

REVIEW ARTICLE

A systematic review of the health and health care of rural sexual and gender minorities in the UK, USA, Canada, Australia and New Zealand

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ETHICS APPROVAL

Ethical approval is not required as the systematic review include publicly available resources and data from published studies.

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ABSTRACT:

Introduction: Lesbian, gay, bisexual, transgender, intersex, queer, and people with a diversity of sexual and gender identities (LGBTIQ+) residing in rural contexts may face additional challenges to attaining wellbeing, yet a comprehensive understanding of these experiences is lacking. The purpose of the systematic review is to address this knowledge gap. The aims of the review are to progress understanding about rural LGBTIQ+ communities with regard to wellbeing, healthcare access and experience, and barriers and facilitators to health care.

Methods: Peer-reviewed literature was searched in PubMed, Academic Search Premier, CINAHL, and PsychInfo databases, while grey literature was searched using Google Advanced Search. Documents produced between 2015 and 2020 in the USA, Canada, Australia, New Zealand, and UK were eligible and reference lists were screened. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines were adhered to. Relevant data were extracted and synthesized. The quality of the peer-reviewed literature and grey literature was assessed using the Mixed Methods Appraisal Tool and the Authority, Accuracy, Coverage, Objectivity, Date, Significance checklist, respectively. At each stage of the study selection process, a second author reviewed a sample of 10% of the articles and documents to ensure consistent application of the inclusion criteria. Consultation within the team was used to resolve any discrepancies encountered.

Results: The 297 unique peer-reviewed returned records were screened, with 69 full texts assessed for eligibility, resulting in the inclusion of 42 articles. The initial result of 2785 grey documents were similarly screened, resulting in the inclusion of 12 documents.

Keywords:

health services, health services for transgender persons, mental health, rural health services, sexual and gender minorities, social support.

Overall, the included literature was deemed to be of good quality. Synthesis of data resulted in the reporting of findings concerning mental, physical, and sexual wellbeing; healthcare access and experiences with care; and barriers and facilitators to health care for various communities in rural areas. The findings showed rural LGBTIQ+ communities shared many of the health concerns of non-rural LGBTIQ+ communities, as well as encountering similar issues and barriers to the receipt of high-quality appropriate care. However, the evidence also indicates an array of nuanced challenges for communities in rural areas such as a lack of available appropriate providers, and financial and practical barriers concerning the need to travel to obtain the services needed. The intersection of rurality and LGBTIQ+ identity was especially pronounced for rural LGBTIQ+ elders facing potential isolation in the context of declining mobility, service providers experiencing high demand and isolation from professional networks, and for LGBTIQ+ populations negotiating the complexities of disclosure in interactions with health professionals. The latter three findings in particular extend on the existing knowledge base.

Conclusion: Investment is needed in the design, trialling, and evaluation of tailored models of care, which account for the specific challenges encountered in providing services to rural LGBTIQ+ communities. Such models, should also harness identified facilitators for rural LGBTIQ+ wellbeing, including the use of online technologies. Dedicated study is merited to inform policy and practice for aged care services in rural areas. Further, the development and implementation of strategies to support rural health service providers is warranted.

FULL ARTICLE:

Introduction

Poor health outcomes among lesbian, gay, bisexual, transgender, intersex, queer, and people with a diversity of sexual and gender identities (LGBTIQ+) ¹⁻⁴ highlight the necessity to ensure equitable access to high-quality care ⁵. Research indicates these communities may experience myriad challenges when engaging with health systems, such as multilevel discrimination, receipt of inappropriate care, and insufficient expertise on the part of providers ^{5,6}. For LGBTIQ+ populations residing outside of major cities, the rural healthcare landscape has fewer services (specialist or general), health workforce shortages, and travel-related access burdens that can shape health and health care ⁷⁻⁹. The precise nature and implications of this intersection of rurality and LGBTIQ+ identity

are not yet well understood. Although rural LGBTIQ+ people form part of study samples, findings specific to this cohort are often not distinguished or explored, which may reflect a lower representation within the sample, as well as the possibility that rural LGBTIQ+ community members do not feel comfortable disclosing identity, including as part of research studies ^{10,11}, which in turn, impedes accumulating understanding.

To date, a systematic review of the peer-reviewed literature published between January 1998 and February 2016, limited to US samples, undertaken by Rosenkrantz et al (2017) ¹⁰, offers the most comprehensive reporting on this body of work. They identified the presence of mental health issues, sexual risk-taking, and substance-use concerns among rural lesbian, gay, bisexual, and

transgender (LGBT) communities for whom stigma, discrimination, insufficient provider cultural competency, and challenges associated with disclosure of identity were experienced in health service interactions. Further, features of the sociocultural context shaped these experiences including the education and approach of providers, a number of access barriers (eg costs), and a lack of social support, combined with social stigma. Rosenkrantz et al found ambiguous and inconsistent results in the comparison of the health and health care between urban and rural LGBT populations (compounded by methodological limitations in this body of literature) and concluded that the differences observed concerning rural populations warranted further investigation of the experiences of this population.

Findings from Rosenkrantz et al (2017)¹⁰, in addition to recent research^{7,12,13}, underscore the need to support an emerging understanding of the health and healthcare experiences of rural LGBTIQ+ communities and, with it, grow capacity to inform policy and guide practice. This review contributes to these efforts by building and extending this foundation¹⁰, along several dimensions. First, the current review provides updated knowledge by synthesising the relevant evidence generated within the past 5 years. Second, the geographical scope of the study is expanded to Canada, Australia, New Zealand, and the UK, as well as the USA, to capture data from countries with comparable health systems that provide services to rural populations. Third, to aid comprehensiveness and incorporate those insights not represented in traditional academic outlets, grey literature is included.

Review aims

The present review seeks to progress understanding about rural LGBTIQ+ communities with regard to wellbeing, healthcare access and experience, and barriers and facilitators to health care.

Methods

Search strategy

Search strategies for the peer-reviewed literature were adopted from Rosenkrantz et al¹⁰, and revised to reflect updated terminology and the expanded focus. The strategy contained three blocks of relevant terms and keywords for identity-related terms, rural-related terms, and health and healthcare-related terms shown in Table 1. PubMed, Academic Search Premier, CINAHL, and PsychInfo databases were searched in August 2020 to capture literature published from January 2015 to August 2020. This timeframe was decided upon to capture relatively recent literature, including literature published since the Rosenkrantz et al review. Results of the searches were imported into EndnoteX9 and duplicates removed.

Grey literature was searched via Google Advanced Search for the same period. Given multiple groups of individual search terms, a customised Google Search Application Programming Interface (API) client was developed to combine terms in the aforementioned keyword blocks¹⁴. The automated algorithm generated a set of unique search queries for each possible combination of individual terms from each group, combined through the Boolean 'AND' operator. The algorithm was configured to ignore results from YouTube and Wikipedia, and to return a maximum of 50 results per query¹⁵. The returned results were aggregated and duplicates removed. In this work, three groups consisting of 5, 3, and 10 terms respectively were provided, resulting in 150 individual queries. A total of 6774 raw results were returned, of which 2785 were considered unique. Raw Google API results were parsed into a comma-separated text file, with each entry containing a numeric index, the query string from which it was returned, the results page number, page title, URL, and a summary 'snippet.' Reference lists of all included articles were screened.

Table 1: Search terms for database searches of peer-reviewed literature

Identity-related terms [linked by OR]		Rural-related terms [linked by OR]		Health and healthcare-related terms [linked by OR]
LGBT GLBT LGB GLB GLBTQ gay homosexual homosexuality bisexuality lesbianism transgender transsexual sexual orientation sexual identity sexual minority men who have sex with men MSM intersex queer gender identity gender diverse/diversity	AND	rural rural environments nonmetropolitan regional remote	AND	health health care healthcare health care services health personnel attitudes health care delivery health disparities physical health mental health mental health services social support services community health community health services community services aged-care services aged care
Limits	English language, dates of publication, peer-reviewed			

Inclusion criteria

Records were included if they were published in English; qualitative, quantitative or mixed-method; reported findings from the US, Canada, Australia, New Zealand, or UK; published between

2015 and 2020; and reported on the health of and/or healthcare services for LGBTIQ+ adults in rural areas. The reporting of primary findings was required for peer-reviewed records. Study selection was documented and is summarised in a flow chart compliant with the Preferred Reporting Items for Systematic

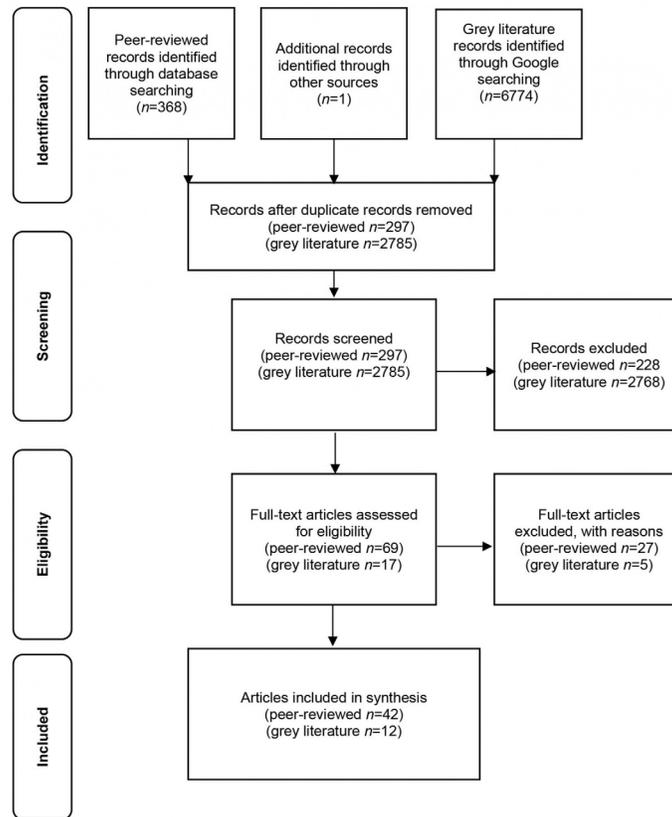


Figure 1: Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow chart for search strategy of peer-reviewed and grey literature

Study selection

For the peer-reviewed articles, one author reviewed the titles, abstracts, and full texts of articles that appeared to meet the inclusion criteria; another author followed the same procedure for the grey literature. At each step, a second author reviewed a sample of 10% of the articles to ensure consistent application of the inclusion criteria. Throughout the process, consultation was undertaken between the authors to resolve any uncertainty, and progress was reported on and discussed with all authors.

Quality assessment

The quality of peer-reviewed studies was assessed using the Mixed Methods Appraisal Tool (MMAT)¹⁷. This tool was specifically designed to assess a range of quality dimensions in qualitative, quantitative, and mixed-methods research. The Authority, Accuracy, Coverage, Objectivity, Date, Significance (AACODS) checklist¹⁸ was used to appraise the grey literature. An independent assessment of all included literature occurred and, in each case, a second assessor examined a 10% sample for rigour.

Data extraction and synthesis strategy

A purpose-designed Microsoft Excel template was used to guide data extraction, which included citation, year, title, country of study, population, study aims, study design, recruitment strategy,

sample size, data collection method, analysis method, barriers, facilitators, findings, and other similar details. These data were then grouped thematically corresponding to the key areas of focus. Microsoft Excel software was used to manage and assist with the analysis. The reporting framework employed in Rosenkrantz et al¹⁰ offered an initial template for grouping the data, which was subsequently revised to better capture the data collected in this review.

Ethics approval

Ethics approval was not required as the systematic review include publicly available resources and data from published studies.

Results

Searches conducted on literature published between January 2015 and July 2020 returned 296 unique peer-reviewed records and 2785 grey literature documents, with one additional peer-reviewed record included following reference list review. The full texts of 69 peer-reviewed papers and 2785 grey literature documents were assessed for eligibility. A total of 27 peer-reviewed papers and 2773 grey literature documents were excluded on the basis that metropolitan and non-metropolitan data were not distinguishable, LGBTIQ+ participants' data were not distinguishable, or there was insufficient focus on health/health care. Subsequently, 42 eligible peer-reviewed papers and 12 grey literature documents were

included (Fig1).

Characteristics of included studies

Complete details of the included peer-reviewed studies and the grey literature are shown in Tables 2 and 3, respectively. In summary, studies from the peer-reviewed literature were conducted in the USA ($n=27$)^{13,19-44}, Australia ($n=8$)^{7,12,45-50}, Canada ($n=4$)^{8,9,51,52}, the UK ($n=2$)^{53,54}, and a single study conducted in both the USA and Canada (Table 2)⁵⁵. Grey literature was produced in Australia ($n=6$)⁵⁶⁻⁶¹, the USA ($n=5$)⁶²⁻⁶⁶, and Canada ($n=1$)⁶⁷ (Table 3). Peer-reviewed studies used a range of quantitative ($n=20$)^{19-24,26-28,30,32,33,35-39,41,48,55}, qualitative ($n=17$)^{7-9,12,13,25,29,34,40,43,45,46,49-52,54}, and mixed-methods ($n=5$)^{31,42,44,47,53} designs. Grey literature comprised reports ($n=4$)^{56,64,66,67}, articles ($n=5$)^{60-63,65}, submissions ($n=2$)^{57,58}, and an information sheet document⁵⁹.

In the peer-reviewed literature, 36 studies reported findings from

LGBTIQ+ communities, most commonly men who have sex with men ($n=7$)^{13,28-30,33,39,53}; lesbians ($n=7$)^{20-22,25,34,35,50}; lesbian, gay, bisexual and transgender ($n=4$)^{36,37,41,45}; and transgender ($n=4$)^{7,9,24,40}. In the grey literature, communities most commonly identified were lesbian, gay, bisexual, transgender, and intersex ($n=3$)^{56,57,59}; transgender ($n=2$)^{61,63}; and lesbian, gay, bisexual and transgender ($n=2$)^{60,64}. Some of the literature concerned specific subgroups, namely elders ($n=5$)^{25,46,50,54,57}, veterans ($n=2$)^{24,32}, and young people ($n=4$)^{12,45,48,67}. Healthcare provider perspectives were reported on in nine peer-reviewed studies^{7-9,31,38,42-45} and in five of the grey literature documents^{57,61,63-65}. Additionally, in one study, general practices were examined via document analysis⁴⁹. The majority of the peer-reviewed studies and grey literature addressed some aspect of engagement with health services. Across these bodies of literature multiple or non-specific health services were most frequently referenced.

Table 2: Characteristics of included peer-reviewed studies

Authors Year	Study location-country	Study aims/objectives	Study methods	LGBTQ+ populations	Provider populations	Types of services
Heng et al., 2019[7]	Australia	"This study primarily aimed to explore both transgender client and clinician perspectives and experiences of healthcare interactions. A secondary aim was to investigate increased presentations to sexual health clinics in North Queensland by people wishing to transition (p.434)."	Qualitative; interviews	Transgender (n=15)	Healthcare professionals (n=8)	Multiple services/ Non-specific services
Holt et al., 2020[8]	Canada	"The current study sought to describe the mental health care services delivered by providers perceived as affirming by TGNC community members in the Central Great Plains (p.136)."	Qualitative; interviews	N/A	Mental healthcare providers (n=10)	Mental health providers
Blodgett et al., 2017[9]	Canada	"The present study addresses questions pertaining to: (1) the barriers experienced by the transgender population to accessing healthcare in a more rural setting (Peterborough, Ontario, Canada – located 90 minutes away from the City of Toronto, with a population of 81,000 (Statistics Canada 2017a)); (2) how transgender individuals navigate the health system in an attempt to overcome these barriers; and (3) what policies and/or practices need to be implemented to improve interactions between HCPs and transgender patients (p.84)."	Qualitative; interviews	Transgender (n=12)	Healthcare professionals (n=3)	Multiple services/ Non-specific services
Grant and Nash, 2019[12]	Australia	"To examine how young bisexual women in rural Tasmania experience routine sexual health care in general practice settings, directives for sensitive clinical interactions in rural general practice (p.224)."	Qualitative; interviews	Bisexual women, 18-26 years of age (n=15)	N/A	Primary/general practice
Owens et al., 2020[13]	United States	"To our knowledge, there are no studies that have explored the health care experiences of rural MSM who are currently prescribed and taking PrEP. Given this gap, the purpose of this qualitative study was to explore the PrEP health care experiences among MSM who live in rural counties of the Midwest (p.52)."	Qualitative; interviews	Men who have sex with men (n=34)	N/A	PrEP providers
Barefoot, Smalley et al., 2015[21]	United States	"The aim of the current study is to quantitatively assess levels of psychological distress and specific barriers to mental healthcare related to availability, accessibility, and acceptability for rural lesbians in comparison to their nonrural counterparts using a large sample of women from across the United States (p.352)."	Quantitative; survey	Lesbians (n=278 rural, of a total sample of n=716)	N/A	Mental health
Barefoot, Smalley et al., 2017[22]	United States	"The purpose of the current study was to explore the specific disclosure-related attitudes and beliefs, behaviors, and experiences of rural lesbians in comparison to their nonrural counterparts, using a large-scale, geographically diverse sample of lesbian-identified women (pp.198–199)."	Quantitative; survey	Lesbians (n=286 rural, of total sample of n=746)	N/A	Multiple services/ Non-specific services
Barefoot, Warren et al., 2017[23]	United States	"The purpose of this study was to quantitatively compare rural and urban lesbians' access to women's health care, experiences with women's healthcare providers (WHCPs), and preventive behavior using a large, diverse sample of lesbians from across the USA (p.1)."	Quantitative; survey	Lesbians (n=278 rural, of a total sample of 895)	N/A	Women's healthcare providers
Barefoot, Warren et al., 2015[24]	United States	"The purpose of our study was to separately examine past (i.e., rural or non-rural background) and present (i.e., current rural or urban location) influences of rurality on the weight status and diet/exercise behaviors of lesbians (p.154)."	Quantitative; survey	Lesbians (total sample of n=895)	N/A	
Bennett et al., 2015[25]	United States	"The primary aims of the current analysis were to (1) describe smoking behaviors in a sample with a relatively high expected smoking prevalence, and (2) compare these factors between SGM and non-SGM as well as between rural and urban SGM participants. We also sought to determine predictors of current smoking in the overall sample. Secondary aims were (1) to quantify the geographic distribution of rural SGM to determine the breadth of rural representation for pride festival attendees and (2) explore patterns related to smoking cessation (p.63)."	Quantitative; survey	Sexual and gender minorities (n=428 rural, of total sample of n=4,280)	N/A	Not stated
Bukowski et al., 2017[26]	United States	"This study seeks to fill this gap by exploring how current urban/rural status is associated with lifetime diagnosis of mood disorder, alcohol dependence disorder, illicit drug abuse disorder, tobacco use, posttraumatic stress disorder, human immunodeficiency virus, and suicidal ideation or attempt among veterans with transgender-related diagnoses (p.597)."	Quantitative; records review	Transgender, veterans (n=178 rural, of a total sample of n=6,308)	N/A	Veterans Affairs
Bradford et al., 2016[27]	United States	"In Boston and Outer Cape, Massachusetts, we explored the expectations of lesbians 60 years and older regarding healthy aging and community importance (p.109)."	Qualitative; focus groups	Lesbians, 64–71 years of age (n=14 rural, of a total sample of n=26)	N/A	Multiple services/ Non-specific services
Cain et al., 2017[28]	United States	"The aim of this study was to examine associations between population density and depressive symptoms and the role of internalized homonegativity and social support as potential mediators (p.1)."	Quantitative; survey	Gay and bisexual men (n=1,071 total representative sample)	N/A	Not stated
Farmer et al., 2016[29]	United States	"This study used a US population-based sample to evaluate the associations of sexual orientation with health indicators by rural/nonrural residence (p.321)."	Quantitative; survey	Lesbian, gay and bisexual (n=412 rural, of total national sample of n=86,829)	N/A	Multiple services/ Non-specific services
Giano et al., 2019[30]	United States	"Given the dearth of research exploring mental health differences between rural and urban men who have sex with men (MSM), we sought to examine differences in depressive symptomatology and loneliness. Concurrently we examined the mediating effects of loneliness on the link between geographic locale and depressive symptoms via a mediation model (p.200)."	Quantitative; survey	Men who have sex with men (total sample of 156 including rural and urban)	N/A	Not stated
Hubach et al., 2017[31]	United States	"To gain a deeper understanding of proximal and distal factors related to PrEP access and adoption, individual qualitative interviews were conducted with a sample of MSM residing in Oklahoma during 2016 (p.316)."	Qualitative; interviews	Men who have sex with men (n=20)	N/A	PrEP providers
Hubach et al., 2015[32]	United States	"Our study aims to explore the relationships among loneliness, HIV-related stigma, sexual beliefs and condom use among a group of HIV-positive MSM, residing in relatively rural areas. Specifically, we assess (a) the relationships between HIV related stigma, loneliness, and safer sex attitudes and (b) whether loneliness, HIV related stigma, and safer sex attitudes are predictive of condom usage across recent partners of varying HIV serostatuses (p.74)."	Quantitative; survey	Men who have sex with men (n=100)	N/A	Not stated
Israel et al., 2016[33]	United States	"The aim of the present study was to use a two-step process to develop, implement, evaluate, and revise the LGBTQ peer advocate training (p.42)."	Mixed methods; structured assessments, focus groups, and open-ended interviews	Peer advocates/coaches (n=37)	Mental health (peer support)	Mental health
Kauth et al., 2017[34]	United States	"Given the weak or absent literature in this area, we sought to explore the relationship between geographic location and health indicators for LGBT veterans. We hypothesized that (1) rural LGBT veterans would live further from (spend more time traveling to) their primary care provider (PCP) than their urban counterparts. We expected that (2) rural LGBT veterans would report worse mental and physical health indicators relative to urban LGBT veterans. Lastly, we expected that (3) urban LGBT veterans would be more open about their sexual orientation and/or gender identity and demonstrate greater positive aspects of LGBT identity than rural veterans (p.195)."	Quantitative; survey	Lesbian, gay, and transgender veterans (n=252)	N/A	Primary/general practice
McKenney et al., 2018[35]	United States	"To understand the differences between rural and urban MSM with respect to HIV risk factors and behaviors and the utilization of online HIV prevention services, we used data from the 2012 Web-Based	Quantitative; survey	Men who have sex with men (n=3583 rural,	N/A	Prevention services

		HIV Behavioral Survey (p.212/7)."		of a total sample of n=6,166)		
Mendez et al., 2016[36]	United States	"In this article, we use case study methodology to provide a detailed description of the life of Lucy, a single, lesbian mother living in a rural community on a low income. Using the lens of stigma and minority stress theory (Meyer, 2003), we highlight the ways in which sexual-minority stress interacts with other life stressors, and analyze how they affect health and well-being (p.491)."	Qualitative; case study and interviews	Lesbian (n=1)	N/A	Multiple services/ Non-specific services
Mendoza et al., 2015[37]	United States	"The current study adds to the knowledge base of lesbian health and explores the perceptions of body image, fitness, and health for both lesbians and heterosexual women in rural communities (p.187)."	Quantitative; survey	Lesbians (n=65, of a total sample of n=114)	N/A	Multiple services/ Non-specific services
Pelstar et al., 2015[38]	United States	"The purpose of this study was to explore the high rates of smoking among Nebraska's LGBT population when compared to the general population, to examine some of the possible factors that may contribute to this increased proportion of tobacco use, and to determine if LGBT-specific factors, such as perceived violence and self acceptance [sic], may explain this disparity (p.72)."	Quantitative; survey	Lesbian, gay, bisexual and transgender (n=75 rural, of a total sample of n=763)	N/A	Multiple services/ Non-specific services
Rickard and Yancey, 2018[39]	United States	"The purpose of this study was to examine rural versus non-rural differences in the following risk factors among sexual minority adults: victimization/discrimination, fundamental religiosity, identification and involvement in the lesbian, gay, bisexual, and transgender (LGBT) community, social support, and level of comfort disclosing sexual identity to others (p.154)."	Quantitative; survey	Lesbian, gay, bisexual and transgender (n=163 rural, of a total sample of n=699)	N/A	Not stated
Sharma et al., 2019[40]	United States	"The purpose of this study was to describe existing attitudes of primary care providers in rural Michigan towards each LGBT subpopulation, and to identify independent correlates of these attitudes (p.1)."	Quantitative; survey	N/A	Primary care providers (n=113)	Primary/general practice
Siegler et al., 2019[41]	United States	"To explore US geographic areas with limited access to HIV preexposure prophylaxis (PrEP) providers, PrEP deserts (p.1216)."	Quantitative; data linkage	Men who have sex with men (census tracts n=844,574)	N/A	PrEP providers
Smith et al., 2018[42]	United States	"The aim of this study was to better understand the experiences, needs, and priorities of the participants as well as to examine possible determinants of mental health, well-being, and suicidality for transgender individuals in Montana (p.116)."	Qualitative; interviews	Transgender (n=30)	N/A	Multiple services/ Non-specific services
Whitehead et al., 2016[43]	United States	"The aim of this study is to determine whether higher levels of stigma and/or lower levels of outness correlate with less primary health care access for rural LGBT populations (p.3)."	Quantitative; survey	Lesbian, gay, bisexual and transgender (n=946)	N/A	Primary/general practice
Willing et al., 2018[44]	United States	"This exploratory study uses a mixed-method approach to assess implementation issues related to the feasibility, acceptability, appropriateness, and preliminary impacts of a novel peer-based intervention designed to enhance support and treatment engagement among rural LGBTQ people with mental distress and/or addiction issues (p.395)."	Mixed methods; interviews and surveys	N/A	Peer advocates (n=47)	Mental health (peer support)
Willing et al., 2016[45]	United States	"We draw upon qualitative process evaluation data collected during a feasibility and acceptability assessment of the LGBTQ peer advocate intervention headed by the first author to report on implementation issues identified during the psychologist-led coaching process (p.217)."	Qualitative; interviews	N/A	Peer-advocates and coaches (n=6)	Mental health (peer support)
Patterson et al., 2019[46]	United States	"Our study examined LGBT cultural competence and microaggressions among healthcare providers in rural Tennessee (p.2081)."	Mixed methods; interviews and surveys	N/A	Healthcare professionals (n=85)	Multiple services/ Non-specific services
Bowman et al., 2020[47]	Australia	"The present study aimed to promote understanding about the provision of internet-based mental health services for LGBT young adults in rural areas (p.3)."	Qualitative; interviews	Lesbian, gay, bisexual and transgender aged 18–25 years (n=9)	Mental healthcare providers (n=6)	Mental health providers (online)
Gardiner, 2018[48]	Australia	"The ageing of the first generation of HIV long-term survivors brings into sharp focus the suffering that activism and the clinical management of HIV has not solved, particularly in regional areas. Although HIV is now usually a manageable chronic condition, it also involves navigating unrelenting social stigma. Quality of life beyond viral suppression is not assured. Despite a history of affected communities demanding equal partnership with health-care providers, an increasingly biomedicalized orientation risks neglecting the psycho-social needs of those with a history of trauma, depression and other co-morbidities often more difficult to manage than HIV itself (p.214). [Abstract as substitute]"	Qualitative; interviews	Gay men, from 40 years of age (n=31)	N/A	Multiple services/ Non-specific services
Kerry, 2017[49]	Australia	"The author is addressing the dearth of information that exists in the extant Australian transgender literature by currently conducting a research project into the lives of TSGD people in the NT. The purpose of this paper is to publish the findings from the first phase of that project: an online survey. These results have also been employed to design the second phase of the project, which will involve face-to-face interviews with TSGD people in the NT (p.130)."	Mixed methods; survey	Transgender and sex/gender diverse (n=13)	N/A	Multiple services/ Non-specific services
Lyons et al., 2015[50]	Australia	"We examined differences in the well-being of young rural and urban Australian gay men, including mental health, resilience, stigma related challenges, and social support (p.89)."	Quantitative; survey	Gay men aged 18-39 years (n=167 rural, of a total sample of n=1,034)	N/A	Not stated
Stanton-Smith, and Haigh, 2019[51]	United States	"The aim of this study was to use publicly available information to search for signs of LGBTI culturally inclusive general practice services in the Baw Baw Shire and Latrobe City Council regions of Gippsland (p.101)."	Qualitative; document analysis	N/A	General practices (n=37)	Primary/general practice
Grant and Walker, 2020[52]	Australia	"In this context, this article draws on qualitative interview data to explore the health and community care experiences and needs of lesbians over 55 living in rural Tasmania, Australia. In doing so, this research contributes to gaps in Australian and international literature pertaining to older lesbians-specific gendered experiences of health and ageing in rural communities (p.2201)."	Qualitative; interviews	Lesbians, over the age of 55 years (n=13)	N/A	Multiple services/ Non-specific services
Burrow et al., 2018[53]	Canada	"Phenomenological interviews with queer women in rural Nova Scotia reveal significant forms of trauma experienced during labour and birth (p.511)."	Qualitative; interviews	Queer women, birthing (n=13)	N/A	Perinatal health providers
Searle et al., 2017[54]	United States	"Participant narratives from a feminist and queer phenomenological study aim to broaden current understandings of trauma. Examining structural marginalisation within perinatal care relationships provides insights into the impact of dominant models of care on queer birthing women. More specifically, validation of queer experience as a key finding from the study offers trauma-informed strategies that reconstruct formerly disempowering perinatal relationships (p.3576)."	Qualitative; interviews	Queer women; birthing (n=13)	N/A	Perinatal health providers
Metcalfe et al., 2015[55]	United States	"The objective of our study was to quantify the rate of disclosure of sexual orientation by MSM to primary care practitioners in our region in Scotland, which includes both rural and urban areas, in the era of greater LGBT equality and to identify any barriers to disclosure (p.1029)."	Mixed methods; survey	Men who have sex with men (n=204)	N/A	Primary/general practice
Willis et al., 2018[56]	United Kingdom	"Our objective is to examine the meanings attached to home and place for older LGB adults living independently across three dimensions: rural places as 'home', connections to LGB communities, and social care provision in the home (p.908)."	Qualitative; interviews	Lesbian, gay and bisexual; 50–76 years (n=29)	N/A	Multiple services/ Non-specific services
Kaplan et al., 2019[57]	United States and Canada	"This study examined the relationship of living environment (urban vs. suburban vs. small-town/rural) to social anxiety in a sample of 902 TGNC individuals who participated in the Trans Health Survey (p.102115)."	Quantitative; survey	TGNC (n=195 of total sample of n=902)	N/A	Not stated

Abbreviations: HIV: human immunodeficiency virus; LGB: Lesbian, gay and bisexual; LGBT: Lesbian, gay, bisexual and transgender; LGBTI: Lesbian, gay, bisexual, transgender and intersex; LGBTQ: Lesbian, gay, bisexual, transgender and queer; MSM: Men who have sex with men; PrEP: prescribe pre-exposure prophylaxis; SGM: Sexual and gender minorities; N/A: Not applicable; NT: Northern Territories; TGNC: Transgender and gender nonconforming; TSGD: transgender and sex/gender diverse.

Table 3: Characteristics of included grey literature

Author/s or organization/s Year	Location of study-country	Aims/ objectives stated	Format	Study methods	LGBTQ+ population/s and any sample sizes stated	Provider populations and any sample sizes stated	Type of service/s
McNair and Bush, 2015[58]	Australia	a) Improve knowledge on help-seeking behaviour of rainbow women (RW) and identify the most appropriate communication methods and language; b) Identify priorities for developing targeted messaging to RW, thereby contributing to RW having increased awareness of depression/anxiety and the actions to take, and decreasing stigma; and c) Summarize the knowledge that will guide the development of medium term project proposals for the population of RW.	Report	Mixed-methods: literature review; survey; interviews; and focus groups	Rainbow women (n=1,640)	Service providers from lesbian, gay, bisexual, and transgender and queer+ health organizations (n=8)	Multiple services/ Non-specific services
National LGBTI Health Alliance, 2019[59]	Australia	Share the experiences of LGBTI elders and older people in aged care or supporting someone in aged care with the Commission	Submission to Royal Commission	Consultations to gather the experiences of LGBTI elders and older people in aged care or supporting someone in aged care	Lesbian, gay, bisexual, transgender, and intersex elders	N/A	Multiple services/ Non-specific services
Equality Tasmania et al., 2020[60]	Australia		Submission to government	Review and synthesis of studies. Funding, policy and communications recommendations are made	Lesbian, gay, bisexual, transgender, intersex, and queer+	N/A	Multiple services/ Non-specific services
Health Victoria, 2015[61]	Australia	"Rainbow eQuality Guide was developed to assist mainstream health and community service agencies identify and adopt inclusive practices and become more responsive to the health and wellbeing needs of lesbian, gay, bisexual, transgender and intersex (LGBTI) individuals and communities"	Information sheet	Developed via collaboration of lesbian, gay, bisexual, and transgender and intersex taskforce, funded organization, and peak bodies	Lesbian, gay, bisexual, transgender, and intersex	N/A	Not stated
Wade, 2018[63]	Australia	"To chat about her vital work in regional and rural Australia."	Article	Media report	Lesbian, gay, bisexual, transgender, and intersex	N/A	Multiple services/ Non-specific services
Heath, 2018[64]	United States		Article	Review and synthesis of studies	Sexual and gender diverse	N/A	Multiple services/ Non-specific services
Landman, 2018[65]	United States		Article	Media report	Transgender	Primary care provider (n=1)	Multiple services/ Non-specific services
Thoreson, 2018[66]	United States	"This report documents some of the barriers that LGBT people face in obtaining health care, and the toll that sweeping moral or religious exemptions can take on the health and well-being of those who are turned away by providers. It illustrates the scarcity of competent healthcare services for LGBT people in many states, the discrimination that LGBT people too often experience from providers, and the ways that negative experiences can deter LGBT people from seeking and obtaining the care they need."	Report	Interviews	Lesbian, gay, bisexual, and transgender (n=81)	Advocates and healthcare providers (n=48)	Multiple services/ Non-specific services
Toliver, 2016[67]	United States		Article	Rural health information hub report	Lesbian, gay, bisexual, transgender, and queer	Nurse practitioner (n=1)	Multiple services/ Non-specific services
Marano et al., 2016[68]	United States	Morbidity and Mortality Weekly Report	Report	Records review	Health departments' (n=20) and community-based organizations' (n=24) data concerning black men who have sex with men	N/A	HIV prevention and treatment services and non-healthcare facilities
Taylor et al., 2019[69]	Canada	"The survey included questions about a wide range of health and social experiences, as well as risk and protective factors."	Report	Mixed-methods; survey	Trans and non-binary youth (n=1,519)	N/A	Multiple services/ Non-specific services

Abbreviations: HIV: human immunodeficiency virus; LGBT: Lesbian, gay, bisexual and transgender; LGBTI: Lesbian, gay, bisexual, transgender and intersex; LGBTQ+: Lesbian, gay, bisexual, transgender, intersex and queer+; N/A: Not applicable; US: United States.

Quality of included literature

The majority of peer-reviewed studies satisfied 80% or more of the

quality components corresponding with the study design (Table 4).

On average, the grey literature satisfied 5.5 of the six AACODS criteria, with a range of 4/6 to 6/6 (Table 5).

Table 4: Mixed Methods Appraisal Tool quality appraisal of peer-reviewed literature

Citation	Qualitative questions (Y/N/CT)					Quantitative Descriptive (Y/N/CT)				Mixed methods (Y/N/CT)					
	Is the qualitative approach appropriate to answer the research question?	Are the qualitative data collection methods adequate to address the research question?	Are the findings adequately derived from the data?	Is the interpretation of results sufficiently substantiated by data?	Is there coherence between qualitative data sources, collection, analysis and interpretation?	Is the sampling strategy relevant to address the research question?	Is the sample representative of the target population?	Are the measurements appropriate?	Is the risk of nonresponse bias low?	Is the statistical analysis appropriate to answer the research question?	Is there an adequate rationale for using a mixed methods design to address the research question?	Are the different components of the study effectively integrated to answer the research question?	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?
Heng et al.[7]	Y	Y	Y	Y	Y										
Holt et al.[8]	Y	Y	Y	Y	Y										
Blodgett et al.[9]	Y	Y	Y	Y	Y										
Grant and Nash[12]	Y	Y	Y	Y	Y										
Owens et al.[13]	Y	Y	Y	Y	Y										
Barefoot, Smalley et al. 2015[21]						Y	Y	Y	CT	Y					
Barefoot, Smalley et al. 2017[22]						Y	Y	Y	CT	Y					
Barefoot, Warren et al. 2017[23]						Y	Y	Y	CT	Y					
Barefoot, Warren et al. 2015[24]						Y	Y	Y	CT	Y					
Bennett et al.[25]						Y	Y	Y	CT	Y					
Bukowski et al.[26]						Y	Y	Y	Y	Y					
Bradford et al.[27]	Y	Y	Y	Y	Y										
Cain et al.[28]						Y	Y	Y	CT	Y					
Farmer et al.[29]						Y	Y	Y	Y	Y					
Giano et al.[30]						Y	Y	Y	CT	Y					
Hubach et al., 2017[31]	Y	Y	Y	Y	Y										
Hubach et al., 2015[32]	Y	Y	Y	Y	Y										
Israel et al.[33]										Y	CT	Y	N	Y	
Kauth et al.[34]						Y	Y	Y	CT	Y					
McKenney et al.[35]						Y	Y	Y	CT	Y					
Mendez et al.[36]	Y	Y	Y	Y	Y										
Mendoza et al.[37]						Y	Y	Y	CT	Y					
Pelstar et al.[38]						Y	Y	Y	CT	Y					
Rickard and Yancey[39]						Y	Y	Y	CT	Y					
Sharma et al.[40]						Y	Y	Y	CT	Y					
Siegler et al.[41]						Y	Y	Y	Y	Y					
Smith et al.[42]	Y	Y	Y	Y	Y										
Whitehead et al.[43]						Y	Y	Y	CT	Y					
Wilging et al., 2018[44]	Y	Y	Y	Y	Y										
Wilging et al., 2016[45]										Y	Y	Y	Y	Y	
Patterson et al.[46]										Y	CT	Y	CT	Y	
Bowman et al.[47]	Y	Y	Y	Y	Y										
Gardiner[48]	Y	Y	Y	Y	Y										
Kerry[49]										CT	Y	Y	N	Y	
Lyons et al.[50]						Y	Y	Y	CT	Y					
Staunton-Smith and Haigh[51]	Y	Y	Y	Y	Y										
Grant and Walker[52]	Y	Y	Y	Y	Y	Y	Y	Y	CT						
Burrow et al.[53]	Y	Y	Y	Y	Y										
Searle et al.[54]	Y	Y	Y	Y	Y										
Metcalfe et al.[55]										Y	Y	Y	CT	Y	
Willis et al.[56]	Y	Y	Y	Y	Y										
Kaplan et al.[57]						Y	Y	Y	CT	Y					

Abbreviations: Y: Yes; N: No; and CT: Cannot tell

Table 5: Authority, Accuracy, Coverage, Objectivity, Date, Significance quality appraisal of grey literature

Author(s) or organisation(s)	Authority?	Accuracy?	Coverage?	Objectivity?	Date?	Significance?
McNair and Bush [56]	Y	Y	Y	Y	Y	Y
National LGBTI Health Alliance [57]	Y	Y	Y	Y	Y	Y
Equality Tasmania et al [58]	Y	Y	Y	Y	Y	Y
Victorian Department of Health [59]	Y	Y	Y	Y	N	Y
Wade [60]	Y	N	Y	N/A	Y	Y
Winsor [61]	Y	N/A	Y	Y	N/A	Y
Heath [62]	Y	Y	Y	Y	Y	Y
Landman [63]	Y	Y	Y	N	Y	Y
Thoreson [64]	Y	Y	Y	Y	Y	Y
Toliver [65]	Y	Y	Y	N/A	Y	Y
Marano et al [66]	Y	Y	Y	Y	Y	Y
Taylor et al [67]	Y	Y	Y	Y	Y	Y

N/A, not applicable. N, no. Y, yes.

Synthesis

Data synthesis resulted in four superordinate themes: wellbeing, healthcare access and experiences, barriers, and facilitators. The first theme examines various domains of health status, while the second theme presents the experiences of rural LGBTIQ+

communities in engaging with health care, including reporting findings of what has constituted quality care. The final two themes identify those barriers and facilitators that are interconnected with health status and experiences of engaging with care. Table 6 depicts themes and nascent subthemes identified in included studies.

Table 6: Themes and subthemes identified in included studies

	Theme 1. Wellbeing				Theme 2. Healthcare access and experience				Theme 3. Barriers				Theme 4. Facilitators				
	Mental health	Physical health	Sexual health	Substance use	Service access and use	Cultural competency	Poor-quality care	Good-quality care	Disclosure	Negative experiences and fear about future interactions	Lack of available, appropriate services	Financial and practical considerations	Challenges for providers	Education, training and support	Provider approach to care	Resources and new models	Role of support networks and community
Peer-reviewed literature																	
Heng et al, 2019 [7]					X	X	X	X			X			X		X	X
Holt et al, 2020 [8]						X	X	X		X	X	X	X	X	X	X	X
Blodgett et al, 2017 [9]					X	X	X	X	X	X	X	X	X	X	X	X	X
Grant and Nash, 2019 [12]					X	X	X	X			X	X			X		
Owens et al, 2020 [13]					X	X	X	X	X	X	X	X			X	X	
Barefoot, Smalley et al, 2015 [19]	X				X		X			X	X			X	X	X	X
Barefoot, Smalley et al, 2017 [20]						X	X		X					X			X
Barefoot, Warren et al, 2017 [21]			X		X	X			X	X				X			X
Barefoot, Warren et al, 2015 [22]		X				X					X				X	X	X
Bennett et al, 2015 [23]				X							X						X
Bukowski et al, 2017 [24]			X	X													
Bradford et al, 2016 [25]		X			X	X			X	X	X				X		X
Cain et al, 2017 [26]	X										X					X	X
Farmer et al, 2016 [27]		X		X													
Giano et al, 2019 [28]	X																
Hubach et al, 2017 [29]			X		X		X		X		X					X	X
Hubach et al, 2015 [30]			X												X		X
Israel et al, 2016 [31]						X						X	X		X	X	X
Kauth et al, 2017 [32]	X	X		X													
McKenney et al, 2018 [33]			X		X		X										
Mendez et al, 2016 [34]	X									X					X		X
Mendoza et al, 2015 [35]		X															
Pelstar et al, 2015 [36]				X													
Rickard and Yancey, 2018 [37]	X																X
Sharma et al, 2019 [39]						X						X	X				
Siegler et al, 2019 [39]					X					X	X		X			X	
Smith et al, 2018 [40]	X				X	X	X			X	X	X	X	X	X	X	X
Whitehead et al, 2016 [41]	X	X		X	X	X					X	X	X	X	X	X	
Willing et al, 2018 [42]						X		X			X	X	X	X	X	X	X
Willing et al, 2018 [43]						X				X	X	X	X	X	X	X	X
Patterson et al, 2019 [44]						X						X	X	X	X		
Bowman et al 2020 [45]					X			X			X	X				X	X
Gardiner, 2018 [46]	X	X	X		X						X						X
Kerry, 2017 [47]	X	X			X	X	X	X			X	X					X
Lyons et al, 2015 [48]	X		X														X
Staunton-Smith and Haigh, 2019 [49]											X						
Grant and Walker, 2020 [50]		X			X	X	X		X		X	X		X	X		X
Burrow et al, 2018 [51]						X	X	X	X	X						X	
Searle et al, 2017 [52]						X	X	X	X							X	
Metcalfe et al, 2015 [53]					X				X					X	X		
Willis et al, 2018 [54]		X			X	X			X	X	X				X		X
Kaplan et al, 2019 [55]	X																
Grey literature																	
McNair and Bush, 2015 [56]					X	X	X	X	X	X					X	X	X
National LGBTI Health Alliance, 2019 [57]		X			X	X	X	X	X	X	X			X	X	X	
Equality Tasmania et al, 2020 [58]	X				X	X	X		X	X		X	X	X	X	X	X
Victorian Department of Health, 2015 [59]	X				X	X			X				X	X	X	X	X
Wade, 2018 [60]					X					X						X	X
Winsor, 2016 [61]	X				X	X	X		X	X	X	X			X	X	X
Heath, 2018 [62]								X							X		
Landman, 2018 [63]					X	X			X	X	X			X	X		
Thoreson, 2018 [64]					X	X	X	X	X	X	X						
Toliver, 2016 [65]			X		X	X	X	X	X	X			X	X			X
Marano et al, 2016 [66]					X				X	X	X						
Taylor et al, 2019 [67]				X	X					X	X		X		X	X	X

Theme 1. Wellbeing: This theme concerns mental, physical and sexual wellbeing, as well as reporting on substance use.

Mental health Depressive symptoms were reported as an issue among rural LGBTIQ+ communities^{26,28,32,41,46,47}, as were anxiety^{32,47,55}, and elevated psychological distress (measures often included indicators of depression and anxiety)^{19,48,58}. Multiple studies noted the interconnections between mental health and participants' reduced comfort in disclosing sexual identity^{37,48}, as

well as deficits in community support, isolation and loneliness^{26,34,37,40,46,48,58,59,61}.

Physical health Studies reported a mixture of good⁴⁷ and poor²⁷ overall health, with differences noted among subgroups (eg cisgender men reported better health relative to other groups)⁴¹. Co-morbid and chronic conditions were identified as impacting health status^{41,46,47}, with approximately a third of participants diagnosed with chronic conditions in one study⁴¹.

Weight concerns were also identified as an issue^{22,27,32,35}. Where ageing was examined, participants expressed fears about decline in physical health, mobility, and were concerned that being forced by disability or illness to enter assisted living where their isolation might be further exacerbated^{25,50,54,57}. Gardiner's (2018)⁴⁶ research provided insight into the intersections of ageing, rurality, and living with HIV, where rural gay men felt that the complexities of their lived experiences had given them wisdom that could be applied to the process of ageing⁴⁶.

Sexual health Rural LGBTQ+ community members reported receiving insufficient sexual health education and prevention counselling^{21,29,33,65}. Mixed results were found where studies compared prevalence of rural men living with HIV to their metropolitan counterparts^{24,30,33,48}. For MSM in rural areas, HIV-related stigma was correlated with loneliness and impacted sexual health practices³⁰. Older gay men living with HIV in rural areas also managed co-morbidities and treatment side-effects⁴⁶. It is important to contextualise this information within the broader experiences of provider interaction, as will be discussed in the following sections.

Substance use A high prevalence of current and former tobacco use among rural LGBTQ+ communities was indicated in several studies^{23,24,36,41,67}, with some studies indicating differences among subgroups within these communities^{27,32}. Whitehead et al (2016) found a high prevalence of binge drinking among rural LGBTQ+ communities⁴¹. In other studies, rural status was not found to significantly impact alcohol or illicit drug issues^{24,32}. Similarly Bukowski et al (2017) found that neither rurality nor urbanity impacted prevalence of illicit drug use among transgender veterans²⁴.

Theme 2. Healthcare access and experience: This theme captures service access and use, cultural competency, variable quality of care as well as reporting on disclosure.

Service access and use Local availability of appropriate services was a key issue for rural LGBTQ+ participants^{7,9,12,13,19,25,29,39-41,45-47,50,53,54,57-61,63-67}. A lack of specialist gender services could mean long waiting lists and travel, which may be difficult to negotiate, particularly for young people without family support^{9,40,41,47,67}. Suboptimal preventative healthcare practices were identified, including uptake in vaccination and screening for a range of general, sexual, and reproductive health concerns^{21,33,41}. Even where care was available, the full range of services were not easily accessible for rural LGBTQ+ populations; this would, for example, include where there was fear of discriminatory treatment from providers⁵⁶, and where local providers would not prescribe pre-exposure prophylaxis (PrEP, a course of medication shown to reduce the risk of contracting HIV)^{13,21}.

Cultural competency Participants highlighted the importance of cultural competency (knowledge and awareness necessary to provide appropriate care) on the part of providers^{7-9,12,13,20,21,25,38,40,41,44,47,50-52,54,56-58,61,63-65}. Identifying knowledgeable providers may not always be easy, as

demonstrated in Staunton-Smith et al (2019), where only 6 in a sample of 37 of primary health practices visibly displayed signs of a culturally inclusive LGBTQ+ environment⁴⁹. Insufficient provider knowledge relative to the concerns of rural LGBTQ+ community members was reported^{7-9,12,19,38,40,44,57,59}, including this being 'out of their scope (p. 86)'⁹. This was mirrored in findings concerning healthcare providers' knowledge and preparedness^{31,38,41-44,64}.

Poor-quality care The majority of the included studies cited interactions between rural LGBTQ+ community members and providers, which were characterised by explicit and implicit discrimination, stigma, and degradation^{7,9,19,20,29,42,52,56-58,64}. This included instances where participants were exposed to detrimental attitudes and judgements^{9,12,47,50,61,64}, breaches of confidentiality^{51,52}, provider failure to support choices made⁵¹, refusal of services^{9,13,33,64}, and invasive questions^{9,65}. In many of these cases, community members were subjected to heterosexism and cisgenderism, which, among other means, was enacted in language (eg misgendering)^{58,64}.

Good-quality care Participants valued inclusive, confidential, competent, and affirmative approaches that did not reproduce dominant and stigmatising paradigms via provider behaviour and language^{9,12,13,42,45,47,51,52,56,57}. The benefits of a whole-of-person approach to care were expressed⁷⁻⁹, for example 'trans healthcare is more than just hormones and surgeries (p. 438)'⁷. Additionally, it was appreciated when providers engaged in advocacy and facilitated connections with support systems^{8,9}.

Disclosure Participants reported that they had not been asked about sexuality and gender by providers, as well as having few opportunities for disclosure^{20,53}. Participants described navigating this process carefully, given the possible impact upon the relationship^{9,13,29,50-52,64,65}. Previous reactions to disclosure were reported to shape this decision^{9,29,57}, and a mixture of affirming and negative reactions were reported in studies^{20,53,62}. A complex picture of disclosure emerged where, for some participants, it was a way to screen unsuitable providers, carers, or the care agencies they represent⁵⁴, while others felt disclosure was not relevant to their care⁵³.

Theme 3. Barriers: Reported within this theme are barriers concerning negative experiences and fear about future interactions, a paucity of available, appropriate services, financial and practical issues, as well as the challenges for providers.

Negative experiences and fear about future interactions Apprehension and fear about negative interactions with health services were cited as a barrier^{13,19-21,25,40,51,54,56-59,61,63-65}. Future engagement with services is informed by previous negative experiences and, as a result, trust in health services requires rebuilding^{8,9,57}.

Lack of available, appropriate services A lack of local, appropriate services emerged as a substantial barrier with implications for the wellbeing of rural LGBTQ+ communities^{7-9,12,13,21-23,25,26,29,34,39,40,43,45-47,49-51,54,56-58,60,61,63-67}.

A lack of local, affirming, or, at a minimum, non-stigmatising providers of PrEP emerged as a critical issue in this review^{13,29,39}, where, for example, lower urbanicity was strongly associated with increased odds of PrEP desert status for MSM³⁹.

Financial and practical considerations The financial and practical considerations associated with travel are impediments to accessing care by LGBTIQ+ people, where appropriate services are not locally available (eg cost and logistics of travel)^{9,12,13,25,39,41,50,57,61,63,66,67}. In addition, insufficient financial coverage and/or limited financial resources formed a barrier to accessing appropriate care^{8,9,13,19,40,54,63,64}. This included, for example, whether insurance covers telehealth (care delivery of care via telephone, video-conference, and other internet-based platforms) specialist consultations⁶³. Further, limited internet coverage in rural areas posed a barrier to accessing internet-based mental health services^{42,43,45,47,63}.

Challenges for providers Deficits in relevant education, training, and support mean that providers are under-equipped to provide quality care^{31,38,41-44}. As an example, only 54.87% of primary healthcare providers in a US sample reported receiving education specific to LGBTIQ+ health during their professional degree program³⁸, with a similar proportion of professionals indicating that they felt competent to provide LGBTIQ+ patient care in another sample⁴⁴. Fewer appropriate local services could place a burden on providers⁹, where they may be professionally isolated⁶¹, have long waiting lists⁸, few appropriate options for referral⁹, and risk burnout⁹, which increases demand on already stretched services to support LGBTIQ+ communities, particularly during high-need periods such as created by the COVID-19 pandemic⁵⁸.

Theme 4. Facilitators: Within this theme, education, training and support, the provider approach to care, resources, and new models and the role of support networks and community are identified and described as facilitators to health and health care.

Education, training, and support Education, training, and support helps providers deliver quality care to rural LGBTIQ+ communities^{7,9,19,21,31,38-44,50,53,57-59,65,67}. Providers in several studies welcomed opportunities to learn more about LGBTIQ+ needs^{7,8,31,38,42,43} and were self-educated^{8,9}. The importance of ongoing learning, support, training, and connections with other helpful providers in the community was reported^{19,31,42,43}.

Provider approach to care Cultural competency and providers' willingness to learn underpins quality care^{9,12,13,22,25,42,43,50,53,54,56,65}. An explicit commitment to inclusive and affirmative care, which can take the form of visual signage, as well as being enacted in the language and behaviour of providers, is also valuable^{9,12,19,20,30,34,41,44,51-53,57,58,62,63,65}. These may be especially important where community members are fearful or apprehensive about services, and could aid disclosure^{12,62}. In addition to avoiding the reproduction of problematic heterosexist and cisgenderist assumptions and practices, participants reported the importance of holistic care, which promoted autonomy and aided community members to connect with support systems where desired^{8,9,13,19,20,22,42,52,59,65}.

Resources and new models Models to enhance care were suggested: embedding a specialist within primary care practices^{8,9}, creating pathways to streamline and regulate the assessment process for access to transition-related therapies^{7,60}, and using peer advocates as paraprofessionals^{31,42,43}. Telehealth could play a useful role by furthering the reach of services, supporting anonymity where desired, and combating isolation^{7,13,19,22,26,29,31,39,41,45,56-59,61,63,67}. However, caution was urged about ensuring that these services complement, rather than replace, face-to-face services^{45,56}.

Role of support networks and community Support from those closest to rural LGBTIQ+ people, as well as from social networks and the broader community, were considered important for wellbeing^{7-9,21,22,25,26,29,30,34,37,40,43,45-48,50,54,56,58-60,65} as poor community support can impact mental health and help-seeking^{29,34,48}. The development of support systems including those with family, friends, and social networks was advocated for^{7,9,47,54}, and providers can play a role in facilitating these connections^{8,9,19-23,31,34,42,43,58,59,67}.

Discussion

We systematically reviewed recent evidence from peer-reviewed and grey literature to advance understanding of the wellbeing and healthcare experiences of rural LGBTIQ+ communities. Cumulatively, data from the USA, Australia, the UK, and Canada are reported, encompassing a range of primary care and specialist services, with representation of the experiences and views of LGBTIQ+ rural communities, as well as service providers. Overall, the included literature was deemed to be of good quality.

The first aim of the review was to examine the health of rural LGBTIQ+ communities. Consistent with previous findings¹⁰, rural LGBTIQ+ people face many of the health challenges experienced in the wider LGBTIQ+ community¹⁻⁴. These challenges included the impact of co-morbid and chronic conditions^{41,46,47}, challenges associated with substance use^{23,24,36,41}, and managing HIV-related stigma and living with HIV in rural contexts^{30,46}. Poor mental wellbeing, including experiences of depression, anxiety, and elevated psychological distress, and its interconnections with comfort in disclosing sexual identity, isolation, and loneliness, as well as deficits in community support, were noted^{26,34,37,40,48,58,59,61}. A chief concern is that in rural communities there may be a lesser visible presence of LGBTIQ+ networks, as well as more identity concealment⁴⁸, which, in turn, can limit access to support, including that from LGBTIQ+ peers^{47,48}.

In examining healthcare experiences as the second aim of the review, suboptimal preventative healthcare access and practices were identified across general, sexual, and reproductive health domains^{13,21,29,33,41}, which presents a pressing concern for the wider LGBTIQ+ community^{68,69}. A lack of locally available, appropriate services, including specialist services, was observed and, even where present, rural LGBTIQ+ populations did not necessarily receive the full range of care needed^{13,21}. Studies describing the experiences of LGBTIQ+ elders illustrated the

interaction between rural contexts and wellbeing; elders encounter fewer LGBTIQ+-friendly provider choices and become socially isolated with decline in physical mobility and, potentially, independence^{25,46,50,54,57}. While there has been rapid growth in LGBTIQ+ aging research, significant deficits remain⁷⁰, and the development of policy and procedures to guide care as well as aged-care provider training are sorely needed^{71,72}.

Congruent with best practice guidelines^{73,74}, good-quality care was represented in the review as culturally competent, inclusive, confidential, and affirmative, where a whole-of-person approach was taken. In contrast, poor-quality care included discrimination (eg refusal of services), stigma, and demeaning interactions, often enacted in language (eg misgendering) or practice (eg breaches of confidentiality). These findings suggest that experiences with poor-quality care remain significant, ongoing issues for rural LGBTIQ+ communities. Consistent with Rosenkrantz et al¹⁰, identity disclosure could negatively impact healthcare interactions, and, in these current findings, LGBTIQ+ peoples' assessments of identity relevance and the ways disclosure may enable screening of inappropriate providers capture the complexity and range of determinations inherent in clinical interactions. Greater attention to rural populations in the dedicated study of disclosure practices is vital^{75,76} to supporting the communities negotiating these interactions.

Many of the well-established barriers to wellbeing and health care are also reported for rural communities. Synthesis showed the way in which a lack of local service availability in rural areas is compounded by logistical and practical challenges. In light of this, access improvement initiatives ought to account for these considerations, including any necessary travel and limited internet coverage. Findings that captured service provider perspectives underscore deficits in provider education and training, and alert us to the need to address the pressures of high demand and the risk of professional isolation faced in rural areas^{8,9,58,61}.

The provision of education, training, and support that is ongoing and connected with professional networks may be a means to mitigate some aspects of this barrier, including for paraprofessionals, such as those involved with peer support programs. Engaging in the types of high-quality care as previously described is regarded as a facilitator to care. A visible, explicit commitment to these practices would help affirmative services be more easily recognised by communities. The need to engage with new models of care, such as those that embed expertise and streamline processes, was evident^{7-9,31,42,43}. An important insight concerned the potential of telehealth, especially internet-based approaches, to ease some of the burdens associated with a lack of local services. If enacted to complement in-person care, the careful integration of such services, including rural LGBTIQ+ community

input and needs at the heart of its development, is recommended^{45,56}. It was not surprising, given existing understanding⁷⁷⁻⁷⁹, that the development of support systems including family, friends, and social networks was viewed as key to wellbeing, and while this may be challenging in rural contexts, providers can play a critical role in facilitating these connections^{8,9,19-23,31,34,43,44,58,59,67}.

Limitations

While the abbreviation LGBTIQ+ is commonly used in the literature, the term does not fully capture the full diversity and range of identities and practices of the communities discussed in this review, who have nuanced and individualised experiences of health and health care. Further, this framing holds assumptions that may be unhelpful or problematic for certain groups including people who are intersex⁸⁰. With the exception of one article⁴⁹, findings concerning the experiences of rural intersex community members were from the grey literature, which indicates the need for in-depth consideration of the experiences of this population, employing a more relevant and sophisticated strategy. As such, the findings should be interpreted to indicate the range of possible shared issues and experiences encountered collectively.

The search was restricted to Canada, Australia, New Zealand, and UK and included only English language records. It is, therefore, possible that relevant studies may have been overlooked. The inclusion/exclusion criteria dictated that studies be excluded where it was not possible to distinguish between results concerning LGBTIQ+ communities and non-LGBTIQ+ communities; therefore, several studies that appeared in the previous review were excluded from the synthesis of the current review. Finally, the evidence encompasses a variety of health service contexts and, therefore, the general concerns about de-contextualisation in systematic reviews are relevant here, and findings should be interpreted accordingly.

Conclusion

This review reinforces that many aspects of the health and healthcare experiences of LGBTIQ+ are not unique to the USA and has served to provide further evidence and extend upon what is understood about these experiences. These findings indicate directions for future research efforts, including advancing evidence to guide policy and practice for aged care services in rural areas; investment in strategies to support rural providers; and the design, trialling, and evaluation of tailored models of care that account for rural barriers and harness existing capacities.

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