011), which contributes to a lack of providers who feel adequately prepared to treat TNB people (Liang et al., 2017). Research should continue to study how wait times for TNB-affirming providers impacts the likelihood of accessing care, as well as how wait times vary across regions and TNB populations. Furthermore, healthcare educators should strive to include representation of TNB people and health in their curricula, as such efforts have been found to be effective in improving provider attitudes, knowledge, and comfort when working with TNB people (Dubin et al., 2018). Providers should also actively educate themselves about TNB people and health, thereby increasing the number of providers competent in TNB health and reducing patient wait times.

Notably, although all IMSU factors had theoretical and qualitative support for inclusion, many of them were nonsignificant in this quantitative analysis. This is likely due in large part to the restricted dissertation sample size resulting in reduced power and increased risk for Type II error. Even accounting for power limitations, however, it is notable that education, employment, and insurance status were nonsignificant in the final model as they have been associated with healthcare access in the extant literature (e.g., Babitsch et al., 2012; Blackwell et al., 2009). Previous research found that TNB people who were employed or had higher levels of education were more likely to legally change their gender markers on government-issued IDs (Restar et al., 2020), which was positively associated with healthcare access in this sample. As both education and employment status became nonsignificant when TNB-specific factors were added to the model, it is possible that a mediation relationship exists where education and employment indirectly influence healthcare access among TNB people by increasing their ability to successfully navigate the complexities around changing legal gender markers. Furthermore, although insurance is a key access factor among general populations (Babitsch et al., 2012), insured TNB people often report paying out of pocket for healthcare services because of difficulty getting insurance to cover transition-related care (Hostetter et al., 2022), concerns about information getting back to employers, (Call et al., 2022) or needing to travel out of network to identify a provider trained in TNB-health (Holloway et al., 2022). These barriers may have attenuated the typically observed positive relationship between having insurance and accessing care.

Overall study results emphasize the importance of considering population-specific factors when examining healthcare access among TNB people. Although TNB people are impacted by many of the same healthcare access factors as cisgender people, they also experienced additional factors as they attempt to navigate systems designed around binary and cisnormative conceptualizations of gender (Kcomt, 2019), and ongoing research should adequately account for their unique experiences. Adding TNB-specific factors to traditional factors included in previously developed models of healthcare significantly improved the model's ability to predict healthcare access among this sample, supporting the usefulness of the IMSU. The TNB-specific factors of the IMSU also strengthen its usefulness for practitioners by highlighting key factors that are likely to facilitate future healthcare access by TNB people. For example, the finding that higher levels of patient privacy were significantly associated with increased healthcare access at the bivariate level suggests that providers all along the healthcare continuum (e.g., physicians, nurses, receptionists, medical social workers) can and should work to intentionally improve patient privacy in healthcare settings. Future research should continue to test the IMSU across TNB populations to further assess its utility as an organizing framework to understand and predict TNB healthcare access.

Limitations

This study provides preliminary data validating the usefulness of the IMSU in predicting healthcare access among TNB people, though there are a few limitations to note. This study used a cross-sectional survey design, precluding inferences about directionality or causality. Furthermore, as this study is part of a dissertation, the analyses were performed on an initial sample obtained midway during the data collection process. This introduces possible error as there may be systematic differences between participants who took the survey near the beginning of data collection compared to those who will take it later in the project after additional outreach. Furthermore, conducting the analyses prior to the completion of data collection resulted in a smaller sample size, limiting the number of variables included in the hierarchical logistic regressions and reducing analytic power. This was mitigated in part by conducting an intermediate bivariate analysis step to determine which variables to include in the multivariate analysis, though the smaller sample increased the risk of type II error, potentially overlooking relevant healthcare access factors that would have been identified with a larger sample (Akobeng, 2016). The composition of this preliminary sample may have also contributed to lower than desired reliability for some measurement, particularly the community connectedness subscale of the GMSR (Testa et al., 2015). Further analyses will be conducted on the larger complete sample prior to publication.

Additionally, this study used a state-wide convenience sample, and caution should be exercised when attempting to generalize the findings to the broader TNB population. Despite these limitations, this study represents an important initial effort to empirically test the IMSU, the first model of its kind specifically designed to understand and predicate healthcare access among TNB people. Future research should continue to test the IMSU among different, and larger, samples.

Conclusion

This study provides preliminary support for the IMSU as an improved model for examining healthcare among TNB people, as well as highlighting key correlates of access among this population including ability status, sexual orientation, income, provider wait times, and gender markers. The IMSU is an innovative framework that will serve as the foundation for ongoing research to better understand TNB health and healthcare access, as well as how to intervene to reduce healthcare inequities.

Sample Characteristics (Total N=279)	%(n)	Mean (SD)
Past year healthcare access	69.71(191)	
Predisposing Factors		
Age (range 19-69)		29.28(6.46)
Self-reported disability	23.44(64)	
Gender		
Transgender man/ man	20.97(56)	
Transgender woman/ woman	33.33(93)	
Nonbinary/genderqueer	37.63(105)	
Intersex/agender	8.96(24)	
Orientation		
Gay/Lesbian	26.98(75)	
Bisexual/Pansexual	42.81(119)	
Queer	15.83(44)	
Straight/Heterosexual	10.07(28)	
Asexual/Aromantic	4.32(12)	
Race		
White	58.27(162)	
African American/ Black	19.42(54)	
Latino/a/x or Hispanic	4.68(13)	
Biracial/multiracial	11.15(31)	
Additional race	6.48(16)	
Employment		
Full time	62.01(173)	
Part time	18.64(52)	
Unemployed	7.89(22)	
Other employment status	11.47(32)	
PHQ2 depression Score (0-6)		2.61(1.44)
GAD2 anxiety score (0-6)		3.1(1.47)
Education		
High school equivalent or less	11.51(32)	
Trade/technical/vocational	11.51(32)	
Some college, no degree	29.14(81)	
Undergraduate degree	37.05(103)	
Graduate degree	10.78(39)	
Attitudes about healthcare (1-5)[a]		3.22(0.93)
Has changed ID gender marker	33.57(93)	
Enabling Factors		
Experienced size-related discrimination	64.03(178)	
General social support [b]		2.84(0.60)
Income		
$0-$29,999	21.03(57)	
$30,000-$49,999	29.98(81)	
$50,000-$69,999	22.51(61)	
$70,000-$89,999	11.44(31	
$90,000 and above	15.13(41)	
Uninsured	3.97(11)	
Live in urban county	80.30(212)	
Been denied healthcare		
No	46.24(129)	
Yes, more than a year ago	33.69(94)	
Yes, in the past year	16.49(46)	
Has not sought medical services	3.58(10)	
Ever educated provider		
Never	39.36(98)	
Yes, one provider	16.87(42)	
Yes, multiple providers	43.78(109)	
Transition-related care wait time		
Less than 1 month	7.61(21)	
1 to 3 months	36.96(102)	
3-6 months	27.54(76)	
Longer than 6 months	9.06(25)	
Not applicable	18.84(52)	
TNB connectedness (1-5)[c]		3.26(0.83)
Privacy respected (1-5)[c]		3.67(.085)
Affirming provider Experiences (1-5) [c]		3.38(1.10)
Affirming support staff experiences (1-5)		3.65(1.06)
Overall Health rating (1-5) [d]		3.22(0.89)
TNB care importance (1-5)[e]		2.83(0.96)

[a] Measured by Likert-type scale: Very negative to very positive

[b] Measured by perceived support subscale of BSSS

[c] Measured by Likert-type scale: Strongly disagree to strongly

[d] Measured by Likert-type scale:

[e] Measured by Likert-type scale: Not at all important to extremely important

Table 3.2.

Traditional Domain Bivariate Logistic Regressions with Past Year Healthcare Access

	OR	95% CI	*P value*
Traditional Predisposing Factors			
Age (Range 19-69)	1.01	0.97-1.06	.541
Self-reported disability	7.89	2.75-22.63	<.001***
Gender *(Ref: Transman/ man)*			
Transgender woman/ woman	0.47	0.22-1.02	.056
Nonbinary/Genderqueer	0.84	0.38-1.82	.651
Intersex/agender	0.43	0.15-1.20	.105
Orientation *(Ref: Gay/lesbian)*			
Bisexual/Pansexual	2.22	1.18-4.12	.013*
Queer	3.59	1.41-9.13	.007**
Straight/Heterosexual	0.93	0.39-2.25	.872
Asexual/Aromantic	0.98	0.28-3.37	.970
Race *(Ref: White)*			
African American/ Black	0.64	0.33-1.22	.175
Biracial/multiracial/multiethnic	0.87	0.37-2.05	.755
Additional racial identities	0.68	0.30-1.54	.353
Employment *(Ref: Full time)*			
Part time	0.79	0.41-1.52	.481
Unemployed	10.50	1.38-80.0	.023*
Additional Employment Status	2.17	0.84-5.56	.108
Education *(Ref: High School)*			
Trade/technical/vocational	3.00	1.04-8.64	.042*
Some college, no degree	1.76	0.77-4.03	.182
Undergraduate college degree	2.45	1.08-5.54	.032*
Graduate college degree	28.0	3.39-231.3	.002**
PHQ2 Depression Score (0-6)[a]	0.86	0.72-1.04	.114
GAD2 Anxiety score (0-6)[b]	0.97	0.82-1.15	.756
Traditional Enabling Factors			
Experienced body size stigma	.60	0.33-1.10	.096
General Social Support [d]	2.99	1.82-4.90	<.001***
Income *(Ref: <$30,000)*			
$30,000-$49,999	0.28	0.12-0.64	.002**
$50,000-$69,999	0.25	0.11-0.59	.002**
$70,000-$89,999	1.44	0.41-5.02	.571
$90,000 and above	1.21	0.40-3.64	.740
Has insurance	4.26	1.21-14.9	.024*
Live in urban county	1.19	0.62-2.30	.596
Traditional Need Factor			
Overall Health rating (1-5) [f]	1.00	0.75-1.34	.990

Note. *p<.05, **p<.01, ***p<.001

Table 3.3.

TNB Domain Bivariate Logistic Regressions with Past Year Healthcare Access

	OR	95% CI	*P value*
TNB Predisposing Factors			
Attitudes about healthcare	1.13	0.86-1.49	.390
ID gender marker change	4.80	2.39-9.65	<.001***
TNB Enabling Factors			
Been denied healthcare *(Ref: No)*			
Yes, more than a year ago	0.35	0.19-0.64	.001**
Yes, in the past year	0.46	0.22-0.98	.044*
Has not sought medical services	0.37	0.10-1.42	.147
Provider requires letter *(Ref: Yes)*			
No	0.47	0.21-1.06	.069
Unsure	1.37	0.74-2.56	.319
Affirming provider Experiences (1-5) ^{c}	1.02	0.80-1.31	.863
Affirming staff experiences (1-5) ^{c}	0.87	0.68-1.10	.247
Ever educated provider *(Ref: Never)*			
Yes, one provider	1.87	0.82-4.25	.137
Yes, multiple providers	1.73	0.95-3.16	.075
Privacy respected (1-5)^{c}	1.78	1.29-2.46	<.001***
Transition-related wait *(Ref: < 1 month)*			
1 to 3 months	0.25	0.54-1.12	.070
3-6 months	0.15	0.33-0.70	.016*
Longer than 6 months	0.11	0.02-0.60	.010**
Not applicable	0.63	0.12-3.33	.588
TNB connectedness (1-5)^{c}	1.14	0.84-1.56	.403
TNB Need Factor			
TNB care importance (1-5)^{e}	1.13	0.86-1.47	.387

Note. *p<.05, **p<.01, ***p<.001

Table 3.4.

Hierarchical Logistic Regression with Past Year Healthcare Access (n=250)

	Block 1		**Block 2**	
	OR	95% CI	OR	95% CI
Traditional Predisposing				
Self-reported disability	7.27*	1.59-33.3	7.43*	1.34-41.04
Orientation				
(Ref: Gay/lesbian)				
Bisexual/Pansexual	1.44	0.65-3.19	1.16	0.45-3.00
Queer	1.98	0.62-6.30	2.34	0.57-9.57
Straight/Heterosexual	1.10	0.37-3.31	0.69	0.20-2.40
Asexual/Aromantic	0.09*	0.01-0.83	0.06*	0.01-0.68
Employment *(Ref: Full time)*				
Part time	0.76	0.32-1.78	1.03	0.38-2.74
Unemployed	6.62	0.69-63.76	5.59	0.37-83.79
Additional Employment	1.47	0.38-5.67	1.03	0.22-4.89
Education				
(Ref: High School)				
Trade/technical/vocational	3.10	0.84-11.48	2.34	0.54-10.19
Some college, no degree	1.76	0.61-5.05	1.60	0.46-5.64
Undergraduate degree	1.57	0.55-4.48	1.67	0.49-5.66
Graduate degree	8.83	0.8-104.28	6.03	0.40-91.34
Traditional Enabling				
General Social Support [d]	2.57**	1.40-4.69	2.04	0.95-4.37
Income *(Ref: <$30,000)*				
$30,000-$49,999	0.37*	0.14-0.96	0.41	0.14-1.24
$50,000-$69,999	0.21**	0.07-0.59	0.29*	0.09-0.96
$70,000-$89,999	1.31	0.33-5.22	2.89	0.61-13.64
$90,000 and above	0.60	0.15-2.42	0.63	0.13-3.04
Has insurance	1.72	0.34-8.84	3.12	0.45-22.86
TNB Predisposing				
ID gender marker change			7.94***	2.96-21.30
TNB Enabling				
Been denied healthcare				
(Ref: No)				
Yes, more than a year ago			0.82	0.33-2.03
Yes, in the past year			1.40	0.48-4.13
Has not accessed services			0.73	0.04-12.08
Privacy respected (1-5)[c]			1.35	0.79-2.32
Transition-related wait time				
(Ref: < 1 month)				
1 to 3 months			0.22	0.03-1.69
3-6 months			0.11*	0.01-0.89
Longer than 6 months			0.04***	0.00-0.45
Not applicable			0.61	0.06-6.01
Pseudo R2	0.2500		0.3645	
Wald Chi2			25.95**	

Note. *p<.05, **p<.01, ***p<.001

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Chapter Five: Conclusion

This three-paper dissertation developed, refined, and empirically tested the IMSU to better understand and examine healthcare access among TNB people, a population that continues to experience pervasive health inequities predominantly arising from the systemic forces of transphobia and cisgenderism (Kcomt, 2019). These health inequities are exacerbated by the additional barriers many TNB people face when seeking to access healthcare, including difficulty identifying providers competent in TNB health (Austin & Goodman, 2018), extended wait times for and large distances to appointments (Nemoto et al., 2005), non-affirming and discriminatory experiences in healthcare settings (James et al., 2016), being denied services by providers (Grant et al., 2010) or insurers (Bakko & Kattari, 2020), and having to educate providers about TNB people and health (Grant et al., 2010; Hendrickson et al., 2020). The IMSU provides a useful heuristic to further identify, understand, and ultimately dismantle barriers to care for TNB people.

Major Findings from this Dissertation

Individually, each of the three manuscripts in this dissertation contributes to the ongoing discussion about TNB health and healthcare access. When viewed collectively, however, additional insights emerge regarding TNB healthcare access, including the importance of considering intersectional identities, the need for system-level interventions, and the role of theory for ongoing research and intervention.

Importance of Intersectionality

Intersectionality was highlighted as a key consideration across each of the individual manuscripts. Although the integrative review revealed that the majority of TNB healthcare access literature employs an atheoretical perspective, the concept of intersectionality emerged as an important factor across the literature, whether through the formal use of Crenshaw's (1990) intersectionality framework (e.g., Abreu et al., 2020) or a more general acknowledgment of the importance of considering intersecting identities when conducting research (e.g., Kachen & Pharr, 2020). The importance of intersectionality was particularly reinforced by focus group participants in the second manuscript, particularly in how TNB people of color struggled to find representation in medical research, the use of BMI as a gatekeeping mechanism for gender-affirming surgeries, and the difficulty older adults and younger TNB people faced when attempting to access hormones. Indeed, one key piece of feedback from the model-checking phase two focus groups was that while the original version of the IMSU included intersectionality in the model, participants recommended increasing its visibility in the revised model to better highlight its importance. The importance of intersectionality was less directly explored in manuscript three, largely due to analytic limitations stemming from the small sample size. The findings from manuscript three indicating that ability status, sexual orientation, and gender marker status were significantly related to healthcare access, do, however, reinforce the importance of considering multiple identities when researching TNB healthcare access. Additional analyses of the complete sample will likely further identify relationships between gender and other identities among this population.

As intersectionality is a key aspect of the IMSU and TNB healthcare access generally, future research and interventions should better acknowledge how individual identities combine to contribute to unique experiences of discrimination and privilege. For example, future research using the IMSU should explore how healthcare access factors vary in significance and strength across racial, gender, orientation, and age identities. Furthermore, intervention efforts should be tailored to the needs of specific communities, such as including TNB people of various races, ages, and gender presentations in marketing materials; fighting against legislation aimed to prevent TNB minors from accessing care; advocating for improved transit, particularly in rural communities; and removing BMI requirements for gender-affirming surgeries.

Need for System-level Reforms

This dissertation also highlighted the importance of focusing on system-level reforms, as findings reiterated that the difficulty many TNB people experience when accessing care largely stems from systemic forces rather than individual characteristics (Kcomt, 2019).

Provider Education System Reform

For example, data consistently highlighted the need for education reform to better prepare providers to care for TNB patients, or as one focus group participant noted, “I think it always starts with education.” Research consistently documents that providers frequently report feeling unprepared to effectively serve TNB people (e.g., Chisolm-Straker et al., 2018; White et al., 2015), and provider education was discussed in every qualitative focus group. To be clear, inadequate provider training acts as a consistent barrier to healthcare for TNB people, and the responsibility to address this lies with educators, providers, and policy makers, not with individual TNB patients. Future research should document the current state of TNB health education in medical schools and other provider training programs, as well as assess attempts to reform provider training. Furthermore, organizations such as the Liaison Committee on Medical Education (LCME) should consider requiring medical provider training programs to include TNB health curricula in order to receive accreditation (2020). Such requirements would likely improve the quality of care TNB patients receive, make them more likely to seek out future care, and result in overall better health and wellbeing among TNB people (Click et al., 2020).

Insurance System Reform

In addition to system-level education reform, this dissertation also highlights the need to address the high cost of care, particularly in how insurance does—or does not—operate for TNB people attempting to access gender-affirming services. As identified in the integrative review, between 25% (Feldman et al., 2021) and 48% (Grant et al., 2010) of TNB people report having avoided needed healthcare out of concerns over cost. Although this concern is important for everyone accessing medical services, it is particularly salient for TNB people who are both more likely to be uninsured than cisgender people (Gonzales & Henning-Smith, 2017; James et al., 2016) and often have insurance plans that make it difficult to access gender-affirming services (Bakko & Kattari, 2020). For example, although there is a growing shift away from requiring letters from mental health providers to access care from medical providers, many insurers still require such a letter to pay for these services (Schulz 2018). These “gatekeeping” requirements can be traced back to WPATH guidance found in the most recent Standards of Care (Coleman et al., 2012), though a revised set of standards is due later this year (WPATH, 2022). Additionally, although it is illegal for insurance companies to deny treatment coverage based on the gender marker associated with the policy (National Center for Transgender Equality, 2021), both the integrative review and focus groups identified multiple incidences where TNB people received automatic insurance denials based on their gender (e.g., Fix et al., 2020; Harb et al., 2019). In many cases, participants were able to appeal and overturn this decision, but only after significant time and effort.

Participants consistently promoted a universal healthcare system as one possible solution to current insurance barriers. Furthermore, both studies identified in the manuscript one integrative review and participants across manuscript two focus groups described a variety of techniques to circumvent insurance barriers including storing up hormones in case of future insurance denials, asking providers to code medication for reasons other than gender affirmation (Morgan, 2003), and relying on TNB social networks to identify insurers who were easier to work with (Rosentel et al., 2016). These workarounds demonstrate the high levels of health literacy among TNB people (Hostetter et al., 2022), though system-level policy change is needed to adequately eliminate this system-level barrier. As such, social workers, researchers, and healthcare professionals should continue to advocate for increased insurance coverage for TNB people.

Medical Records System Reform

A third finding consistent across this dissertation is the pervasive struggle with medical records, which includes non-affirming paperwork, difficulty navigating gender marker changes, and inadequate privacy protections. The extant literature and study participants consistently described delaying care to avoid being misgendered or deadnamed, both by providers directly and in their medical paperwork. Even when participants had legally changed their gender marker and updated their medical records, they described situations of being misgendered in medical spaces, often in public waiting rooms where others were present. The relationship between gender markers and healthcare access was reiterated in the quantitative portion of this dissertation, where those who had legally changed the gender marker on their ID had over 7 times the odds of having accessed healthcare in the past year. As such, social workers should advocate for legislation designed to make it easier for TNB people to correct their names and gender on legal documents, and healthcare systems should update their recordkeeping systems to be more flexible regarding names, gender, and pronouns.

Relatedly, this dissertation highlights the need to further improve privacy in medical spaces, particularly around names and genders. Participants in every qualitative focus group shared experiences where either they or someone they knew had been outed in a medical setting, deterring them from seeking future care. In the quantitative manuscript, feeling like their privacy was respected by healthcare providers was significantly associated with increased odds of healthcare access when controlling for other TNB-specific factors. Patient privacy is important for everyone and is legally protected under the Health Insurance Portability and Accountability Act (HIPAA; 1996), though it is particularly important for TNB people as unwanted gender identity disclosure can have significant consequences including job loss (White Hughto et al., 2015), violence victimization, and suicide risk (Gleason et al., 2016). As such, medical systems should revise policies around patient privacy, particularly regarding patient names, gender markers, and when patients are accessing anatomically-specific procedures (e.g., a transgender woman with a prostate who is being screened for prostate cancer).

The Role of Theory and Future Directions

Finally, this dissertation documented the current state of theory in TNB healthcare access literature and developed, refined, and tested the IMSU to address the identified theoretical gaps. As indicated in the integrative review portion of this dissertation, the majority of TNB healthcare literature used an atheoretical approach. Furthermore, the studies that were based on theory used models originally developed for other outcomes (e.g., the GMSR; Testa et al., 2015) or populations (e.g., the BMVP; Gelberg et al., 2000). The IMSU seeks to address this lack of population-specific healthcare access theory by expanding on the work of previous theories like the BMVP to account for the unique experiences of TNB people. The usefulness of this model was assessed in manuscript three, where the addition of TNB-specific access factors significantly improved the model's ability to explain variability in healthcare access.

Future research should continue to assess the effectiveness of the IMSU across diverse samples of TNB people, including larger quantitative samples with more analytic power. Researchers should also consider longitudinal research to better understand the directionality between healthcare access and IMSU factors. The IMSU should also be used to identify areas of possible intervention to increase TNB healthcare access. For example, this dissertation established a relationship between gender marker change and healthcare access, so interventionists should strive to make it easier for TNB people to correct the gender marker on their IDs and in their medical records.

Researchers, myself included, should actively seek to disseminate research findings to TNB communities and stakeholders. Focus group participants frequently mentioned how difficult it is to obtain credible research on TNB health and healthcare access, and research alone has little direct impact without effective dissemination. In addition to publishing research in peer-reviewed journals, scholars should present findings to community organizations, incorporate research into course curricula, and advocate for legislative change at the local, state, and federal levels.

Through its use of review, qualitative, and quantitative methodologies, this dissertation has contributed to the TNB healthcare literature by developing, revising, and testing the IMSU, a novel and population-specific model to better understand healthcare access. Future research should continue to assess and iterate on the IMSU and social workers should actively strive to dismantle structural barriers to care that impede TNB from accessing healthcare services.

References: Conclusion

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