Examining the social determinants of LGBT+ health and wellbeing

A scoping review of evidence, unmet health needs, and policy recommendations

Chris Harkins, Rebecca Hoffman, May 2024

LGBT Health and Wellbeing

Glasgow Centre for Population Health

Acknowledgements

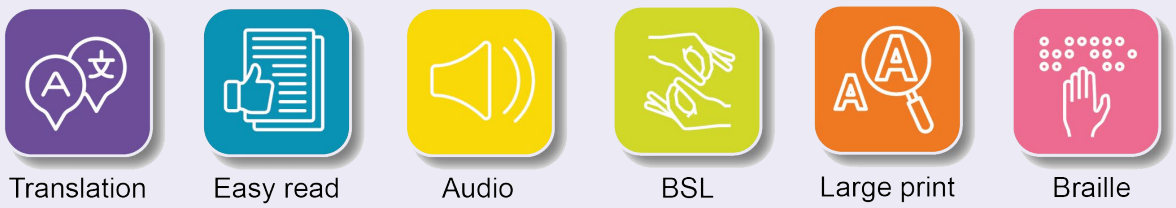
The authors would like to thank Mark Kelvin, CEO of LGBT Health and Wellbeing for his guidance and support in writing this report. Thanks also goes to Dr Jennifer McLean, Deputy Director at the GCPH, for her detailed reviews, suggestions and edits of the report throughout the drafting process.

Recognition also goes to Mohasin Ahmed and Dr Katharine Timpson, both of the GCPH, for their timely and helpful peer review of the report. Finally, acknowledgements go to communication colleagues namely Jennie Coyle, Berengere Chabanis and Rory McLean, of the GCPH and Camille Vincent at LGBT Health and Wellbeing, for their various efforts in proofing, editing and designing the report and development of related filming and social media content.

For more information about this report, please contact:

Chris Harkins, Public Health Programme Manager,
Glasgow Centre for Population Health

Christopher.Harkins@glasgow.ac.uk



If you require this report in a different language or format, such as a plain text version, accessible PDF, audio, braille, BSL or large print, please contact us at info@gcph.co.uk or on 0141 330 2747.

Foreword

I am genuinely delighted to introduce this important review for two reasons.

Firstly, it's fantastic to see the renowned Glasgow Centre for Population Health demonstrating such leadership in shining a spotlight on the health inequalities experienced by the LGBT community. Research into these inequalities, particularly at the intersections within our community, is severely lacking and needs investment. This comprehensive review goes a long way to demonstrating this need, whilst also effectively utilising the research and evidence that does exist.

Secondly, this review explores the data that exists about our community in a compassionate, sensitive, and holistic way. As recognised in the review, evidence and research into the LGBT community is so often deficit-focused, or limited to managing risk within the community (and therefore benefitting wider public health). The authors explicitly acknowledge the resilience, strength, and unwavering spirit of our community, and it's clear that they've taken time to understand the wider and modern context of the limited evidence base.

To achieve optimal public health outcomes for all, it is essential to adopt a comprehensive and inclusive approach that addresses the specific needs and challenges of the LGBT community. An approach that promotes acceptance, inclusivity, and equitable access to healthcare services for all, regardless of sexual orientation or gender identity. This review models this balance perfectly, and I've no doubt that the skills and perspectives shared by GCPH will be welcomed by the LGBT community, LGBT organisations, and public health professions alike.

This review delves into the multifaceted nature of LGBT health inequalities, examining the disparities in mental health, access to healthcare services, and to safer, inclusive spaces. Through an in-depth analysis, the authors explore the root causes of these disparities and provide actionable recommendations for policymakers, healthcare practitioners, care staff and others, that will improve the health and wellbeing of the LGBT community.

LGBT Health and Wellbeing believes that everyone, regardless of their sexual orientation, gender identity, or expression, has the fundamental right to accessible, affirming, and high-quality healthcare. It is my hope that this review will serve as a catalyst for change, sparking meaningful dialogue and inspiring collaborative efforts to address and mitigate the health inequalities faced by Scotland's LGBT community.

I extend my heartfelt gratitude to the Glasgow Centre for Population Health for undertaking this thorough and holistic review. It is a much welcome contribution towards the effort to create a world where LGBT individuals can live their lives authentically, free from discrimination, and with access to the health and wellbeing services they need and deserve.

Sincerely,

Mark Kelvin
CEO, LGBT Health and Wellbeing

Contents

Key definitions used in this scoping review

LGBT+ – is the acronym for lesbian, gay, bisexual, transgender plus all other sexual or gender minorities.

Lesbian – a woman whose enduring physical, romantic, and/or emotional attraction is to other women. Some lesbians may prefer to identify as gay or as gay women[1].

Gay – the adjective used to describe people whose enduring physical, romantic, and/or emotional attractions are to people of the same gender. Sometimes lesbian is the preferred term for women, although some women and non-binary people also define themselves as gay rather than using another term[1].

Bisexual – a person who has the capacity to form enduring physical, romantic, and/or emotional attractions to those of the same gender or to those of another gender. People may experience this attraction in differing ways and degrees over their lifetime[1].

Transgender – is an umbrella term for people whose gender identity and/or gender expression differs from the sex they were assigned at birth[2]. People who identify as transgender may describe themselves using a variety of terms[2]. Many transgender people are prescribed hormones by their doctors to bring their bodies into alignment with their gender identity, some undergo surgery as well[3]. Not all transgender people can or will take those steps, and a transgender identity is not dependent upon medical procedures or physical appearance[2].

Heteronormativity – denotes a world view that deliberately or unwittingly promotes and prioritises heterosexuality as the normal or preferred sexual orientation, often at the expense or exclusion of minority sexuality or gender identities[4].

Cisgender – is a term popularised in the last decade and is used to describe a person whose sense of personal identity and gender corresponds with their sex assigned at birth[5]. The prefix ‘cis’ is not an acronym or an abbreviation of another word; it is derived from Latin meaning ‘on this side of’. In contrast the Latin prefix ‘trans’ in transgender implies ‘across’ or ‘moved to the other side’.

Intersex / variations in sex characteristics (I/VSC) – is an umbrella term used for people who are born with variations in biological sex characteristics – this may mean that they may have bodies which do not always fit society’s perception of typically male or female bodies[6]. I/VSC is not the same as gender identity (our sense of self) or sexual orientation (who we are attracted to) but is about the physical body we are born with[6].

Report: key points

- Public health has long investigated health inequalities between social groups. However, examination of the social determinants of the health of lesbian, gay, bisexual, transgender and other identity (LGBT+) groups, in comparison to the wider population, has occupied a lower status within public health research and policy agendas.

- Whilst LGBT+ identities are a recognised variable in the study of sexual health epidemiology, furthering the understanding of the social determinants of LGBT+ health and inequalities has been underserved. This is despite the World Health Organisation underscoring the need to understand LGBT+ health inequalities as a human right.

- This omission is in part explained by a lack of routine data on the LGBT+ population in the UK but may also be underpinned by the prevailing heteronormative culture that exists within scientific, medical, and public health professions.

- Despite the data inadequacies described, this scoping review presents the findings of approaching 200 UK studies, primarily published over the past five years. These studies demonstrate that LGBT+ groups experience mental and physical health inequalities and illuminate important unmet health needs among the LGBT+ population.

- The scoping review groups and presents the evidence relating to LGBT+ health inequalities under seven interwoven themes. These themes are:
1. LGBT+ data inadequacies; 2. LGBT+ life course discrimination, intolerance and microaggressions; 3. LGBT+ mental health and wellbeing; 4. LGBT+ adolescence and mental health; 5. LGBT+ physical health and risk factors; 6. LGBT+ healthcare access and experiences; 7. LGBT+ health in older age.

- Theme 1 describes how the inclusion of sexual orientation and gender identity questions within the 2021 Scottish census questionnaire represents a landmark step. This will enable the most comprehensive profiling of sexual and gender minorities ever in Scotland, and opens up a range of analysis opportunities, particularly the linkage of LGBT+ status to health outcomes and healthcare usage data.

- The evidence presented under theme 2 makes clear that LGBT+ people experience a range of discrimination, microaggressions and minority stress. This evidence demonstrates that daily exposure to discrimination of this kind is destructive to the mental health and wellbeing of LGBT+ people. This is an overarching issue within the evidence base and is reflected across themes 2 to 7 within the scoping review.

- Life-course discrimination of this kind is damaging to the wellbeing of LGBT+ groups, with recent estimates showing that rates of common mental health disorders are higher among LGBT+ populations than that of heterosexual and cisgender people.

- The mental health profile of LGBT+ adolescents is concerning – recent UK studies (covered in theme 4) estimate several-fold increases in depression, anxiety, self-harm and suicidality in comparison to heterosexual and cisgender peers. Despite the common perception that society is becoming more supportive of LGBT+ equality, homophobic and transphobic adolescent victimisation and bullying are prevalent within educational settings, and via digital platforms.

- Poor mental health can lead to unhealthy coping mechanisms, such as higher rates of drugs and alcohol use and other risk behaviours among LGBT+ groups. These behaviours, in turn, play a part in the evidenced adverse physical health among LGBT+ groups, including increased rates of obesity, cardiovascular disease, and some cancers. As themes 5 and 6 elucidate, the well-documented diminished healthcare access endured by LGBT+ groups further reinforces and compounds these mental and physical health inequalities.

- Unlike sexual orientation, which may not always be immediately apparent, gender identity is often expressed through physical appearance, mannerisms, and presentation. Evidence supports that this visibility can attract unwanted attention and scrutiny, making transgender individuals more vulnerable to discrimination, abuse, and violence. Across the evidence themes presented in this scoping review, it is clear that transgender people appear to endure some of the worst forms of societal, political, institutional, and interpersonal discrimination, exclusion, and microaggressions.

- As detailed in theme 7, the poor physical and mental health of older LGBT+ people provides a picture of the physically, psychologically and potentially cognitively damaging impacts of life-course exposure to discrimination and microaggressions. Challenges remain in ensuring that older-age care and support is sexual and gender minority-inclusive and affirming.

- The evidence reviewed and grouped under the seven themes presented makes clear that there are five priority unmet health needs among LGBT+ populations, which merit action and culturally inclusive, and identity-affirming responses across public health systems and within healthcare delivery. The priority unmet health needs evidenced in this review include:

    - *inadequate public health surveillance of LGBT+ health, wellbeing, and inequalities*
    - *discrimination against transgender individuals and mental health impacts*
    - *discrimination against LGBT+ adolescents and young people and mental health impacts*
    - *LGBT+ populations' higher rates of chronic disease, and risk factors*
    - *LGBT+ older people's physical and mental health inequalities*

- Policy recommendations include improving public health surveillance of LGBT+ health and inequalities; development of national public education campaigns highlighting the inequalities and discrimination faced by the LGBT+ community and the impacts to health and wellbeing; continuation and further development of preventative mental health support specifically targeting LGBT+ adolescents, LGBT+ older people and transgender people; embedding adequate, regular, up-to-date training on LGBT+ health inequalities and barriers to accessing services experienced by LGBT+ people, across public services – to ensure LGBT+ inclusive, affirming, and culturally competent service delivery.

- Whilst the themes presented in this scoping review provide clear evidence about the health inequalities and unmet health needs within the LGBT+ community, they also serve as a testament to the resilience, strength, and unwavering spirit that have characterised this community throughout history.

- The availability of sexual and gender-minority data that the recently refreshed Scottish census allows can support population-level evidence and understandings of LGBT+ health inequalities, healthcare disparities, and unmet health needs – where the understanding of LGBT+ health inequalities moves from peripheral insights into mainstream public health science and policy making. This evidence review aims to help shape new analytical possibilities for LGBT+ health and wellbeing and support the understanding and implications of forthcoming findings.

Introduction

Public health across the UK has long investigated health inequalities between social groups as defined by socioeconomic status, for example[7]. However, examination of the health and wellbeing of lesbian, gay, bisexual, transgender and other identities (LGBT+) groups, in comparison to wider society, has occupied a lower profile within public health research and policy[8].

Although the term LGBT+ is used throughout this report, we recognise that this is not a homogenous group, and will attempt to represent the vibrancy and diversity of LGBT+ populations within the report's narrative. We also acknowledge the arbitrary nature of an exclusive LGBT+ focus, when intersectionality with other characteristics is important within an examination of the social determinants of health. To support understanding of the report narrative, a glossary of terms concerning sexual and gender minorities and related concepts is provided at the start of the report. A fuller glossary of current LGBT+ terminology can be found at the Equality Network website[a].

While recognising the diversity of LGBT+ people, evidence suggests that common experiences affecting their health and wellbeing exist[9]. An ever-developing evidence base, within the UK and beyond, makes clear that LGBT+ people experience a range of health inequalities in terms of health outcomes, health risk factors, and access to and experience of healthcare services compared to cis-heterosexual populations[10-12].

Within the study of LGBT+ health and wellbeing, it is generally recognised that addressing these inequalities and improving the health and wellbeing of LGBT+ populations will require identity-centred service provision or interventions across a range of healthcare specialties[13-16]. Recent studies highlight that LGBT+ people perceive their sexual and/or gender identity as inhibiting their access to, and treatment within, current health or social care provision[8, 17, 18].

---

[a] LGBTI-Glossary-booklet-screen-2022-12-19_2.pdf (equality-network.org)

Arguably, addressing the social determinants of LGBT+ health inequality has lacked policy priority within public health in the UK[19]. Whilst sexual minority status is a key variable in the study of sexually-transmitted disease epidemiology, furthering the understanding of the social determinants of LGBT+ health has been underserved[20]. This is despite the World Health Organisation (WHO) strongly reinforcing the need to understand and improve the health and wellbeing of LGBT+ people as a matter of basic human rights[21].

Celebrated public health explanatory theories, frameworks and models neglect the inclusion of sexual orientation and gender diversity as aspects of power that can intersect with those of socioeconomic status and ethnicity in shaping health outcomes[22]. Despite being informally referred to as the 'Rainbow Model', the seminal Social Determinants of Health Model[23] developed by Dahlgren and Whitehead does not include sexual orientation or gender diversity in its explanations of health inequalities; nor indeed do recent revisions or updated narratives on the model by the original authors[24]. A key factor which is often cited as affecting public health's lack of priority afforded to understanding LGBT+ health and inequalities is the lack of routine population data concerning sexual and gender minority status, and how this compromises academic rigour, and the reliability of findings within the field[25].

The diminished public health priority afforded to LGBT+ populations continues despite society generally becoming more supportive of gay and lesbian equality since around 1990[26]. In Scotland, there have been important milestones in terms of promoting lesbian and gay equality in recent years, such as the 2014 legislation enabling same-sex marriages, which was passed with high levels of public support[27].

Accordingly, much of the rhetoric concerning the equalities of LGBT+ groups in the UK could be framed as "it's getting better for them"[28]. However, this narrative could be described as complacent and inaccurate: in recent times, the UK has not kept pace with progress made in other parts of Europe regarding LGBT+ inclusive and affirming policies. The International Lesbian, Gay, Bisexual, Trans and Intersex Association Europe (ILGA-Europe)[29] produces a yearly ranking of 49 countries across Europe, based on their LGBT+ inclusiveness and affirming laws and policies. The UK was the top ranked country in 2015 but has now dropped significantly to 15th place in 2023[29]. ILGA highlighted the UK government's failure to extend a ban on conversion practices to transgender people, as well as abandonment of promised reforms on gender recognition and the stalling implementation of its equality action plan[29].

Some have even described a relative strengthening of LGBT+ discriminant views within UK political rhetoric in very recent times[19, 30]. The rates of intolerance-driven violence and harassment, particularly against trans individuals and gay men are higher in the UK than in other European countries[31].

The rights of gender minority or transgender people remains a contested and polarising topic in Scotland and has stirred up some intolerant attitudes[32]. Indeed, LGBT+ communities still face discrimination and barriers in everyday life and within key public institutions, including health and social care. Such discrimination is broadly reflective of entrenched intolerance across many sections of society[33, 34]. UK studies from a variety of disciplines demonstrate that LGBT+ people of all ages may encounter discrimination or negative unconscious bias on a daily basis[10, 31, 35, 36]. Discrimination in its various social and economic fora and at different life stages is a central determinant in the health inequalities experienced by LGBT+ groups[37].

Purpose and aims

The aim of this paper is to summarise the findings of an evidence review examining the contemporary social determinants of LGBT+ health and wellbeing. In doing so, we illuminate areas of unmet health needs within the LGBT+ community. The fundamental drivers of health inequalities among LGBT+ groups are examined within the UK, where possible, with some limited reference to studies outwith the UK in order to illustrate specific issues or gaps in UK evidence. Consideration is given to individual groups within the LGBT+ community and the ways in which unmet public health needs are manifest at different life stages.

The scoping review then develops key policy recommendations based on the evidenced social determinants of LGBT+ health and the identified unmet health needs within the population. These evidence-based policy recommendations recognise the social determinants of LGBT+ health and wellbeing and aim to redress the priority health inequalities evident. Recommendations for future research are also made based upon the scope, nature, and gaps within the evidence reviewed.

Methods

This study adopted an evidence-scoping review methodology, which is a recent addition to evidence-synthesis methods that has been gaining increased popularity and utility within health research[38]. Scoping reviews are undertaken for different purposes than systematic reviews. Scoping reviews can be conducted to pinpoint up-to-date core themes and clarify key concepts within a body of literature, to identify knowledge and evidence gaps, to determine the scope or coverage of studies available, illuminate policy and practice implications, and set research agendas – in particular to provide a way forward for a subsequent fuller systematic review[39].

Scoping reviews are appropriate for examining emerging evidence, or for topics for which it is known there may be factors which inhibit the scope and depth of the evidence[40]. In this instance, the lack of routine data on the LGBT+ population alongside the lack of priority afforded to LGBT+ populations within public health in Scotland make it an appropriate approach to take[41-43].

Scoping reviews can be concise, yet flexible; often including forms of evidence such as expert opinions and grey literature[44]. Importantly, scoping reviews do not attempt the rich synthesis, nor the depth of critical appraisal of evidence required by a systematic review[45].

Arskey and O'Malley are considered the seminal authors in developing a framework or process for conducting evidence-scoping reviews[46]. Thereafter, Levac, Colquhoun and O'Brien further clarified and extended this original framework to incorporate the following five key characteristics which we have tailored to the context of this study[38, 47] (see below).

1. To identify the types of available evidence concerning the social determinants of LGBT+ health and unmet public health needs experienced by members of the LGBT+ community.

2. To clarify key themes, concepts, and definitions in the literature relating to the social determinants of LGBT+ health, wellbeing, inequalities and unmet needs.

3. To examine how research is conducted which investigates the health and wellbeing of the LGBT+ community, and how inequalities and unmet needs are determined and evidenced.

4. To identify and analyse knowledge gaps within the current evidence base relating to LGBT+ health, wellbeing, inequalities and unmet needs.

5. To provide insight which may guide future research on this topic, including a systematic review.

We have applied this framework to our scoping review in a broad and non-prescriptive manner. This approach enabled the identification of seven key themes within the review. The evidence themes identified serve as the overall structure of the report findings. Each of the five characteristics of Levac, Colquhoun and O'Brien's framework are then considered within the theme narratives and structure the discussion section. The recommendations for policy and practice stem directly from the evidence themes identified and key considerations described therein.

This is a concise overview of the literature search and appraisal methodology deployed in this scoping review. Please contact us if you require further methodological details.

Findings: seven LGBT+ evidence themes

1. LGBT+ data inadequacies

Accurate population health surveillance data are essential in understanding the specific health challenges of defined groups, and for the design, planning and monitoring of public health programmes and healthcare services[48].

A crucial issue identified at the outset of the scoping review which has implications for all subsequent themes is that the UK still does not routinely monitor sexual orientation or gender identity at a national level[10]. These LGBT+ inadequacies in routine data inhibit a clear population-level understanding of the social determinants of health, health inequalities and unmet public health needs among LGBT+ groups[49]. It is becoming accepted that these historic data inadequacies represent a blind spot in public health intelligence and may mask, or even underestimate, health disparities experienced by LGBT+ groups, compared to the wider population[50, 51].

There is, however, an important window of opportunity in the very near future in Scotland regarding LGBT+ health, inequalities, public health profile and policy traction. The inclusion of sexual orientation and gender identity questions within the 2021 Scottish census questionnaire represents a landmark step[52]. This will enable the most comprehensive profiling of sexual and gender minorities ever in Scotland, and opens up a range of analysis opportunities, particularly the linkage of LGBT+ status to health outcomes data. The Scottish Government reports that

early testing of the new questions identified no negative impact on census completion and the reliability of findings[53]. This view has been contested by some experts who argue that the census question design process constructed the notion of an LGBT+ population that 'made sense' only to the state and the heteronormative majority[42]. Irrespective of that specific debate, the revised census will bring a renewed focus to the lives and experiences of LGBT+ people in Scotland in early 2024, when the census results are released.

In the absence of routine population data, the LGBT+ health research evidence base we assess in this scoping exercise consists mainly of peer-reviewed studies of representative samples — participants which have provided their sexual and gender minority status. To demonstrate health disparities and unmet needs, studies tend to statistically compare the prevalence of the health variable of interest (such as anxiety or obesity) within the LGBT+ group to that of the wider population. We note that this approach produces a degree of estimate variance across studies in the rates of some health indicators within the LGBT+ groups studied. We also note challenges in generalising across studies in the last five years with older studies due to the evolution in the terminology and classification of LGBT+ status.

A recurring point across the evidence base is the tendency to report LGBT+ populations as homogenous groups, in part due to data inadequacies. In the past three to five years this observation is becoming less valid, with most studies adopting data collection protocols which support LGBT+ status disaggregation. Despite these issues, there is strong congruence around the LGBT+ public health themes reported hereafter, the evidence presented within each theme is high quality, peer-reviewed, and reliable.

Some important, specific aspects within the themes have not been studied adequately within the UK. In some instances, US studies are referred to — this is made clear in the text. It should be noted that it is unclear how generalisable US LGBT+ study findings are to UK contexts[54]. Use of US studies in this way is for reference or for illustrative purposes rather than in underpinning the inclusion of the LGBT+ public health theme within the scoping review.

2. LGBT+ life course discrimination, intolerance and microaggressions

There is an abundance of reliable UK-based evidence which shows that members of the LGBT+ community are likely to endure a range of discrimination throughout their lives[12, 55, 56]. This topic has been extensively studied in health research as well as within criminal, legal, and social science fields[57, 58]. We recognise recent discourses which move away from deficit-based characterisations of the societal barriers and discrimination LGBT+ groups endure; acknowledging the resilience and strength within the LGBT+ community in coping with such adversity[58]. However, on balance, the vast majority of available UK evidence in this field continues to be framed using discriminatory terms.

The evidence reviewed also paints a clear picture that stigma, discrimination and intolerance, including specifically 'microaggressions' (defined and discussed below) create far-reaching consequences for the health and wellbeing of LGBT+ people at all stages of life[59, 60]. Discrimination against LGBT+ groups is a cross-cutting theme in this scoping review. Indeed, considering the body of evidence reviewed, it could be described that the dominant mechanisms which perpetuate the inequities in health evident amongst the LGBT+ community, originate fundamentally from various forms of conscious or unconscious discrimination, which is not experienced by heterosexual and cisgender populations[61].

Members of the LGBT+ community endure a range of discrimination, societal barriers and everyday challenges due to their sexual orientation, gender identity, or gender expression[62]. When considering the different life stages at which discrimination can be encountered by LGBT+ people, the evidence is focused around adolescence[60], working age adults[63], and older people[56]. The specific health impacts on these life stages will be considered in more detail as distinct evidence themes within subsequent sections of this report.

We note that at times, and as already extensively reported in LGBT+ health research[64], studies can tend to refer to the LGBT+ community in homogenous terms[65] which may dilute important understandings of specific forms, and impacts, of discrimination, intolerance and microaggressions[66]. Across the evidence considered, it is clear that transgender people experience some of the most severe and/or most repeated forms of societal discrimination; transphobic violence and abuse has become a well-studied field particularly over the past five years [66, 67].

In the broadest terms, within the studies reviewed, we recognise the potential to increase the direct involvement of LGBT+ community members in co-creating policy or practice recommendations in tackling discrimination and intolerance[68]. We note also that intersex people and those with a variation in sex characteristics (I/VSC) are particularly underserved within current LGBT+ research; however the evidence that does exist clearly shows that I/VSC have higher incidence of anxiety, depression and psychological distress compared to the general population linked directly to stigma and discrimination[69]. Evidence in recent years also emphasises the ways in which LGBT+ identity intersects with other protected characteristics such as race, disability and age in compounding discrimination and inequalities[70]. How LGBT+ identity relates to healthcare-based discrimination is a cross-cutting issue in this review and will be subsequently considered as a distinct evidence theme[71].

As can be the case with other protected characteristics groups, LGBT+ prejudiced experiences can be encountered within a range of societal settings, including within the familial home[72], the community[73], educational settings[74], religious institutions[75], the workplace[76] and within public services including health[77] and social care[78].

A 2021 review of the economics of being LGBT+ utilised several national studies which identified systemic earning inequalities among the LGBT+ community in comparison to heterosexual and cisgender peers[79]. For example, the UK Workplace Employment Relations Survey found that gay men experienced earnings penalties of 1%; bisexual men experienced earnings penalties of 14%; lesbian women experienced earnings penalties of 5%; and bisexual women were found to experience earnings penalties of 8%[79]. However, within some of the surveys reported, lesbian women benefitted from an earnings premium in comparison to heterosexual women[75].

A 2021 survey lead by LGBT Health and Wellbeing examined the experiences of transgender people in Scotland seeking jobs and in employment[80]. Over half of the respondents had experienced harassment at work directly or indirectly related to their trans identity, including frequent misgendering, explicitly transphobic statements, verbal abuse and discrimination. Most people who experienced harassment did not report it to a manager or human resources, and the majority felt managers were not adequately equipped to deal with transphobic harassment or bullying[80].

It is also clear from the evidence reviewed that the LGBT+ intolerance within societal settings can be complex[81]. The discriminant influence of such settings can reinforce one another to create layered and deep-rooted discrimination towards LGBT+ populations[82].
An important example of this interactivity, recognised in several studies reviewed [33, 83, 84],

concerns how religious-based LGBT+ intolerance can ultimately lead to adverse healthcare treatment and outcomes for LGBT+ people[85]. The views of most major religions, including Christianity and Islam, especially within the more orthodox elements, are opposed to LGBT+ people, with these views being reinforced within familial home, educational settings and community[33]. Thus, potential religious-based LGBT+ intolerance held by some health and social care staff raises concerns as to whether they are able to effectively treat and care for LGBT+ patients or clients[83]. It is clear however that many LGBT+ people hold religious beliefs and find acceptance and affirmation within their chosen faith and religious organisation[86]. Relatedly, as theme 6 discusses, much of the discrimination experienced by LGBT+ people within healthcare settings is unrelated to the religious background of the clinician or caregiver[87, 88].

An important distinction made in the literature is made between individual-level discrimination and institutional-level discrimination, and how they both adversely impact on LGBT+ health and inequalities[89]. Acts of individual and interpersonal aggression and social stigma are encountered by members of the LGBT+ community on a daily basis[90]. Such acts can range from microaggressions, social ostracization, harassment and bullying to violence and hate crimes[91]. Institutional-level discrimination against LGBT+ populations is embedded within heteronormative cultures, systems and processes of service delivery, which may represent intolerant and stressful barriers for LGBT+ people in accessing services[92].

The mental and physical health impacts of interpersonal discrimination and aggression such as violence and hate incidents/crime against the LGBT+ community are clear and can result in psychological trauma, a range of mental health disorders, serious and permanent injury and even death[66, 93]. LGBT+ hate crime is disproportionately on the rise in the UK, and a recent comprehensive grey literature report demonstrates significant unmet needs amongst victims; in that the majority are not receiving the help and support that they need[94].

LGBT+ victims of hate crime and violence require emotional support (having someone to talk to or help address the psychological and/or emotional impact of their experience), practical assistance (financial support, crime-prevention measures), advice and information (their rights), and advocacy (to ensure their case is dealt with)[94]. LGBT+ survey respondents described a range of issues they faced when trying to access support, such as not knowing where or how to access support, experiencing long delays, accessibility issues, and a lack of appropriate support services overall[94]. Consequently, many LGBT+ victims of hate crime and related violence who require support were unable to access it. This is a consistent theme and may explain in part why LGBT+ hate crime is under-reported; a recent estimate suggests that only one in seven trans people who were victims of hate crime reported the incident[67].

'Microaggression' is a relatively new term within the literature, which appears especially suited within explanations of the mental health impacts of LGBT+ discrimination[95]. Microaggressions are defined as the most frequent, subtle forms of discrimination, often unconscious or unintentional, that communicate hostile or derogatory views and messages[96]. Whilst they may appear a lesser form of individual-level LGBT+ intolerance, compared to violence and hate crimes for example, the health impacts of microaggressions are far-reaching, build up over time, and cannot be underestimated[97].

Microaggressions have been described as "death by a thousand cuts" by members of the LGBT+ community who experience them; in that continuous exposure to microaggressions is corrosive to the mental health, wellbeing, and personal resilience of those experiencing them[98].

The impacts of microaggressions are both direct and immediate (in terms of mood and wellbeing), long-term and cumulative (in terms of higher rates of mental health disorders and unhealthy coping mechanisms) and can be indirect (such as LGBT+ people not reporting hate crimes or not seeking important healthcare when they need it, based on prior experiences of microaggressions in the justice system or healthcare settings)[99, 100, 101].

3. LGBT+ mental health and wellbeing

It is well established across the evidence reviewed that LGBT+ individuals experience higher rates of common mental health issues in comparison to their heterosexual and cisgender counterparts[102]. This is a well-studied association in the UK[103] and beyond[104]. The literature reviewed makes clear that this association is likely to be multifactorial. Relating to various psychosocial and environmental factors[105], but fundamental to all studies reviewed, is the causation stemming from discrimination, stigma, microaggressions and 'minority stress'[105, 106]. Minority stress experienced by LGBT+ people is a well-established concept within LGBT+ mental health studies, which refers to the unique stressors experienced by individuals belonging to marginalised groups and which can have a significant impact on their mental health[107, 108].

An influential 2016 meta-analysis, which combines data from 12 representative UK population health surveys made clear that across the UK, lesbian, gay and bisexual (LGB) adults have higher prevalence of poor mental health and lower wellbeing compared to heterosexuals[109]. Specifically, the aggregated data showed that lesbian, gay, bisexual and 'other' identified adults (non-heterosexual) were twice as likely to report symptoms of anxiety and depression than

heterosexual adults[109]. This result was stronger in male participants. The lowest risks to LGB mental health were seen in midlife, with increased risk evidenced amongst young and older non-heterosexual adults. Overall, bisexual adults had the highest risk of common mental health disorders[109]. In this study the lack of availability concerning gender minority data is noted.

A 2022 meta-analysis of 26 quality studies from across the UK, US, Canada, Australia and New Zealand further underscores the significantly higher rates of mental health issues among LGB people compared to heterosexuals[110]. Comparing LGB people to heterosexuals across the studies, the risks of depression and suicidality were approaching three times higher, and the risk of anxiety disorder and alcohol-use disorder were approximately twice as high. Importantly, the meta-analysis also shows that these were conservative estimates – higher quality mental health diagnostic tools used in some studies identified larger mental health disparities for lesbian/gay people compared with heterosexuals[110]. In this study we note a lack of data regarding gender diversity alongside no meaningful consideration of important intersections with age, disability, ethnicity, and other socio-demographic variables.

A 2022 nationally representative English General Practice Patient Survey of over 1.3 million people also reported substantially higher rates of mental health issues among LGBT+ patients in comparison to heterosexual people[111]. Bisexual adults, especially young bisexual females, reported the highest rates of chronic mental health problems. Sexual minority females 18–24 years of age were five times more likely to report chronic mental health problems compared to their heterosexual peers[111]. These findings may reflect that bisexuals may experience simultaneous isolation from sexual minority and heterosexual communities[112], and younger people being susceptible to additional forms of victimisation and minority stress via online sources[113].

Comparatively, the mental health and wellbeing of transgender people is less well studied, although this has been improving in recent years[114]. The evidence base for adult transgender mental health and wellbeing can be complex and nuanced, including, for example, assessment of the impacts of gender-affirming treatments on mental health status[115, 116]. Again, however, a range of studies make clear that mental health and quality-of-life inequalities are clearly evident between transgender adults and wider cisgender populations[117]. The mental health of transgender adolescents and young people has become increasingly studied in recent years[118], predominantly relating to school bullying and victimisation, and intolerant experiences within healthcare settings; with concerning disparities reported in rates of depression, anxiety, self-harm and suicidality[119-121].

4. LGBT+ adolescence and mental health

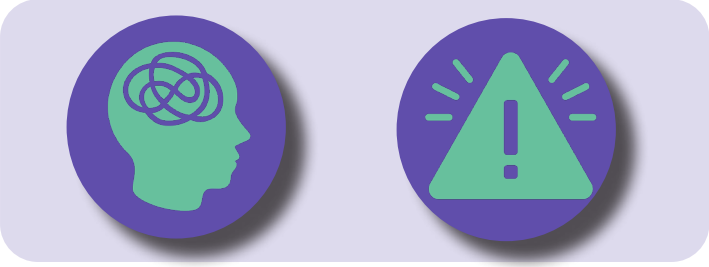
Adolescence is the pivotal phase of life between childhood and adulthood, a unique stage of human development where the foundations of lifelong good health and wellbeing can be laid[122]. During adolescence, rapid biological development occurs alongside increasing psychological and social demands[123]. Mental health difficulties and other health-risk behaviours, such as smoking and alcohol use, usually have their onset in adolescence[124]. Adverse experiences in adolescence, including bullying and engaging in antisocial behaviours, are precursors to adversity and worsened health in later life[125].

Much of the literature reviewed concerning the health and wellbeing of LGBT+ adolescents centres around evidencing and understanding the worsened mental health and related health-risk behaviours of this group[41]. Again, discrimination and intolerance play a central role in shaping poorer outcomes – in particular bullying, victimisation, and familial rejection of adolescents because of their LGBT+ identity[41, 126]. A 2022 survey of young people in Scotland reported that only 10% of participants rated the experience of school for LGBT people as 'good' and 70% of gay/lesbian participants had experiencing bullying due to their sexual orientation at school[127]. Interestingly, within the same study just 28% of rural-based participants rated their local area as a good place to be LGBT+ as compared to 62% of urban-based participants[127].

Sexual minority adolescents are at risk of adverse outcomes during teenage years due to increased exposure to bullying and victimisation whilst navigating their understanding and expression of their sexual identity[128]. This bullying and victimisation of LGBT+ adolescents is frequently reported in the school setting[41, 129, 130]. However, bullying of LGBT+ adolescents through online channels (sometimes termed as "cyberbullying") is increasingly being studied and reported[131, 132] particularly in light of the COVID-19 pandemic and the isolation of LGBT+ youths during lockdown periods[133]. Some UK studies estimate that sexual minority adolescents are

almost three times more likely to have suicidal ideation, depressive symptoms and diminished wellbeing[134], and are four times more likely to self-harm with suicidal intent compared with their heterosexual peers[135].

The high prevalence of self-harming within LGBT+ adolescents is concerning, and we note that not all self-harm is with suicidal intent[136]. Indeed, within the LGBT+ community evidence shows that self-harming is a frequently used unhealthy coping mechanism within the interplay of self-acceptance, various forms of discrimination and elevated stress levels[137]. Marzetti et al (2023) emphasise the importance of recognising that LGBT+ young people understand self-harm in a variety of ways and it is imperative that clinicians adopt an individual, non-judgemental, person-centred approach within self-harming care[138]. A 2021 global systematic review and meta-analysis cites victimisation and constant exposure to microaggressions as the key corrosive impacts to mental health, and as the key mechanisms in LGBT+ adolescent self-harm and suicide[139].



In terms of health behaviours, sexual minority adolescents are more likely to be obese or underweight[140], have an eating disorder[141], to engage in risky sexual behaviour[142], and to use cigarettes and other substances such as alcohol and cannabis than their heterosexual adolescents peers[55].

Indeed, LGBT+ adolescents are more likely to experience social or minority stress when leaving their home, such as: fear of rejection[143]; exposure to bullying and discrimination[41]; have property stolen and be involved in physical altercations[144]; and experience sexual abuse[41]. LGBT+ youths might also engage in antisocial behaviours as a coping mechanism or psychological release, in response to ongoing social conflict or oppression as a result of their LGBT+ status[145].

Recent studies suggest that the mental health impacts of bullying among binary-transgender, non-binary and gender-questioning adolescents is particularly concerning[60]. Non-binary and transgender youth are at a higher risk for depression, substance use, and anxiety; although there remains large variance in the estimates of such disorders[146, 147]. One UK study reports a five-and-a-half-times higher rate of suicide among transgender young people in comparison to cisgender peers[147]. The impacts of COVID-19 disease control measures, such as lockdowns, school shutdowns, and remote learning, have been widely reported within qualitative studies as worsening these mental health disparities among LGBT+ adolescents[118, 148, 149].

An important factor in considering the mental health of LGBT+ adolescents is the level of familial support and acceptance[148]. This issue has been studied more extensively in the US – where religious views, traditionalism, and conservatism values held in many states may inhibit LGBT+ familial acceptance[150]. LGBT+ young people who lived with unsupportive parents and guardians during the pandemic were exceptionally vulnerable to abuse, to not feeling safe to express themselves, or were cut off from supportive peers[118]. A further US study found that young people who report high levels of LGBT+ related family rejection are six times more likely to experience depression, and eight times more likely to attempt suicide than LGBT+ young people who report low levels of family rejection[151].

A 2024, UK publication by 'Just Like US', – a young persons' LGBT+ charity, detailed survey findings incorporating the views of almost 1,800 LGBT+ young people[152]. The analysis compared the views of young LGBT+ people from supportive homes and upbringings to those which were non-supportive. The survey found that LGBT+ young people from non-supportive homes were more than four times as likely to rarely or never feel close to other people (49% vs 11%); were more than twice as likely to have experienced panic attacks (60% vs 28%) and nearly twice as likely to have experienced depression in the past year (82% vs 42%); more than twice as likely to have self-harmed (71% vs 33%)[152]. It is unclear from the report however, how representative the survey sampling was.

5. LGBT+ physical health and risk factors

Despite the absence of population LGBT+ status data, a reasonable evidence base exists which makes clear that LGBT+ people also experience considerably worse physical health than the general population[153, 154]. The literature demonstrates that LGBT+ people are at higher risk of developing certain types of cancer and at a younger age compared to heterosexual people[155-157]. Relatedly, despite higher cancer risks, LGBT+ populations appear to be less likely to uptake early detection and cancer screening programs[158, 159]; with evidence stating

the reasons for this as relating primarily to prior negative experiences within heteronormative healthcare settings[160]. The uptake among lesbian and bisexual women for certain cancer screenings, such as cervical cancer, is concerning[160]. Transgender men and non-binary people assigned female at birth (who have not undergone surgery to remove the cervix) are recommended to undertake cervical screening with the same frequency as cisgender women[161]. Evidence suggests that these groups have significantly lower odds of lifetime and up-to-date cervical screening uptake, placing them at increased cancer risk[161].

Evidence also demonstrates that LGBT+ people tend to have less healthy lifestyles and have higher rates of cardiovascular disease and related cardiovascular risk factors, compared to the general population[162, 163]. The limited data and studies that are available in the UK demonstrate existing baseline physical health inequity: for example, trans and non-binary people are more likely to be disabled and to have chronic health conditions[164], and lesbian and bisexual women are more likely to be obese[165].

A 2021 cross-sectional analysis of over 1.6 million people in England reported that after adjusting for deprivation, ethnic group, region, and age, 11 of the 13 long-term conditions considered within the study were more prevalent among sexual minority women than their heterosexual peers[166] — the largest inequalities being for mental health problems, neurological conditions, dementia, and back problems. It was found that nine long-term conditions were also more prevalent among sexual minority men compared to heterosexual males — including mental health problems, neurological conditions, and kidney or liver disease. Overall, inequalities were often largest for bisexual adults[166]. Inequalities in the onset of multimorbidity (two or more diseases) among lesbian or bisexual women could be described as 'accelerated biological ageing', where lesbian or bisexual women had a similar multimorbidity profile at age 18–24 years as heterosexual women aged 45–54 years[166].

A 2021 systematic review concluded that LGBT+ adults were less likely to adhere to physical activity recommendations and have less healthy diets, compared to the general population[167]. In the UK Government's Women and Equalities Committee's 2019 report, higher rates of smoking, alcohol consumption and obesity were reported, making LGBT+ people more likely to be affected by cardiovascular disease, certain cancers, and respiratory illness[168] — which predisposed LGBT+ groups to worsened COVID-19 health outcomes[169]. Without mandatory national collection of routine data, these health disparities were largely reported as a 'minority blind spot'[170].

6. LGBT+ healthcare access and experiences

Access to healthcare services is a human right for all citizens and is a fundamental determinant of health[171]. Despite the described LGBT+ data inadequacies, a rich evidence base examines factors which have historically inhibited health service access among LGBT+ groups[9]. We acknowledge that many healthcare professionals work in ways which are inclusive and affirming to members of the LGBT+ community and that opportunities and requirements exist to promote LGBT+ inclusive and affirming care. Indeed, one study reviewed, showed that 94% of clinical mental health staff surveyed expressed a desire to learn more about LGBT+ health and to become more inclusive[172]. However, the evidence base we report on here makes clear that challenges remain. Influences which explain diminished LGBT+ access to services and quality of care are multifactorial; including organisational cultures, discriminatory practices and implicit biases, among others.

The evidence base considers the origins and nature of barriers to healthcare access among LGBT+ groups using primarily qualitative and survey methods. Coupled with the lack of routine data on LGBT+ populations this makes it hard to assess the scale of diminished access to healthcare services. However, an influential study by Stonewall UK (2018) in partnership with YouGov incorporating the views of over 5,000 LGBT+ people as a representative sample, reports that one in eight LGBT+ people (13%) have experienced some form of unequal treatment from

healthcare staff due to their LGBT+ identities[173]. Almost one in four LGBT+ people (23%) have witnessed discriminatory or negative remarks against LGBT+ people by healthcare staff. It was also reported that one in five LGBT+ people (19%) concealed their sexual orientation when seeking general medical care. This number was reported to rise to 40% of bi men and 29% of bi women. Finally, the study also highlighted that one in seven LGBT+ people (14%) have avoided treatment for fear of discrimination[173].

The decision-making and clinical judgements in the provision of healthcare is not only influenced by scientific evidence, but also by the systems and cultures in which these services operate[174]. Relatedly, the prevailing culture within healthcare settings can shape the quality of clinician-patient interactions and the efficacy and accuracy of treatments provided — which ultimately influences the patient's health outcomes[175]. It can also be viewed that clinicians themselves, like the wider population, have implicit biases which may be influenced by the culture of the healthcare setting, and can play out during patient interactions — influencing the quality, outcomes and patient satisfaction of the healthcare consultation[176]. High quality clinician-patient interactions are based on trust, empathy, understanding of patient needs and effective communication, among other characteristics[177].

Several models can be adopted in examining how patient identities, and healthcare cultural and social norms influence access to healthcare, treatment, and outcomes among LGBT+ populations. For this review, we summarise an expansive, complex, and nuanced topic areas into three overarching themes concerning LGBT+ groups' access to health services.

Themes identified relate to: firstly, the predominant hetero- and cis-normative culture within healthcare settings[87], which can create discriminatory, homophobic and transphobic patient interactions[178, 179]; secondly, and relatedly, a lack of cultural competence among healthcare staff in treating LGBT+ groups[180-182]; and thirdly, the prior experience and/or perception among LGBT+ groups that interactions with healthcare services will be stressful, judgemental, ill-informed and will lead to exposure to prejudiced microaggressions[99, 100, 183].

Cumulatively, these themes lead to LGBT+ users of healthcare services in the UK, and beyond, not accessing or delaying vital care when it is needed[184], and a lower uptake of generic public health messaging[185], screening initiatives[186], and vaccination efforts[187]. In a recent study of palliative care services, LGBT+ healthcare users reported unfair and prejudicial assumptions being made about their gender, sexual orientation, lifestyle and sexual promiscuity, as well as heteronormative, microaggressive language, all of which negatively impacted on their experience of care[188].

A comprehensive 2021 evidence review considered 31 cancer care studies examining LGBT+ patients' experiences[61]. The results from all studies showed that LGBT+ people were more likely to have a negative experience or outcome when being diagnosed, receiving treatment, or in post-treatment, in comparison to the cis-heterosexual population. The majority of authors reviewed reported that LGBT+ people's poorer experience and outcomes were due to the absence of LGBT+ specific care and attention from healthcare providers[61]. A significant area of concern highlighted by qualitative studies was that LGBT+ people struggle to 'come out' in a cancer-treatment setting, and consequently do not receive culturally competent care. The evidence review reported similar findings for LGBT+ palliative care and mental health services[61].

7. LGBT+ health in older age

Well-established evidence within the UK[189], and beyond[190], makes clear that LGBT+ older adults face significant health disparities and risks compared to their heterosexual and cisgender peers[8]. These inequalities are socially driven and emerge and persist within historical and environmental contexts within which LGBT+ people endure discrimination and marginalisation over their life course[191]. As described in previous themes, these issues present major psychosocial challenges for the LGBT+ communities, some of which may intensify and become more impactful as they age[192].

LGBT+ older adults, in particular, struggle to access quality healthcare due to stigmatisation in medical research and training, a lack of social support, medical mistreatment in elderly care settings, and low access to LGBT+ affirming care[193, 194]. The evidence points to inadequacies within LGBT+ medical care, with most providers and staff lacking knowledge on LGBT+ health and healthcare needs, particularly concerning older LGBT+ patients[195, 196]. For example, most medical education and training in the UK is underpinned by heteronormative ideals which rely on essentialist understandings of sex, gender, and sexual binary systems (i.e. female or male), which fails to identify important health needs or care considerations within diverse patient populations[85]. Clinicians and care providers again may lack cultural competence — being unfamiliar with current LGBT+ terminology and community norms — and may struggle with offering respectful communication, care and counselling to LGBT+ patients[197].

Older LGBT+ people are more likely to experience depression, anxiety disorders and multiple health-risk behaviours than their heterosexual and cisgender contemporaries[198, 199]; this includes higher suicide ideation and attempts which have been reported in the UK[56] and accurately evidenced in the US[200]. LGBT+ older adults also report higher levels of social isolation and

loneliness than their cisgender and heterosexual peers[201]. Transgender older adults in particular face multiple barriers in protecting their mental health, due to repeated exposures to transphobia and minority stress when in public, and very few mental healthcare professionals who are competent in transgender needs[202].

An emerging public health concern reported in the US relates to cognitive health disparities, such as potentially higher rates of Alzheimer's disease and related dementias amongst older LGBT+ patient groups[203]. Suggested biological mechanisms relate to life-course exposure to microaggressions and minority stress, increasing the risk of premature cognitive aging and decline among LGBT+ older adults[105, 204], coupled with substandard dementia detection, diagnosis and care – including diminished sense of self or loss of LGBT+ identity among patients[205]. However, the higher reported dementia incidence among LGBT+ older adults within UK dementia studies cannot be substantiated at present.

Additionally older LGBT+ adults have elevated risk of poor physical health outcomes including chronic health conditions, disabilities, and worsened overall health in comparison to the wider heterosexual and cisgender population[206]. Substance and alcohol use, mobility issues and frailty, and cardiovascular disease are all higher among older LGBT+ adults[207]. They also experience substantial challenges in managing chronic pain, including arthritis, than their heterosexual and cisgender peers[208]. LGBT+ older adults have lesser access to reproductive and sexual health screenings due primarily to inadequate cultural and clinical competencies on older adult and LGBT+ patient communities[209].

Discussion

Sexual or gender minority status is inherently part of being human and enriches life. This is not merely a philosophical reflection, but more a fundamental recognition of historical and scientific fact: there has always been and will always be diversity of sexual orientation and gender expression. At its core, the LGBT+ human experience reflects universal desires for love, acceptance, companionship, and authentic self-expression.

The history of LGBT+ identity is a multifaceted tapestry, woven from diverse cultural, religious, and socio-political threads. Across various civilisations and eras, evidence of non-binary gender identities, same-sex relationships, and diverse sexual orientations have prospered. Ancient civilisations including the Romans and Greeks celebrated and honoured same-sex love, as is evident through mythological tales and historical records[210]. Similarly, many indigenous cultures across the planet recognised and admired gender and sexual diversity, long before the arrival of colonialism and its rigid heteronormative constructs[211].

The historic treatment of LGBT+ groups has not been one of celebration and inclusion. Many countries and societies, influenced by religious doctrines or prevailing cultural norms, enforced strict laws upon gender and sexuality, often persecuting those who deviated from the heterosexual and cisgender norm. The ideals of colonialism further galvanised these prejudices, as European powers imposed their rigid gender and sexual norms upon colonized peoples, casting aside deep historical and cultural indigenous understandings of gender and sexuality in the process[212].

LGBT+ individuals continued to express their authentic selves throughout history. The Stonewall riots of 1969 marked a pivotal moment in the modern LGBT+ rights movement, legitimising and empowering a generation of LGBT+ groups in demanding recognition, respect, dignity, and equality[213].

Our scoping review makes clear that LGBT+ equality remains essential in the present day, particularly in relation to LGBT+ health and wellbeing[214]. The lack of population-level LGBT+ status data, to date, inhibits public health's understanding of specific LGBT+ health issues. The 2021 inclusion of sexual and gender minority questions within the Scottish census (as described in theme 1 of this review) represents welcome progress, but also speaks to historic and recent cycles of LGBT+ exclusion[154].

The scoping review also shows that LGBT+ people continue to experience a range of discrimination, microaggressions and minority stress. Evidence reviewed has made clear that daily exposure to homophobic and transphobic views are destructive to mental health and wellbeing[95]. The adverse impacts of such discrimination to LGBT+ mental health is a central and overarching issue within the evidence base, and is reflected across themes 2 to 7 within the review.

This discrimination has a profound and lasting impact on LGBT+ groups, with various recent estimates showing that rates of common mental health disorders are several-fold higher among LGBT+ populations than that of heterosexual and cisgender people. The evidenced links from poor mental health to unhealthy coping mechanisms — such as the strikingly higher rates of drugs and alcohol use among LGBT+ groups — elucidate the mechanisms through which LGBT+ mental health inequalities impact on adverse physical health outcomes, including increased rates of obesity, cardiovascular disease and some cancers, among others.

Across the LGBT+ evidence themes presented in this scoping review, it is evident that transgender people appear to endure the worst forms of societal, political, institutional and interpersonal discrimination, exclusion and microaggression[215]. The resultant mental health profile of transgender people is particularly alarming. Among LGBT+ groups, trans people are further stigmatised, sensationalised, misunderstood, and mischaracterised within the media, political discourses and across all facets of public life[216]. Some commentators have described a 'culture war' being waged against trans people[215]. This only heightens the minority stress, and levels of discrimination trans people encounter daily. The damaging impact this discriminant narrative has on the mental health and wellbeing of trans and non-binary people is profound[217]. Evidence supports that society's adherence to rigid gender norms exacerbates the discrimination faced by transgender individuals. When individuals do not conform to these norms, they challenge deeply ingrained beliefs about gender, which can provoke discomfort, hostility and even aggression in others[218].

As detailed in theme 7, the worsened physical and mental health of older LGBT+ adults reported in the UK and the higher rates of common forms of dementia among older LGBT+ people, reported in the US, paints a picture of the psychologically and cognitively corrosive impacts of

life-course exposure to discrimination and microaggressions. With health inequality in mind, the lack of sexual and gender minority inclusive and affirming older age care and support is concerning for LGBT+ older people and, specifically, dementia patients.

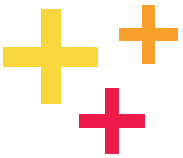
Public health policy in Scotland has long prioritised early intervention and preventative approaches as a means of reducing disease incidence, injuries, and other health issues, improving quality of life, and reducing healthcare costs. Preventative approaches within LGBT+ health remain under-theorised, beyond those pertaining to sexual health. The findings of our scoping review demonstrate the importance in prioritising LGBT+ adolescents and young people in terms of early intervention and preventative investment.

As described in theme 4, adolescence is a time of identity exploration and formation, and for LGBT+ youth, this process can be complex and fraught with uncertainty. Many LGBT+ adolescents grapple with questions surrounding their sexual orientation, gender identity, and how they fit into societal norms. Accessible, adequate, sustained, and sensitive support and affirmation may foster resilience and healthy development in order to mitigate the distressing levels of anxiety, depression, self-harm and suicidality evidenced among LGBT+ young people in our scoping review.

While we support the overall focus that the school environment receives within LGBT+ adolescent mental health research, we note that LGBT+ status and health-behaviour associations tend to pay inadequate attention to minority stress and the overall societal discriminatory and heteronormative contexts in which LGBT+ adolescents grow up. Such heteronormative cultures appearing still very rooted in high schools for example[219]. Greater attention to cultural impacts might significantly elucidate the behavioural mechanisms at play. Further research is required — however it is likely, for example, that LGBT+ adolescents use alcohol or cannabis as unhealthy coping mechanisms; have higher rates of anorexia as a means of attempting to establish internal control and external acceptance; or stay indoors more in a safe space, becoming sedentary and hence having higher rates of obesity — as a means of avoiding external minority stressors and harassment.

Heteronormativity within medical and scientific professions has perhaps driven the perception that LGBT+ health inequalities, and their study are 'non-scientific'[220]. As discussed within this review, this is due to historical neglect or underrepresentation of LGBT+ health in public health research, scientific discourse, and policy agendas. However, scientific research has affirmed the biological and psychological foundations of LGBT+ identities. Whilst criticised by some, this at the least, serves to set straight the notion, historical or otherwise, that LGBT+ people are mere deviations from a supposed norm. Studies in genetics, neuroscience, and psychology have explicated the complex interplay of genetic, hormonal, and environmental factors that shape an individual's sexual orientation and gender identity[221]. These scientific findings emphasise the natural variability and diversity of human existence and biology, including as it relates to sexuality and gender expression[222].

The pervasive reach of heteronormativity, stemming from colonialism, continues to permeate and overshadow society and its various facets, including the medical profession, public health initiatives, and healthcare service delivery. This is a fundamental cause of LGBT+ groups' diminished access to healthcare services, as described in theme 6 of our scoping review.



Heteronormativity has historically dominated medical discourse, research, and clinical practices, as our evidence-scoping review demonstrates, often marginalising LGBT+ individuals and perpetuating disparities in healthcare access and quality of treatment. Until the mid-1970s, the medical profession pathologised homosexuality and transgender identities as psychiatric disorders. Based on the findings of this review (and the many, quality, recent UK studies reviewed), it is evident that heteronormative cultures and implicit biases remain in healthcare settings and work is required to redress this issue.

Many healthcare providers and institutions may still face challenges in embedding LGBT+ inclusive practices and policies ─ which leads to the lack of cultural competence among frontline staff, as described in the evidence reviewed. From registration or medical forms that fail to recognise gender diversity, to inappropriate language used by healthcare professionals, LGBT+ patients can encounter microaggressions and insensitivity within healthcare settings. The absence of affirming environments can further erode trust and deter LGBT+ individuals from seeking healthcare when needed, attending checkups, vaccinations or screening appointments, or engaging with public health messaging and guidance[223].

A key challenge in embedding LGBT+ inclusive and affirming practices within healthcare settings is likely to be the perception among frontline staff of criticism, and another initiative which detracts from already stretched, underfunded core service delivery, and amid some of the highest levels of NHS staff burnout ever recorded[224]. Cuts to NHS budgets, in real terms, are amongst a suite of public sector retrenchment relating to austerity policy which, as GCPH research has extensively evidenced, is destructive to population health and exacerbates inequalities[225].

LGBT+ unmet health needs policy recommendations

The evidence reviewed and grouped under the seven themes presented makes clear that there are five priority unmet health needs among LGBT+ populations, meriting urgent action and culturally competent, inclusive, and identity-affirming responses across public health systems and within healthcare delivery. The priority unmet health needs evidenced in this review include:

- inadequate public health surveillance of LGBT+ health, wellbeing, and inequalities
- discrimination against transgender individuals and mental health impacts
- discrimination against LGBT+ adolescents and young people and mental health impacts
- LGBT+ populations' higher rates of chronic disease, and risk factors
- LGBT+ older people's physical and mental health inequalities

Table 1 (below) outlines the evidence themes, the LGBT+ populations involved, the unmet health needs identified, and policy recommendations to address them. The policy recommendations are based on the health inequalities evidence reviewed, and the evidenced unmet health needs among the LGBT+ community. Recommendations are targeted towards policy makers and practitioners within healthcare but are also relevant and applicable to the care sector and other public services more broadly.

Table 1: ***LGBT+ unmet health needs policy recommendations***

Scoping review: LGBT+ evidence theme	Unmet health need description	*Identified unmet LGBT+ health need*	Policy recommendations to address unmet health needs
1. LGBT+ data inadequacies	• LGBT+ systemic exclusion from public health surveillance due to lack of routine population-level sexuality and gender minority data. • Resultant low priority within public health policy, policy and research agendas. • Large population group who experiences evidenced health and wellbeing inequalities but whose issues remain unrecognised, not understood, and consequently has its needs underserved.	***Inadequate public health surveillance of LGBT+ health, wellbeing, and inequalities.***	National consideration must be given to improving equality evidence gathering related to LGBT+ identity consistently across public services. Linkage of 2021 LGBT+ status census data to health outcomes relating to prevalence of disease, common mental health disorders and healthcare usage. Findings should be considered within the context of existing evidence covered in this scoping review.
2. LGBT+ life-course discrimination, intolerance and microaggressions	• Societal issue which lacks profile and awareness but has clear, evidenced, adverse impacts to both LGBT+ physical and mental health. • Discrimination presents a range of barriers and stressful situations and interactions for LGBT+ groups over their life course.	***Transgender individuals experience relentless forms of LGBT+ discrimination with devastating impacts to mental health and inconsistent access to culturally competent healthcare and inclusive support.***	Development of national public education campaigns highlighting inequalities and discrimination faced by the LGBT+ community and the impacts to health and wellbeing. Continued funding and further development of preventative LGBT+ inclusive education to tackle prejudice and discrimination in schools and workplaces.

3. LGBT+ mental health and wellbeing	• Quality evidence makes clear the devastating mental health impacts of life-course discrimination faced by LGBT+ populations. • LGBT+ groups more likely to engage in unhealthy coping mechanisms such as alcohol and drug use. • LGBT+ people represent a large, underserved population group who experiences specific evidenced inequalities in mental health and health-risk behaviours.		Development of targeted interventions and preventative measures for the LGBT+ community and all marginalised communities that are at increased risk of mental ill health, self-harm and suicide. This must have an intersectional approach, where public services work collaboratively with equalities experts within their respective fields. Specific consideration must be given to transgender discrimination and mental health as a priority. Mainstream public services must become visibly LGBT+ inclusive and affirming — including LGBT+ people or symbols in their promotional materials in waiting rooms, or ensuring administrative forms use LGBT+ inclusive language.
4. LGBT+ adolescence and mental health	• The mental health status of LGBT+ adolescents is concerning; studies estimate several-fold increases in depression, anxiety, self-harm and suicidality in comparison to heterosexual and cisgender peers. • Victimisation and bullying within educational settings and via online channels are highly pervasive.	***The mental health of LGBT+ adolescents and young people is concerning and is exacerbated by inconsistent access to culturally competent healthcare and identity-affirming support.***	Further funding of specialised support services for LGBT+ young people which provide targeted interventions and support to all, with a focus on those most at risk of mental health harm. Continued funding and further development of LGBT+ inclusive education to tackle and prevent

			prejudice and discrimination in schools. Increased understanding/cultural competency in mainstream services of key issues which impact LGBT+ young people and their mental wellbeing.
5. LGBT+ physical health and risk factors	• Evidence makes clear that LGBT+ groups have higher rates of cardiovascular disease and some forms of cancer than heterosexual and cisgender population. • LGBT+ populations have higher rates of health-risk factors and unhealthier lifestyles. • LGBT+ people are less likely to uptake health-screening initiatives and vaccinations.	***LGBT+ populations have higher rates of chronic disease, and risk factors coupled with diminished access to culturally competent healthcare, screening, and vaccinations.***	Alcohol and drug services, health promotion and prevention initiatives and screening and vaccination drives must become LGBT+ inclusive, affirming and culturally competent. These developments should be national in scope. Investment in safer community spaces for LGBT+ people that promote social support and healthy activities and behaviours. Funding/development of sport initiatives for LGBT+ people to ensure that no one is excluded from safe participation in sport.
6. LGBT+ healthcare access and experiences	• Heteronormative healthcare cultures and settings influence diminished access to essential services among LGBT+ populations.		It is crucial that the public sector receives adequate, regular, up-to-date training on the health inequalities experienced by LGBT+. This should endorse a person-centred approach fostering an intersectional approach.

	• This unmet need is compounded by higher prevalence of chronic conditions and mental health disorders among LGBT+ groups.		Improvement of transgender people's access to trans healthcare across Scotland; healthcare should be accessible, resourced, timely and have equality of access geographically.
7. LGBT+ health in older age	• Older LGBT+ people experience a range of mental and physical health inequalities relative to older heterosexual and cisgender people. • Older LGBT+ people experience specific forms of discrimination within health and care settings.	***LGBT+ older people experience physical and mental health inequalities and low access to culturally competent and identity-affirming care and support.***	It is crucial that the health and care services receive adequate, regular, up-to-date training on the health inequalities experienced by LGBT+ older people. This should be person-centred and follow an intersectional approach. Efforts must be increased across public services to include and affirm LGBT+ older people, their families and support systems within health and care services and third sector support settings, using explicit national campaigns and promotional materials. Specifically, this may also include working with care providers to create carers who champion diversity and inclusion.

Report authors and contributions

Glasgow Centre for Population Health

Since 2004, the Glasgow Centre for Population Health (GCPH) has sought to generate insights and evidence, support new approaches, and inform and influence action to improve health and tackle inequality[b]. Working with a wide range of partners, the GCPH conducts research of direct relevance to policy and practice; facilitates and stimulates the exchange of ideas, fresh thinking and debate; and supports processes of development and change. Based in Glasgow, the GCPH has a focus on the particular characteristics of the city, but the Centre's learning and approaches are transferable to other cities worldwide.

In this report, the GCPH led the evidence-scoping review and summarised and systemised the findings of the review into seven core themes. The evidence presented was reviewed and further refined by LGBT Health and Wellbeing, in close collaboration with the GCPH. Policy recommendations stemming from the evidence themes were then developed collaboratively.

LGBT Health and Wellbeing

LGBT Health and Wellbeing is Scotland's national health and wellbeing charity for LGBT+ adults[c]. The vision of LGBT Health and Wellbeing is of a Scotland where LGBT+ people thrive; an equal Scotland where who we are does not negatively impact on our health and wellbeing. LGBT Health and Wellbeing aims to achieve this by improving the physical, social, and mental health and wellbeing of LGBT+ adults (aged 16 years and over) in Scotland through responsive support services, and social opportunities (events and groups) for LGBT+ people to connect with each other. Additionally, LGBT Health and Wellbeing works collaboratively with the LGBT+ community to work for change by platforming LGBT+ voices and experiences to influence policy formation and improve access to mainstream services for those most marginalised within the LGBT+ community. In this report, LGBT Health and Wellbeing reviewed and refined the evidence-scoping review developed by the GCPH. LGBT Health and Wellbeing provided expert analysis and insight in terms of developing evidence-based policy implications and recommendations based on the review. More details on this collaboration and the specific approach utilised in the evidence-scoping review can be found in the methods section.

[b] www.gcph.co.uk

[c] www.lgbthealth.org.uk

What this study adds

This scoping review provides a comprehensive overview of evidence concerning an important, and historically overlooked, public health priority. The grouping of the literature reviewed into evidence themes provides clarity and focused insight, and is accessible to a range of audiences.

The policy recommendations are based on the evidence reviewed, and the identified unmet health needs of the LGBT+ community. Recommendations are targeted towards policy makers and practitioners within healthcare but are also relevant to the care sector and other public services.

Combining the expert skills and insights of LGBT Health and Wellbeing with those of the GCPH supports a rich understanding of the evidence and its interpretation, which in turn enhances the viability of the policy recommendations.

Limitations of this study

This scoping review is time and resource constrained, meaning that it is possible that some relevant studies have been overlooked. Within this review, it was not possible to directly represent the views and insights of members of the LGBT+ community. Relatedly, the review is limited to a distinct focus on the LGBT+ community but does not consider the intersectionality of sexual or gender minority status with other characteristics such as ethnicity and disability, which are likely to have an important bearing on some of the key narratives presented within this report – such as access to healthcare services.

Conclusion

Whilst the evidence themes presented in this scoping review may shed light on the persistent health inequalities and unmet health needs within the LGBT+ community, they also serve to acknowledge the resilience, strength, and unwavering spirit that has characterised this community throughout history. From the Stonewall riots to the global fight for marriage equality, LGBT+ individuals have continually stood up against discrimination, bigotry, and injustice. It is within this rich tapestry of struggle and triumph that we find inspiration and hope for a future where health equity is not just an aspiration but a reality for LGBT+ people.

The availability of sexual and gender minority data that the recently refreshed Scottish census allows, will support population-level evidence and understandings of LGBT+ health inequalities, healthcare disparities and unmet health needs. This may represent a pivotal thread within the tapestry of LGBT+ struggle and triumph — a thread which invigorates a generational paradigm shift in Scotland, where the understanding of LGBT+ health inequalities moves from peripheral insight into mainstream public health science and policy making. We hope that this evidence review helps shape new possibilities for LGBT+ health analysis and supports the understanding and implications of the findings.

This evidence review prompts us to reflect on the journey of the LGBT+ community, in doing so we must remember the invaluable contributions they have made to society, enriching our lives with diversity, creativity, and a profound sense of humanity. As public health professionals and advocates we must work to amplify the voices of the marginalised, and work tirelessly towards a world where everyone, regardless of sexual orientation or gender identity, can live their lives to the fullest, in good health, free from discrimination and with access to the care and support they deserve. Together, we must strive for a future where good health is not a privilege but a fundamental human right, and one which embraces and celebrates the diversity that makes our world vibrant and beautiful.

References

1. The Center: The Lesbian Gay, Bisexual and Transgender Community Center. *What is LGBTQIA+?* https://gaycenter.org/community/lgbtq/ (accessed January 2024).

2. Buck DM. Defining transgender: What do lay definitions say about prejudice? *Psychology of Sexual Orientation and Gender Diversity* 2016;3(4):465.

3. Unger CA. Hormone therapy for transgender patients. *Translational Andrology and Urology* 2016;5(6):877.

4. Marchia J, Sommer JM. (Re) defining heteronormativity. *Sexualities* 2019;22(3):267-95.

5. Cava P. Cisgender and cissexual. *The Wiley Blackwell encyclopedia of gender and sexuality studies* 2016:1-4.

6. Griffiths DA. Georgina Somerset, British Intersex history, and the I in LGBTQI. *Journal of Homosexuality* 2024;71(5):1177-200.

7. Mackenbach JP, Valverde JR, Artnik B, et al. Trends in health inequalities in 27 European countries. *Proceedings of the National Academy of Sciences* 2018;115(25):6440-45.

8. Zeeman L, Sherriff N, Browne K, et al. A review of lesbian, gay, bisexual, trans and intersex (LGBTI) health and healthcare inequalities. *European Journal of Public Health* 2019;29(5):974-80.

9. Fish J, Almack K, Hafford-Letchfield, T, et al. What are LGBT+ inequalities in health and social support — why should we tackle them? *International Journal of Environmental Research and Public Health* 2021 18(7), Article 3612.

10. Government Equalities Office. *LGBT Action Plan: Improving the lives of Lesbian, Gay, Bisexual and Transgender people.* London, Government Equalities Office; 2018. https://www.gov.uk/government/publications/lgbt-action-plan-2018-improving-the-lives-of-lesbian-gay-bisexual-and-transgender-people

11. Heaslip V, Thompson R, Tauringana M, et al. Addressing health inequity in the UK: people who are homeless, from ethnic minority groups or LGBTQ+ communities. *Practice Nursing* 2022;33(3):112-16.

12. McGowan VJ, Lowther HJ, Meads C. Life under COVID-19 for LGBT+ people in the UK: systematic review of UK research on the impact of COVID-19 on sexual and gender minority populations. *BMJ open* 2021;11(7):e050092.

13. Haviland KS, Swette S, Kelechi T, et al. *Barriers and facilitators to cancer screening among LGBTQ individuals with cancer.* London: NIH Public Access; 2020.

14. Ormiston CK, Williams F. LGBTQ youth mental health during COVID-19: unmet needs in public health and policy. T*he Lancet* 2022;399(10324):501-03.

15. Alencar Albuquerque G, de Lima Garcia C, da Silva Quirino G, et al. Access to health services by lesbian, gay, bisexual, and transgender persons: systematic literature review. *BMC International Health and Human Rights* 2016;16:1-10.

16. Brooks H, Llewellyn CD, Nadarzynski T, et al. Sexual orientation disclosure

in health care: a systematic review. *British Journal of General Practice* 2018;68(668):e187-e96.

17. Bachmann CL, Gooch B. *LGBT in Britain: Trans report.* London, Stonewall, YouGov; 2018. https://www.stonewall.org.uk/resources/lgbt-britain-trans-report-2018

18. Rees SN, Crowe M, Harris S. The lesbian, gay, bisexual and transgender communities' mental health care needs and experiences of mental health services: An integrative review of qualitative studies. *Journal of Psychiatric and Mental Health Nursing* 2021;28(4):578-89.

19. Lawrence M, Taylor Y. The UK government LGBT Action Plan: Discourses of progress, enduring stasis, and LGBTQI+ lives 'getting better'. *Critical Social Policy* 2020;40(4):586-607.

20. Smalley KB, Warren JC, K Nikki et al (eds). *LGBT health: Meeting the needs of gender and sexual minorities.* London: Springer Publishing Company; 2017.

21. World Health Organisation. *Improving LGBTIQ+ health and well-being with consideration for SOGIESC.* https://www.who.int/activities/improving-lgbtqi-health-and-well--being-with-consideration-for-sogiesc (accessed January 2024).

22. Fish J, Karban K (eds). *Lesbian, gay, bisexual and trans health inequalities: International perspectives in social work.* Bristol: Policy Press; 2015.

23. Whitehead M, Dahlgren G. *Concepts and principles for tackling social inequities in health: Levelling up Part 1.* Copenhagen, World Health Organization; 2006. https://iris.who.int/bitstream/handle/10665/107790/E89383.pdf

24. Dahlgren G, Whitehead M. The Dahlgren-Whitehead model of health determinants: 30 years on and still chasing rainbows. *Public Health* 2021;199:20-24.

25. Cahill S, Makadon H. Sexual orientation and gender identity data collection in clinical settings and in electronic health records: A key to ending LGBT health disparities. *LGBT Health* 2014;1(1):34-41.

26. Keleher A, Smith ER. Growing support for gay and lesbian equality since 1990. *Journal of Homosexuality* 2012;59(9):1307-26.

27. Johnson P, Vanderbeck RM. *Law, religion and homosexuality.* London: Routledge; 2014.

28. Browne K, Nash CJ. Resisting LGBT rights where "we have won": Canada and Great Britain. *Journal of Human Rights* 2014;13(3):322-36.

29. The International Lesbian Gay, Bisexual, Trans and Intersex Association Europe (ILGA-Europe). *Annual review of the human rights situation of lesbian, gay, bisexual, trans and intersex people in Europe and Central Asia.* Geneva, ILGA; 2023. https://www.ilga-europe.org/report/annual-review-2023/

30. McEwen H, Narayanaswamy L. *The international anti-gender movement: Understanding the rise of anti-gender discourses in the context of development, human rights and social protection: UNRISD Working Paper.* Geneva, UNRISD; 2023. https://cdn.unrisd.org/assets/library/papers/pdf-files/2023/wp-2023-4-anti-gender-movement.pdf

31. Bayrakdar S, King A. LGBT discrimination, harassment and violence in Germany, Portugal and the UK: A quantitative comparative approach. *Current Sociology* 2023;71(1):152-72.

32. Murray K, Hunter Blackburn L. Losing sight of women's rights: the unregulated introduction of gender self-identification as

a case study of policy capture in Scotland. *Scottish Affairs* 2019;28(3):262-89.

33. Westwood S. "People with faith-based objections might display homophobic behaviour or transphobic behaviour": older LGBTQ people's fears about religious organisations and staff providing long-term care. *Journal of Religion, Spirituality & Aging* 2022:1-26.

34. Cammaerts B. The abnormalisation of social justice: The 'anti-woke culture war' discourse in the UK. *Discourse & Society* 2022;33(6):730-43.

35. Sauntson H. Challenging gender- and sexuality-based discrimination in UK schools: young women's experiences of illegitimation and resistance. In: Stauntson H, Kjaran JI (eds) *Schools as Queer Transformative Spaces.* London, Routledge; 2019:123-42.

36. Televantos M, Strauss SM. "I wasn't feeling like I belonged in my skin": How self-identified gay men in the UK experience unhelpful incidents in talking therapy 1. *Counselling and Psychotherapy Research* 2022;22(4):998-1012.

37. Poteat TC, Logie CH, van der Merwe LLA. Advancing LGBTQI health research. *The Lancet* 2021;397(10289):2031-33.

38. Colquhoun HL, Levac D, O'Brien KK, et al. Scoping reviews: time for clarity in definition, methods, and reporting. *Journal of Clinical Epidemiology* 2014;67(12):1291-94.

39. Iyamu I, Gómez-Ramírez O, Xu AX, et al. Defining the scope of digital public health and its implications for policy, practice, and research: Protocol for a scoping review. *JMIR Research Protocols* 2021;10(6):e27686.

40. Mainzer R, Moreno-Betancur M, Nguyen C, et al. Handling of missing data with multiple imputation in observational studies that address causal questions: protocol for a scoping review. *BMJ open* 2023;13(2):e065576.

41. Jadva V, Guasp A, Bradlow J, et al. Predictors of self-harm and suicide in LGBT youth: The role of gender, socio-economic status, bullying and school experience. *Journal of Public Health* 2023;45(1):102-08.

42. Guyan K. Constructing a queer population? Asking about sexual orientation in Scotland's 2022 census. *Journal of Gender Studies* 2022;31(6):782-92.

43. Berner AM, Meads C. LGBT Populations and Cancer in the UK. In: Boehmer U, Dennert G (eds) *LGBT Populations and Cancer in the Global Context.* London: Springer; 2022(215-57).

44. Pham MT, Rajić A, Greig JD, et al. A scoping review of scoping reviews: advancing the approach and enhancing the consistency. *Research Synthesis Methods* 2014;5(4):371-85.

45. Munn Z, Peters MD, Stern C, et al. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. *BMC Medical Research Methodology* 2018;18:1-7.

46. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology* 2005;8(1):19-32.

47. Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. *Implementation Science* 2010;5:1-9.

48. Kress AC, Asberry A, Taillepierre JD, et al. Collection of data on sex, sexual orientation, and gender identity by US

public health data and monitoring systems, 2015–2018. *International Journal of Environmental Research and Public Health* 2021;18(22):12189.

49. Phillips C. How covid-19 has exacerbated LGBTQ+ health inequalities. *BMJ* 2021;372

50. Almack K, King A. Lesbian, gay, bisexual, and trans aging in a UK context: Critical observations of recent research literature. *The International Journal of Aging and Human Development* 2019;89(1):93-107.

51. Guyan K. *Queer data: Using gender, sex and sexuality data for action.* London: Bloomsbury Publishing; 2022.

52. Cooley L. Sexual orientation and the 2021 UK census. *European Journal of Politics and Gender* 2020;3(3):445-47.

53. The Scottish Governement. *Scotland's Census 2021 Sexual Orientation Topic Report*. Edinburgh, Scot Gov; 202. https://www.scotlandscensus.gov.uk/media/nlugzlqn/sexual_orientation_topic_report.pdf

54. Kiekens WJ, La Roi C, Dijkstra JK. Sexual identity disparities in mental health among UK adults, US adults, and US adolescents: Examining heterogeneity by race/ethnicity. *Psychology of Sexual Orientation and Gender Diversity* 2021;8(4):407.

55. Amos R, Manalastas EJ, White R, et al. Mental health, social adversity, and health-related outcomes in sexual minority adolescents: a contemporary national cohort study. *The Lancet Child & Adolescent Health* 2020;4(1):36-45.

56. Kneale D, Henley J, Thomas J, et al. Inequalities in older LGBT people's health and care needs in the United Kingdom: a systematic scoping review. *Ageing & Society* 2021;41(3):493-515.

57. Mara L-C, Ginieis M, Brunet-Icart I. Strategies for coping with LGBT discrimination at work: a systematic literature review. *Sexuality Research and Social Policy* 2021;18:339-54.

58. Peel E, Rivers I, Tyler A, et al. Exploring LGBT resilience and moving beyond a deficit-model: findings from a qualitative study in England. *Psychology & Sexuality* 2023;14(1):114-26.

59. Jackson SE, Hackett RA, Grabovac I, et al. Perceived discrimination, health and wellbeing among middle-aged and older lesbian, gay and bisexual people: A prospective study. *PLoS One* 2019;14(5):e0216497.

60. Bower-Brown S, Zadeh S, Jadva V. Binary-trans, non-binary and gender-questioning adolescents' experiences in UK schools. *Journal of LGBT Youth* 2023;20(1):74-92.

61. McDermott E, Nelson R, Weeks H. The politics of LGBT+ health inequality: Conclusions from a UK scoping review. *International Journal of Environmental Research and Public Health* 2021;18(2):826.

62. Chan ASW. Advocating worldwide social inclusion and anti-discrimination among LGBT community. *Journal of Homosexuality* 2023;70(5):779-81.

63. Parmenter JG, Galliher RV, Maughan AD. LGBTQ+ emerging adults perceptions of discrimination and exclusion within the LGBTQ+ community. *Psychology & Sexuality* 2021;12(4):289-304.

64. Roundy N. *Queering Survey Research: Measuring LGBTQ+ Political Identity in the UK.* Cambridge: University of Cambridge; 2023.

65. Serrano Amaya JF, Rios Gonzalez O. Introduction to the Special Issue:

Challenges of LGBT research in the 21st century. *International Sociology*, 34(4), 371-381.

66. Walters MA, Paterson J, Brown R, et al. Hate crimes against trans people: Assessing emotions, behaviors, and attitudes toward criminal justice agencies. *Journal of Interpersonal Violence* 2020;35(21-22):4583-613.

67. Bradley C. *Transphobic hate crime report 2020*. London, Galop; 2020. https://galop.org.uk/wp-content/uploads/2021/06/Trans-Hate-Crime-Report-2020.pdf

68. Capous-Desyllas M, Mountz SE, Pestine-Stevens A. Unpacking the layers of community engagement, participation, and knowledge co-creation when representing the visual voices of LGBTQ former foster youth. *Engaged Scholar Journal: Community-Engaged Research, Teaching, and Learning* 2019;5(2):161-79.

69. Zeeman L, Aranda K. A systematic review of the health and healthcare inequalities for people with intersex variance. *International Journal of Environmental Research and Public Health* 2020;17(18):6533.

70. Mulholland H, McIntyre JC, Haines-Delmont A, et al. Investigation to identify individual socioeconomic and health determinants of suicidal ideation using responses to a cross-sectional, community-based public health survey. *BMJ open* 2021;11(2):e035252.

71. Rehman Z, Jaspal R, Fish J. Service provider perspectives of minority stress among black, asian and minority ethnic lesbian, gay and bisexual people in the UK. *Journal of Homosexuality* 2021;68(14):2551-73.

72. Teo C, Metheny N, Chum A. Family support modifies the effect of changes to same-sex marriage legislation on LGB mental health: evidence from a UK cohort study. *European Journal of Public Health* 2022;32(1):35-40.

73. Hafford-Letchfield T, Toze M, Westwood S. Unheard voices: A qualitative study of LGBT+ older people experiences during the first wave of the COVID-19 pandemic in the UK. *Health & Social Care in the Community* 2022;30(4):e1233-e43.

74. Ellis SJ. Diversity and inclusivity at university: A survey of the experiences of lesbian, gay, bisexual and trans (LGBT) students in the UK. *Higher Education* 2009;57(6):723-39.

75. Brittain CC, McKinnon A. Homosexuality and the construction of "Anglican orthodoxy": The symbolic politics of the Anglican communion. *Sociology of Religion* 2011;72(3):351-73.

76. Hoel H, Lewis D, Einarsdóttir A. *The ups and downs of LGBs workplace experiences: discrimination, bullying and harassment of lesbian, gay and bisexual employees in Britain.* Manchester, Manchester Business School; 2014. https://www.plymouth.ac.uk/uploads/production/document/path/11/11004/Hoel__Lewis_and_Einarsdottir__2014_.pdf

77. Stewart K, O'Reilly P. Exploring the attitudes, knowledge and beliefs of nurses and midwives of the healthcare needs of the LGBTQ population: An integrative review. *Nurse Education Today* 2017;53:67-77.

78. Hunt R, Bates C, Walker S, et al. A systematic review of UK educational and training materials aimed at health and social care staff about providing appropriate services for LGBT+ people. *International Journal of Environmental Research and Public Health* 2019;16(24):4976.

79. Drydakis N. *The Economics of Being LGBT. A Review: 2015-2020.*

Bonn, Germany, The Institute of Labour Economics; 2021. https://www.econstor.eu/bitstream/10419/250506/1/dp14845.pdf

80. Fearnley K. *Trans People and Work Survey Report.* Edinburgh, LGBT Health and Wellbeing; 2021. https://www.lgbthealth.org.uk/wp-content/uploads/2021/08/Trans-People-and-Work-Survey-Report-LGBT-Health-Aug-2021-FINAL.pdf

81. Westwood S. *The intersection of religion, sexual orientation and gender identity rights in older age care spaces: Scoping study findings.* York, University of York; 2022. https://eprints.whiterose.ac.uk/186248/1/RESORGICH_Summary_Report_April_2022.pdf

82. Jaspal R, Lopes B, Breakwell GM. Minority stressors, protective factors and mental health outcomes in lesbian, gay and bisexual people in the UK. *Current Psychology* 2023;42(28):24918-34.

83. Westwood S. Religious-based negative attitudes towards LGBTQ people among healthcare, social care and social work students and professionals: A review of the international literature. *Health & Social Care in the Community* 2022;30(5):e1449-e70.

84. Stein GL, Berkman C, O'Mahony S, et al. Experiences of lesbian, gay, bisexual, and transgender patients and families in hospice and palliative care: Perspectives of the palliative care team. *Journal of Palliative Medicine* 2020;23(6):817-24.

85. Westwood S, James J, Hafford-Letchfield T. 'He's a Gay, He's Going to Go to Hell.': Negative nurse attitudes towards LGBTQ people on a UK hospital ward: A single case study analysed in regulatory contexts. *Ethics and Social Welfare* 2023;17(4):387-402.

86. Cravens RG. Identity-affirming religious experience and political activism among LGBT people. *Journal of Contemporary Religion* 2021;36(3):501-24.

87. McNeill SG, McAteer J, Jepson R. Interactions between health professionals and lesbian, gay and bisexual patients in healthcare settings: A systematic review. *Journal of Homosexuality* 2023;70(2):250-76.

88. Sánchez-Monedero J, Dencik L, Edwards L. *What does it mean to 'solve' the problem of discrimination in hiring? Social, technical and legal perspectives from the UK on automated hiring systems.* Proceedings of the 2020 conference on fairness, accountability, and transparency. Barcelona, ACM; 2020. https://dl.acm.org/doi/pdf/10.1145/3351095.3372849

89. Hatzenbuehler ML, McLaughlin KA, Keyes KM, et al. The impact of institutional discrimination on psychiatric disorders in lesbian, gay, and bisexual populations: A prospective study. *American Journal of Public Health* 2010;100(3):452-59.

90. Nadal KL, Whitman CN, Davis LS, et al. Microaggressions toward lesbian, gay, bisexual, transgender, queer, and genderqueer people: A review of the literature. *The Journal of Sex Research* 2016;53(4-5):488-508.

91. Galloway B (ed). *Prejudice and pride: discrimination against gay people in modern Britain.* London: Routledge; 2023.

92. Haworth BT, Barros Cassal LC, de Paula Muniz T. 'No-one knows how to care for LGBT community like LGBT do': LGBTQIA+ experiences of COVID-19 in the United Kingdom and Brazil. *Disasters* 2023;47(3):584-607.

93. Flores AR, Stotzer RL, Meyer IH, et al. Hate crimes against LGBT people: National crime victimization survey, 2017-2019. *PLoS One* 2022;17(12):e0279363.

94. Hubbard L. *Hate Crime Report 2021: : Supporting LGBT+ Victims of Hate Crime.* London, Galop; 2021. https://galop.org.uk/resource/hate-crime-report-2021/

95. Marchi M, Travascio A, Uberti D, et al. Microaggression toward LGBTIQ people and implications for mental health: A systematic review. *International Journal of Social Psychiatry* 2023:00207640231194478.

96. Galupo MP, Resnick CA. Experiences of LGBT microaggressions in the workplace: Implications for policy. In: Kollen T (ed) *Sexual orientation and transgender issues in organizations: Global perspectives on LGBT workforce diversity.* Springer; 2016:271-87.

97. Salerno JP. Impact of racist microaggressions and LGBTQ-related minority stressors: Effects on psychological distress among LGBTQ+ young people of color. *Preventing Chronic Disease* 2023;20.

98. Nadal KL, Issa M-A, Leon J, et al. Sexual orientation microaggressions: "Death by a thousand cuts" for lesbian, gay, and bisexual youth. *Journal of LGBT Youth* 2011;8(3):234-59.

99. Decker H, Combs RM, Noonan EJ, et al. LGBTQ+ microaggressions in health care: Piloting an observation framework in a standardized patient assessment. *Journal of Homosexuality* 2024;71(2):528-44.

100. Mitchell LA, Jacobs C, McEwen A. (In)visibility of LGBTQIA+ people and relationships in healthcare: A scoping review. *Patient Education and Counseling* 2023:107828.

101. Nadal KL. A decade of microaggression research and LGBTQ communities: An introduction to the special issue. *Journal of Homosexuality* 2019;66(10):1309-16.

102. Reczek C. Sexual- and gender-minority families: A 2010 to 2020 decade in review. *Journal of Marriage and Family* 2020;82(1):300-25.

103. Kidd G, Marston L, Nazareth I, et al. Suicidal thoughts, suicide attempt and non-suicidal self-harm amongst lesbian, gay and bisexual adults compared with heterosexual adults: Analysis of data from two nationally representative English household surveys. *Social Psychiatry and Psychiatric Epidemiology* 2024;59(2):273-83.

104. Talley AE, Ibora MW, Le TH, et al. Policy recommendations to promote health and well-being in sexual and gender minority populations in the United States. *Social Issues and Policy Review* 2023;17(1):3-33.

105. Correro AN, Nielson KA. A review of minority stress as a risk factor for cognitive decline in lesbian, gay, bisexual, and transgender (LGBT) elders. *Journal of Gay & Lesbian Mental Health* 2020;24(1):2-19.

106. Hoy-Ellis CP. Minority stress and mental health: A review of the literature. *Journal of Homosexuality* 2023;70(5):806-30.

107. Flentje A, Heck NC, Brennan JM, et al. The relationship between minority stress and biological outcomes: A systematic review. *Journal of Behavioral Medicine* 2020;43:673-94.

108. Horton C. Gender minority stress in education: Protecting trans children's mental health in UK schools. *International Journal of Transgender Health* 2023;24(2):195-211.

109. Semlyen J, King M, Varney J, et al. Sexual orientation and symptoms of common mental disorder or low wellbeing: combined meta-analysis of 12 UK

population health surveys. *BMC Psychiatry* 2016;16:1-9.

110. Wittgens C, Fischer MM, Buspavanich P, et al. Mental health in people with minority sexual orientations: A meta-analysis of population-based studies. *Acta Psychiatrica Scandinavica* 2022;145(4):357-72.

111. MacCarthy S, Saunders CL, Elliott MN. Sexual minority adults in England have greater odds of chronic mental health problems: Variation by sexual orientation, age, ethnicity, and socioeconomic status. *LGBT Health* 2022;9(1):54-62.

112. Chan RC, Operario D, Mak WW. Bisexual individuals are at greater risk of poor mental health than lesbians and gay men: The mediating role of sexual identity stress at multiple levels. *Journal of Affective Disorders* 2020;260:292-301.

113. Gámez-Guadix M, Incera D. Homophobia is online: Sexual victimization and risks on the internet and mental health among bisexual, homosexual, pansexual, asexual, and queer adolescents. *Computers in Human Behavior* 2021;119:106728.

114. Pinna F, Paribello P, Somaini G, et al. Mental health in transgender individuals: a systematic review. *International Review of Psychiatry* 2022;34(3-4):292-359.

115. Aldridge Z, Patel S, Guo B, et al. Long-term effect of gender-affirming hormone treatment on depression and anxiety symptoms in transgender people: A prospective cohort study. *Andrology* 2021;9(6):1808-16.

116. Baker KE, Wilson LM, Sharma R, et al. Hormone therapy, mental health, and quality of life among transgender people: A systematic review. *Journal of the Endocrine Society* 2021;5(4):bvab011.

117. Jones BA, Bouman WP, Haycraft E, et al. Mental health and quality of life in non-binary transgender adults: a case control study. In: Joz M, Nieder T, Bouman WP (eds) *Non-binary and Genderqueer Genders.* London: Routledge; 2020(133-44).

118. Jones BA, Bowe M, McNamara N, et al. Exploring the mental health experiences of young trans and gender diverse people during the Covid-19 pandemic. *International Journal of Transgender Health* 2021:1-13.

119. Martín-Castillo D, Jiménez-Barbero JA, del Mar Pastor-Bravo M, et al. School victimization in transgender people: A systematic review. *Children and Youth Services Review* 2020;119:105480.

120. Rimes KA, Goodship N, Ussher G, et al. Non-binary and binary transgender youth: Comparison of mental health, self-harm, suicidality, substance use and victimization experiences. In: Joz M, Nieder T, Bouman WP (eds) *Non-binary and Genderqueer Genders*. Routledge 2020:112-22.

121. Carlile A. The experiences of transgender and non-binary children and young people and their parents in healthcare settings in England, UK: Interviews with members of a family support group. *International Journal of Transgender Health* 2020;21(1):16-32.

122. Ross DA, Hinton R, Melles-Brewer M, et al. Adolescent well-being: A definition and conceptual framework. *Journal of Adolescent Health* 2020;67(4):472-76.

123. Lerner RM, Foch TT (eds). *Biological-psychosocial interactions in early adolescence.* London: Routledge; 2021.

124. Wright C, Heron J, Kipping R, et al. Young adult cancer risk behaviours originate in adolescence: a longitudinal

analysis using ALSPAC, a UK birth cohort study. *BMC Cancer* 2021;21(1):1-15.

125. Evans-Lacko S, Takizawa R, Brimblecombe N, et al. Childhood bullying victimization is associated with use of mental health services over five decades: a longitudinal nationally representative cohort study. *Psychological Medicine* 2017;47(1):127-35.

126. Carastathis GS, Cohen L, Kaczmarek E, et al. Rejected by family for being gay or lesbian: Portrayals, perceptions, and resilience. *Journal of Homosexuality* 2017;64(3):289-320.

127. LGBT Youth Scotland. *Life in Scotland for LGBT young people 2022.* Edinburgh, LGBT Youth Scotland; 2022. https://lgbtyouth.org.uk/life-in-scotland-for-lgbt-young-people-in-2022/

128. Moyano N, del Mar Sanchez-Fuentes M. Homophobic bullying at schools: A systematic review of research, prevalence, school-related predictors and consequences. *Aggression and Violent Behavior* 2020;53:101441.

129. Van der Star A, Pachankis J, Bränström B. LGBT bullying at school across 28 European countries: the impact of bullying and structural stigma on later life satisfaction. *European Journal of Public Health* 2018;28(suppl_4):213.054.

130. Marston K. Beyond bullying: the limitations of homophobic and transphobic bullying interventions for affirming lesbian, gay, bisexual and trans (LGBT) equality in education. *Pastoral Care in Education* 2015;33(3):161-68.

131. Ojeda M, Elipe P, Del Rey R. LGBTQ+ bullying and cyberbullying: Beyond sexual orientation and gender identity. *Victims & Offenders* 2024;19(3):491-512.

132. Keighley R. Hate hurts: Exploring the impact of online hate on LGBTQ+ young people. *Women & Criminal Justice* 2022;32(1-2):29-48.

133. Rivers I, Daly J, Stevenson L. Homophobic and transphobic online harassment: Young people in Scotland during the COVID-19 pandemic. Cyberbullying and Online Harms. London: Routledge 2023:57-66.

134. Marshal MP, Dietz LJ, Friedman MS, et al. Suicidality and depression disparities between sexual minority and heterosexual youth: a meta-analytic review. *Journal of Adolescent Health* 2011;49(2):115-23.

135. Irish M, Solmi F, Mars B, et al. Depression and self-harm from adolescence to young adulthood in sexual minorities compared with heterosexuals in the UK: a population-based cohort study. *The Lancet Child & Adolescent Health* 2019;3(2):91-98.

136. Williams AJ, Arcelus J, Townsend E, et al. Understanding the processes underlying self-harm ideation and behaviors within LGBTQ+ young people: A qualitative study. *Archives of Suicide Research* 2023;27(2):380-96.

137. Sigurvinsdottir R, Gisladottir B, Asgeirsdottir BB, et al. Sexual attraction and non-suicidal self-harm: The role of stressors and psychological mediators. *Archives of Sexual Behavior* 2024:1-14.

138. Marzetti H, McDaid L, O'Connor R. A qualitative study of young people's lived experiences of suicide and self-harm: intentionality, rationality and authenticity. *Child and Adolescent Mental Health* 2023;28(4):504-11.

139. Williams AJ, Jones C, Arcelus J, et al. A systematic review and meta-analysis of victimisation and mental health prevalence among LGBTQ+ young people with experiences of self-harm and suicide. *PLoS One* 2021;16(1):e0245268.

140. Semlyen J, Curtis T, Varney J. Sexual orientation identity in relation to unhealthy body mass index: individual participant data meta-analysis of 93 429 individuals from 12 UK health surveys. *Journal of Public Health* 2020;42(1):98-106.

141. Cao Z, Cini E, Pellegrini D, et al. The association between sexual orientation and eating disorders-related eating behaviours in adolescents: A systematic review and meta-analysis. *European Eating Disorders Review* 2023;31(1):46-64.

142. Oginni OA, Jern P, Rahman Q, et al. Do psychosocial factors mediate sexual minorities' risky sexual behaviour? A twin study. *Health Psychology* 2022;41(1):76.

143. Baams L, Kiekens WJ, Fish JN. The rejection sensitivity model: Sexual minority adolescents in context. *Archives of Sexual Behavior* 2020;49:2259-63.

144. Mayer KH, Garofalo R, Makadon HJ. Promoting the successful development of sexual and gender minority youths. *American Journal of Public Health* 2014;104(6):976-81.

145. Khanolkar AR, Frost DM, Tabor E, et al. Ethnic and sexual identities: inequalities in adolescent health and wellbeing in a national population-based study. *medRxiv* 2021:2021.07. 12.21260381.

146. Millet N, Longworth J, Arcelus J. Prevalence of anxiety symptoms and disorders in the transgender population: A systematic review of the literature. *International Journal of Transgenderism* 2017;18(1):27-38.

147. Biggs M. Suicide by clinic-referred transgender adolescents in the United Kingdom. *Archives of Sexual Behavior* 2022:1-6.

148. Gato J, Barrientos J, Tasker F, et al. Psychosocial effects of the COVID-19 pandemic and mental health among LGBTQ+ young adults: A cross-cultural comparison across six nations. *Journal of Homosexuality* 2021;68(4):612-30.

149. Bécares L, Kneale D. Inequalities in mental health, self-rated health, and social support among sexual minority young adults during the COVID-19 pandemic: analyses from the UK Millennium Cohort Study. *Social Psychiatry and Psychiatric Epidemiology* 2022;57(10):1979-86.

150. Bailey BM, Heath MA, Jackson AP, et al. An ethnographic exploration of adolescent homophobic language in a rural religiously-conservative high school. *Journal of LGBT Youth* 2022;19(2):217-45.

151. Ryan C, Huebner D, Diaz RM, et al. Family rejection as a predictor of negative health outcomes in white and Latino lesbian, gay, and bisexual young adults. *Pediatrics* 2009;123(1):346-52.

152. Just Like Us. *Positive Futures. How supporting LGBT+ young people enables them to thrive in adulthood.* London, Just Like Us; 2021. https://www.justlikeus.org/wp-content/uploads/2023/05/Positive-Futures-report-by-Just-Like-Us-compressed-for-mobile.pdf

153. Blondeel K, Say L, Chou D, et al. Evidence and knowledge gaps on the disease burden in sexual and gender minorities: a review of systematic reviews. *International Journal for Equity in Health* 2016;15(1):1-9.

154. Meads C, Carmona C, Kelly MP. Lesbian, gay and bisexual people's health in the UK: a theoretical critique and systematic review. *Diversity & Equality in Health & Care* 2012;9(1)

155. Boehmer U, Miao X, Ozonoff A. Cancer survivorship and sexual orientation. *Cancer* 2011;117(16):3796-804.

156. Boehmer U, Ozonoff A, Miao X. An ecological analysis of colorectal cancer incidence and mortality: differences by sexual orientation. *BMC Cancer* 2011;11(1):1-8.

157. Cochran SD, Mays VM. Risk of breast cancer mortality among women cohabiting with same sex partners: Findings from the National Health Interview Survey, 1997–2003. *Journal of Women's Health* 2012;21(5):528-33.

158. Saunders CL, Massou E, Waller J, et al. Cervical screening attendance and cervical cancer risk among women who have sex with women. *Journal of Medical Screening* 2021;28(3):349-56.

159. Connolly D, Hughes X, Berner A. Barriers and facilitators to cervical cancer screening among transgender men and non-binary people with a cervix: A systematic narrative review. *Preventive Medicine* 2020;135:106071.

160. Drysdale K, Cama E, Botfield J, et al. Targeting cancer prevention and screening interventions to LGBTQ communities: A scoping review. *Health & Social Care in the Community* 2021;29(5):1233-48.

161. Berner AM, Connolly DJ, Pinnell I, et al. Attitudes of transgender men and non-binary people to cervical screening: a cross-sectional mixed-methods study in the UK. *British Journal of General Practice* 2021;71(709):e614-e25.

162. Caceres BA, Streed Jr CG, Corliss HL, et al. Assessing and addressing cardiovascular health in LGBTQ adults: A scientific statement from the American Heart Association. *Circulation* 2020;142(19):e321-e32.

163. García JJ, Serpas DG. Cardiovascular Disease Risk Factor Burden in LGBTQ PoC. In: García JJ (ed) *Heart, Brain and Mental Health Disparities for LGBTQ People of Color.* London: Springer;2021(55-67).

164. LGBT Foundation. *Hidden figures: the impact of the covid-19 pandemic on LGBT communities in the UK.* London, LGBT Foundation; 2020. https://lgbt.foundation/help/hidden-figures-covid-19-pandemic-impact-on-lgbtq-peoplehidden-figures/

165. UK Parliament. *Health and Social Care and LGBT Communities.* London, UK Parliament; 2019. https://publications.parliament.uk/pa/cm201919/cmselect/cmwomeq/94/9402.htm

166. Saunders CL, MacCarthy S, Meads C, et al. Long-term conditions among sexual minority adults in England: evidence from a cross-sectional analysis of responses to the English GP Patient Survey. *BJGP Open* 2021;5(5).

167. Alshuwaiyer G. Differences in obesity pattern, physical activity level, and dietary habits among LGBTQ individuals: A systematic review. *International Journal of Health, Wellness & Society* 2021;11(2).

168. House of Commons Women and Equalities Committee. *Health and Social Care and LGBT Communities. First Report of Session 2019.* London, House of Commons; 2019. https://publications.parliament.uk/pa/cm201919/cmselect/cmwomeq/94/94.pdf

169. Peters SA, MacMahon S, Woodward M. Obesity as a risk factor for COVID-19 mortality in women and men in the UK Biobank: Comparisons with influenza/pneumonia and coronary heart disease. *Diabetes, Obesity and Metabolism* 2021;23(1):258-62.

170. Warren JC, Smalley KB, Fernandez MI. LGBTQ Health Equity. In: Warren JC, Smalley KB, Fernandez MI (eds) *Health Equity: A Solutions-Focused Approach.* London: Springer Publishing; 2020.

171. Turner-Musa J, Ajayi O, Kemp L. Examining social determinants of health, stigma, and COVID-19 disparities. *Healthcare*. 2020; 8(2):168.

172. Kilicaslan J, Petrakis M. Heteronormative models of health-care delivery: Investigating staff knowledge and confidence to meet the needs of LGBTIQ+ people. *Social Work in Health Care* 2019;58(6):612-32.

173. Stonewall UK. *LGBT in Britain Health Report*. London, Stonewall UK; 2018. https://www.stonewall.org.uk/system/files/lgbt_in_britain_health.pdf

174. Kohli M, Reeves I, Waters L. Homophobia in the provision of sexual health care in the UK. *The Lancet HIV* 2024;11:(2).

175. Tavakoly Sany SB, Behzhad F, Ferns G, et al. Communication skills training for physicians improves health literacy and medical outcomes among patients with hypertension: a randomized controlled trial. *BMC Health Services Research* 2020;20: 1-10.

176. McDowell MJ, Goldhammer H, Potter JE, et al. Strategies to mitigate clinician implicit bias against sexual and gender minority patients. *Psychosomatics* 2020;61(6):655-61.

177. Lilly B, Tippins MJ, Tippins K, et al. Doctor behaviors that impact patient satisfaction. *Patient Experience Journal* 2023;10(2):103-12.

178. Meads C, Hunt R, Martin A, et al. A systematic review of sexual minority women's experiences of health care in the UK. *International Journal of Environmental Research and Public Health* 2019;16(17):3032.

179. Kane E, Lloyd M, Malley M, et al. Homophobic abuse & LGBTQ+ well-being in the acute psychiatric setting. *BJPsych Open* 2022;8(S1):S136-S37.

180. Yu H, Flores DD, Bonett S, et al. LGBTQ+ cultural competency training for health professionals: a systematic review. *BMC Medical Education* 2023;23(1):558.

181. McEwing E. Delivering culturally competent care to the lesbian, gay, bisexual, and transgender (LGBT) population: Education for nursing students. *Nurse Education Today* 2020;94:104573.

182. Nowaskie DZ, Najam S. Lesbian, gay, bisexual, and/or transgender (LGBT) cultural competency across the intersectionalities of gender identity, sexual orientation, and race among healthcare professionals. *PLoS One* 2022;17(11):0277682.

183. Fish J, Williamson I. Exploring lesbian, gay and bisexual patients' accounts of their experiences of cancer care in the UK. *European Journal of Cancer Care* 2018;27(1):12501.

184. Bolderston A, Ralph S. Improving the health care experiences of lesbian, gay, bisexual and transgender patients. *Radiography* 2016;22(3):207-11.

185. Hoffman L, Delahanty J. To speak to me, address us: Insights from LGBT young adults to inform public education campaigns. *Health Promotion Practice* 2021;22(5):641-48.

186. Dema E, Sonnenberg P, Gibbs J, et al. How did the COVID-19 pandemic affect access to condoms, chlamydia and HIV testing, and cervical cancer screening at a population level in Britain?(Natsal-COVID). *Sexually Transmitted Infections* 2023;99(4):261-67.

187. Ogaz D, Allen H, Reid D, et al. COVID-19 infection and vaccination uptake in men and gender-diverse people who

have sex with men in the UK: analyses of a large, online community cross-sectional survey (RiiSH-COVID) undertaken November–December 2021. *BMC Public Health* 2023;23(1):829.

188. Berkman C, Stein GL, Godfrey D, et al. Disrespectful and inadequate palliative care to lesbian, gay, and bisexual patients. *Palliative & Supportive Care* 2023;21(5):782-87.

189. Westwood S, Willis P, Fish J, et al. Older LGBT+ health inequalities in the UK: setting a research agenda. *Journal of Epidemiology and Community Health* 2020.

190. Pharr JR. Health disparities among lesbian, gay, bisexual, transgender, and nonbinary adults 50 years old and older in the United States. *LGBT Health* 2021;8(7):473-85.

191. DeSon JJ, Andover MS. Microaggressions toward sexual and gender minority emerging adults: An updated systematic review of psychological correlates and outcomes and the role of intersectionality. *LGBT Health* 2023.

192. McParland J, Camic PM. Psychosocial factors and ageing in older lesbian, gay and bisexual people: a systematic review of the literature. *Journal of Clinical Nursing* 2016;25(23-24):3415-37.

193. Stinchcombe A, Smallbone J, Wilson K, et al. Healthcare and end-of-life needs of lesbian, gay, bisexual, and transgender (LGBT) older adults: A scoping review. *Geriatrics* 2017;2(1):13.

194. Hawthorne O, Camic PM, Rimes KA. Understanding the structure, experiences and challenges of social support for older lesbian, gay and bisexual people: a systematic review. *Ageing & Society* 2020;40(2):282-305.

195. Bailey D, Calasanti T, Crowe A, et al. Equal but different! Improving care for older LGBT+ adults. *Age and Ageing* 2022;51(6):142.

196. Di Lorito C, Bosco A, Peel E, et al. Are dementia services and support organisations meeting the needs of lesbian, gay, bisexual and transgender (LGBT) caregivers of LGBT people living with dementia? A scoping review of the literature. *Aging & Mental Health* 2022;26(10):1912-21.

197. McGlynn N, Browne K, Sherriff N, et al. Healthcare professionals' assumptions as barriers to LGBTI healthcare. *Culture, Health & Sexuality* 2020;22(8):954-70.

198. Marshall A, Cahill S. Barriers and opportunities for the mental health of LGBT older adults and older people living with HIV: a systematic literature review. *Aging & Mental Health* 2022;26(9):1845-54.

199. Fredriksen-Goldsen KI, Cook-Daniels L, Kim H-J, et al. Physical and mental health of transgender older adults: an at-risk and underserved population. *The Gerontologist* 2014;54(3):488-500.

200. Capistrant BD, Nakash O. Suicide risk for sexual minorities in middle and older age: Evidence from the National Survey on Drug Use and Health. *The American Journal of Geriatric Psychiatry* 2019;27(5):559-63.

201. Gorczynski P, Paul, Fasoli P, Fabio. Loneliness in sexual minority and heterosexual individuals: A comparative meta-analysis. *Journal of Gay & Lesbian Mental Health* 2022;26(2):112-29.

202. Benbow SM, Kingston P. Older trans individuals' experiences of health and social care and the views of healthcare and social care practitioners: 'they hadn't a clue'. *Educational Gerontology* 2022;48(4):160-73.

203. Fredriksen-Goldsen KI, Jen S, Bryan AE, et al. 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* 2018;37(5):545-69.

204. Perales-Puchalt J, Gauthreaux K, Flatt J, et al. Risk of dementia and mild cognitive impairment among older adults in same-sex relationships. *International Journal of Geriatric Psychiatry* 2019;34(6):828-35.

205. Shippee T, Rosser BS, Wright MM, et al. Scoping literature review: Experiences of sexual and gender minority older adults, with diagnoses of dementia, who use residential long-term services and supports. *Journal of Applied Gerontology* 2023:07334648231213532.

206. Westwood S, Hafford-Letchfield T, Toze M. Physical and mental well-being, risk and protective factors among older lesbians/gay women in the United Kingdom during the initial COVID-19 2020 lockdown. *Journal of Women & Aging* 2022;34(4):501-22.

207. Choi SK, Meyer IH. *LGBT aging: A review of research findings, needs, and policy implications.* Los Angeles, The Williams Institute at UCLA School of Law; 2016. https://www.jstor.org/stable/resrep34905?seq=1

208. Abd-Elsayed A, Heyer AM, Schatman ME. Disparities in the treatment of the LGBTQ population in chronic pain management. *Journal of Pain Research* 2021:3623-25.

209. Taylor NM, King CK. Sexual health and the LGBTQ+ community. *Primary Care: Clinics in Office Practice* 2021;48(2):271-82.

210. Verstraete DBC. Homosexuality in ancient Greek and Roman civilization: a critical bibliography. *Journal of Homosexuality* 1977;3(1):79-90.

211. Olali D. African traditional religion, sexual orientation, transgender, and homosexuality. In: Aderibigbe IS, Falola T (eds) *The Palgrave Handbook of African Traditional Religion*. Palgrave Macmillan. 2022:317-28.

212. Aldrich R. *Historical views of homosexuality: European colonialism.* London: Oxford Research Encyclopedia of Politics; 2020.

213. Stein M. *The Stonewall riots: A documentary history*. New York: NYU Press; 2019.

214. Gray C. *The Evolution of LGBT Rights in the UK: Is the Tide Starting to Turn? Justice After Stonewall.* London: Routledge 2023:86-104.

215. McLean C. The growth of the anti-transgender movement in the United Kingdom. The silent radicalization of the British electorate. *International Journal of Sociology* 2021;51(6):473-82.

216. Montiel-McCann CS. "It's like we are not human": discourses of humanisation and otherness in the representation of trans identity in British broadsheet newspapers. *Feminist Media Studies* 2023;23(6):2962-78.

217. Colliver B. "Not the right kind of woman": Transgender women's experiences of transphobic hate crime and trans-misogyny. In: Zembi I, Smith J (eds) *Misogyny as hate crime.* London: Routledge 2021:213-27.

218. Hatch HA, Warner RH, Broussard KA, et al. Predictors of transgender prejudice: A meta-analysis. *Sex Roles* 2022;87(11):583-602.

219. Llewellyn A, Reynolds K. Within and between heteronormativity and diversity: narratives of LGB teachers and coming and being out in schools. *Sex Education* 2021;21(1):13-26.

220. Mawdsley A, Willis SC. Hetero- and cisnormativity-UK pharmacy education as a queer opponent. *Medical Education* 2023;57(6):574-86.

221. Swaab DF, Wolff SE, Bao A-M. Sexual differentiation of the human hypothalamus: Relationship to gender identity and sexual orientation. *Handbook of Clinical Neurology* 2021;181:427-43.

222. Mesut S, SAVCI U, Balta B, et al. Neurobiological components of sexual identity development and epigenetic effects of environmental stressors. *Psikiyatride Güncel Yaklaşımlar* 2024;16(1):175-84.

223. Cahill SR. Still in the dark regarding the public health impact of COVID-19 on sexual and gender minorities. *American Journal of Public Health* 2021:1606-09.

224. Boyle RE, Jonker L, Xirasagar S, et al. Hospital workforce engagement, satisfaction, burnout and effects on patient mortality: Findings from the English National Health Service staff surveys. *Health Services Management Research* 2023:09514848231179175.

225. Walsh D, Wyper GM, McCartney G. Trends in healthy life expectancy in the age of austerity. *Journal of Epidemiology and Community Health* 2022;76(8):743-45.

Glasgow Centre for Population Health

Olympia Building, Bridgeton Cross, G40 2QH

Web: www.gcph.co.uk
Twitter: @theGCPH
LinkedIn: /theGCPH
Facebook: facebook.com/theGCPH