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Barriers in care pathways and unmet mental health needs in LGBTIQ+ communities

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Abstract
Lesbian, gay, bisexual, transgender, intersex, queer people and minority gender identities and sexualities (LGBTIQ+) are often stigmatised and experience discrimination in healthcare settings, leading to poorer mental health outcomes and unmet needs compared to heterosexual and cisgendered peers. It is thus imperative that mental health providers consider and address structural challenges in order to reduce mental health inequalities of this population. This narrative review assessed the barriers that may prevent access to care and the pathways for care in LGBTIQ+ communities. PubMed, PsycInfo, Embase, and Scopus were searched for papers published between December 2021 and February 2022. 107 papers were included with studies reflecting five themes: (1) Unmet mental health needs; (2) Young people; (3) Substance abuse and addiction; (4) Barriers and pathways to care; and (5) Interventions. Findings demonstrate that LGBTIQ+ people experience stigmatisation and higher rates of substance misuse and mental ill health, which may lead to barriers in accessing healthcare services, and fewer tailored interventions being provided. These findings have implications for policy, healthcare screening, and how specialist services are structured. Substantial gaps in the evidence-base exist, and future research should examine how mental healthcare providers can challenge social issues that maintain discriminatory and stigmatising practices, and support LGBTIQ+ individuals to sustain their resilience.

Introduction

A substantial body of evidence suggests that lesbian, gay, bisexual, transgender, intersex, queer people and minority gender identities and sexualities (LGBTIQ+) experience considerable barriers to accessing physical and mental healthcare despite having higher rates of unmet health needs compared to their heterosexual and cisgendered (people whose gender identity matches the sex they were assigned at birth) peers. Indeed, Zeeman et al., (2019) highlight how LGBTIQ+ people commonly experience health inequalities due to heteronormativity (set of beliefs and practices that gender is an absolute and unquestionable binary) or heterosexism (set of discriminatory attitudes, bias and behaviour relying on gender as a binary to favour heterosexuality and heterosexual relationships), minority stress, and experiences of victimisation and discrimination, all of which are compounded by stigma. Inequalities pertaining to LGBTIQ+ healthcare also vary depending on gender, age, income, and disability as well as within and between LGBTIQ+ groupings (Zeeman et al., 2019).

Research shows that inequalities in access to care and or within pathways of care including the experience of discrimination and victimisation, contributes to the development of poorer mental, physical, and behavioural health amongst people with non-normative gender identities or non-binary gender expressions such as those within LGBTIQ+ populations (Baptiste-Roberts et al., 2017; Burgess et al., 2007; Kneale et al., 2020; Moagi et al., 2021; Valentine & Shipherd, 2018; Jennings et al., 2019; Feldman et al., 2021). For example, transgender and gender non-conforming people face disproportionately higher rates of mental disorders, including suicidality, depression, anxiety, substance use disorders, and other diseases compared to cisgender populations (White & Fontenot, 2019; Simeonov et al., 2015; Stanton et al., 2021; Feldman et al., 2016; Hickson et al., 2020). Similarly, a systematic review and meta-analysis found that LGB people are at higher risk of mental disorder, suicidal ideation, substance misuse, and deliberate self-harm than heterosexual people (King et al., 2008).

Knowledge of barriers to culturally competent mental health care and unmet needs are essential to help mental health practitioners increase services accessibility and to prevent psychological and other mental health disorders from remaining untreated. The aim of this paper was to review the literature around the barriers to pathways of care, and to indicate what the unmet mental health care needs are that may be experienced by LQBTIQ+ populations.

Methods

PubMed, PsychINFO, Embase, and Scopus databases were searched together with additional hand searching (reference lists from relevant systematic reviews, additional google scholar searches) using a combination of the following search terms: LGBTIQ+, gay, bisexual, transgender, trans, intersexual or intersex; and mental health, psychology or psychiatry; and unmet needs, unmet therapy, unmet issues or care pathway; and wellbeing. Literature published in peer reviewed journals during the period 2011 - 2021 were included in the

review. The search was carried out between December 2011 and February 2022 and Authors assessed the results of the papers on the basis of their title and the abstract to determine their suitability for inclusion.
Eligible papers were a) published Systematic Reviews (SRs), b) Narrative Reviews (NRs), c) Randomised Controlled Trials (RCTs) and c) Observational studies, that included LGBTIQ+ populations (e.g. Lesbian, Gay, Bisexual, Transgender, Queer, Intersex) with any age and nationality. Populations with high prevalence of mental disorders, mental health symptoms or stigma with any comparison with non-LGBTIQ+ populations (e.g. heterosexual or cisgender people), were considered for inclusion. Studies that assessed access to mental health care and pathways in general were also included. Papers were excluded if they: (1) were a review of guidelines, recommendations or position paper; (2) did not include LGBTIQ+ populations (e.g. men have sex with men (MSM), women who have sex with women (WSW) or did not clearly indicate participants sexual orientation); (3) were conducted outside of mental health care services (e.g. schools); described a higher prevalence of mental disorders, mental health symptoms or stigma or (4) without a clear comparison with a non-LGBTIQ+ population.

Results

Paper overview

978 records were identified and after a preliminary assessment of titles and abstracts, 234 were retained as potentially eligible articles that were then retrieved in full text. We excluded 127 full-text articles for out-of-scope study design (n=9), population (n=2), outcome (n= 97) and setting (n=16). This resulted in 107 eligible studies published between 2011 and 2022 (Figure 1). Of these, 72 papers employed observational study designs (cross-sectional, retrospective, longitudinal and case-control study), 27 were reviews (including 12 systematic reviews), 2 were reports, 2 were qualitative studies, and 3 used a mixed methods approach (Tables 1 and 2 in the Appendix 1). Sample sizes ranged from 12 to 49,155 participants. Each review included between 9 to 99 studies. The papers retrieved covered heterogeneous populations of LGBTIQ+ people with 16 studies focussing on trans and/or non-binary people, 25 studies on LGB individuals, and the remainder of studies included a mixture of minority groups. Overall, 71 studies were based on US populations, and the remainder were conducted in Canada (n=15), UK (n=6), Australia (n=5), Europe (n=5), South Africa (n=1), Kenya (n=1), Israel (n=1) and China (n=1). Five key themes emerged across the included papers: (1) Unmet mental health needs; (2) Young people; (3) Substance abuse and addiction; (4) Barriers and pathways to care; and (5) Interventions. Some papers represented more than one category.

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Unmet mental health needs

Mental health

A number of papers retrieved reported LGBTIQ+ individuals experiencing poorer mental health (including greater use of mental health services) compared to heterosexual and cisgendered people. LGBTIQ+ people were also more likely to report both unmet mental health needs and lower levels of service satisfaction (Ferlatte et al., 2019; Kidd et al., 2016) compared to their non-LGBTIQ counterparts (Burgess et al., 2007; Chakraborty et al., 2011; Flentje et al., 2015; Gaspar et al., 2021; Hirschtritt et al., 2018).

Considering unmet mental health needs amongst LBGTIQ+ communities, a substantial number of papers showed that discrimination is a significant predictor of general psychological distress, anxiety, depression and unmet needs for mental healthcare, and that discrimination is the factor that most frequently contributes to exacerbating those symptoms and vulnerabilities (Williams et al., 2017; Valentine & Shipherd 2018; Travers et al., 2020).

Findings from a large systematic review (Ross et al., 2018) comparing depression and anxiety of bisexual and heterosexual people shows higher rates of both compared to the general population. Key mechanisms that maintain disparities in experiencing sexual orientation-based discrimination and lack of bisexual affirmative support are social and economic conditions (i.e., migration status, ethnicity, poverty etc.), that in turn impacts access to services. Additional studies (Rimes et al., 2019; Nagata et al., 2020; Carman et al., 2012; Rutter et al., 2016) suggest the risk of not obtaining effective recovery from depression/anxiety or an adequate level of social functioning, and, in case of severe diseases (e.g. cancer or other malignancies) (Boehmer et al., 2020), LGBT patients reported a higher number of mental health needs due to higher levels of depression and other mental health symptoms (Steele et al., 2016; Kamen et al., 2015; Hutchcraft et al., 2021). Another key aspect is stressors such as victimisation, harassment, and abuse, as well as lower social and family support, may contribute to different levels of depression prevalence in LGBT community compared to heterosexual and cisgendered individuals. The current evidence highlights many factors potentially suitable for further exploration in high-quality longitudinal research or randomised studies (Argyriou et al., 2021).

Minority stress

A significant number of papers consider the Minority Stress Model as a key theoretical approach to describing and explaining unmet mental health needs amongst LBGTIQ+ communities (Valentine & Shipherd, 2018; Nagata et al., 2020). In line with such models, even within LGBTIQ+ communities, health inequalities affect non-binary individuals. Non-binary and Transgender people experience health access disparities related to service cost and therefore service use avoidance due to lack of insurance status and or costs exceeding the insurance coverage (Feldman et al., 2021). Although not directly tested, evidence also suggests that minority stress may contribute to sleep disorders, although further research is needed. Butler and colleagues (2020) suggested that sleep health amongst LGBT individuals may be one of the lists of unmet health needs and in fact, sleep disturbances seem to affect LGBT subgroups differently based on gender and sexual orientation (Butler et al., 2020), and should be further investigated (Caceres et al., 2019).

Eating disorders

LBGTIQ+ people seem to be more likely to be diagnosed with eating disorders (DSM-5) than heterosexual, cisgendered peers (Nagata et al., 2020; Hazzard et al., 2020; Beccia et al., 2021). Thus, contributing to missed opportunities of support and proper treatment. Indeed, there is still a lack of eating disorder treatment and prevention studies for sexual minorities (Calzo et al., 2017; Brown & Jones, 2016). Given emergent data that eating disorder risk may be most prominent among specific subgroups, research must examine the intersections of sexual orientation, gender, and ethnic identities.

Autism

Regarding special subpopulations, LGBTIQ+ adults affected by autism spectrum disorder (ASD) lack adequate health care services and experience worse health than their straight, cisgender peers with ASD. Despite having higher educational attainment, the ASD/LGBTIQ+ group reports greater rates of mental illnesses, as well as smoking and poorer overall health. In addition, interview findings suggest that reluctance to seek health care by this population may be linked to previous negative experiences and attitudes of providers (Hall et al., 2020).

Transgender veterans

Besides, Brown and Jones (2016) and Mark et al. (2019) examined a large cohort of clinically diagnosed transgender (TG) patients for psychiatric and medical health outcome disparities using longitudinal, retrospective medical chart data with a matched control group. They found that TG veterans showed global disparities in psychiatric and medical diagnoses compared to matched non-TG veterans. These findings have significant implications for policy, healthcare screening, and service delivery, potentially generalisable to other healthcare systems.

Training of health professionals in prison settings

A further issue is related to the training of health professionals working in prison. Ideally, they would require a wide range of knowledge and skills to meet the different mental health and behavioural needs of prisoners, including LGBTIQ+ people (Donohue et al., 2021). Broadly speaking, a potentially sizable unmet need for mental health is reported (Jennings et al., 2019), poor quality of mental healthcare and/or unfair treatment when receiving care, whilst a considerable number of studies are highlighting the pivotal role of mental health clinicians in ameliorating some aspects of social stress by stepping into the role of counter-acting stigma (Valentine & Shipherd, 2018). In this regard, further barriers occur where health professionals lack appropriate knowledge regarding the lives and related health needs of LGBTIQ+ people or where health professionals lack the appropriate culturally specific skills necessary to meet their needs (Mor et al., 2015; Jennings et al., 2019).

Appropriateness of services

Material and psychosocial factors also play an important role in LGBTIQ+ service appropriateness and appear to be of importance for inequalities in accessing the health care service with consequent unmet care needs. In some areas, considering the pervasiveness of anti-LGBTIQ+ violence, services should be provided using trauma-informed principles, and be sensitive to the lived experiences of Sexual Gender Minorities also creating safe health care venues (Harper et al., 2021). A study carried out in Canada showed that transgender people experience inequalities in perception and reported experiences of health care access, with 43.9% Ontarians reporting a past-year unmet health care need (Giblon & Bauer, 2017). Mental health disparities may also exist among sexual minorities men diagnosed with cancer, particularly prostate cancer. More research is required to identify mental health disparities among sexual minorities survivors diagnosed with other cancers (Gordon et al., 2019).

Socioeconomic conditions

Socioeconomic conditions play a greater independent role for self-assessed mental and physical health (Gustafsson et al., 2017). Social conditions, like ethnicity and migration, can also play an important role in preventing sexual minorities from accessing the health care system. Gonzales and collaborators (2019) found that nonelderly foreign-born sexual minorities may be at the greatest risk of experiencing affordability issues when accessing mental health care, even after controlling for demographic and socioeconomic status.

Cognitive impairment

Another specific group is represented by elderly LGBTI people suffering from cognitive impairment, Alzheimer's disease and other dementias who face important barriers to care and have unique risks (Fredriksen-Goldsen et al., 2018). In the USA, for example, there are approximately 1 million older LGBT adults (Yarns et al., 2016). In particular, compounding effects of multiple sources of stigma (i.e., sexual and gender minority status, cognitive difficulties, old age) likely create barriers to accessing routine health care, causing cognitive impairment to go unnoticed and untreated.

In terms of health-related risks, gay and bisexual men are more likely than their heterosexual peers to have HIV/AIDS, which can complicate other health conditions, damage the brain, and contribute to cognitive decline. HIV-associated dementia is experienced by 7% to 27% of individuals with late stage HIV and milder cognitive impairment by 30% to 40% (Fredriksen-Goldsen et al., 2018). LGBT older adults are also more likely to smoke than heterosexuals of similar age, lesbian and bisexual women have higher rates of cardio-vascular disease and obesity, and one third of LGBT older adults report depression (Fredriksen-Goldsen et al., 2018), all risk factors for cognitive decline and dementia.

Young people

Intersectionality

Using the Kessler Psychological Distress Scale (K10), Pattison and colleagues (2021) compared transgender and gender non-conforming young people to cisgender young people and reported significantly higher levels of mental distress. The Authors emphasised the importance of adopting an intersectional approach to explicating health inequities for various populations, as traditional linear or additive methods may not fully "capture the intricate transactions between multiple social identities that shape the lived experiences" of people as they navigate the social world. On the other hand, the interaction with race and ethnicity appears not associated with higher levels of mental distress and psychopathology in gender minority adolescents (Fox et al., 2020)

Mental health

A survey (Silveri et al., 2021) conducted on 200 adolescents admitted into a short-term Acute Residential Treatment (ART) program for approximately 2 weeks showed that transgender and gender diverse young people presented to treatment with an earlier age of onset of depression, more severe suicidality, higher levels of self-harming behaviours, and more childhood trauma, as well as greater depressive and anxiety symptoms, and worse emotional regulation.

An extensive literature review (Geist et al., 2021) showed that paediatric healthcare providers can play a critical role in guiding solutions in policy and advocacy, clinical care, research, and education to improve the health of transgender and gender diverse youth. The needs for mental healthcare for transgender and gender diverse or questioning adolescents (aged 11−19) are relevant as a survey reported an even higher percentage of past year suicide attempts: 51% of transboys, 30% of transgirls, 42% of nonbinary individuals, and 28% of those who were questioning their gender identity if compared with past year suicide attempt rates of 18% for cisgirls and 10% for cisboys. While interventions aimed at addressing suicidal risk factors for all youth are being implemented and many have proven effective in the general population, no evidence-based intervention currently exists to reduce suicide risk within this special population (Marshall, 2016).

Weight discrepancies

In a sample of college students in US (n=13,782), sexual minority men and women reported more weight discrimination, eating disorders, depression, and academic impairment than their heterosexual peers, even after controlling for BMI and race (Parmar et al., 2017; Simone et al., 2020).

Treatment and interventions

The needs for treatment in young people should be evaluated considering risks factors such as the higher prevalence of psychological, physical, and sexual abuse compared with heterosexual cisgender adolescents (Dunbar et al., 2017; Thoma et al., 2021). These factors contribute to disproportionate mental health problems observed within this population (Williams & Chapman, 2011; 2012).

Regarding the possible interventions for young people, Gilbey and Colleagues (2020) suggest that targeted digital health interventions are an important focus for future research aimed at addressing health difficulties in

LGBTIQ+ young people, particularly in terms of mental and physical health concerns. Besides, the school environment and the mental well-being of sexual minority youth seems important for their mental health. For this reason, schools should make policy change creating a supportive climate of the school and its personnel (Colvin et al., 2019).

An important factor related to health services utilisation is social connectedness; Taliaferro and colleagues (2019) showed that lower levels of connectedness to non-parental adults was associated with receipt of mental health care (OR, 0.55; 95% CI, 0.33-0.93).

COVID-19

Also, incident stressors like COVID-19 pandemic may affect the needs for mental health care (Buspavanich et al., 2021), amongst which access to care for substance misuse (Chaiton et al., 2021). In sexual and gender minority young people, the COVID-19 pandemic disproportionately impacted on mental health (Kamal et al., 2021) and minority stress factors cannot fully explain this impact. Thus, clinicians and societal stakeholders (schools, employers, policymakers) must think beyond traditional minority stress factors (family support, discrimination) and pre-pandemic disparities to support this vulnerable population as the pandemic progresses.

Substance abuse and addiction

Inequalities

LGBTIQ+ adults have a notably higher substance use disorder (SUD) burden compared to their heterosexual and cisgender counterparts (Batchelder et al., 2021; Coulter et al., 2019; Kidd et al., 2021; Schuler et al., 2018). In particular, bisexual women were at significantly greater risk for multiple substance use behaviours compared to lesbian/gay women and race/ethnicity may play an additional risk due to their multiple marginalized identities (Schuler & Collins, 2020; Jeong et al., 2016).

Causes

A possible explanation of this phenomenon includes both the cultural invisibility of bisexuality and the negative stereotypes associated with bisexuality (Schuler & Collins, 2020). Moreover, the Minority Stress Model asserts that the consequence of coping with trauma will be an increased risk of problematic substance use amongst transgender people (Connolly & Gilchrist, 2020). Another global explanation for this higher SUD burden in the LGBTIQ+ population is that they were also significantly more likely to have already used chemsex, particularly gay men and lesbians, compared to heterosexual individuals (Rosner et al., 2021).

Alcohol

Considering alcohol consumption disorder (ACD), LGBTIQ+ have elevated risk across a variety of alcohol-related behaviours including early initiation, frequency of use and heavy episodic drinking (Evans-Polce et al.,

2020). Lesbian and bisexual women/men appear more likely than heterosexual to report binge-drinking, rather than gay men (Fish et al., 2018; Greene et al., 2021), similarly to LGBTIQ+ adolescents (Fish et al., 2019). School-based victimisation mediates all significant associations between LGBTIQ+ status and binge-drinking, except for lesbian girls (Fish et al., 2019). In addition, over half of LGB individuals who met criteria for a past-year ACD have psychiatric comorbidity, whereas only one-third of heterosexual counterparts do. The risk for psychiatric comorbidities seems particularly high for bisexual women (Evans-Polce et al., 2020).

Marijuana

If consider marijuana use (MU), the LGBTIQ+ population in medical marijuana laws (MML) states have higher daily MU than those in non MML states: understandably, living in a state with MML could increase recreational MU and lower perceived risk of its impacts (Philbin et al., 2019). Moreover, LGB individuals have higher stimulants (bisexual in first place for abuse) and inhalants use (gay men more than bisexual men) than their heterosexual peers (Philbin et al., 2020; Tardelli et al., 2021).

Tobacco

Not at least, in the U.S. tobacco use is reported to be higher amongst LGBTIQ+: the highest current cigarette use prevalence is found amongst bisexual women, followed by lesbians, gay men, and bisexual men, while heterosexual men and women have the lowest prevalence (Li et al., 2021; Shokoohi et al., 2020). Despite use of alternative tobacco products being a growing public health concern in the USA, most of the existing studies on tobacco use and LGBTIQ+ populations do not examine the types of tobacco products, which have distinctive health risks (Li et al., 2021). Concerning special populations, LGBTIQ+ also have a higher risk of cigarette use during their last trimester of pregnancy, relative to heterosexual women (Beck et al., 2021). For LGBTIQ+ women, access to prenatal care or healthcare in general is limited, thus this population experiences worse maternal and infant health outcomes compared to heterosexual women (Beck et al., 2021).

Barriers to access and within pathways of care

Culturally competent care

As reported in the paragraph "substance abuse and addiction", most studies show LGBTIQ+ individuals with higher rates of alcohol and drug (mis)use (Chakraborty et al., 2011; Flentje et al., 2015; Hirschtritt et al., 2018; Slemon et al., 2022). However, in a study of an LGBTIQ+ dedicated inpatient psychiatric unit, Klotzbaugh and Glover (2016) observed that findings, concerning substance abuse among LGBTIQ+ people, were not reflective of prior studies. In other words, LGBTIQ+ patients did not demonstrate a higher proportion of substance abuse compared with those identifying as heterosexual. The authors argue that the context within which demographic details on sexual orientation were generated may have resulted in an increase in the number of those identifying as heterosexual. Thus, the context in which sensitive questions are asked may

affect the accuracy of demographic data. Consequently, a lack of information regarding patients' sexual orientation or gender identity may underestimate the need for culturally competent care for *LGBTIQ+ people.* According to this, evidence suggests environments that are gender-affirming/inclusive (e.g. student campuses, smoking cessation campaigns) (Berger & Monney-Somers, 2017; Cicero et al., 2019) and, not at least, a need for intersectionality (Huang et al., 2020) and for research into LGBTIQ+ targeted mental health interventions, including for those with severe mental distress (Kidd et al., 2016). In relation, Carlson and collaborators (2021) noted trans and gender diverse people would utilise integrative gender affirmative services if they were available. Most papers call for both tailored interventions (clinical and community) and treatment for LGBTIQ+ people (Davis et al., 2021), as well as training for (mental) health care practitioners in inclusive practice including greater representation of trans people in care teams (Dowshen et al., 2017; Higgins et al., 2021; Klotzbaugh & Glover, 2016).

Barriers to accessing care

It is known that the LGBTIQ+ population faces barriers to accessing mental health. These barriers include unwelcoming healthcare environments, non-affirming healthcare providers, and institutional practices that inhibit the delivery of gender-affirming care (Cicero et al., 2019). Australian and Canadian studies (Cronin et al., 2021; Gaspar et al., 2021) reported general barriers related to sexual minority barriers or minority-stress related (e.g., fear of and experience of discrimination, perceived lack of culturally competent HCP, and limited gender-affirming options) as well as not exclusive to them (e.g., cost of services and travel distance). Such barriers to service access were negatively associated with mental health service use, suggesting barriers to care may inhibit LGBTIQ+ people's use of such services.

Barriers to care during COVID-19

Finally, during COVID-19, the difficulty of accessing care increased for all populations. Although there has been an increase of telehealth that improved access to care for gender-affirming psychotherapy, the literature informs us that there remain barriers to services due to reduced access to in-person care. These reductions dented gender-affirming services (cancelled or deferred), which for transmasculine persons and men assigned female sex at birth (AFAB), also meant delays with hormone-related bloodwork and being unable to maintain their testosterone regimen (D'Angelo et al., 2021).

Interventions

LGBTIQ+ specific interventions

It is important to highlight that there are no evidence-based interventions tailored to LGBTIQ+ specific mental health needs, which remain mostly unmet. Nevertheless, most papers call for a structured training for primary care, paediatricians, teachers and mental health care practitioners in order to broaden the knowledge on these issues and meet LGBTIQ+' needs (Higgins et al., 2021).

Despite a cross-sectional study in the U.S. reporting that gay men and bisexual women are more likely to perceive a need and to receive a substance use disorder treatment than their heterosexual peers, the quality of this may be inadequate (Krasnova et al., 2021). Indeed, 71% of treatment programs that advertise specific services do not actually offer them (McCabe et al., 2013; Kidd et al., 2021). Thus, there is evidence of lower satisfaction with standard treatment among LGBTIQ+ people compared to heterosexual people (Kidd et al., 2021). Haney (2020) underscored the need for more specialised services and efficient pathways for LGBTIQ+ and these issues need to be addressed by developing new policies and practices that support better access to care. Sexual orientation and gender identity are rarely reported in the substance use literature and non-binary people are rarely reported in the research (Flentje et al., 2015).

Specialised services for LGBTIQ+ are still lacking and most studies about substance use focused on individual-level psychotherapies in uncontrolled trials without comparing specific treatments to no-tailored interventions (Kidd et al., 2021). Cognitive behavioural therapy, contingency management, and motivational interviewing are the most common evidence-based treatments for SUDs (Kidd et al., 2021), while the absence of prevention and pharmacological treatment for opioid misuse is particularly concerning given that LGBT adults have a higher prevalence of opioid use than their heterosexual peers (Schuler et al., 2019; Hughto et al., 2021) and since robust evidence exists that pharmacotherapy increases quit rates and reduces relapse (Kidd et al., 2021). Given that surviving violence was a commonly identified correlate of substance use among transgender people, integrated trauma-informed psychosocial treatments might be of benefit to this subgroup (Connolly & Gilchristet, 2020).

Alcohol policy

Among women, a higher Alcohol Policy Scale (APS) score (Naimi et al., 2014) is associated with lower odds of binge-drinking, while a higher APS score is not associated with binge-drinking among men (Greene et al., 2021). Moreover, stronger alcohol policy environments are not associated with narrower differences in binge-drinking between lesbian/bisexual and heterosexual women (Greene et al., 2021). In addition, pregnant LB women would benefit from additional preconception and pregnancy-related support from the health system: indeed, accurate information and support for FDA approved smoking cessation, information about e-cigarettes, and dual use could potentiate improvements in LB women maternal and infant health (Gonzales et al., 2019; Limburg et al., 2020).

LGBT specific treatment

Although LGBT people are more likely to have eating disorders (Nagata et al., 2020; Hazzard et al., 2020), with anxiety and depression symptoms compared to the other groups (Williams et al., 2017; Valentine & Shipherd 2018; Travers et al., 2020) specific treatment and prevention of these mental illnesses are still lacking (Calzo et al. 2017).

Discussion

This review aimed to synthesise the literature concerning barriers to pathways of care and unmet mental health care needs experienced by LQBTIQ+ populations. The current research on LGBTIQ+ mental health aligns with five themes: (1) Unmet mental health needs; (2) Young people; (3) Substance abuse and addiction; (4) Barriers and pathways to care; and (5) Interventions.

LQBTIQ+ people experience higher levels of emotional distress, poorer mental health with greater unmet needs compared to the general population (heterosexual and cisgendered people). The minority stress model provides an efficient and coherent way to understand the relationships between external stressors (e.g. stigmatisation, discrimination, victimization) and internal stressors (e.g. fear of rejection, concealment of sexual orientation and internalised homophobia) (Meyer, 2003). The internal distress may lead to negative mental health outcomes, whilst coping strategies and social support may counteract them. Additional emotional distress may also relate to adverse childhood experiences (Blosnich & Andersen, 2015). Whilst LGBTIQ+ individuals share collective experiences of stigmatisation and discrimination, experiences of oppression may vary across subgroups, leading to different mental health outcomes (Smalley et al., 2016). Specific policies designed to support the civil rights of sexual minorities may help to overcome such inequalities (Mongelli et al., 2019).

Due to the higher risk of substance use disorders (SUD) amongst the LGBTIQ+ population, it should be recommended that primary care physicians screen for substance use (Connolly & Gilchrist, 2020) and should be involved in earlier prevention strategies for LGBTIQ+ people (Evans-Polce et al., 2020). The higher risk of binge-drinking among LGBTIQ+ young highlights the importance of brief alcohol screenings in schools, primary care, and mental health settings (Fish et al., 2019). Besides, this may point to the importance of policies advocating for anti-discrimination strategies to decrease rates of binge-drinking for LGBTIQ+ youth (Hatzenbuehler & Keyes, 2013). Differences in alcohol use between men and women of LGBTIQ+ community have been referred to as a "gender paradox" and are hypothesised to stem, at least partially, from rejection of traditional gender roles by LGBTIQ+ people (Fish et al., 2018). Moreover, there is a need for further action to address the persistent high prevalence of tobacco use among LGBTIQ+ populations, particularly for bisexual women (Li et al., 2021). Regarding pregnant LGBTIQ+ women, research indicates that they would benefit from additional pregnancy-related support in health systems, including an emphasis on tobacco use (Gonzales et al., 2019).

Mental health services are essential in the care of LGBTIQ+ individuals in order to address their specific needs; however, LGBTIQ+ people still experience barriers to accessing care and are frequently 'invisible' to healthcare providers and researchers (Hahm et al., 2016; Moagi et al., 2021). Overcoming this invisibility in healthcare services and research settings is key to reducing mental health inequalities and to promote more welcoming environments and LGBTIQ+ friendly services. Thus, more research is needed to develop culturally appropriate models of care for LGBTIQ+ people. Bidell (2016) highlighted structural (e.g., lack of sensitive, competent clinical services) and practitioner-related barriers, where the healthcare provider's personal beliefs conflicted with ethically accountable standards for LGBTIQ+ care provision. However, stigma remains an

important barrier, where LGBTIQ+ people fear marginalisation and instead choose not to 'come out' or to identify themselves in healthcare encounters (Lerner & Robles, 2017; Smith et al., 2019).

Future study directions

Health care services in general and specifically mental health services should collect gender identity and sexual orientation data (Bauer et al., 2017; Rutherford et al., 2021) in order to tailor interventions to address this population's specific health needs. A more inclusive approach would allow clinicians to align their interventions to the specific needs of LGBTIQ+ people in healthcare as well as social support. Increased awareness of the structural barriers these populations face when accessing health services, is key to improving public health responses and health outcomes. Given that literature indicates that bisexual people are often most at risk of substance misuse and mental disorders, it is important to provide more dedicated mental-health care for this group (Jessup et al., 2012).

Whilst competent and ethical LGBTIQ+ professional training may help to address barriers previously mentioned, more innovative methods such as self-reflection and self-awareness is required to address practitioners' personal beliefs (Bidell, 2016). Providers should focus on the creation of a safe, non-judgmental environment to help patients realise that they will not face discrimination if they identify themselves or 'come out' (Smith et al., 2019). The LGBTIQ+ people with signs and symptoms of emotional distress must be referred to mental healthcare providers for psychosocial interventions to prevent the development of psychiatric disorders. Social interventions should focus on two levels: firstly, family interventions to facilitate acceptance and support, and secondly, advocacy for and participation in right-based and empowering policy initiatives related to the LGBTIQ+ population (Chen et al., 2021). Whereas, on an individual level, a possible effect on reducing sign of emotional distress due to self-stigma is reported (Chan et al., 2021). Interestingly, the number of LGBTIQ+ tailored MH services in US decreased from 2015 to 2018 (Chen et al., 2021). It is not clear if mainstream services are becoming more LGBTIQ+ inclusive or whether there is a more hostile policy environment, or due to a combination of factors. The need for more specialised services and efficient care pathways for LGBTIQ+ populations need to be addressed by developing new policies and practices that support improved access to care.

Strengths and limitations

This narrative review represents an updated synthesis of the barriers to care and the unmet needs of LGBTIQ+ communities, in the face of a relative lack of research where populations are either unduly assimilated or treated in fragmented ways. A strength of this work is the ability to scan the field across heterogeneous populations in the attempt to reflect the health status for multi-faceted and eclectic LGBTIQ+ communities.

Nevertheless, some limitations should be noted. First, the large majority of the studies targeting unmet mental health needs among LGBTIQ+ people were North American (including Canada), whilst few studies were set in Europe or based on data collected in EU countries. Therefore, caution is required when interpreting the results of the review for European contexts, given that contextual and social factors, such as heteronormativity

(set of beliefs and practices that gender is an absolute and unquestionable binary) and cisnormativity (the assumption that all, or almost all, individuals are cisgender, i.e. people whose gender identity matches the sex they were assigned at birth), may lead to minority-stress, potentially resulting in more unfavourable outcomes. Second, only one study explored the role of chemsex in LGBTIQ+ mental health, even in light of widely assumed prevalence; more specifically, the literature that studied this phenomenon in LGBTIQ+ people did so without any comparators. Third, the scarcity of studies on intersex and non-binary individuals were clearly identified during our literature search.

Conclusion

The results showed that the LGBTIQ+ community still experience significant emotional distress and mental health challenges as a result of stigmatisation, discrimination and barriers to accessing mental healthcare, resulting in several unmet needs. Future studies must fill this gap to explore how mental health service providers can support LGBTIQ+ individuals to sustain their resilience and to challenge broader social discourses that maintain discriminatory and stigmatising practices.

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References

Argyriou, A., Goldsmith, K. A., & Rimes, K. A. (2021). Mediators of the disparities in depression between sexual minority and heterosexual individuals: A systematic review. *Archives of Sexual Behavior*, *50*(3), 925-959.

Baptiste-Roberts, K., Oranuba, E., Werts, N., & Edwards, L. V. (2017). Addressing health care disparities among sexual minorities. *Obstetrics and Gynecology Clinics*, *44*(1), 71-80.

Batchelder, A. W., Stanton, A. M., Kirakosian, N., King, D., Grasso, C., Potter, J., ... & O'Cleirigh, C. (2021). Mental health and substance use diagnoses and treatment disparities by sexual orientation and gender in a community health center sample. *LGBT health*, *8*(4), 290-299.

Bauer, G. R., Braimoh, J., Scheim, A. I., & Dharma, C. (2017). Transgender-inclusive measures of sex/gender for population surveys: Mixed-methods evaluation and recommendations. *PloS one*, *12*(5), e0178043.

Beccia, A. L., Baek, J., Austin, S. B., Jesdale, W. M., & Lapane, K. L. (2021). Eating-related pathology at the intersection of gender identity and expression, sexual orientation, and weight status: An intersectional Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy (MAIHDA) of the Growing Up Today Study cohorts. *Social Science & Medicine*, *281*, 114092.

Beck, D. C., Veliz, P. T., McCabe, S. E., Boyd, C. J., & Evans-Polce, R. (2021). Cigarette, e-cigarette, and dual use during the third trimester of pregnancy in a national sample of heterosexual and sexual minority women. *The American Journal on Addictions*, *30*(6), 593-600.

Berger, I., & Mooney-Somers, J. (2017). Smoking cessation programs for lesbian, gay, bisexual, transgender, and intersex people: a content-based systematic review. *Nicotine & Tobacco Research*, *19*(12), 1408-1417.

Bidell, M.P., (2016). 'Treating transgressors: Mental health providers and LGBT issues'. Journal of Psychological Therapies 1(1), 7–10

Blosnich, J. R., & Andersen, J. P. (2015). Thursday's child: the role of adverse childhood experiences in explaining mental health disparities among lesbian, gay, and bisexual U.S. adults. *Social psychiatry and psychiatric epidemiology*, *50*(2), 335–338.

Boehmer, U., Clark, M. A., Ozonoff, A., Winter, M., & Potter, J. (2020). Survivors' perceptions of quality of colorectal cancer care by sexual orientation. *American journal of clinical oncology*, *43*(9), 660.

Brown, G. R., & Jones, K. T. (2016). Mental health and medical health disparities in 5135 transgender veterans receiving healthcare in the Veterans Health Administration: A case–control study. *LGBT health*, *3*(2), 122-131.

Burgess, D., Tran, A., Lee, R., & van Ryn, M. (2007). Effects of perceived discrimination on mental health and mental health services utilization among gay, lesbian, bisexual and transgender persons. *Journal of LGBT health research*, *3*(4), 1–14.

Buspavanich, P., Lech, S., Lermer, E., Fischer, M., Berger, M., Vilsmaier, T., ... & Batz, F. (2021). Well-being during COVID-19 pandemic: A comparison of individuals with minoritized sexual and gender identities and cis-heterosexual individuals. *PloS one*, *16*(6), e0252356.

Butler, E. S., McGlinchey, E., & Juster, R. P. (2020). Sexual and gender minority sleep: A narrative review and suggestions for future research. *Journal of Sleep Research*, *29*(1), e12928.

Caceres, B. A., Hickey, K. T., Heitkemper, E. M., & Hughes, T. L. (2019). An intersectional approach to examine sleep duration in sexual minority adults in the United States: findings from the Behavioral Risk Factor Surveillance System. *Sleep health*, *5*(6), 621-629.

Calzo, J. P., Blashill, A. J., Brown, T. A., & Argenal, R. L. (2017). Eating disorders and disordered weight and shape control behaviors in sexual minority populations. *Current Psychiatry Reports*, *19*(8), 1-10.

Carlson, K. J., Irwin, J. A., Dowdall, J. R., Figy, S. C., & Amoura, N. J. (2021). Integrated Comprehensive Care for Transcare and Gender Diverse Clinic Patients: An Assessment of Physical, Mental, and Social Needs. *Cureus*, *13*(12).

Carman, M., Corboz, J., & Dowsett, G. W. (2012). Falling through the cracks: the gap between evidence and policy in responding to depression in gay, lesbian and other homosexually active people in Australia. *Australian and New Zealand Journal of Public Health*, *36*(1), 76-83.

Chaiton, M., Musani, I., Pullman, M., Logie, C. H., Abramovich, A., Grace, D., ... & Baskerville, B. (2021). Access to mental health and substance use resources for 2SLGBTQ+ youth during the COVID-19 pandemic. *International journal of environmental research and public health*, *18*(21), 11315.

Chakraborty, A., McManus, S., Brugha, T. S., Bebbington, P., & King, M. (2011). Mental health of the non-heterosexual population of England. *The British journal of psychiatry: the journal of mental science*, *198*(2), 143–148.

Chan, K. K. S., & Leung, D. C. K. (2021). The impact of mindfulness on self-stigma and affective symptoms among sexual minorities. *Journal of affective disorders*, *286*, 213-219.

Chen, D., Watson, R. J., Caputi, T. L., & Shover, C. L. (2021). Proportion of US Clinics Offering LGBT-Tailored Mental Health Services Decreased Over Time: A Panel Study of the National Mental Health Services Survey. *Annals of LGBTQ public and population health*, *2*(3), 174-184.

Cicero, E. C., Reisner, S. L., Silva, S. G., Merwin, E. I., & Humphreys, J. C. (2019). Healthcare experiences of transgender adults: An integrated mixed research literature review. *ANS. Advances in nursing science*, *42*(2), 123.

Colvin, S., Egan, J. E., & Coulter, R. W. (2019). School climate & sexual and gender minority adolescent mental health. *Journal of youth and adolescence*, *48*(10), 1938-1951.

Connolly, D., & Gilchrist, G. (2020). Prevalence and correlates of substance use among transgender adults: A systematic review. *Addictive Behaviors*, *111*, 106544.

Coulter, R. W., Egan, J. E., Kinsky, S., Friedman, M. R., Eckstrand, K. L., Frankeberger, J., ... & Miller, E. (2019). Mental health, drug, and violence interventions for sexual/gender minorities: A systematic review. *Pediatrics*, *144*(3).

Cronin, T. J., Pepping, C. A., Halford, W. K., & Lyons, A. (2021). Mental health help-seeking and barriers to service access among lesbian, gay, and bisexual Australians. *Australian Psychologist*, *56*(1), 46-60.

D'Angelo, A. B., Argenio, K., Westmoreland, D. A., Appenroth, M. N., & Grov, C. (2021). Health and Access to Gender-Affirming Care During COVID-19: Experiences of transmasculine individuals and men assigned female sex at birth. *American journal of men's health*, *15*(6), 15579883211062681.

Davis, A. W., Lyons, A., & Pepping, C. A. (2021). Inclusive Psychotherapy for Sexual Minority Adults: the Role of the Therapeutic Alliance. *Sexuality Research and Social Policy*, 1-13.

Donohue, G., McCann, E., & Brown, M. (2021). Views and Experiences of LGBTQ+ People in Prison Regarding Their Psychosocial Needs: A Systematic Review of the Qualitative Research Evidence. *International Journal of Environmental Research and Public Health*, *18*(17), 9335.

Dowshen, N., Lee, S., Franklin, J., Castillo, M., & Barg, F. (2017). Access to medical and mental health services across the HIV care continuum among young transgender women: a qualitative study. *Transgender health*, *2*(1), 81-90.

Dunbar, M. S., Sontag-Padilla, L., Ramchand, R., Seelam, R., & Stein, B. D. (2017). Mental health service utilization among lesbian, gay, bisexual, and questioning or queer college students. *Journal of Adolescent Health*, *61*(3), 294-301.

Evans-Polce, R. J., Kcomt, L., Veliz, P. T., Boyd, C. J., & McCabe, S. E. (2020). Alcohol, tobacco, and comorbid psychiatric disorders and associations with sexual identity and stress-related correlates. *American Journal of Psychiatry*, *177*(11), 1073-1081.

Ferlatte, O., Salway, T., Rice, S., Oliffe, J. L., Rich, A. J., Knight, R., ... & Ogrodniczuk, J. S. (2019). Perceived barriers to mental health services among Canadian sexual and gender minorities with depression and at risk of suicide. *Community mental health journal*, *55*(8), 1313-1321.

Feldman, J., Brown, G. R., Deutsch, M. B., Hembree, W., Meyer, W., Meyer-Bahlburg, H. F., ... & Safer, J. D. (2016). Priorities for transgender medical and health care research. *Current opinion in endocrinology, diabetes, and obesity*, *23*(2), 180.

Feldman, J. L., Luhur, W. E., Herman, J. L., Poteat, T., & Meyer, I. H. (2021). Health and health care access in the US transgender population health (TransPop) survey. *Andrology*, *9*(6), 1707-1718.

Fish, J. N., Hughes, T. L., & Russell, S. T. (2018). Sexual identity differences in high-intensity binge drinking: findings from a US national sample. *Addiction*, *113*(4), 749-758.

Fish, J. N., Schulenberg, J. E., & Russell, S. T. (2019). Sexual minority youth report high-intensity binge drinking: The critical role of school victimization. *Journal of Adolescent Health*, *64*(2), 186-193.

Flentje, A., Livingston, N. A., Roley, J., & Sorensen, J. L. (2015). Mental and physical health needs of lesbian, gay, and bisexual clients in substance abuse treatment. *Journal of substance abuse treatment*, *58*, 78-83.

Fox, K. R., Choukas-Bradley, S., Salk, R. H., Marshal, M. P., & Thoma, B. C. (2020). Mental health among sexual and gender minority adolescents: Examining interactions with race and ethnicity. *Journal of consulting and clinical psychology*, *88*(5), 402.

Fredriksen-Goldsen, K. I., Jen, S., Bryan, A. E., & Goldsen, J. (2018). Cognitive impairment, Alzheimer's disease, and other dementias in the lives of lesbian, gay, bisexual and transgender (LGBT) older adults and their caregivers: Needs and competencies. *Journal of Applied Gerontology*, *37*(5), 545-569.

Gaspar, M., Marshall, Z., Rodrigues, R., Adam, B. D., Brennan, D. J., Hart, T. A., & Grace, D. (2021). Mental health and structural harm: a qualitative study of sexual minority men's experiences of mental healthcare in Toronto, Canada. *Culture, health & sexuality*, *23*(1), 98–114.

Geist, C., Greenberg, K. B., Luikenaar, R. A., & Mihalopoulos, N. L. (2021). Pediatric research and health care for transgender and gender diverse adolescents and young adults: Improving (biopsychosocial) health outcomes. *Academic Pediatrics*, *21*(1), 32-42.

Giblon, R., & Bauer, G. R. (2017). Health care availability, quality, and unmet need: a comparison of transgender and cisgender residents of Ontario, Canada. *BMC Health Services Research*, *17*(1), 1-10.

Gilbey, D., Morgan, H., Lin, A., & Perry, Y. (2020). Effectiveness, acceptability, and feasibility of digital health interventions for LGBTIQ+ young people: systematic review. *Journal of medical Internet research*, *22*(12), e20158.

Goldsen, K. I. F., Jen, S., & Muraco, A. (2019). Iridescent Life Course: LGBTQ Aging Research and Blueprint for the Future–A Systematic Review. *Gerontology*, *65*(3), 253-274.

Gonzales, G., Dedania, R., & Driscoll, R. (2019). Health insurance coverage and access to care among US-born and foreign-born sexual minorities. *Journal of Immigrant and Minority Health*, *21*(3), 540-548.

Gordon, J. R., Baik, S. H., Schwartz, K. T., & Wells, K. J. (2019). Comparing the mental health of sexual minority and heterosexual cancer survivors: a systematic review. *LGBT health*, *6*(6), 271-288.

Greene, N., Johnson, R. M., German, D., Rosen, J., & Cohen, J. E. (2021). State-level alcohol environments and sexual identity disparities in binge drinking in the behavioral risk factor surveillance system. *LGBT health*, *8*(3), 190-200.

Gustafsson, P. E., Linander, I., & Mosquera, P. A. (2017). Embodying pervasive discrimination: a decomposition of sexual orientation inequalities in health in a population-based cross-sectional study in Northern Sweden. *International Journal for Equity in Health*, *16*(1), 1-10.

Hahm, H. C., Lee, J., Chiao, C., Valentine, A., & Lê Cook, B. (2016). Use of mental health care and unmet needs for health care among lesbian and bisexual Chinese-, Korean-, and Vietnamese-American women. *Psychiatric Services*, *67*(12), 1380-1383.

Hall, J. P., Batza, K., Streed, C. G., Boyd, B. A., & Kurth, N. K. (2020). Health disparities among sexual and gender minorities with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *50*(8), 3071-3077.

Haney, J. L. (2020). Sexual orientation, social determinants of health, and unmet substance use treatment need: Findings from a national survey. *Substance Use & Misuse*, *56*(2), 205-213.

Harper, G. W., Crawford, J., Lewis, K., Mwochi, C. R., Johnson, G., Okoth, C., ... & Wilson, B. D. (2021). Mental health challenges and needs among sexual and gender minority people in western Kenya. *International journal of environmental research and public health*, *18*(3), 1311.

Hatzenbuehler, M. L., & Keyes, K. M. (2013). Inclusive anti-bullying policies and reduced risk of suicide attempts in lesbian and gay youth. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *53*(1 Suppl), S21–S26.

Hazzard, V. M., Simone, M., Borg, S. L., Borton, K. A., Sonneville, K. R., Calzo, J. P., & Lipson, S. K. (2020). Disparities in eating disorder risk and diagnosis among sexual minority college students: findings from the national healthy minds study. *International Journal of Eating Disorders*, *53*(9), 1563-1568.

Hickson, F., Appenroth, M., Koppe, U., Schmidt, A. J., Reid, D., & Weatherburn, P. (2020). Sexual and mental health inequalities across gender identity and sex-assigned-at-birth among men-who-have-sex-with-men in Europe: findings from EMIS-2017. *International Journal of Environmental Research and Public Health*, *17*(20), 7379.

Higgins, A., Downes, C., Murphy, R., Sharek, D., Begley, T., McCann, E., ... & Doyle, L. (2021). LGBT+ young people's perceptions of barriers to accessing mental health services in Ireland. *Journal of nursing management*, *29*(1), 58-67.

Hirschtritt, M. E., Dauria, E. F., Marshall, B., & Tolou-Shams, M. (2018). Sexual Minority, Justice-Involved Youth: A Hidden Population in Need of Integrated Mental Health, Substance Use, and Sexual Health Services. *The Journal of adolescent health: official publication of the Society for Adolescent Medicine*, *63*(4), 421–428.

Huang, Y. T., Ma, Y. T., Craig, S. L., Wong, D. F. K., & Forth, M. W. (2020). How intersectional are mental health interventions for sexual minority people? A systematic review. *LGBT health*, *7*(5), 220-236.

Hughto, J. M., Restar, A. J., Wolfe, H. L., Gordon, L. K., Reisner, S. L., Biello, K. B., ... & Mimiaga, M. J. (2021). Opioid pain medication misuse, concomitant substance misuse, and the unmet behavioral health treatment needs of transgender and gender diverse adults. *Drug and alcohol dependence*, *222*, 108674.

Hutchcraft, M. L., Teferra, A. A., Montemorano, L., & Patterson, J. G. (2021). Differences in health-related quality of life and health behaviors among lesbian, bisexual, and heterosexual women surviving cancer from the 2013 to 2018 National Health Interview Survey. *LGBT health*, *8*(1), 68-78.

Jennings, L., Barcelos, C., McWilliams, C., & Malecki, K. (2019). Inequalities in lesbian, gay, bisexual, and transgender (LGBT) health and health care access and utilization in Wisconsin. *Preventive Medicine Reports*, *14*, 100864.

Jeong, Y. M., Veldhuis, C. B., Aranda, F., & Hughes, T. L. (2016). Racial/ethnic differences in unmet needs for mental health and substance use treatment in a community-based sample of sexual minority women. *Journal of Clinical Nursing*, *25*(23-24), 3557-3569.

Jessup, M. A., & Dibble, S. L. (2012). Unmet mental health and substance abuse treatment needs of sexual minority elders. *Journal of Homosexuality*, *59*(5), 656-674.

Kamal, K., Li, J. J., Hahm, H. C., & Liu, C. H. (2021). Psychiatric impacts of the COVID-19 global pandemic on US sexual and gender minority young adults. *Psychiatry Research*, *299*, 113855.

Kamen, C., Mustian, K. M., Dozier, A., Bowen, D. J., & Li, Y. (2015). Disparities in psychological distress impacting lesbian, gay, bisexual and transgender cancer survivors. *Psycho-Oncology*, *24*(11), 1384-1391.

Kidd, J. D., Paschen-Wolff, M. M., Mericle, A. A., Caceres, B. A., Drabble, L. A., & Hughes, T. L. (2021). A scoping review of alcohol, tobacco, and other drug use treatment interventions for sexual and gender minority populations. *Journal of substance abuse treatment*, 108539.

Kidd, S. A., Howison, M., Pilling, M., Ross, L. E., & Mckenzie, K. (2016). Severe mental illness in LGBT populations: A scoping review. *Psychiatric Services*, *67*(7), 779-783.

King, M., Semlyen, J., Tai, S. S., Killaspy, H., Osborn, D., Popelyuk, D., & Nazareth, I. (2008). A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC psychiatry*, *8*, 70.

Klotzbaugh, R., & Glover, E. (2016). A lesbian, gay, bisexual and transgender dedicated inpatient psychiatric unit in rural New England: a descriptive analysis in demographics, service utilisation and needs. *Journal of clinical nursing*, *25*(23-24), 3570–3576.

Kneale, D., Thomas, J., & French, R. (2020). Inequalities in health and care among Lesbian, gay, and bisexual people aged 50 and older in the United Kingdom: a systematic review and meta-analysis of sources of individual participant data. *The Journals of Gerontology: Series B*, *75*(8), 1758-1771.

Krasnova, A., Diaz, J. E., Philbin, M. M., & Mauro, P. M. (2021). Disparities in substance use disorder treatment use and perceived need by sexual identity and gender among adults in the United States. *Drug and Alcohol Dependence*, *226*, 108828.

Lerner, J. E., & Robles, G. (2017). Perceived barriers and facilitators to health care utilization in the United States for transgender people: A review of recent literature. *Journal of health care for the poor and underserved*, *28*(1), 127-152.

Li, J., Berg, C. J., Weber, A. A., Vu, M., Nguyen, J., Haardörfer, R., ... & Escoffery, C. (2021). Tobacco use at the intersection of sex and sexual identity in the US, 2007–2020: a meta-analysis. *American Journal of Preventive Medicine*, *60*(3), 415-424.

Limburg, A., Everett, B. G., Mollborn, S., & Kominiarek, M. A. (2020). Sexual Orientation Disparities in Preconception Health. *Journal of women's health (2002)*, *29*(6), 755–762.

Mark, K. M., McNamara, K. A., Gribble, R., Rhead, R., Sharp, M. L., Stevelink, S. A., ... & Fear, N. T. (2019). The health and well-being of LGBTQ serving and ex-serving personnel: a narrative review. *International Review of Psychiatry*, *31*(1), 75-94.

Marshall, A. (2016). Suicide prevention interventions for sexual & gender minority youth: an unmet need. *The Yale journal of biology and medicine*, *89*(2), 205-213.

McCabe, S. E., West, B. T., Hughes, T. L., & Boyd, C. J. (2013). Sexual orientation and substance abuse treatment utilization in the United States: Results from a national survey. *Journal of substance abuse treatment*, *44*(1), 4-12.

Meyer I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: conceptual issues and research evidence. *Psychological bulletin*, *129*(5), 674–697.

Moagi, M. M., van Der Wath, A. E., Jiyane, P. M., & Rikhotso, R. S. (2021). Mental health challenges of lesbian, gay, bisexual and transgender people: An integrated literature review. *Health SA Gesondheid*, *26*(1).

Mongelli, F., Perrone, D., Balducci, J., Sacchetti, A., Ferrari, S., Mattei, G., Galeazzi, G.M. (2019). Minority stress and mental health among LGBT populations: an update on the evidence. *Minerva Psichiatrica*, 60(1), 27-50.

Mor, Z., Eick, U., Kolasko, G. W., Zviely-Efrat, I., Makadon, H., & Davidovitch, N. (2015). Health status, behavior, and care of lesbian and bisexual women in Israel. *The Journal of Sexual Medicine*, *12*(5), 1249-1256.

Nagata, J. M., Ganson, K. T., & Austin, S. B. (2020). Emerging trends in eating disorders among sexual and gender minorities. *Current opinion in psychiatry*, *33*(6), 562.

Naimi, T. S., Blanchette, J., Nelson, T. F., Nguyen, T., Oussayef, N., Heeren, T. C., Gruenewald, P., Mosher, J., & Xuan, Z. (2014). A new scale of the U.S. alcohol policy environment and its relationship to binge drinking. *American journal of preventive medicine*, *46*(1), 10–16.

Parmar, D. D., Alabaster, A., Vance Jr, S., Weintraub, M. L. R., & Lau, J. S. (2021). Disordered eating, body image dissatisfaction, and associated healthcare utilization patterns for sexual minority youth. *Journal of Adolescent Health*, *69*(3), 470-476.

Pattison, R., Puyat, J. H., Giesbrecht, A., Zenone, M., Mathias, S., & Barbic, S. (2021). Examining Mental Health Differences Between Transgender, Gender Nonconforming, and Cisgender Young People in British Columbia. *Frontiers in Psychiatry*, 1660.

Philbin, M. M., Mauro, P. M., Greene, E. R., & Martins, S. S. (2019). State-level marijuana policies and marijuana use and marijuana use disorder among a nationally representative sample of adults in the United States, 2015-2017: Sexual identity and gender matter. *Drug and alcohol dependence*, *204*, 107506.

Philbin, M. M., Mauro, P. M., Greene, E. R., LaBossier, N. J., Giovenco, D. P., & Martins, S. S. (2020). Medical cannabis laws and medical and non-medical prescription stimulant use among a nationally representative sample of US Adults: Examining the role of sexual identity and gender. *International Journal of Drug Policy*, *84*, 102861.

Rimes, K. A., Ion, D., Wingrove, J., & Carter, B. (2019). Sexual orientation differences in psychological treatment outcomes for depression and anxiety: National cohort study. *Journal of Consulting and Clinical Psychology*, *87*(7), 577.

Rosner, B., Neicun, J., Yang, J. C., & Roman-Urrestarazu, A. (2021). Substance use among sexual minorities in the US–Linked to inequalities and unmet need for mental health treatment? Results from the National Survey on Drug Use and Health (NSDUH). *Journal of Psychiatric Research*, *135*, 107-118.

Ross, L. E., Gibson, M. F., Daley, A., Steele, L. S., & Williams, C. C. (2018). In spite of the system: A qualitatively-driven mixed methods analysis of the mental health services experiences of LGBTQ people living in poverty in Ontario, Canada. *PloS one*, *13*(8), e0201437.

Rutherford, L., Stark, A., Ablona, A., Klassen, B. J., Higgins, R., Jacobsen, H., Draenos, C. J., Card, K. G., & Lachowsky, N. J. (2021). Health and well-being of trans and non-binary participants in a community-based survey of gay, bisexual, and queer men, and non-binary and Two-Spirit people across Canada. *Plos one*, *16*(2), e0246525.

Rutter, T. M., Flentje, A., Dilley, J. W., Barakat, S., Liu, N. H., Gross, M.S. Muñoz, R. F., & Leykin, Y. (2016). Sexual orientation and treatment-seeking for depression in a multilingual worldwide sample. *Journal of affective disorders*, *206*, 87-93.

Schuler, M. S., Rice, C. E., Evans-Polce, R. J., & Collins, R. L. (2018). Disparities in substance use behaviors and disorders among adult sexual minorities by age, gender, and sexual identity. *Drug and alcohol dependence*, *189*, 139-146.

Schuler, M. S., Dick, A. W., & Stein, B. D. (2019). Sexual minority disparities in opioid misuse, perceived heroin risk and heroin access among a national sample of US adults. *Drug and alcohol dependence*, *201*, 78-84.

Schuler, M. S., Stein, B. D., & Collins, R. L. (2019). Differences in Substance Use Disparities Across Age Groups in a National Cross-Sectional Survey of Lesbian, Gay, and Bisexual Adults. *LGBT health*, *6*(2), 68–76.

Schuler, M. S., & Collins, R. L. (2020). Sexual minority substance use disparities: Bisexual women at elevated risk relative to other sexual minority groups. *Drug and alcohol dependence*, *206*, 107755.

Shokoohi, M., Salway, T., Ahn, B., & Ross, L. E. (2020). Disparities in the prevalence of cigarette smoking among bisexual people: a systematic review, meta-analysis and meta-regression. *Tobacco Control*, *30*(e2), e78-e86.

Silveri, M. M., Schuttenberg, E. M., Schmandt, K., Stein, E. R., Rieselbach, M. M., Sternberg, A., ... & Boger, K. D. (2021). Clinical Outcomes Following Acute Residential Psychiatric Treatment in Transgender and Gender Diverse Adolescents. *JAMA Network Open*, *4*(6), e2113637-e2113637.

Simeonov, D., Steele, L. S., Anderson, S., & Ross, L. E. (2015). Perceived satisfaction with mental health services in the lesbian, gay, bisexual, transgender, and transsexual communities in Ontario, Canada: An Internet-based survey. *Canadian Journal of Community Mental Health*, *34*(1), 31-44.

Simone, M., Pisetsky, E. M., & Lust, K. (2020). Weight discrimination inflates psychological health risk and academic impairment in sexual minority cisgender college students relative to their heterosexual peers. *Eating disorders*, *29*(6), 685-695.

Slemon, A., Richardson, C., Goodyear, T., Salway, T., Gadermann, A., Oliffe, J. L., Knight, R., Dhari, S., & Jenkins, E. K. (2022). Widening mental health and substance use inequities among sexual and gender minority populations: Findings from a repeated cross-sectional monitoring survey during the COVID-19 pandemic in Canada. *Psychiatry research*, *307*, 114327.

Smalley, K.B., Warren, J.C. & Barefoot, K.N., 2016, 'Variations in psychological distress between gender and sexual minority groups', Journal of Gay & Lesbian Mental Health 20(2), 99–115.

Smith, R. W., Altman, J. K., Meeks, S., & Hinrichs, K. L. (2019). Mental Health Care for LGBT Older Adults in Long-Term Care Settings: Competency, Training, and Barriers for Mental Health Providers. *Clinical gerontologist*, *42*(2), 198–203.

Stanton, A. M., Batchelder, A. W., Kirakosian, N., Scholl, J., King, D., Grasso, C., ... & O'Cleirigh, C. (2021). Differences in mental health symptom severity and care engagement among transgender and gender diverse individuals: Findings from a large community health center. *PLoS One*, *16*(1), e0245872.

Steele, L. S., Daley, A., Curling, D., Gibson, M. F., Green, D. C., Williams, C. C., & Ross, L. E. (2016). LGBT identity, untreated depression, and unmet need for mental health services by sexual minority women and trans-identified people. *Journal of Women's Health*, *26*(2), 116-127.

Taliaferro, L. A., Harder, B. M., Lampe, N. M., Carter, S. K., Rider, G. N., & Eisenberg, M. E. (2019). Social connectedness factors that facilitate use of healthcare services: comparison of transgender and gender nonconforming and cisgender adolescents. *The Journal of pediatrics*, *211*, 172-178.

Tardelli, V. S., Martins, S. S., & Fidalgo, T. M. (2021). Differences in use of inhalants among sexual minorities in the USA in 2015–2018. *Addictive Behaviors*, *115*, 106789.

Thoma, B. C., Rezeppa, T. L., Choukas-Bradley, S., Salk, R. H., & Marshal, M. P. (2021). Disparities in childhood abuse between transgender and cisgender adolescents. *Pediatrics*, *148*(2).

Travers, Á., Armour, C., Hansen, M., Cunningham, T., Lagdon, S., Hyland, P., ... & Walshe, C. (2020). Lesbian, gay or bisexual identity as a risk factor for trauma and mental health problems in Northern Irish students and the protective role of social support. *European Journal of Psychotraumatology*, *11*(1), 1708144.

Valentine, S. E., & Shipherd, J. C. (2018). A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clinical Psychology Review*, *66*, 24-38.

White BP, Fontenot HB (2019). Transgender and non-conforming persons' mental healthcare experiences: An integrative review. Arch Psychiatr Nurs. Apr;33(2):203-210.

Williams, C. C., Curling, D., Steele, L. S., Gibson, M. F., Daley, A., Green, D. C., & Ross, L. E. (2017). Depression and discrimination in the lives of women, transgender and gender liminal people in Ontario, C anada. *Health & Social Care in the Community*, *25*(3), 1139-1150.

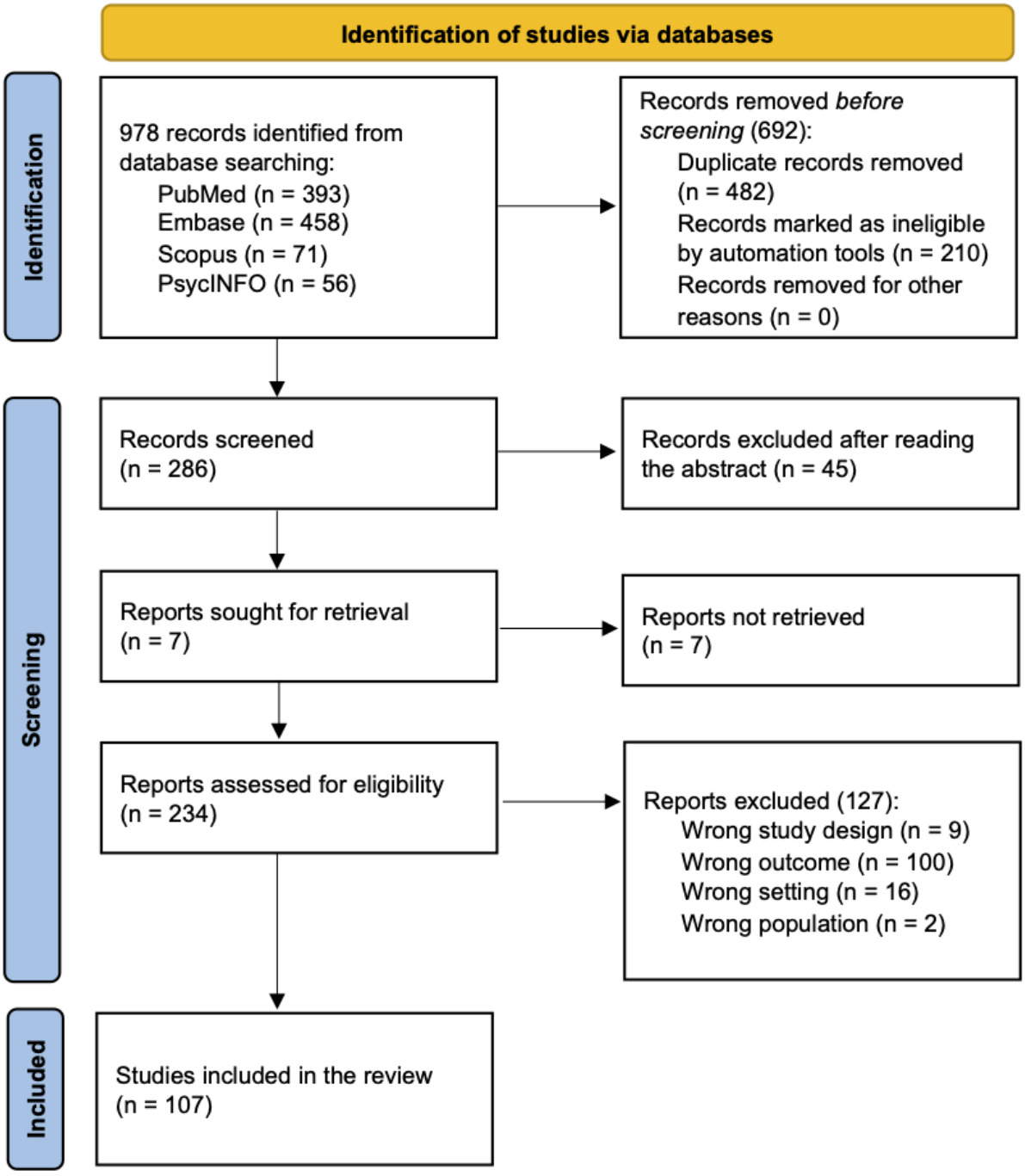
Williams, K. A., & Chapman, M. V. (2011). Comparing health and mental health needs, service use, and barriers to services among sexual minority youths and their peers. *Health & social work*, *36*(3), 197-206.

Williams, K. A., & Chapman, M. V. (2012). Unmet health and mental health need among adolescents: the roles of sexual minority status and child-parent connectedness. *American Journal of Orthopsychiatry*, *82*(4), 473.

Yarns, B. C., Abrams, J. M., Meeks, T. W., & Sewell, D. D. (2016). The mental health of older LGBT adults. *Current psychiatry reports*, *18*(6), 1-11.

Zeeman, L., Sherriff, N., Browne, K., McGlynn, N., Mirandola, M., Gios, L., Davis, R., Sanchez-Lambert, J., Aujean, S., Pinto, N., Farinella, F., Donisi, V., Niedźwiedzka-Stadnik, M., Rosińska, M., Pierson, A., Amaddeo, F., & Health4LGBTI Network (2019). A review of lesbian, gay, bisexual, trans and intersex (LGBTI) health and healthcare inequalities. *European journal of public health*, *29*(5), 974–980.

Figure 1. Selection procedure.



Supplementary material – Appendix 1

Table 1. Characteristics of included reviews*

ID	Country	Population	N included studies
Argyriou 2021	United Kingdom	LGB	40
Berger 2017	Australia	LGBTI	19
Butler 2020	United States	LGBT	99
Calzo 2017	United States	LGBT+	NA
Carman 2021	Australia	LG	59
Cicero 2019	United States	T	23
Connolly 2020	United Kingdom	LGBTIQ+	43
Coulter 2019	United States	LGBTIQ+	9
Donohue 2021	United Kingdom	LGBTQ+	12
Feldman 2016	United States	T	NA
Fredriksen-Goldsen 2018	United States	LGBT	NA
Geist 2021	United States	T + GNC	NA
Gilbey 2020	Australia	LGBTIQ+	38
Goldsen 2019	United States	LGBTQ	66
Gordon 2019	United States	LGBT +	12
Huang 2020	Canada	LGBTIQ+	43
Kidd 2021	United States	LGBT	71
Kidd 2016	Canada	LGBT	27
Kneale 2020	United Kingdom	LGB	25
Lerner 2017	United States	T	21
Li 2021	United States	LGB	30
Mark 2019	United States, United Kingdom	LGBTQ	30
Moagi 2021	South Africa	LGBT	21
Nagata 2020	United States	LGBTIQ+	NA
Ross 2018	Canada	LGB	52
Shokoohi 2021	Canada	B	47
Valentine 2018	United States	T + GNC	77

* Q: questioning, queer B: bisexual; T: transgender; LG: lesbian, gay; LGB: lesbian, gay, bisexual; LGBT: lesbian, gay, bisexual, transgender; LGBT+: lesbian, gay, bisexual, transgender, others; LGBTI: lesbian, gay, bisexual, transgender, intersexual; LGBTQ: lesbian, gay, bisexual, transgender, questioning/queer; LGBTIQ+: lesbian, gay, bisexual, transgender, intersexual, questioning/queer; others; GNC: Gender Non-Conforming; GD: gender diverse.

Table 2. Characteristics of included studies (without a review design)*

ID	Study design	Country	Population	Sample size
Baptiste-Roberts 2017	Report	United States	LGBT	NA
Batchelder 2021	Observational	United States	LGBT +	NA
Beccia 2021	Observational	United States	LGB + GNC	15,260
Beck 2021	Observational	United States	LB +	237
Boehmer 2020	Observational	United States	LGB +	127
Brown 2016	Observational	United States	T	5,135
Burgess 2007	Observational	United States	LGBT	472
Buspavanich 2021	Observational	Germany	LGBTQI+	1,028
Caceres 2019	Observational	United States	LGB	3,985
Carlson 2021	Observational	United States	T + GD	168
Chaiton 2021	Observational	Canada	LGBTIQ+	1,404
Chakraborty 2011	Observational	United Kingdom	LGBTIQ+	650
Chan 2021	Observational	China	LGB	401
Chen 2021	Observational	United States	LGBT	NA
Colvin 2019	Observational	United States	LGBT+	240
Cronin 2021	Observational	Australia	LGB	592
D'Angelo 2021	Mixed method	United States	T men	20
Davis 2021	Observational	Australia	LGBQ +	464
Dowshen 2017	Mixed method	United States	T	25
Dunbar 2017	Observational	United States	LGBTQ	817
Evans-Polce 2020	Observational	United States	LGB	3,203
Ferlatte 2019	Observational	Canada	LGBQ	2,778
Feldman 2021	Observational	United States	T	274
Fish 2018	Observational	United States	LGB +	8,309
Fish 2019	Observational	United States	LGB +	877
Flentje 2015	Observational	United States	LGB	1,441
Fox 2020	Observational	United States	LGBTQ	2,394
Gaspar 2019	Qualitative	Canada	LGBTQ	24
Giblon 2017	Observational	Canada	T	433
Gonzales 2019	Observational	United States	LGBT +	3,332
Greene 2021	Observational	United States	LGB	26,870
Gustafsson 2017	Observational	Northern Sweden	LGB +	3,844
Hahm 2016	Observational	United States	LB	129
Hall 2020	Observational	United States	LGBTQ+	19

Haney 2021	Observational	United States	LGB	175
Harper 2021	Observational	Western Kenya	LGBTQ	527
Hazzard 2020	Observational	United States	LGBT+	17,933
Hickson 2020	Observational	Europe	T	871
Higgins 2021	Observational	Ireland	LGBT+	1,064
Hirshtritt 2018	Observational	United States	LGBQ+	133
Hughto 2021	Observational	United States	TGD	562
Hutchcraft 2021	Observational	United States	LB	236
Jennings 2019	Observational	United States	LGBT	98
Jeong 2016	Observational	United States	LB	700
Jessup 2012	Observational	United States	LGB	74
Kamal 2021	Observational	United States	LGB + QI	981
Kamen 2015	Observational	United States	LGBT	297
Kidd 2021	Observational	United States	T	26,689
Klotzbaugh 2016	Observational	United States	LGBT	456
Krasnova 2021	Observational	United States	LGB	21,926
Marshall 2016	Qualitative	United States	LGBTQ	NA
McCabe 2013	Observational	United States	LGB	34,653
Mor 2015	Observational	Israel	LB	NA
Parmar 2021	Observational	United States	LGBTIQ+	5,363
Pattison 2021	Observational	Canada	T + GNC	727
Philbin 2019	Observational	United States	LGB	49,155
Philbin 2020	Observational	United States	LGB	49,155
Rimes 2019	Observational	United Kingdom	LGB	4,083
Rosner 2021	Observational	United States	LGB	8,241
Ross 2018	Mixed method	Canada	LGBTQ	12
Rutheford 2021	Observational	Canada	LGBTIQ+	552
Rutter 2016	Observational	United States	LGB	303
Schuler 2018	Observational	United States	LGB	4,868
Schuler 2019a	Observational	United States	LGB	8,241
Schuler 2019b	Observational	United States	LGB	4,868
Schuler 2020	Observational	United States	LGB	8,241
Silveri 2021	Observational	United States	T + GNC	200
Simeonov 2015	Observational	Canada	LGBT	265
Simone 2020	Observational	United States	TQI	1,654
Slemon 2022	Observational	Canada	LGBTIQ+	3,009

Stanton 2021	Observational	United States	LGBT	14,870
Steele 2016	Observational	Canada	LGBT+	459
Taliaferro 2019	Observational	United States	T + GNC	1,916
Tardelli 2021	Observational	United States	LGB	11,389
Thoma 2021	Observational	United States	T + QI	1,836
Travers 2020	Observational	Ireland	LGB	123
Williams 2011	Observational	United States	LB	1,388
Williams 2012	Observational	United States	LB	1,388
Williams 2017	Observational	Canada	LBT	415
Yarns 2016	Report	United States	LBGT	NA

** Q: questioning, queer B: bisexual; T: transgender; LG: lesbian, gay; LGB: lesbian, gay, bisexual; LGBT: lesbian, gay, bisexual, transgender; LGBT+: lesbian, gay, bisexual, transgender, others; LGBTI: lesbian, gay, bisexual, transgender, intersexual; LGBTQ: lesbian, gay, bisexual, transgender, questioning/queer; LGBTIQ+: lesbian, gay, bisexual, transgender, intersexual, questioning/queer; others; GNC: Gender Non-Conforming; GD: gender diverse; QI: questioning/queer, intersexual.*