Australian Gay Men and Type 2 Diabetes

Edwin Pascoe RN CDE

BNurs

GradCertDiabetesMgmtEd

MNurs(Emerg)

College of Arts and Education, Victoria University

November 2022

Submitted in the fulfilment of the requirements of Doctor of Philosophy

Abstract

This study sought to understand the role sexual orientation has on gay males' health journey with type 2 diabetes in the Australian context, and the extent to which it informs diabetes management and education. A diagnosis of type 2 diabetes increases the amount of health care related tasks a person must perform to maintain their health. The literature identified some unique issues that may affect a gay man's journey with diabetes, including homophobia in sports, amyl usage, increased smoking, and increased stress. Further issues explored were binge eating disorders related to rejection by family, work, church, and the gay community. There is also an increase in erectile dysfunction and decreased engagement with the diabetes teams leading to increase complications and blood glucose levels. Gay men living alone exacerbated the feeling of a lack of support when facing the increased demands of living with type 2 diabetes.

This was a mixed methods study consisting of two phases of data collection. The first phase was the collection of quantitative data consisting of social media posts and an online survey. The study was advertised using social media posts, where people were invited to comment or ask questions. The survey focused on 83 gay men with type 2 diabetes with no HIV; however, 82 gay men without type 2 diabetes and 13 gay men with both type 2 diabetes and HIV were included using separate questions to act as a possible benchmark. From the first phase, 12 gay men with type 2 diabetes volunteered to participate in interviews, and the qualitative data collected became the second phase of data collection, which also included two diabetes educators. The interviews were taped, transcribed, and analysed using reflexive thematic analysis.

Three main themes were identified that affected a gay man's journey with type 2 diabetes. The first theme was the consultation which was influenced by seven areas that included the sexualisation of gay men, the decision to come out, not knowing who has a negative attitude, disregard for the psychosocial, centrality versus we are all the same, the power of language, and culturally appropriate information. These seven areas can disengage recipients of diabetes education, blunting its potential effect in areas such as increased blood glucose monitoring, reducing complications, and escalation of insulin when required. The second theme included being uniquely gay, which described the effect of rejection experienced in areas such as the gay community, work, church, and family on eating (binge eating disorder) and exercise. The third theme centred around support, identifying areas where support can be different or challenged, such as the shift from a biological family to friends, living alone, marriage, barriers to discussing support, and children.

The distillation of the findings was informed by Antonovsky's Salutogenic model (1979) and the Bio-Medical Model and led to the development of Pascoe's Journey of Life model. It contains five areas of departure or clarification from the Salutogenic model (1979) and brings into focus the quality of life and psychosocial issues for gay men with type 2 diabetes. As such, the Pascoe Journey of Life model will enable diabetes educators to tailor diabetes management that is person-centred focussed for the gay man and promote better health outcomes and associated quality of life.

Doctor of Philosophy Student Declaration

Doctor of Philosophy Declaration

"I, Edwin Pascoe, declare that the PhD thesis entitled Gay men and type 2 diabetes is no more than 80,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work".

"I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures".

Signature: 

Date: 29/11/2022

Ethics Declaration (include under the student declaration and complete if ethics approval was granted)

"All research procedures reported in the thesis were approved by the Victoria University Human Ethics Research Committee HRE15-243 on the 22/10/2015

Signature: 

Date: 29/11/2022

Table of Contents

List of Tables

List of Figures

Abbreviations Used

ABS	Australian Bureau of Statistics
ADEA	Australian Diabetes Educator Association
ADS	Australian Diabetes Society
AKA	Acidosis to Ketone Ratios
ANDA	Australian National Diabetes Audit
ANMJ	Australian Nursing Midwifery Journal
APPLES	Australian Positive & Peers Longevity Evaluation Study
AQCA	Australian Quality Clinical Audit
AUSDRISK	Australian Type 2 Diabetes Risk Assessment Tool
BED	Binge Eating Disorder
BMI	Basal Metabolic Rate
CCM	Chronic Care Model
CDE	Credentialed Diabetes Educator
CDM	Chronic Disease Model
DE	Diabetes Educator
DKA	Diabetic Ketoacidosis
DSM	Diagnostic and Statistical Manual of Mental Disorders
EBM	Evidence-Based Medicine
ECT	Electro Convulsive Therapy
ED	Erectile Dysfunction
FFA	Free Fatty Acids
GLBTIQ	Gay, lesbian, bisexual, transgender, intersex, and queer
GP	General Practitioner
GRD	General Resistant Deficits

GRR	General Resistant Resources
GSS	General Social Survey
HARP	Hospital Assessment Risk Program
ICT	Information Communication Technologies
HbA1c	Glycosylated haemoglobin
LGBTQ	Lesbian, Gay, Bisexual, Transgender, Queer
LGBTQIA	Lesbian, gay, bisexual, transgender, intersex, queer, asexual
LGBTQIA+	Lesbian, gay, bisexual, transgender, intersex, queer, asexual, plus
MBS	Medicare Benefits Schedule
MDMA	3,4-Methylenedioxymethamphetamine (Ecstasy)
NADC	National Association of Diabetes Centres
NMBA	Nursing Midwifery Board AHPRA
OGTT	Oral Glucose Tolerance Test
PCC	Person Centred Care
PDE-5	Phosphodiesterase type 5
PFLAG	Parents and Friends of Lesbians and Gays
PreP	Pre-exposure prophylaxis
PTSD	Post-Traumatic Stress Disorder
PWD	Person with Diabetes
QALYs	Quality-Adjusted Life-Years
RACGP	Royal Australian College of General Practitioners
SBGM	Self-Blood Glucose Monitoring
SDH	Social Determinants of Health
SGLT2 inhibitor	Sodium-Glucose Cotransporter-2 Inhibitors
SHE	Severe Hypoglycemics Episode

SMH	Salutogenic Model of Health
SOC	Sense of Coherence
SRR	Specific Resistant Resources
STEM	Science, technology, engineering, and mathematics
STI	Sexually transmitted Infection
TGA	Therapeutic Goods Administration
USA	United States of America
VAC/GMHC	Victorian Aids Council and Gay Men's Health Centre
WHO	World Health Organisation

Glossary of terms

Gay – In this study, the term refers to a same-sex attracted person, and this is self-identified. Other words, such as same-sex attracted or non–heterosexual, were considered too wide because they encompassed other identities, such as bisexual or pansexual men, which could obscure the data. The term homosexual was not used because of its historical origins when it was seen as a mental illness.

Men – In this study, men refers to the biological sex a person was assigned at birth or born with, making them male. They may be referred to as a cis male, distinct from gender expression or how they present themselves in society, that being maleness, femaleness, androgyny, or fluid.

Type 2 diabetes – Type 2 diabetes is a condition where the body cells that respond to insulin (muscle and fat cells) are not sensitive to its action. As a result, the beta cells in the pancreas increase insulin production to try and counter this – a process known as homeostasis. The pancreas' alpha cells are also not sufficiently suppressed by insulin; therefore, their production of glucagon that stimulates glucose production goes uncontrolled, leading to increased blood glucose. This abnormality is in part attributed to increasing adiposity within the abdominal cavity. Beta cells then progressively fail over time, due to being overworked (Kahn et al., 2014). However, the above explanation is rudimentary, with many other pathophysiological processes at work. Some processes are still to be uncovered, meaning that the treatment regimen is also ever-changing with new discoveries. In addition, type-2 diabetes progressively changes with time among individuals, making interpretation and treatment difficult for both the treating team and the person with type 2 diabetes (Kahn, 2014). Type 2-diabetes was chosen as it represented the largest subtype of diabetes, exhibiting up to 85% of cases (Diabetes Australia, 2015).

Diabetes Educator - Diabetes Educators are a group of health care professionals (originally only made up of Registered Nurses) who provide advanced care to people with diabetes. This role has extended to include other allied health members, reflecting the multidisciplinary approach needed (The International Centre for Allied Health Evidence, 2014). Their role is to improve health literacy which has been shown to improve health outcomes, defined as ‘how people access, understand and use health information in ways that benefit their health’ (Australian Commission on Safety and

Quality in Health Care, 2014). The role has also been shown to enhance cost savings assessed by an independent company report of Deloitte Access Economics by improving glycosylated haemoglobin (HbA1c), quality-adjusted life-years (QALYs) and reducing the incidence of co-morbidities. They were commissioned by the Australian Diabetes Educator Association (ADEA) to help them push the case for improving funding for diabetes education in Australia (Australian Diabetes Educators Association, 2014).

Coming out - Coming out is the process of informing people with whom one interacts that they are gay. The process includes coming out to yourself, initially coming out to someone, coming out to various groups (friends, family, and work), and then on an ongoing basis as new people come into their life (Belous et al., 2015; Grierson & Smith, 2005). This process is enacted in healthcare, where a gay man must determine if it is safe to come out each time they meet a new healthcare professional and when, for example, they are asked questions such as 'do you have a partner'?

Gay or LGBTQIA+ community - When one refers to the gay community, it is often assumed they are a homogenous group who think and feel the same way, which is not the case. There are often animated and ongoing debates about handling social justice issues due to unique problems experienced by gay men and each subsection of the lesbian, gay, bisexual, transgender, intersex, queer, and questioning community. While collecting these data, I became acutely aware of a wide range of views, sometimes at opposite ends of the spectrum. At one end of the spectrum was the belief that studying diabetes in gay men only serves to segregate and not unify them. However, other people praised the study because it acknowledged and celebrated differences that could lead to greater acceptance.

Acknowledgement

I would first like to acknowledge the participants who gave freely of their time and shared their stories to shed light on this vital topic.

I would also like to thank my supervisors for their encouragement throughout my study: Dr Trish Burton, Dr Marg Malloch, and Dr Gabby Pretto. Trish from the discipline of nursing was the first person I contacted about doing the PhD; she has constantly shown faith in me that I could do this. Marg, from the discipline of education, helped challenge my views and, as such, was a great sounding board that allowed me to develop my ideas. Gabby came into my supervisory team later in the PhD candidature, but she has been wonderful in helping me shape my writing and a great source of motivation.

I'd like to thank my friends, Michael, Graham, Malcolm, and Steve, who kept me sane during the candidature. I had some turbulent times, including the death of three friends and marriage equality, but my friends would invite me out for lunch regularly on Sundays, which helped me to re-energise.

Finally, I want to thank Thorne Harbour Health (Formally Vic AIDs Council/ Gay Men's Health Centre) for their kind reading of my proposal and for giving ethics approval. Although not used, Thorne Harbour Health also offered their rooms to conduct interviews.

Prologue

Being a gay man, I was interested in how sexual orientation impacted the management of diabetes because I worked as a diabetes educator. Whilst initially researching this topic, the only data that could be found were incidence levels. Most of the literature on gay men's health focussed on sexually transmitted infections and mental health, but it made no sense to me that if gay men were smoking, drinking, and taking more drugs, why wasn't I seeing research on areas such as chronic disease where these behaviours have a major impact. I had adjusted my behaviour as a younger person when it came to testing for sexually transmitted infections (STIs) by avoiding them. At the time, I believed if I got tested for STIs, this might expose me as gay and risk my job as a nurse. This fear of testing eventually changed as I got older and built the courage to be tested. However, this example does go some way to demonstrating how my identity altered my health-seeking behaviour.

Further to this, I thought about the time I visited a dentist and on the admission form, I had to select if I was homosexual in a section on at-risk groups for infectious diseases. I chose homosexuality, which was the first time I had admitted to this in a health care setting, so it was significant. When the nurse came to collect me and presented me to the dentist and assistant, she said this one is homosexual; we will all have to double glove. I was mortified and felt embarrassed, and I could not wait to get out of there. It took me another ten years to see a dentist again even though the approach to asking questions had moved away from at-risk groups to at risk behaviour. Therefore, being gay had adjusted what I did with health care outside of mental health and STI testing, for example seeing a dentist.

It was put to me that being male reduces the propensity for health-seeking because this was a well-known behaviour among men. Although I was convinced that being gay had also changed how I approach health and health-seeking because of experiences such as the dental appointment, more exploratory research was needed to determine the factors that alter a gay man's journey with diabetes to establish why sexuality might be an important variable.

Before the study, I had read about homophobia in sports. So, this was at least one thing that I could relate to a gay man's journey with diabetes because participation in exercise is always encouraged in diabetes management. Because there were negligible studies directly relating diabetes to being gay, I had to take a sidestep to examine what behaviours were high in gay men and then determine if these factors also affected a gay man's journey with type 2 diabetes and diabetes management.

During the study, there were significant moments in Australia that brought LGBTQIA+ issues into the public arena for debate. The federal government conducted a plebiscite where the whole country was invited to vote to determine if same-sex couples could marry. There was a good deal of animated discussion in the media, on social media, and within the family home. The period leading up to the plebiscite was dominated by behaviours that hurt the LGBTQIA+ community. Constant bombardment with negative advertisements drew on stereotypes by those staunchly against marriage equality. Some behaviours included pamphlets being dropped off at people's homes with threatening messages, of which I received a few. Within my own family, I had a Mormon cousin writing vile comments on Facebook about marriage equality, often reinforcing stereotypes such as the grooming of children. The family debate ended up with me blocking this family member on Facebook. Furthermore, my marriage equality poster was ripped off the wall in my university office overnight. While these events were challenging and directly related to the topic I was studying, they made me constantly reflect on the biases I might be bringing into the research, because it was important to me to reflect an accurate picture of my community.

Chapter one - introduction

There is increasing acknowledgment that individualisation of diabetes care provides better engagement of people with type 2 diabetes with the extra day-to-day tasks that are forced upon them. Tasks may include blood glucose testing, medication management (memory, side effects, storage, associated equipment, motivation, purchasing), lifestyle management (food and exercise), sick day management, and complication management). By increasing knowledge about different subgroups, such as gay men, the diabetes educator will have further tools that may be useful in engaging their gay patients. The topic of sexual orientation has not been covered in Australian diabetes research and discourse within peak professional organisations such as the Australian Diabetes Educators Association, Diabetes Australia, the Australian Diabetes Society, and the International Diabetes Federation. This research aims to explore the journey of gay men as they negotiate the terrain of type 2 diabetes in Australia to determine if this experience differs from that of straight men. The chapter will examine the chronic disease model currently in use in Australia and how this might impact gay men, present the research question to be answered, explain the significance of exploring this topic, and then outline how the chapters will proceed.

1. Why I chose gay as a topic

There is little research on gay men with diabetes compared to other personal attributes like gender, race, religion, and their relationship with diabetes. The effect of sexual orientation on diabetes is unknown; while a few opinion articles have discussed it (Garnero, 2010), the topic has never been systematically studied in the Australian environment. I have had personal experiences with members of the LGBTQIA+ community in diabetes consultations, which seemed different, but hard to articulate. I had an experience with an elderly gay man who was resistant to exercise because he felt unsafe in the area in which he lived. He thought that he looked gay and that going for walks would expose him to the threat of being attacked, which had never occurred to me. Another encounter was with an elderly lesbian who had high glucose levels on Mother's Day because it reminded her of the rejection she received from her daughter, which led to her being denied access to her granddaughter.

2. Purpose of the research

Gay men have a history of discrimination in Australia; while laws and attitudes have improved, there remains residual homophobia and sensitivities that shape the behaviour of all Australians around this issue. These behaviours continue to mould the landscape where people live, work,

and play, setting up a unique challenge for gay men, especially in the health arena. This study firstly aimed to explore the lived life of gay men with type 2 diabetes to understand how they navigate their unique landscape to manage this condition in the Australian context. Secondly, the research explores how this knowledge may be relevant to what diabetes educators do to improve health literacy – the goal of diabetes education.

3. Significance

Gay men's journey with type 2 diabetes usually begins in a general practice where they see a doctor after receiving their blood results or having been discharged from the hospital with a diagnosis of type 2 diabetes. Health care operates within a model of care called the biomedical model, where a medical practitioner performs some tests to investigate patient complaints, diagnoses the problem based on biological markers, and then prescribes treatment.

The chronic care model (CCM) was developed in the US by Wagner in the 1990s as a way of addressing the shift away from acute ailments such as infectious diseases, rubella, mumps, and injury (Reynolds et al., 2018). It was an attempt to move away from the biomedical model, which provided episodic care or care that was more suited to focusing on one specific problem at a time. The biomedical model was more reactive than proactive (Kaiser Permanente Research, n.d.), and it was argued this new CCM model might benefit patients. The chronic disease model had six sometimes overlapping components that included working with patients to promote self-management (referral pathways), delivery of health system designs (primary health care), and decision support for doctors (guidelines as set by the Royal Australian College of General Practitioners and other bodies). It also included clinical information systems (practice data bases to record and track patients), health system funding, resources, and policy (Medicare, National Diabetes Service Scheme, and accreditation), and community programs and organisations (Diabetes Australia and associated programs such as DESMOND) (Cramm & Nieboer, 2015; Kaiser Permanente Research, n.d.; Ley, 2017).

However, the advancement of the chronic disease model (CDM) in various countries around the world, while initially successful, has failed to see sustained improvements in broader self-care management abilities with patients being informed and activated in their care (Cramm & Nieboer, 2015; Ley, 2017). CDM's inability to stave off rising chronic illness is complex and multifactorial. Both models have shown to have limited adaptability to the cultural nuances of many subgroups, such as gay men. Cultural incompetence, therefore, becomes an additional cause of rising chronic disease related to people living longer and experiencing chronic disease at a younger age (Kaiser

Permanente Research, n.d.). The result is that care is delivered without consideration of the realities and nuances of many patients. Care, therefore, has become decontextualised, or a one size fits all approach that has disadvantaged LGBTQIA+ groups (Silva and Costa, 2020). This lack of knowledge means that while the buzzword "cultural competency" is well-established in the healthcare lexicon, its application to health training is not well-established (Jongen et al., 2018). However, research shows that if health care professionals are extra knowledgeable about the cultural nuances of groups different from their own, the patient can receive better health outcomes (Clarke, 2017; Narayan, 2019). Yet again, while there is some progress, cultural training has often become synonymous with race and ethnicity and can leave out other identities and groups, such as sexual orientation, when it comes to training (Beagan, 2018).

The inability of the CDM model to engage patients in self-care can be partly explained by the lack of funding to support psychosocial issues (Campbell, 2016). Psychosocial issues are encompassed in the term social determinants of health (SDH), which is defined as '… the conditions in which people are born, grow, live, work and age, which are in turn shaped by the distribution of power, money and resources within and between countries' (Baker et al., 2018). Campbell (2016) claims that 3% of the national annual health budget is assigned to the prevention of health problems; however, only a small portion of this is allotted to upstream psychosocial stressors in Australia. The InnovationLab reported that between 2013 - 2018 in Australia, the government and Philanthropic Organisations provided approximately eighty billion dollars each year in grants to community programs. Of these grants, 1.2% mentioned LGBTIQ+; 0.2% or 103 charities mentioned LGBTIQ+ but were not community-led; and 48% of groups that supported LGBTIQ+ people were surviving on less than $10, 000 a year with most of their activities being self-funded (InnovationLab, n.d.). Research does suggest that while social determinants of health are acknowledged (Australian Institute of Health Welfare, 2016), their inclusion in government policy is poor (Fisher et al., 2016). This neglect is related to neoliberal ideologies, including individualism, economic rationalism, efficiency, and the biomedical paradigm that values medical intervention over socially based programs (Baker et al., 2018). As such, the aims of the 1978 Alma Ata Declaration on Primary Health Care, an initiative of the World Health Organisation, are still not being met (Baum et al., 2020).

Without this broader knowledge of gay men's health, doctors can often lack the confidence and comfort to ask questions that delve into alien, culturally nuanced issues. The rainbow tick is an attempt to address disparities in healthcare by ensuring the healthcare facilities have processes in place that address the concerns of the LGBTIQIA+ community. It is a voluntary accreditation

process that healthcare services can attain, and the program can instil confidence among its healthcare workers to address LGBTQIA+ concerns. However, as this is a voluntary process, many do not have it, and indeed some will refuse to undertake accreditation because it is contrary to their ethos, with some religious healthcare facilities (Rainbow Health Victoria, 2016). This research may provide further evidence that is required to demonstrate the benefits of the rainbow tick. However, at present, many medical facilities and their practitioners remain ignorant of LGBTIQIA+ issues.

While there is good intent in the CDM model, implementing the healthcare model has specific time constraints, which means there is little time for practitioners to explore cultural nuances that may be impacting on the health of their patients. Medical practitioners are expected to provide a quick diagnosis from which care can follow, using medical software that can expedite the process. Often practice nurses will be involved in creating referrals by completing some of the assessments using templates that come directly from Medicare to ensure compliance, and therefore the ability to claim money for the practice from Medicare. Research has demonstrated that one of the most beneficial components of chronic disease management is support for self-management, which is often taught by allied health and nursing professionals (Reynolds et al., 2018). However, this is undermined when the referrals have missing or incorrect information. Most of the literature on referral quality focuses on those produced and received from hospitals, general practitioners, and specialists (Hendrie, 2020; Prime et al., 2020; Sen Goh et al., 2019; Wåhlberg et al., 2015). However, referrals sent to allied health and nursing professionals, who are responsible for most of the care under the CDM model, often have incomplete documentation; but the literature in relation to this is sparse. A poll was conducted on an Australian Diabetes Educators Association Facebook page in Victoria, to gauge the quality of general practitioner referrals for diabetes education, and the poll uncovered major gaps in the information provided in the referral. In the poll, 91% of referrals had missing components that were required to individualise education. This means the time within the consultation is taken up in collecting information rather than actual education and developing a report with the patient.

Gay men are constantly left out of research. Consequently, mental health and sexually transmitted infections, where the research is robust, is the preferred area for medical practitioners to review when assessing gay men. Therefore, practitioners within the CDM model are stifled in what they can achieve without the knowledge specific to gay men's health. This tendency results from reliance on evidence-based medicine, which sees claims that are made without research as less credible. Hence, it is easy to dismiss information that is not well-established in research because one can say there is no evidence. Furthermore, those who choose and fund research also get to select the

public narrative about what is and is not said. This bias can be seen in grant application approvals for LGBTIQIA+ causes in Australia between 2013 and 2018, which were low. The numbers for these low numbers are as follows, 165 out of 45,155 from local government, 24 out of 23,188 from state government, 18 out of 8,338 from Philanthropic Organisations (93% of grants were related to the fight for marriage equality), and 2 out of 2,882 from the federal government (InnovationLab, n.d.). This current research, as such, gives voice to gay men living with type 2 diabetes.

The rate of diabetes is increasing both in Australia and around the world, with 50% of cases going undiagnosed. In 2015, worldwide there were 415 million adults with diabetes, and by 2040 it is estimated to rise to 642 million (International Diabetes Federation, 2015). This projected rapid increase in diabetes rates and associated costs underscores the reason why we need new approaches to address this condition. The increasing burden-of-disease will force the government to have to make difficult economic and political decisions to curtail burgeoning costs. Tools such as the Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK) is an example of a strategy deployed to reduce cost through early detection but is only effective if followed by fasting glucose, HbA1c or oral glucose tolerance testing OGTT (Kahn, 2014). However, knowledge of the social determinants of health, i.e., the social and economic conditions under which one lives (Malo et al., 2015), may assist health care professionals to identify additional groups at risk of diabetes or poor management beyond that contained in the tool. The descriptions provided in this research of the lived life of gay men with type 2 diabetes will illuminate the psychosocial conditions of this group that may provide a more nuanced approach in this group.

The culture in Australia, while similar to that of many other western cultures, has its own set of beliefs and values, which stem from its historical background, dominant religions, the establishment of healthcare, and laws (protections for LGBTQIA+ people). Therefore, one can expect the culture of gay men living in Australia will be different from other places like the United Kingdom or the USA. For example, the US has an expensive privatised healthcare system that relies on people having health insurance to access it. Many LGBTQIA+ people can be denied health insurance and healthcare depending on where they live in the USA, their religious beliefs and marital status (Casey et al., 2019; Gonzales et al., 2019; Tumin & Kroeger, 2020). In some cases, gay men are denied healthcare (Brummett et al., 2021). However, in Australia, there is a two-tier private and public health system, with a public system that uses universal health coverage called Medicare, which subsidises basic healthcare costs (Willis et al., 2016). While discrimination in healthcare exists in Australia, cases of healthcare being denied to gay men are less

documented. The current study is significant because it will be the first to address this population within the Australian context.

Healthcare professionals, in most cases, only spend less than 0.03% of their time with their patients (Schatz, 2016, p. 1658). Therefore, these interactions must be impactful, which can be achieved through individualisation and person-centred care. Providing individualised care has been shown to improve healthcare outcomes (Deed, 2018; Schernthaner & Schernthaner-Reiter, 2018). Person-centred care is a term that encompasses individualisation, and authors addressing this issue have reported that it helps their engagement with patients (Day, 2012). Individualisation is covered in professional documents that address nursing care: the code of conduct (Nursing and Midwifery Board of Australia, 2018), the Code of Ethics for Nurses (International Council of Nurses, 2012), the National Framework for the Development of Decision-making tools for Nursing and Midwives (Nursing and Midwifery Board, 2020), and The Australian Charter of Healthcare Rights (Australian Commission on Safety and Quality in Health Care, 2019). By individualising care, it is believed that there will be greater engagement with health advice because it better addresses the concerns of patients. Advocates of individualisation believe it is a mistake to think that people with diabetes are not interested in their health. According to Funnell et al. (2005, p. 61), '…patients are not interested in the topic of diabetes per se, but they are interested in their own diabetes and what it means to their lives.' There are great examples of how this approach has been applied to diabetes care in religious and ethnic groups, but despite this, peak bodies in Australia are quiet on sexuality. Research needs to move beyond sexually transmitted infections and mental health in gay men to a more holistic, whole-person approach to address health concerns that are relevant to them. The study is therefore significant because the results will provide greater insights for HCP into areas that may be affecting their gay patients with diabetes and thereby allow for greater individualisation of care.

This study is significant because it has separated human immunodeficiency virus (HIV) from sexual orientation and therefore provides a sharper focus on the effect of sexual orientation (gay). Detaching HIV from sexual orientation was necessary because rates of type 2 diabetes in people with HIV are significantly higher and, as such, may obscure the findings (Coelho et al., 2018). Because the culture around HIV has touched the lives of many HIV-negative gay men, it was expected to emerge as a topic. However, this study ensures that wider considerations beyond sexually transmitted diseases are included.

4. Outline of chapters

This dissertation will progress in the following manner:

I. Literature review

The chapter outlines the limited studies that directly link type 2 diabetes with gay men. It then examines research that can draw parallels by looking at variables that affect the management of type 2 diabetes and that are correspondingly higher in gay men. Broadly the studies encompassed diet, activity, stress, and stress-related behaviours. This search also investigates the healthcare system that gay men must navigate. It finishes with an analysis of the gaps that exist within this field of enquiry.

II. Methodology and methods

This study is a mixed-method investigation with an underlying constructivist paradigm. Quantitative data was collected through an online survey directed at gay men. The primary group captured was Australian gay men with type 2 diabetes and HIV negative. The two other groups included HIV-positive men with type 2 diabetes and gay men without type 2 diabetes. At the end of the survey, participants from the primary group could elect to participate in an in-depth interview. There was also an analysis of posts on social media platforms, Facebook and Twitter, to try and understand the environment that gay men must navigate. Over one year, a diverse number of participants participated in the project, and research was conducted to ensure that both occupational health and safety standards and ethical concerns were maintained. In addition, secondary data, including peer-reviewed papers and policy documents from government and professional organisations, were analysed using reflexive thematic analysis (Braun & Clarke, 2006).

III. Findings and discussion

Three chapters broadly describe gay men's journey with type 2 diabetes. Chapter four describes how sexual orientation influences the consultation and the ability to form a therapeutic relationship. It then examines some consequences of how that influence can reduce engagement in care. Finally, the chapter examines factors that are affected by being gay, including peripheral neuropathy, sleeping issues, insulin usage, and blood glucose monitoring. Chapter five focuses on the lifestyle factors of eating, such as binge eating disorders (BED) and how rejection contributes to it. Homophobia in sports is explored as a factor that acts as a barrier to exercise. Chapter six describes how being gay alters the support system of gay men with type 2 diabetes, an underappreciated and taken-for-granted variable that contributes to the success or failure of diabetes management.

IV. Model for diabetes management of gay men – Pascoe journey of life.

In chapter seven, models of care adopted in Australia are discussed and their limitations are highlighted, including the biomedical model of health, pathogenesis, and the chronic disease model. The Salutogenic model of health developed by Antonovsky is discussed because it provides a basis for the model and framework that I devised – Pascoe's Journey of Life. This new model combines salutogenic and biomedical models, believing that disease and health today play an integral part in anyone's journey with health. The flexibility to navigate both sides of this equation is the overarching parameter for successful management. Five areas of departure from the above models are examined to help explain a person's journey with health.

V. Conclusion

The study will argue that sexual orientation, particularly being gay, creates a set of circumstances related to the consultation, eating and exercise, and support that often shapes the management of type 2 diabetes in negative ways. It is the combination of overrepresented and unique factors that merge to make being gay unique in its contribution to the journey with diabetes. The description of factors presented can act as a template for diabetes educators to understand and reflect on how being gay may create a difference in their patients with type 2 diabetes. It is hoped that this work will become a stimulus for the generation of new assessment tools, the development of educational content aimed at gay men, and an approach that can facilitate person-centred care. Pascoe's journey of life model may assist diabetes educators to frame their practice, with the person with diabetes at its centre. The model focuses on gay men's journey with type 2 diabetes between health and disease resulting from choices shaped by unique psychosocial factors and, more frequently, quality of life (QOL) issues rather than health. By having a deeper understanding of the psychosocial environment in which gay men make these choices, diabetes educators will be better equipped to provide a more individualised approach that is considered acceptable to gay men.

Chapter two – literature review

When discussing diabetes management, food and exercise are often favoured areas of discussion with those seeking advice wanting to know the best diet or exercise to eliminate diabetes. While it is true that diabetes can be reversed in some people, many will have to learn to live with the chronic disease. Diabetes can be unpredictable at times, but it can be successfully managed to reduce symptoms and the risk of short and long-term complications while limiting the side effects of treatment, such as hypoglycaemia. Regimens of treatment can often become more complex as the disease progresses. Because it never goes away, one cannot just take a couple of weeks off to manage it, like an acute illness. Instead, it must be managed in the context of a person's life. As many aspects of diabetes lack symptoms, monitoring becomes part of the management; therefore this, along with other management features, can be overwhelming. Given its complexity, diabetes education turns out to be more about helping a person identify what diabetes-related activities are required for their unique case and how to incorporate them into their life. Furthermore, diabetes educators can assist in motivation and overcoming actual and potential barriers to effective diabetes management. However, various groups have unique needs that are often unmet, resulting in poor outcomes for the individuals involved. There has been an enormous effort to understand ways of engaging these racial, religious, and gender groups. A simple example is catering for different racial groups, such as south Asian people who consume a highly refined rice diet, increasing the risk of type 2 diabetes (Bhavadharini et al., 2020). In females, the luteal phase of the menstrual cycle tends to cause hyperglycaemia and so needs to be considered in the management of insulin (Barata et al., 2013). While there appear to be no physical differences between gay and straight men with type 2 diabetes, the difference may lie in various psychosocial factors. In exploring the literature, psychosocial issues were relevant to gay men because they were either unique to or overrepresented in gay men. The following literature review uncovers barriers that hinder the successful management of type 2 diabetes.

1. Finding the gap

While research demonstrates that culturally appropriate education is something that will drive engagement in diabetes education, which can then drive better diabetes-related outcomes (Ehrlich et al., 2016), specific research exploring the culture of gay men in the Australian context with type 2 diabetes is lacking. Current research that directly examines gay men and type 2 diabetes is limited, with none identified in Australia. Diabetes in gay men is an emerging field of study. However, researchers have tended to combine various members of the lesbian, gay, bisexual,

transgender, and intersex community, but the available research suggests that each group has unique experiences, especially in health care (Kerr & Oglesby, 2017). Gay and bisexual men are often paired together, but many studies have observed a big difference in the health data. Likewise, the homogenisation of English-speaking countries such as the United Kingdom, USA, and Australia is problematic because the healthcare systems, the culture as it relates to gay men, and societal characteristics, such as religions, are very different.

Several studies examined support and lifestyle factors in gay men, and other studies look at these same variables as they relate to type 2 diabetes, but very few studies have combined the two. Jowett et al. (2011; 2012) identified two gay men with type 2 diabetes who experienced issues with sexual function that is uniquely expressed culturally in the United Kingdom. Beach, Turner et al. (2018) studied diabetes in gay men and found no association between obesity, overweight, and sedentary behaviour, although it was an issue for lesbian and bisexual women. Tran et al. (2021) noted that in the USA, when compared to heterosexual counterparts, sexual minorities (lesbian, gay, and bisexual people) did not engage to the same degree with yearly flu vaccinations, foot examinations, and diabetes education; however, it is unclear why there was less engagement.

There have been inconsistent rates of diabetes reported in various countries among gay men. But in Australia, the largest study demonstrated lower rates of diabetes in gay men which were probably related to their lower weights observed when compared to the general population and different healthcare systems (Hill et al., 2020). However, it is unclear why those with diabetes have succumbed to the disease despite their lower weight. Therefore, for this study HIV negative gay men with type 2 diabetes in the Australian context was chosen to examine their journey as they live with the condition.

2. Research connecting non-heterosexuals with diabetes

At the beginning of this research, only one study could be found (Jowett, 2011) directly mentioning gay men with type 2 diabetes. It noted that lesbian, gay, and bisexual (LGB) people's health were often focused on infectious diseases but did not explore the wider implications of discrimination for areas such as chronic health. This study used three sources of data that included 190 qualitative surveys, an online discussion in a newsgroup (online forums used to discuss a topic), and interviews with 20 lesbian, gay, and bisexual people regarding diabetes. The data were examined within a critical realist paradigm using Braun and Clarke's (2006) thematic analysis and discourse analysis. Results suggested that sexuality had an impacted on LGB people's experience of diabetes but were often constructed as irrelevant to the discussion of diabetes. Moreover, it was noted that if an illness was not constructed as a gay disease, it was ignored within the LGB community, creating a feeling of invisibility. Homophobia in healthcare and lack of representation in publications was also noted. Three themes were identified in these interviews with LGB individuals with diabetes, including "… erectile problems; other 'physical' problems; and disclosing diabetes to sexual partners" (Jowett et al., 2011). The discussion of sexual function was considered important among gay and bisexual men because there were no opportunities to discuss its psychosocial implications. Other physical problems included perianal thrush and hypoglycaemia during sex. Hypoglycaemia and devices, such as insulin pumps, forced gay men to disclose their diabetes to offset problems, such as being accused of having HIV. Since this study, Jowett has contributed to a book chapter focusing on general physical health as it intersects with sexuality (Jowett & Peel, 2012). After completing his research on diabetes, Jowett (2017) discussed interviewer and participant interactions. In particular, the sexual tension that may develop when same-sex researchers and participants are attracted to each other is similar to what might happen when heterosexual women and men interview each other. Jowett (2017) also noted that being an insider might lead a gay researcher to assume they know the issues gay men face and therefore neglect to identify new areas for exploration. Jowett (2017), again in another qualitative study, explored assumptions that arise due to gender in same-sex couples with diabetes, which was analysed using thematic analysis. These assumptions included that women are more caring than men, men can take control in an emergency, gay men are caring, grown men can care for themselves, and gay men are more independent than heterosexual men. These accounts were not dismissed by all LGB people but adapted to construct their stories and situation in a favourable light.

3. Structured diabetes education

The role of diabetes educators is to help those with the disease to put medical advice into practice which considers a range of issues, including finances, education, comorbidities, and culture. Incorporating minority cultures into diabetes education may be challenging, especially in group sessions and structured diabetes education geared to the masses. Structured diabetes education has been shown to reduce HbA1c and behavioural and psychosocial parameters (De la Fuente Coria et al., 2022; McCay et al., 2019). Some effective evidence-based programs that have been celebrated in Australia are DESMOND, a one-day workshop aimed at people with type 2 diabetes (Miller et al., 2020); dose adjusting for normal eating (DAFNE), which is a five-day program for people with type 1 diabetes (Walker et al., 2018); and guided self-determination (SGD) which is a set of seven to eight conversations held online with diabetes educators aimed at both type 1 and 2 diabetes (Phillips & Guarnaccia, 2020; Zoffmann et al., 2016). There are many other structured programs in both Australia and around the world, but their content, structure, person-centred philosophy, technology, and specific aims vary enormously (Chatterjee et al., 2018). While it is agreed that structured diabetes education programs should be customised to different groups and cultures, further research is required to improve people's access to and uptake of these programs. In a study by Lamptey et al. (2022), structured diabetes education conducted in a culturally appropriate way was found to be effective in a systematic review of reducing HbA1c (Lamptey et al., 2022). Therefore, there appears to be some agreement that culturally appropriate content is necessary for the success of these programs.

Despite the benefits of structured diabetes education, many people with diabetes do not take the opportunity to participate in these programs. Huber et al. (2022) devised a conceptual model of diabetes education in London. After reviewing the relevant literature and consultation with 49 diabetes specialist nurses, they identified five components of diabetes education but could not agree on how they should be implemented in clinical practice. Two components stood out: adapting education to the context of the people receiving diabetes education and the interpersonal relationship between the health care provider and the person with diabetes. The two components resonated with this thesis because the literature on gay culture and interpersonal relationships within diabetes consultation is limited.

The interpersonal relationships between the practitioner and the person with diabetes are important. Coates et al. (2018) explored the reasons for non-attendance at structured diabetes education programs, which included preconceived negative ideas of diabetes education or having experienced a negative encounter in the past. This interaction is important because people who

appraise their practitioner-client interaction as empathetic have better health outcomes, such as cardiac events and all-cause mortality (Dambha-Miller et al., 2019). Many gay people in Australia have experienced negative encounters when visiting a doctor and have feared homophobia, as demonstrated in various studies (Brener et al., 2022; Lim et al., 2021; Spurway et al., 2022). Jowett et al. (2011) identified that many gay people chose to hide their sexuality in online group diabetes education and, as such, interpreted the experience as oppressive.

Successful diabetes education is contingent on individualising care to the person's individual circumstances in a manner that reduces barriers. Barriers to and facilitators of successful diabetes management were explored in a systematic review by Blasco-Blasco et al. (2020). It noted that 90% of papers talked about environmental issues that can act as a barrier to successful diabetes management, including financial and work constraints, organisational weakness, lack of support from family and friends, social pressures, the health professional's way of working (a patient centred versus paternalistic approach), patient identity, polypharmacy, the emotional burden of the disease, and trust. These issues are external to diet, exercise, and medication which are often used as an overly simplistic explanation to criticise people – if only they took their medication, ate correctly, and exercised a bit, they would not be in this situation (Thorley, 2021; Sudhakaran et al., 2021). While these factors were not focusing on gay men, the ability to discuss these issues may be particularly difficult if they were not out or at least sensitive to a healthcare professional knowing they were gay. Coates et al.'s (2018) study of 335 adults in Northern Ireland with type 2 diabetes, who had chosen not to attend structured programs, found that 41.2% had other problems, and 33.4% had other priorities. Huber et al. (2022) recommend that those involved in diabetes education should monitor individuals who fail to attend diabetes education so that programs can be adapted to meet their needs.

Structured diabetes education is praised for the benefits it can have on health outcomes, but some people with diabetes do not engage with these programs because the content is not culturally appropriate. Additionally, some patients have experienced prior negative interpersonal practitioner-client interactions, which have been shown to impact outcomes negatively. At present, there is limited research helping diabetes educators design care that is culturally appropriate for gay men.

4. Common experiences of gay men that may influence type 2 diabetes

The history of gay men in Australia has left a legacy for the current generation, shaping behaviour that can affect how they approach health and health issues, including diabetes. Healthcare in Australia developed from conservative beginnings, with doctors, along with the legal profession

and religious leaders, believing they had a role in maintaining societal morality. Gay men were considered to be sexually deviant by these institutions, and all had a part to play in the negative discourse around gay men that was prominent in Australian life (Dalton, 2007). The Medical Journal of Australia in 1944 provided a clear example of this focus on morality in medicine when it asserted that: "…the role of medicine is to be the evangelist of the better doctrine, the doctrine of rehabilitation and the recovery of self-respect." (quoted in Yorick, 2013, p. 510).

Gay men in Australia, like those in other countries, were exposed to various treatments to convert them to heterosexuality. It is unclear what physical therapies were used in Australia, but treatments such as shock therapies, insulin and pentylenetetrazol (trade name cardiazole), which were medicines administered to induce a seizure, were believed to have occurred in Queensland. Direct electrical stimulation, called electroconvulsive therapy (ECT) to generate a seizure, was also believed to have been used (Reynolds, 2002; Yorick, 2013). Despite the scant evidence of major shock therapies such as ECT, it was clear that aversion practices were common. Aversion practiced included applying a small unpleasant electrical shock to a part of the body when paired with images deemed gay or unmasculine (Reynolds, 2002). Psychological treatments, including religious therapies, were also used for gay conversion (Jones et al., 2021). As medicine started to relinquish its role in gay conversion, religious organisations became the leading provider in Australia (Cheers et al., 2019). Despite this, there have been many legal reforms in Australia since 1944 that have seen gay men enjoy greater equality with their heterosexual counterparts under the law. Homosexuality was declassified as a mental illness in 1992 in the International Classification of Disease ICD, a system maintained by the World Health Organisation (WHO). Before this, the American Psychological Association declassified being gay in 1973 through their Diagnostic and Statistical Manual of Mental Disorders (DSM).

The change in public attitudes to homosexuality was demonstrated in a voluntary Australian postal survey on marriage conducted in 2017, to which 79.5% of adults responded. Of those undertaking the survey, 61.6% responded ‘‘to the question, 'Should the law be changed to allow same-sex couples to marry?' However, 38.4% actively voted ‘no’ (Australian Bureau of Statistics, 2017).

Given this history, there continue to be some segments of the community who believe that being gay is a mental illness (Herek, 2004), is contrary to religious teachings (Herek, 2004; Reynolds, 2016; Roy Morgan Research Ltd, 2016), is a risk factor for sexually transmitted infections (Everett, 2013; Saxby et al., 2022), and is a choice as no consistent biological basis for it has yet been identified. However, the views in Australia range from zero concern, believing sexual orientation is

a private affair, to the extreme, where some think homosexuality will destroy society's moral fibre. As a result of these entrenched views by some sections of the community, gay men can face unique experiences on their journey with diabetes.

Negative attitudes can result in negative comments, gestures, insensitivity, and violence, often referred to as homophobia (Koh et al., 2014; McCann et al., 2010; Roy Morgan Research Ltd, 2016). Gay men respond to these slights by adjusting their behaviour, which becomes habitualized over time (Fogel, 2016). Fogel (2016) provided an example of unconscious behaviour among participants in the corporate world. They would change the way they dressed to appear more proficient and avoided specific colours, patterns, and fabrics because they appeared too gay and were interpreted as unprofessional. Likewise, in healthcare, avoidance behaviours have also been noted (Ussher et al., 2022), leading to internal struggles and acceptance of self. Some experience self-hatred referred to as internalised homophobia, which has been associated with mental and physical health issues (Berg et al., 2016; Critcher & Ferguson, 2014; Fogel, 2016).

While homophobia in healthcare has decreased, it would be a mistake to think that it has been eradicated as anti-gay sentiments are still present, albeit underground. In a 2015 study, 514 Australian medical students reported that they had experienced homophobia in the form of belittlement, condescension, and humiliation during their studies. It has also been noted that the experience of bullying, sexism, ableism, and racism was higher in non-heterosexuals compared to heterosexual people (Szubert et al., 2018). The concern was twofold: firstly, for the victims (gay doctors), and secondly, that this modelled behaviour by educators may be instilled into the current and future generations of doctors within the workplace, which could continue to influence the care of gay men negatively. The results of this study were similar to Chur-Hansen's (2004) research that discussed the conservative nature of medicine and identified themes such as secrecy, discrimination, fear, and isolation, which were common among gay men in medical school.

Tensions are maintained in medicine due to the limited evidence-based education regarding the LGBTQIA+ community (Sanchez et al., 2017). Consequently, student doctors tend to learn about gay men through their engagement with popular culture. While the tides are turning in medicine, any attitudinal shift often takes years to filter into practice. Moreover, one is warned that these shifts

can move in any direction due to ongoing national debates that often play out on social media (Ma, 2020), for example, marriage equality (Ecker, et al., 2019b).

The absence of information specific to gay men's issues in diabetes means the information given to them is generic and difficult to engage with (Jowett, 2011; University Office for Diversity and Inclusion, n.d.). However, it extends beyond the consultation with a wider lack of role models in mainstream society (Delsi & James, 2016). It is possible that when gay men do not see themselves as being represented in diabetes education, they question its relevance to them.

Older gay men grew up in significant hostile environments where being gay was illegal under Australian law (Carbery, 2014). These conditions meant that gay people were often the target of crime, including assault and abuse (Dwyer et al., 2020), including by Australian police, so it was in their best interests to remain hidden (Bull & Wilson, 1991). These historical conditions have had an enduring impact on gay men, who now also have an increased risk for type 2 diabetes due to age (Zoungas et al., 2014). Understandably, these harsh historical events have shaped the internal world of gay men and influenced how they interact with the world.

5. Rates of diabetes in the gay community

There is an inconsistency in the rates of diabetes in gay and bisexual men around the world. The data are problematic as, in most cases, they do not separate bi and gay men, and they do not separate types of diabetes. There are also differences in studies that use self-reported versus confirmed clinical data, thus making interpretation difficult. The following paragraphs will provide an overview of data from different countries, including Australia.

Data from the California Health Interview Survey in 2003, 2005 and 2007 noted that gay and bisexual men between the ages of 50 and 70 years old had a 15.4% rate of diabetes, which was 1.28% higher than for heterosexual men, along with hypertension, disability, and psychological distress (Wallace et al., 2011). In another USA study, the 2003-2010 Washington State Behavioural Risk Factor Surveillance System, in a sample of 96 992 people over 18 who were civilians and noninstitutionalised (Beach et al., 2018), found there were higher rates of diabetes in bisexual men. However, for gay men in this study, rates were not elevated, but were shown to be at higher risk of poor health and living alone (Fredriksen-Goldsen et al., 2013). The British Gay and Bisexual Men's Health Study (2013) found that among the 6861 respondents, gay and bisexual men were shown to have less diabetes than men in the general population. However,

only 11% had ever discussed diabetes with their healthcare professional, which may mean many were undiagnosed (Guasp, 2013).

Health records were examined in a study looking at the World Health Organisation of International Classification of Disease (ICD) codes. Any sexual or gender dysphoria was associated with diabetes and chlamydia, herpes, and viral infection (Anderson et al., 2016). However, in 2014 data from the Behavioural Risk Factor Surveillance System, which included 19 states in the USA, found that 11.4% of gay men and 14.2% of bisexual men developed diabetes compared to 10.8% of heterosexual men (Beach et al., 2018). A study by Gupta and Sheng (2020) examined data from the 2007–2011 Canadian Community Health Survey together with acute in-hospital patient discharge data on lesbian, gay and bisexual people. It noted that rates of diabetes and cardiovascular disease were higher among the 18-59 age group, representing a significant difference in cost. Cardiometabolic-associated costs were $26,702 for compared to $10,137 for heterosexuals, which was related to the length of stay in the hospital, of 5.1 days compared to 13.6 days in LGB people.

Liu et al. (2019), drawing on the 1994–2008 National Longitudinal Study of Adolescent to Adult Health study in the USA of 4330 girls and 3510 boys aged between 12 and 18, revealed that sexual minorities had a high risk of diabetes. Tran et al. (2021) used data from the 2015-2017 Behavioural Risk Factor Surveillance System Survey that measured diabetes screening and sexual orientation and noted no difference between the straight group and the lesbian, gay and bisexual group. In another study, Patel et al. (2017) also analysed data from the 2015 Behavioural Risk Factor Surveillance System of 441,456 subjects over the age of 18 and found the rates of heart attacks, a complication of diabetes, were not elevated above those of heterosexual counterparts. Kittle et al. (2018), using data from the California Health Interview Survey, 2015–2016, noted no statistical difference between LGB and heterosexual Latinos regarding diabetes. However, when LGB Latinos were compared to LGB non-Latinos, there were higher rates of diabetes, distress, and obesity but no differences in the rates of heart disease and asthma.

In Australia, the 2011 Private Lives 2 National survey of 3835 participants identified 3.9% as having diabetes and 1.1% identified as having impaired glucose tolerance (Leonard et al., 2012). In that same period, the rate of type 2 diabetes was 4.3% (Australian Bureau of Statistics, 2015a). The rate of diabetes within the LGBTQIA+ community was 3.3% in the Private Lives 3 study in 2020, but it is unclear what portion of this 3.3% relates to gay men without HIV (Hill et al., 2020). The 2014 Australian Positive & Peers Longevity Evaluation Study (APPLES), a prospective cross-

sectional sample of 228 HIV-positive and 218 HIV-negative gay and bisexual men, identified a 9% rate of diabetes in those who were HIV-negative and a 15% rate in those with HIV (Puhr et al., 2019). Despite the small sample, the study used clinical rather than self-reported data. This data identified a 4.1% higher rate of type 2 diabetes among HIV-negative gay and bisexual men, compared to 4.9% in the general Australian population in 2015 (Australian Bureau of Statistics, 2015b).

Current Australian research exploring rates of type 2 diabetes in gay men is problematic due to the methods used in collecting data (self-reported versus confirmed clinical data), sample size, extraneous variables such as HIV, and combining types of diabetes.

6. Suggested links to diabetes

As there was a paucity of published data directly connecting gay men with type 2 diabetes, it was necessary to broadly examine common psychosocial factors in gay men that could impact their journey with type 2 diabetes. Many correlates connect gay men and type 2 diabetes, including stress and stress-related behaviour, exercise and diet, and support. These factors impact not only glucose levels but the risk of complications associated with diabetes. There is no suggestion that all gay men are troubled by these factors, but that they are highly represented in this group and will therefore be examined in the following subsections.

7. Smoking

Smoking increases the risk for type 2 diabetes, and its complications, so higher rates in gay men are of concern. Some studies have noted higher smoking rates among Australian gay and bisexual males. Wilkins (2015) reported that 33.8% of Australian gay and bisexual males smoked compared to 19.8% of heterosexual males. The subgroup twink was associated with even higher rates of smoking (Lyons & Hosking, 2014). Twinks are described as gay men of lean body composition who are young and have shaved or hairless bodies (Lyons & Hosking, 2014). Hammoud et al. (2016) found that 39.6% of gay men smoked, with 50.6% smoking daily, 4.4% smoking every second day, 6.3% weekly, 2.1% monthly, and 36.6% randomly/socially.

However, in the 'Private lives' 2 study (Leonard et al., 2012), no differences were noted in smoking rates compared to the general population. In their first report, Private lives, Pitts et al. (2006) noted an increased rate of smoking rate for gay and bisexual males of 38.3% compared to 26% for the general male community between 2004 – 2005 (Australian Institute of Health and Welfare, 2005).

In the most recent Australian study, 13.5% of gay men were daily smokers (13.8% in the general population in 2019), and 21.9% were current smokers (15.2% in the general population). It should be noted that often gay and bisexual men were combined in this study (Hill et al., 2020). One year later, the rate of smoking in the general male population was 12.8% (Australian Institute of Health and Welfare, 2020).

Higher smoking rates in gay men are a health concern (Haj Mouhamed et al., 2014), including those exposed to passive smoking (Wei et al., 2015). Both smoking and passive smoking increase insulin resistance, a key mechanism in the development of type 2 diabetes develops (Adhami et al., 2016; Wei et al., 2015). Historically gay venues known as the 'scene' were safe havens for many gay men, where they could be themselves and often spent many hours together (Gill & Tracey, 2003). However, before smoking was banned in public spaces, older generations would spend many hours in smoked filled venues.

Smoking has been associated with an increased risk of heart disease (Weiner et al., 2000), stroke (Shinton & Beevers, 1989), peripheral vascular disease (Navas-Acien et al., 2004), impaired vision (Thornton et al., 2005), kidney disease (Orth & Hallan, 2008), erectile dysfunction (Gades et al., 2005) and both peripheral and autonomic neuropathy (Middlekauff et al., 2014; Niedermaier et al., 1993) in people with diabetes. However, gay men often fear gaining weight if they give up smoking (Berger & Mooney-Somers, 2016), which has acted as a barrier among some who consider that being thin is valued by many gay men (Kane, 2010).

The reason for this increased rate of smoking in gay men is presumed to be stress arising from actual or suspected discrimination in various situations, for example, work (Azagba & Sharaf, 2011), posttraumatic stress disorder (Kearns et al., 2018), and being in the closet (Pachankis et al., 2011). While discussing how to quit smoking is a common topic in diabetes education for the above reasons, using a different approach that is culturally appropriate to LGBT people may be necessary to improve engagement among gay men (Berger & Mooney-Somers, 2016).

8. Alcohol

Alcohol use disorder, not alcohol usage, is a risk factor for diabetes (Vancampfort et al., 2016), so the higher rates observed in gay men are of concern. Alcohol use disorder is defined as a" problematic pattern of alcohol use leading to clinically significant impairment or distress, as manifested by at least 2 of the following occurring within a 12-month period" (Saunders et al.,

2019), strong desire; unsuccessful attempt to cut down; large volumes or period of time drinking; important social, occupational or recreational activities are given up due to alcohol; a great deal of time to obtain use and recover from alcohol; alcohol use continues despite knowledge that it has physiological or psychological harms; continues use despite social and interpersonal problems it causes (Saunders et al., 2019). Rates of alcohol usage among gay men seem to be comparable to the general community (Leonard et al., 2012; Roxburgh et al., 2016; Wilkins, 2015). The 2009 Australian guidelines suggested two standard drinks per day over a lifetime were considered safe (National Health and Medical Research Council, 2009). The current guidelines are that no more than ten standard drinks in a week and no more than four standard drinks on any day are safe (Australian Government, 2020). Same-sex-attracted youth have been a particular concern in relation to alcohol consumption (Leonard et al., 2012). In the 2016 FLUX study, a third of gay and bisexual men were reported to consume three to four alcoholic drinks in a single sitting, one in six consumed five to six drinks, one in fifteen had seven to nine drinks, and one in twelve consumed more than ten drinks (Hammoud et al., 2016). However, interpreting this result may be muddied by combining bi and gay men. In 2020, before the COVID-19 pandemic, among people who identified as gay, 38.9% drank more than two standard drinks on a typical day, and 39.1% consumed six or more drinks in a typical day at least once a month or more frequently (Hill et al., 2020). Among this sample, 16.23% reported that alcohol consumption in the last year negatively affected their everyday life (Hill et al., 2020). It has been suggested that one reason for this increased drinking rate among gay men is the venues they visit, which tend to centre around alcohol (Demant et al., 2018). Other reasons include peer pressure, mental health, discrimination, and marginalisation (Demant et al., 2018). In the general population, the rates are much lower at 18.2% who drink to dangerous levels (defined as greater than two standard drinks in a single session), 17.2% in 2016 and 16.8% in 2019 (Australian Institute of Health and Welfare, 2020).

Acute drinking of alcohol does not increase the risk of hypoglycaemia in people with type 2 diabetes. However, alcohol can exacerbate the hypoglycaemic effects of some medications, such as sulfonylureas and insulin (Pietraszek et al., 2010). In people with diabetes, alcohol consumption at light to moderate levels may reduce cardiovascular disease risk; but heavy or binge drinking can increase all-cause mortality and cardiovascular disease (Polsky & Akturk, 2017). Excessive regular drinking can also exacerbate complications of diabetes which include retinopathy, cardiomyopathy, peripheral neuropathy, nephropathy and hepatopathy (Munukutla et al., 2016). Consequently, the link between problematic drinking and diabetes in gay men means that this risk factor is significant, given its overrepresentation in this group.

9. Influence of recreational drugs on diabetes

There is higher usage of drugs in gay men, which can affect the management of diabetes (see Appendix A, which shows a table of drug usage among gay men in various studies and compares them to the general population). In Persons with Diabetes (PWD) who use drugs, a Spanish study observed that they experience increased severity of diabetes-related complications, risk of hospitalisation and length of stay (Ghitza et al., 2013). In another study, PWD who used drugs did not engage in routine care and were less likely to adhere to recommended treatment (Kim et al., 2015). Gay men use particular drugs that may impact diabetes management.

A significant number of gay men use the drug alkyl nitrites, which can considerably impact diabetes management of diabetes in several ways. Alkyl nitrites or poppers (street name) are an example of a group of recreational drugs used in higher proportions among gay men for their euphoric action during sexual activity and relaxation of the anal sphincter during anal sex to reduce pain (Vaccher et al., 2020). Some have argued that amyl is used to prevent tearing of the mucosal lining of the rectum during sex and therefore has therapeutic value (Hammoud et al., 2016; Therapeutic Goods Administration, 2019). Its use within the gay and bisexual community ranges from 32.1% to 38.5% (Hammoud et al., 2016; Lee et al., 2016). Poppers have traditionally been obtained online, in sex-on-premises venues, and in sex shops. However, manufacturers and retailers have always been careful to ensure that advertising reflected that they were not for human administration; for example, they can be used to clean leather to avoid falling foul of the law. Some forms of this drug, such as isopropyl nitrite (brand name: Liquid Gold) and n-propyl nitrite (Nil brand in Australia), have been linked to maculopathy (eye disease) (Rewbury et al., 2017; Rosoff & Cohen, 1986; Vignal-Clermont et al., 2010), a condition that is also seen in diabetes. Some forms, such as butyl nitrite, isoamyl nitrite, isobutyl nitrite and octyl nitrite, can cause a dangerous decrease in blood pressure when used in combination with phosphodiesterase type 5 (PDE-5) inhibitors to treat erectile dysfunction (Schwartz & Kloner, 2010; Therapeutic Goods Administration, 2019; "Viagra and poppers: A `dynamite' combination," 1998). Additionally, a similar interaction can occur when added to prescribed nitrates, such as isosorbide mononitrate, that are commonly used in diabetes for blood pressure control or angina (Kloner, 2006). Fifteen papers are mentioned in a report from the Therapeutic Good Administration (TGA) that associate amyl use with methemoglobinemia (Reeders et al., 2018) that may lead to false low HbA1c measures. HbA1c is a blood test used to diagnose diabetes and its progress (d'Emden et al., 2015; Tarburton, 2019; Wong et al., 2013). This false low reading could theoretically lead to a delayed diagnosis. Haemolytic anaemia has also been evident in those who use alkyl nitrite, which is known to falsely lower HbA1c and again

of concern as it may delay a diagnosis of type 2 diabetes (Costello et al., 2000; English et al., 2015; Graves & Mitchell, 2003; Romeril & Concannon, 1981).

There have been theoretical links between the use of amyl and an increase in infection (AHS Media, 2004), and it can also cause dermatitis (Schauber & Herzinger, 2012). In 2019, there was a move by the Australian Therapeutic Goods Administration (TGA) to ban this drug group. It led to a backlash from the LGBTQIA+ community, who accused the government of homophobia because it was a drug predominantly used by gay and bisexual men and who also argued that there was a lack of robust data demonstrating its negative impact. On 6 June 2019, the TGA handed down its ruling, which restricted their sale by allocating them to a schedule. Each schedule under Australian law reflects different legal requirements; for example, schedule three medications can be dispensed by a pharmacist but must be kept behind the counter so that potential users can be counselled. In contrast, schedule four medications must be prescribed by a medical doctor. Other schedules, for example, ten, are banned. Those forms of amyl causing maculopathy has been put on schedule 10, effectively banning their use (Therapeutic Goods Administration, 2019). The hope was that it would encourage better education and systematic monitoring and recording of complications with the use of these drugs. However, fear of ridicule may inadvertently drive their illegal use, as it will require people to admit to their doctor or pharmacist that they wish to use them for anal sex (Vaccher et al., 2020).

It is important to remember the side effects discussed above are disputed due to low numbers identified in the research, and this drug group has been used in the gay community for a long time (Reeders et al., 2018). However, the lack of research on amyl is problematic as this can cover up reports of problems, especially if they believe that admitting to amyl use could reveal their sexuality to people they do not wish to, such as health care professionals.

Gay men have higher use of cannabis, and this drug can affect diabetes management. Studies have shown that cannabis use has been associated with reduced insulin resistance (Akturk et al., 2019); therefore, some have advocated for its use. However, in people with type 1 diabetes, it has been associated with diabetic ketoacidosis (DKA) (Sellner, 2022). There is now an oral medication associated with DKA, that being the SGLT2 inhibitors, that is given to people with type 2 diabetes (Bamgboye et al., 2021). However, there is no evidence that there is an increase in DKA in people with type 2 diabetes in association with cannabis use. Studies suggest that cannabis use has been associated with depression, chronic bronchitis, respiratory infections, myocardial infarction, and

stroke and, therefore should be considered when managing a person with type 2 diabetes (Danielsson et al., 2016). Nevertheless, this question continues to be explored as there is still no consensus on its impact on diabetes (Ibrahim et al., 2020).

Illicitly obtained medications used to treat erectile dysfunction are reported to be higher in gay men. Moreover, studies have shown that the combination of depression, smoking, and cardiovascular disease common in gay men, increases the risk of them abusing erectile dysfunction medications (Kuneinen et al., 2020; Liu et al., 2018; Mohammadpour et al., 2019). Cardiovascular disease, although controversially associated with higher rates in gay men (Caceres et al., 2017; Juster et al., 2019; Morgan et al., 2019), has been independently associated with ED (Dong et al., 2011; Ioakeimidis et al., 2019). Smoking is higher in gay men (Islami et al., 2014; Kouidrat et al., 2017) and increases the risk for ED (Allen & Walter, 2018). Smoking as a drug increases prostate cancer risk, but there is evidence that it is screened less in gay men (Rosser et al., 2019). Furthermore, the abuse of erectile dysfunction medication can lead to other forms of misuse e.g., amyl and 3,4-methylenedioxymethamphetamine (MDMA), which may exacerbate cardiovascular risk in diabetes (Akasaki & Ohishi, 2019; Bonsignore et al., 2019; Graham et al., 2006). While cannabinoid use may reduce prostate cancer risk, at this stage, the evidence is mixed (Rajanahally et al., 2019). Therefore, because gay men use these illicit drugs at a more frequent rate than the straight community, it is important for this group to understand the possible links it may have with chronic illnesses such as diabetes.

10. Violence, harassment, or bullying

The stress of bullying is associated with an increased risk of diabetes (Langevin et al., 2008; Nuevo et al., 2011; Ward & Druss, 2015). Despite the great advances Australia has made regarding equality, gay men continue to have an increased risk of exposure to violence, harassment, and bullying, which is the product of discrimination. Gay men, therefore, tend to circumscribe and monitor their behaviour in order to avoid unwanted attention (Flood & Hamilton, 2007; Kirby & Hay, 1997; Tomsen, 2017). A 2014 Australian Commission consultation report found that 71.79% of people said they experienced violence, harassment or bullying based on their sexual orientation, gender identity or intersex status, and 88% said this behaviour was based on sexual orientation (Australian Humans Rights Commission, 2015). This experience increased to 91.4% when asked if they knew someone who had experienced violence, harassment, or bullying (Australian Humans Rights Commission, 2015). Schetzer (2016) found that LGBT had rates of harassment similar to those of women, especially if they were visible such as holding

hands. Experiencing bullying and victimisation at a younger age has also been found to determine the degree of impact (Zarate-Garza et al., 2017). Takizawa, Danese, Maughan, and Arseneault (2015) found that gay men who had experienced bullying in their youth (years 7 and 11 in high school) increased the waist-to-hip ratio five decades later. A waist-to-hip ratio increase is a well-known risk factor for type 2 diabetes (Mirzaei & Khajeh, 2018; Qiao & Nyamdorj, 2010). The teenage years are a significant period for gay men because at this time they can become aware of their difference from the rest of society (Savin-Williams, 1995). Bullying experienced in youth increases the risk of behaviours that have been shown to increase the risk of diabetes; for example, obesity, poor sleep, reduced healthy food choices, and decreased activity (Waasdorp et al., 2019). These factors are the same behaviours that make managing diabetes more challenging.

11. Allostatic load (stress)

The heightened stress associated with being gay can increase the allostatic load associated with an increased risk of type 2 diabetes. Allostatic load is a model of wear and tear on the body where standard homeostatic mechanisms of the stress response have failed to adapt, with failure of the body to return to its prestress state (Lick et al., 2013). An allostatic load may occur when the stressor is severe, frequent, and prolonged such as concealing one's sexual orientation and coming out. It causes an alteration in the hypothalamus, pituitary and adrenal (HPA) axis, which handles cortisol release. The prolonged release of cortisol is associated with chronic diseases such as diabetes. There is also a concomitant exaggerated response by the autonomic nervous system, leading to increased heart rate and blood pressure (Lick et al., 2013). An elevated resting heart rate has been associated with an increase in all-cause mortality and cardiovascular mortality (Zhang et al., 2016). Cardiovascular disease is a complication of diabetes. Additionally, other factors associated with an increase in allostatic load are proinflammatory cytokines and inadequate antibody response. These changes are critical features in diabetes and cardiovascular disease (Lick et al., 2013). Figure 1 below by Lick et al. (2013) shows the process by which allostatic load increases, displayed from left to right, in non-heterosexuality people.

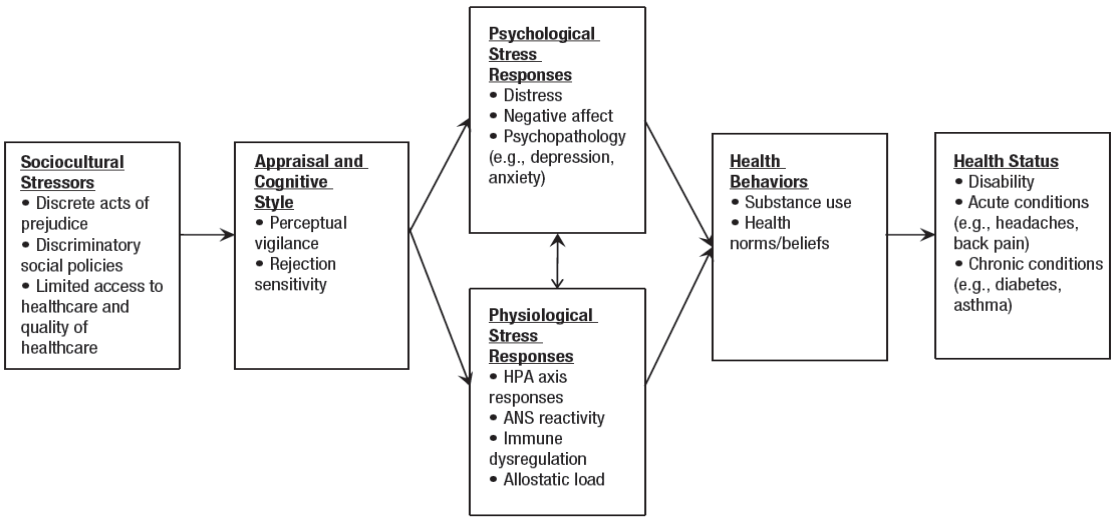


Figure 1 Lick et al., 2013 Proposed mechanism underlying LGB physical health disparities.

Overall, the accrued impact of chronic stress, such as being gay, is linked with worse health outcomes in diabetes (Guidi et al., 2021). However, while the allostatic load is an interesting model, there is no agreement on how this is assessed (Parker et al., 2022).

12. Posttraumatic stress disorder (PTSD)

PTSD has been linked with the development of type 2 diabetes (Lukaschek et al., 2013; Miller-Archie et al., 2014; Vancampfort et al., 2016), so its consideration in diabetes management may be necessary for some groups, such as gay men. They experience greater rates of PTSD due to elevated levels of childhood abuse, including sexual and hate crimes (Beckerman, 2014; Roberts et al., 2010). However, some studies dispute these elevated rates of PTSD for white gay men but believe it may be more of an issue for gay men of colour (Alessi et al., 2013). PTSD in the Diagnostic and Statistical Manual of Mental Disorders (DSM) 5 (2013) is defined as psychological responses to an actual or potential threat to death, serious injury or sexual violence. These psychological responses include the following:

- Flashback or memories of the event;
- Negative cognition or mood that may include a distorted sense of blame for self or others, estrangement from others, diminished interest in activities or inability to remember key events;
- Avoid thinking about event and those things that remind one of the event;
- Flight reaction or arousal which is marked by aggression, reckless self-destructive behaviour, sleep disturbances and hypervigilance (American Psychiatric Association, 2013);

The experience of a traumatic event at a younger age, as opposed to adulthood, has been identified as a factor that increases the risk of PTSD (Rivers, 2004; Schumacher et al., 2006). A 2007 Australian study found the rate of PTSD that persisted into adulthood was 7.2% (McEvoy et al., 2011). Earlier years can be a tumultuous time for gay teenagers as they become sexually mature. Roberts et al. (2015) noted that the experiences of trauma enacted by a close friend or relative and the unexpected death of someone close to them were more common than in heterosexuals in the USA. Beckerman (2014) found that if the bullying of LGBT adolescents (such as verbal, physical and cyber-attacks) occurred monthly or more frequently, it enhanced PTSD symptoms. Social support has been identified as a factor that can ameliorate the development of PTSD (Dinenberg et al., 2014; Stanley et al., 2019). However, many gay men feel unaccepted by support services in Australia, and it is not clear what their informal support networks are like compared to those for straight men (Hill et al., 2020). Therefore, PTSD might be a more pressing issue for gay men with type 2 diabetes.

13. Mental health - anxiety/depression

Gay men have increased mental health conditions, which are associated with developing complications, poor glycaemic control, and mortality (Parihar et al., 2016; Rustad et al., 2011; Tsai et al., 2016). However, the evidence connecting mental health with the development of diabetes is less solid (Rustad et al., 2011). Leonard et al.(2015) found that gay men had mental health issues that were 20% higher than heterosexuals. The fourth General Social Survey (GSS) by the Australian Bureau of Statistics (2014) noted that 29.1% of same-sex attracted people experienced a mental health condition compared to 18.2% of heterosexuals. In the study Private Lives, Leonard et al. (2015) identified that 29.8% of gay men had experienced and been treated for any mental health disorder in the last three years.

Gay men living in rural areas have more mental health issues than urban-living gay men (Kelly et al., 2020), and experience lower life satisfaction, reduced self-esteem, psychological distress, and concern about acceptance from others. They were more likely to conceal their sexuality than urban-living gay men (Lyons et al., 2015). In another study by Morandini et al. (2015), a comparative analysis of rural and metropolitan lesbian, gay and bisexual people revealed higher stress levels of people living in rural areas, and reduced ability to cope; they suggested that additional services were required for lesbian, gay and bisexual people living in rural areas. However, peer support from within the LGBT community was shown to increase people accessing mental health support in rural areas (Cheesmond et al., 2020).

Gay men have been discouraged from forming relationships because of the difficulty in meeting people and marriage laws that, until recently, have excluded them, which may have affected their mental health. Bariola et al. (2015) identified that being in a relationship protected the mental health of gay men, especially in the younger age groups (Bariola et al., 2015). Lyons et al. (2013) had similar findings. Brown and Trevethan, (2010) observed that gay men not in relationships had a higher degree of shame, anxiety, and avoidance attachment when forming relationships. Being in a relationship has been found to protect against suicide (Mathy et al., 2004). This result is not surprising considering the mental health benefits of relationships for straight couples (Hatzenbuehler et al., 2011; Herdt & Kertzner, 2006; Uecker, 2012). However, a more recent Australian study (Marmara, Hosking, & Lyons, 2018) found that a relationship did not protect mental health but was more closely aligned with issues in relation to body image.

There is increasing data showing that medication used to treat psychiatric disorders, such as antidepressants, are linked with type 2 diabetes (Barnard et al., 2013). Selegiline, a first-generation antidepressant, has been shown to increase rates of diabetes, probably by increasing weight gain (Kammer et al., 2016); it is now rarely used due to the unwanted side effects. As new-age medications for mental health issues have been developed, there has been an increasing rate of diabetes (Holt, 2019; Ulcickas Yood et al., 2011). The mechanism by which this occurs is probably via weight gain, increased insulin resistance and reduced insulin secretion (Holt, 2019; Parihar et al., 2016). In addition to prescribed medications, gay and bisexual men misuse prescription drugs (including mental health medications) at a rate 2.8 times that of heterosexual men (Australian Institute of Health and Welfare, 2020). However, there does not appear to be research showing a three-way connection between type 2 diabetes, mental health conditions, and being gay.

14. Stigma

Having multiple stigmas may exacerbate the health impacts that are evident with only one stigma (Turan et al., 2019). Stigma is a concern among gay men because it is associated with worse health outcomes (Saxby et al., 2022). Stigma comes from Greek, which refers to a mark attached to a person, such as a criminal. As used in social psychology, stigma has five criteria: 1. an enduring condition or attribute, 2. meaning is attached to it by social interaction, 3. the meaning is negative, deserving of shame, condemnation, or social ostracism, 4. stigma impacts a person's identity and 5. those stigmatised have access to less power and resources (Herek, 2004).

Stigma related to being gay is a common experience associated with negative health effects, demonstrated in the recent Australian plebiscite on marriage equality. In those jurisdictions with higher 'no' votes, there were lower scores for life satisfaction, mental health, and overall health. In particular, if a person is easily recognised as gay through their dress or voice, they can experience more discrimination (Fasoli & Maass, 2018; Schetzer, 2016) which leads to behavioural responses, such as hiding their sexuality to avoid adverse reactions. Another reaction can be internalised heterosexism (hatred of who they are) (Berg et al., 2016; Wen & Zheng, 2019). In turn, this fear becomes the tool that anti-gay individuals and organisations use to constrain the behaviour of gay people.

The word stigma has been applied to people with type 2 diabetes (Browne et al., 2013), and the model below demonstrates the process by which it plays out. It describes the framework for characterising diabetes-related stigma. Figure 2 below depicts different stigma elements, including sources, characteristics of diabetes and its management, negative stereotypes, how it is experienced, consequences, and mitigating factors. These items were developed from a thematic analysis of 25 participants with type 2 diabetes in regional and metropolitan Victoria.

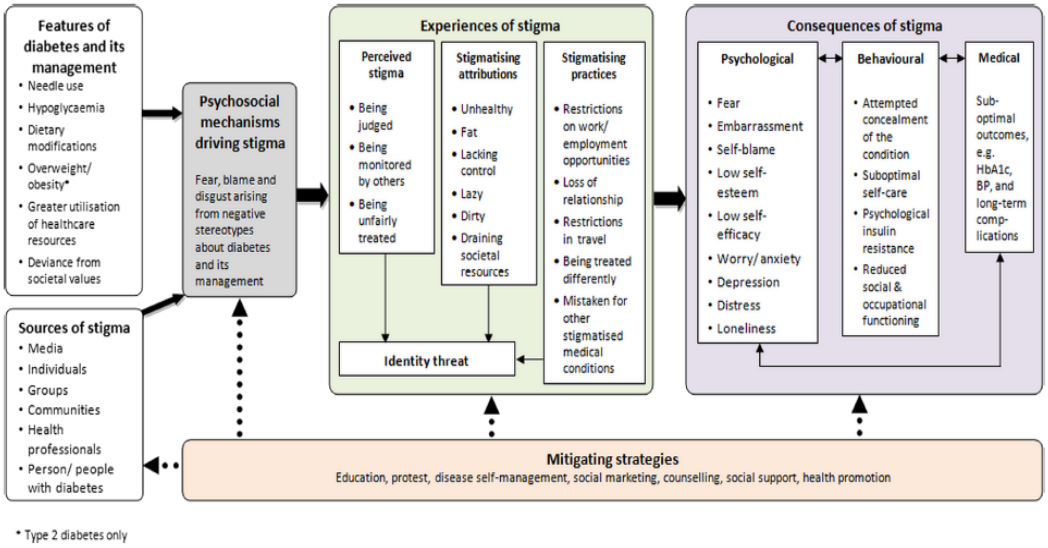


Figure 2 Brown et al., 2013, p.3 A revised framework to understand the diabetes-related stigma.

This current study looks at gay men with type 2 diabetes; however, it combines two stigmas: type 2 diabetes and being gay. The ability of multiple stigmas to amplify negative effects on gay men has been studied in combination with race (Lim & Hewitt, 2018) and HIV (Brener et al., 2022), but not in combination with a chronic health condition.

15. Language

The words people choose to express their ideas can often reflect underlying unconscious biases and assumptions accumulated over time. Hill (2009, p. 84) notes the work of Judith Butler, an American philosopher, in that words have performativity. By performativity, Butler believed that language used by someone could impact the receiver of that language, whether spoken or written (Butler, 2009), that could make the receiver feel or believe something. Words are not inert utterances but are constructed from '…interrelationships among discourses, power relations, historical, and cultural experiences' (Jackson, 2004). The meaning of words is hidden in everyday language; therefore, they are often not noticed and casually maintained (Hill, 2009). As words cannot escape their past learning, words that engage and disengage can be useful in health education. The choice of language is a core consideration because of its power to motivate or demotivate a gay person with diabetes to engage in self-care.

In some people's minds, including health care professionals, words such as gay or homosexual can be translated to what one does in bed, despite intellectually understanding that a person's sexual orientation impacts more than this, making conversation awkward. The specific choice of a word can also impact how a person feels; for example, gay versus homosexual. Research in this area is increasing, and there is now a recognition that language can motivate or demotivate a person in terms of self-care (Cooper et al., 2018; Dickinson et al., 2017; Dunning et al., 2017; Holt & Speight, 2017). Guidelines have therefore been extensively developed advising on the appropriate language to be used for people with diabetes.

The following Table 1 is a sample of words and alternative phrases designed for healthcare professionals working with people with diabetes.

Table 1 Language commonly used in medicine with suggested alternative

The following are words and phrases used, followed by a suggested alternative		
A person suffers	instead, use	Person with diabetes
Disease	instead, use	Condition
Obese	instead, use	Unhealthy weight
Fail	instead, use	Has not

Compliant	instead, use	Collaborative goal setting

National bodies around Australia have examined how language concerning sexual orientation is used. For instance, the Victorian Government has released the 'Inclusive Language Guide' (2018); the National LGBTI Health Alliance published the "Inclusive Language Guide: Respecting people of intersex, trans and gender-diverse experience" (2013); and the Diversity Council of Australia has released "Words at Work: Building Inclusion through the power of language" (2016). However, despite this recognition, diabetes peak bodies in Australia have not formally addressed the issues surrounding the language they use in relation to sexually and gender diverse individuals.

The word homosexual is currently the default in many Australian medical databases where doctors in general practice write their notes. Medical Director, Best Practice and Zed Med are commercially available databases that are commonly used in Australia (Callander et al., 2014). However, default languages can be changed in some databases. The issue here is that bias can be transferred to the medical notes; an HCP can form a negative view of a patient if what they read uses negative language (Goddu et al., 2018).

16. Infection

The pattern in which the human papillomavirus (HPV) presents itself is different in gay men than in straight men. STIs can become an issue when there are elevated glucose levels in diabetes. Unprotected receptive anal intercourse is a route for transmitting the human papillomavirus (HPV) in gay men and is a precursor of anal cancer (Poynten et al., 2018). Diabetes has been reported to increase the risk of rectal squamous cell carcinoma, so concomitant infection with HPV may elevate that risk significantly (Reinholdt et al., 2021). Likewise, there is a threefold increase in oropharyngeal HPV infection among Australian same-sex attracted people, which puts them at risk of oropharyngeal cancer (Antonsson et al., 2021). As diabetes also increase the risk of oral cancers, being gay may be an additional risk (Verhulst et al., 2019). The risk for gay men in Australia of HPV has been observed in all age categories, whereas in heterosexual females, the risk reduces with age (Poynten et al., 2016). Because HPV can be present in older gay men, there is a greater chance that both HPV and type 2 diabetes can coexist. Studies have confirmed that the coexistence of diabetes with HPV makes it resistant to treatment in females (Huang et al., 2016; Turhan Cakir et al., 2022; Yong et al., 2010), which is likely to be the same for males, but studies are lacking. From 2013 onwards in Australia, boys between 12 and 13 started to be vaccinated for HPV regardless of sexuality. Both HPV and diabetes predispose the carrier to cancer (Szychta et al., 2015). Despite this positive move to vaccinate boys, a whole generation of gay men continues

to be at risk of anal cancer. Smoking, as already mentioned, is higher in gay men, and this is yet another factor that can increase the risk of HPV causing anal cancer (Keller et al., 2022). The combination of the heightened risk of HPV, slow healing of diabetes, and elevated rates of smoking all increase the risk of anal cancer. Therefore, this topic is particularly pertinent to gay men and needs to be included in diabetes education for gay men.

Periodontitis is prevalent in diabetes and is the product of elevated blood glucose levels (Preshaw & Bissett, 2019). Still, other causes can be missed when the diabetes educator is too focused on type 2 diabetes. Typical advice for someone with periodontitis is to suggest a visit to the dentist, daily use of interdental devices (such as brushes), and brushing teeth twice a day (Sälzer et al., 2020). Smoking (Aminoshariae et al., 2020; Pinto et al., 2020) and alcohol consumption (Hamdi et al., 2021; Wang et al., 2016) that are higher in gay men have been associated with periodontal disease but are generally considered in diabetes education.

However, STIs (De Barros Pinto Grifoni & Navarro, 2020; Harville et al., 2004; Reed et al., 2000; Saini et al., 2010; Zabor et al., 2010); for example, Chlamydia (Templeton et al., 2014) are also associated with periodontal disease but are less well-known and not included in diabetes education. While periodontitis may seem insignificant, STIs (Ghazi et al., 2019; Joo et al., 2019; Nam et al., 2016), periodontal disease (Liccardo et al., 2019), and smoking (Gobin et al., 2020) are all associated with cardiovascular disease which is observed at a higher rate in people with diabetes. Importantly, smoking and STIs are highly prevalent in gay men.

17. Homophobia in sport

In a gay man's journey with type 2 diabetes, they will be asked to follow Australian guidelines for exercise, but there are unique barriers for gay men. Exercise for diabetes is a recommended strategy to improve outcomes in those with diabetes because it has many effects, including reducing inflammation (Pedersen, 2017), improving endothelial function (Qiu et al., 2018), and improving insulin sensitivity (Duvivier et al., 2017). Additionally, it reduces liver fat (Cassidy et al., 2016), regulates glucose (Kirwan et al., 2017; Liubaoerjijin et al., 2016) and improves cardiac autonomic function, which can be impaired in long-term diabetes (Bhati et al., 2018).

However, there are suggestions that gay men take part in less exercise, which may affect the management of diabetes. A 2009 survey of 14354 people in the USA (in the states of Arizona, Wisconsin, California, Massachusetts and Ohio) noted that gay men spent less time exercising (Kamen et al., 2014). In a British study, 93 bar staff were given a revised version of the Exercise

Motivations Inventory and reported their exercise frequency. Those who were gay reported less exercise and were more so motivated by body image, whereas heterosexual men were motivated by competition and enjoyment (Grogan et al., 2006). In a National USA study collecting data between 2001 and 2009, 36774 students noted that gay students participated in less than an hour per week of exercise at 1.5 the rate of their straight peers (Kann et al., 2011). In another USA study, gay students reported victimisation in changing rooms and sports classes (Bochenek & Brown, 2001). In an Australian study, 294 gay and bisexual male and female students completed the Come Out to Play online survey in which gay men reported homophobia in sports settings which resulted in them disliking sports and eventually disengaging (Symons et al., 2017).

Homophobia in sport is a common theme in multiple studies that creates a barrier to participation in exercise for gay men (Denison et al., 2021; Gough, 2007; Kosciw et al., 2012; Symons et al., 2014; Zamboni et al., 2008). This discrimination is also associated with depression, which is in turn also associated with reduced motivation to participate in sports or exercise (Krämer et al., 2014). The impact of homophobia on sports is disheartening, given that exercise, combined with medication, helps treat depression (Danielsson et al., 2013). Exercise is also integral to managing diabetes (Chen et al., 2015; Lin et al., 2015) and may assist in preventing diabetes (Schellenberg et al., 2013). In an Australian international study by Denison et al. (2021), 80% of participants reported that they had experienced or witnessed homophobia in sports, 75% said they would not feel safe as a spectator, 50% of gay men had been personally targeted, and 85% had experienced verbal slurs such as being called a faggot. Bullying had been experienced by 34% of gay men, 27% had received verbal threats, and 15% had been physically assaulted. Understandably, 88% felt they were not welcome in sporting culture, 70% felt it was not safe for gay people, and 87% were fully or partially in the closet while playing youth sports. These data might contradict the image of gay men as being thinner and body-conscious (Bosley, 2011). Therefore, homophobia in sports is a unique experience of gay men that challenges their journey with type 2 diabetes.

18. Eating disorders

Studies of gay or bisexual males have noted an association between an increase in wanting to be thin (Calzo et al., 2015) and eating disorder symptomatology (Boisvert & Harrell, 2010; Feldman & Meyer, 2007). Overall, gay men and bisexuals have higher binge eating and purging than heterosexuals (Austin et al., 2009; Bankoff et al., 2016). The following symptoms have been associated with their disordered eating symptoms: childhood sexual abuse, depression, being white (versus being Asian or black) and engaging in behaviours to increase muscle mass

(Brennan et al., 2011). Goter & Ferraro (2011) found that the IQ test using the WAIS-R performance and perfectionism was much higher in gay men with eating disorders. The relationship of eating disorders to diabetes is important.

Eating disorders have been associated with diabetes (Abbott et al., 2018; Papelbaum et al., 2019; Petroni et al., 2019; Raevuori et al., 2015). In their research, Nip et al. (2019) stressed the importance of early identification of disordered eating and treatment in at-risk populations. It is prevalent in those with type 1 and 2 diabetes who use insulin. Papelbaum et al. (2019) suggested that assessment for eating disorders should form part of routine diabetes care. Given that gay men have demonstrated higher eating disorder rates, it is vital that it is assessed in this group.

19. Subgroup (bears)

Losing weight is a recommended strategy for managing diabetes, but this might be challenging among gay men who identify as bears. The gay community's bear movement values hairy and bigger men (overweight or obese), which encompasses body positivity and reclaiming their sexuality within a body-conscious world (Joy & Number, 2018). Quidley-Rodriguez and De Santis (2016) found that this subgroup tended to have a higher body mass index that was tied to their identity. Therefore, losing weight may be perceived among some gay men as losing their identity (Duncan et al., 2019). It is important to note a similar group of obese gay men that call themselves chubs find acceptance in this subgroup (Turner, 2019). However, some gay men who do not identify this way are sometimes referred to as chubs by other members of the gay community, causing distress (Franklin et al., 2022). The health implications for gay men who identify as bears are only starting to be discussed more broadly beyond mental health and sexually transmitted diseases (Quidley-Rodriguez & De Santis, 2017). Therefore, the approach to diabetes education may differ among this group. Focusing on building muscle to increase glucose disposal, rather than weight, may be a preferable strategy.

20. The role of family and disengagement

Coming out to family is a unique experience for members of the LGBTQIA+ community, which can be stressful. While young, coming out can be challenging because they rely on family to provide for them. Coming out can lead to the family disengaging from them as they process this new identity and a general sense of discomfort in the home. Family rejection can lead to lower resilience scores, associated with depression, anxiety, stress, internalized heterosexism, lower self-esteem, and reduced acceptance of self. Internalised heterosexism (homophobia) increases the risk of future relationship problems; hence, less access to social support is needed to cope

(Frost & Meyer, 2009). Strategic concealment, social support, connecting with gay people and accepting oneself as gay were successful ways people coped (Carastathis et al., 2013). Substance use and behavioural disengagement were negatively associated with resilience (Carastathis et al., 2013).

The family's role as part of a broader healthcare system has been shown to have benefits (Ilias et al., 2004). Help with quitting smoking, weight loss, treatment adherence, illness adaptation, and blood sugar regulation can be provided by families (Denham et al., 2011), who can also help with emergencies experienced by people with type 1 and type 2 diabetes (Gunn et al., 2012). While the above is true of many families, not all are created equal. Some families can impede diabetes self-care; for example, criticising them for not exercising enough and eating foods not part of the so-called diabetes diet. However, this behaviour only increases stress and nonadherence (Mayberry et al., 2015; Mayberry & Osborn, 2012). Conversely, a Japanese study by Sonoda et al. (2015) observed that family assistance was associated with reducing mild to severe hypoglycaemia and better adherence for those using insulin. Therefore, the role of the family in diabetes education is critical. Family members need to be encouraged and educated on useful support strategies (Baig et al., 2015; Pamungkas et al., 2017).

Marriage strengthens family ties, but there are low numbers of gay marriages because, until recently, marriage was only available to opposite-sex couples. The percentage of gay men in a same-sex legal partnership, that being a civil union or registered domestic partnership, is unclear but is probably small. These low numbers seem to be a social injustice, considering that marriage in heterosexual communities has been associated with health benefits, especially for men in the USA (Rendall et al., 2011) and Australia (O'Flaherty et al., 2016), although this comes with caveats. To date, the formalisation of same-sex legal partnerships in Australia has been associated with decreased psychological distress (Bariola et al., 2015). In a Dutch cohort, the formalisation of partnerships had a causal improvement in subjective well-being in gay men (Chen & van Ours, 2018). In California, a small study demonstrated that same-sex marriage decreased smoking to the same levels as heterosexuals (Wight et al., 2012). Wight et al. (2012) also demonstrated that same-sex marriage reduced psychological distress to levels comparable to registered domestic partnerships and heterosexual unions (Wight et al., 2013).

21. Issue of loneliness and isolation in the gay community

Being gay increases the risk of loneliness, which has been associated with behaviours that negatively impact the management of diabetes and health in general. In an American study,

loneliness was associated with an increased risk of death (Pantell et al., 2013). Social isolation contributes to loneliness but does not necessarily mean they are lonely. For example, Cartwright et al. (2012) noted that living alone did not mean gay men were socially isolated, as some had developed self-made communities and support networks. Moreover, Valtorta et al. (2020) highlighted that loneliness rather than isolation increases the risk of health problems such as cardiovascular disease.

Being gay increases the likelihood of being exposed to factors that increase the risk of loneliness. The closet and the current political debates on marriage equality and the religious discrimination bill in Australia have been shown to create a greater sense of loneliness because they generate discussion among families, friends, and work colleagues (Asquith et al., 2019, p. 315; Dane et al., 2016). Other factors common in gay men that contribute to loneliness include not being married (Mezuk et al., 2016) and infrequent participation in religious activities (Pantell et al., 2013).

Living in rural areas and being older are subgroups among gay men that can experience greater loneliness. Rural living LGBT people in Australia experienced more social isolation than city dwellers due to their sexual identity concealment; they had less LGB community involvement, fewer LGB friends and more internalized homophobia (Morandini et al., 2015). Loneliness in LGBTQIA+ has been found to be more prevalent in older people, especially those over fifty (Hughes, 2018; Kuyper & Fokkema, 2010).

As mentioned earlier, social isolation is a significant contributor to loneliness. Johnson and Amella (2014) explored loneliness in LGBT and developed a model that addressed contributing factors for loneliness and isolation in youth. Figure 3 below shows the five dimensions of isolation in LGBT youth, and the four causes, revealing multiple facets of this construct.

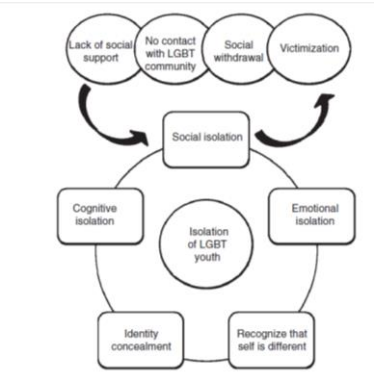


Figure 3 - Johnson and Amella 2014 Model of social isolation in LGBT youth, p. 527

The five dimensions identified in their literature review included social isolation, emotional isolation (emotionally disconnected from social networks like family), cognitive isolation (because of lack of exposure to information on homosexuality and role models, they often rely on negative stereotypes), concealment of identity, and recognition of self as different from heteronormative society. The four causes of these dimensions of isolation were a lack of social support, no contact with the LGBT community, social withdrawal, and victimisation (which refers to the act of being ignored, physically and verbally assaulted by friends, family, and peers).

Given the above model, the Australian government has contributed to loneliness among gay men by restricting data collection on LGBTQIA+ in the 2021 Australian Census (Karp, 2019), a tactic also used in America (Naylor, 2020). The restriction of data means that people must rely on stereotypes. The question on a person's sexual orientation was removed by the government at the time (Australian Bureau of Statistics, 2019) despite widespread protest (Klintworth, 2021) and despite the potential benefits it could have delivered (Lyons et al., 2021). The decision is being put down to the conservative view of the government at the time (Karp, 2019). The lack of data on sexual orientation is akin to silencing. It becomes an easy excuse to say there's no evidence and allows stereotypes to circulate uncontested in the community.

In a study by Christiansen et al. (2016), loneliness was associated with diabetes, cardiovascular disease, and migraines because it increases people's likelihood of stress, smoking each day, and poor sleep. The combination of diabetes and loneliness may exacerbate an already increased risk of cardiovascular disease that comes with diabetes (Balakumar et al., 2016; Barr et al., 2007; Y. Huang et al., 2016). Therefore, being gay increases the risk of loneliness, which ultimately impacts a person's journey with diabetes.

22. Religion

For gay men, growing up in religion has been associated with many factors that can complicate the management of diabetes. Religion can increase the risk of internalised homonegativity that is related to eating disorders and gay conversion practices, which increase the risk for depression, a known factor that complicates the management of diabetes. Religion among gay men has also been linked to reduced life and work satisfaction, leading to increased behaviours that are known risk factors for diabetes. Some of these behaviours include increased childhood stress that increases the risk of metabolic issues that are, in turn, associated with problematic diabetes management.

Gay men who grew up in non-gay affirming religions experienced increased internalised homonegativity (Skidmore et al., 2022; Sowe et al., 2014), which increased the risk for eating disorders (IH) (Huckins et al., 2022; Lefevor et al., 2018). Of gay people who had left the church, IH was higher in those who were males, less out, and had a less sense of self. Notably, those who participated in gay-affirming churches experienced less IH (Skidmore et al., 2022). These negative attitudes create an internal struggle for many gay people who must reconcile their faith with their sexual orientation.

Currently, most gay conversion practices in Australia are in religious organisations, albeit in secret, and are associated with internalised homophobia (discussed above) and anxiety and depression anxiety (Cusack, 2019), complicating the management of type 2 diabetes. In 1999, a position statement by the American Psychological Association opposed these techniques. The Royal Australian and New Zealand College of Psychiatrists 2010 also opposed them. Both these organisations reported on the harm that these therapies caused and the lack of evidence of their efficacy. Nevertheless, religious organizations, such as the Australian Christian Lobby in Australia, have undermined attempts to pass legislation that would ban its practice in Australia (Higgins, 2015; Romero, 2019). No national legislation exists, and not all states have banned its practice in Australia. The problem is that anxiety and depression are associated with an increased risk of diabetes (Brown et al., 2005; Lyra e Silva et al., 2019; Schmitz et al., 2016). If a person already has diabetes, anxiety and depression are associated with not taking medications as prescribed, reduced physical activity (Mendes et al., 2019), and reduced quality of life (Khan et al., 2019). Therefore, conversion practices are associated with considerable stress, anxiety and depression (Jones et al., 2022), which in turn are associated with an increased risk for diabetes and challenges to management.

Work and life satisfaction are closely tied to health behaviours that impact the management of diabetes. Religious workplaces in Australia, such as schools, have the freedom to not hire people based on their sexuality if it clashes with their religious ethos (Callaghan & Van Leent, 2019; Knott, 2016), which can challenge a gay person's satisfaction at work. The implications of these laws for members of the LGBTQIA+ community are not clear; while the freedom not to hire exists, some organisations choose not to implement it. Some schools make threats without going any further, and some LGBTQIA+ people moderate their behaviour for the fear they may fall short of expectations, despite no evidence of the school having a problem with their sexual orientation (Callaghan & Van Leent, 2019; Seemann, 2018). But restraining one's behaviour is associated

with poor mental health outcomes and reduced life satisfaction (Smith & McCarthy, 2017), which in turn is associated with an increase in chronic diseases such as diabetes and behavioural responses that increase risks like smoking (Feller et al., 2013; Piciu et al., 2018). Reduced career satisfaction has in turn, been associated with reduced life satisfaction and vice versa (Hagmaier et al., 2018; Prasoon & Chaturvedi, 2016).

Early childhood and adolescence stress has been associated with metabolic syndrome that increases the risk of type 2 diabetes when they are older (Crump et al., 2016; Kennedy et al., 2019; Pervanidou & Chrousos, 2012). As a gay teenager, there are many events that can cause significant stress, including coming out, homelessness, and religious shelters. Coming out as gay is a significant life event that usually occurs when a child becomes sexually aware in their teenage years while residing in the family home. If the family does not accept the child's sexuality, it can lead to homelessness. In Australia and around the world, LGBT people have been shown to have higher rates of homelessness (Andrews et al., 2019; Cronley & Evans, 2017; Fraser et al., 2019). However, there is a paucity of data in Australia on homelessness due to a lack of appreciation of the unique challenges experienced by members of the LGBT community (Ecker et al., 2019a; Oakley & Bletsas, 2013; Oakley & Bletsas, 2017). Religious organisations receive funding for over 60%of homeless services in Australia, which is an area of concern for many Australian homeless LGBTIQ+ youths (Holas, 2014). Some religious-funded homeless shelters have been unwelcoming of LGBTQ youth, leading to the underutilisation of their services. However, many religious organisations are slowly changing their attitudes and have an increased understanding of the pressures experienced by the LGBTQIA+ community (Holas, 2014). Therefore, being gay increases the risk of experiencing significant stress at an early age, which in turn increases the risk of metabolic syndrome.

While the support of a church and deep religious conviction may provide solace for many people, this may not be the case for a gay person in a non-gay-affirming religion. Internalised homonegativity, gay conversion practices, workplace dissatisfaction in religious organisations, significant stress at an early age, and homelessness all intersect with religion and being gay, altering the journey with type 2 diabetes in unique ways.

23. Income and full potential at work

For gay men, the workplace can be a stressful place and can contribute to stress-related behaviour that may impact on diabetes management. Considering the work environment as a potential influence on gay men with type 2 diabetes is essential because many people spend a significant

part of their day at work. The unique issues that contribute to stress in gay men are not being out at work, being in blue-collar work, and a loss of earning capacity.

Studies on gay people in the workplace have found that many are not out as gay at work, which adds stress that may affect their diabetes management (Cole, 2006; Hough, 2013; Smith et al., 2013). This is in addition to the well-known stress known as diabetes-related distress, which is associated with an increased rate and frequency of work disability, leading to absenteeism and disability pensions (Ervasti et al., 2016). An international study spanning many countries, including Australia, found that 45% of gay men were not out at work because they feared the repercussions, but when they were out at work, there was a 10% increase in the retention rate and a 15% to30% increase in productivity (Hogg, 2016). Other studies have found that being out in white-collar work was associated with health benefits, while in blue-collar work, being out was associated with adverse effects (McGarrity & Huebner, 2013).

Diabetes management can be expensive, so any loss of income may impact its management. The yearly cost of type 2 diabetes per person was estimated in 2012 to be around $4,025 if there were no associated complications (micro and macro). However, this cost was estimated to jump to $9,645 if complications were present (Baker IDI, 2012). Of course, the cost of treating diabetes in 2022 is likely to have risen significantly due to inflation and the complexity of treatment regimens. Some of these financial costs include a glucose meter, strips, doctor visits, medications, allied health services, sharps containers (if one cannot be obtained free), and dosette-boxes, to name a few. In an Australian study, gay males were less likely to be in continuous employment, resulting in a 20% earnings penalty, and this declined when they entered into a same-sex relationship, which was not the case for heterosexuals (Wilkins, 2015). Therefore, the stress of not being out as gay at work, being out in blue-collar work, and the decrease in earnings potential are secondary potential problems that can impact diabetes management.

24. Conclusion

Each variable mentioned above makes some connection between type 2 diabetes and the variables mentioned above, e.g., smoking, alcohol, stress, infection, and loneliness. Independent of these connections is a separate body of research connecting the same variables with being gay. For example, the rate of smoking in gay men is higher than in the general population in Australia, and separate research shows that smoking increases the mechanism by which type 2 diabetes is established, called insulin resistance. Minimal research makes a three-way connection between smoking, being gay, and type 2 diabetes. Furthermore, no research has shown a three-way

connection in Australian living conditions. While the countries represented in the above research are from western countries like Australia, the way homophobia is experienced due to laws, social attitudes, and the health care systems vary considerably. There is, however, one small study showing evidence in Australia that gay men with HIV have greater rates of type 2 diabetes. There may be further variables that influence the journey a gay man has with diabetes in Australia, so this was explored by asking Australian gay men directly about their journey with type 2 diabetes in in-depth interviews.

Chapter three - shining a light into a once dark area

1. Introduction

This is mixed methods research into gay men with type 2 diabetes. The methods consisted of surveys in the first phase of the study, and then in the second phase in-depth interviews of men with type 2 diabetes and diabetes educators were conducted, giving a sequential design. Social media posts in response to the advertisement for the study were later added for analysis after a request for an amendment to the ethics proposal was approval. It was felt the social media posts would provide useful contextual examples of factors that could influence gay men during their journey with type 2 diabetes. Findings from this quantitative and qualitative study were triangulated, and several themes were constructed. Major themes included consultation, uniquely gay, and social supports. Research in this field is complex and difficult, but it is important to shine a light on areas which are stigmatised in our society. This chapter will discuss the research question, the research paradigm, methods, rigour, and trustworthiness of the study, ethics and occupational health and safety, and then analysis of the data.

2. Research questions

This section will explain the two questions to be answered by this research regarding gay men with type 2 diabetes in the Australian context. A diagnosis of type 2 diabetes increases the tasks that are required to manage the condition and prevent complications. The tasks can impinge on their day-to-day activities, so choices need to be made regarding how to implement them in a way that is acceptable to the person with diabetes by addressing culture, race religion. Being gay also has cultural nuances that may affect a person's journey with diabetes. The research questions therefore are:

- To what extent is sexual orientation relevant to gay men's journey with type 2 diabetes?
- Does the cultural nuances around being gay impact the journey with type 2 diabetes?

People with diabetes in Australia are often encouraged to see a diabetes educator. Regardless of membership in any group, diabetes educators are encouraged to individualise education and care. However, knowing the groups with which a patient identifies can inform the diabetes educator about what approach and educational content may be helpful to the patient. The approach and content used in diabetes education consultation remain elusive.

- What are the processes that diabetes educators have to consider when cis gay men in Australia with type 2 diabetes receive diabetes education, such as approach and educational material that may serve to improve outcomes through their impact on engagement?

3. Research paradigm

This study has chosen constructivism as its guide within the quantitative methodologies used to explore the lives of gay men with type 2 diabetes (Lincoln & Guba, 2013). Constructivism concerns how individuals, groups and societies construct meaning from their experiences as they interact with the objective world. The approach is born out of interpretivism, which believes the world is constructed in the minds of people while at the same time not denying there is an objective reality (Phothongsunan, 2010). As the topic of sexuality can be sensitive for individuals and groups in Australia, constructivism was chosen as it recognises the role of values and how they help shape meaning and, therefore, how people choose to act (Creswell & Poth, 2017).

As the investigation of diabetes in gay men is a new area of enquiry, methodologies chosen for this research needed to be flexible so that adjustments could be made as the study proceeded. Qualitative methodologies allow flexibility in the methods followed, study questions, and analysis (Dowsett, 2007). In this study, semi-structured questions were used and could be adjusted to aid the flow of conversation and to allow participants to take the conversation in a direction they felt was important. As the responses to the advertisement of the study on social media, including Twitter and Facebook, were extensive, ethics approval was sought to include and perform an analysis of these. The comments could help illuminate the environment in which gay men manage type 2 diabetes.

This type of research aims not to establish one truth but to identify perspectives from a range of perspectives that guide a person's decision-making and hence how they lead their life (Denzin & Lincoln, 1998). Constructivism acknowledges that no one can claim absolute truth (knowledge) in the social world as they do not have a ‘birds-eye view’; instead, it is a matter of perspective (Denzin & Lincoln, 1998). However, because a person does not have this ‘birds-eye view’, this can be a fertile ground for assumptions, which became a significant finding of this study. A person's perspective embraces ideology, social and material practices, laws of discourses and systems of representation (Schwandt, 1994), which create tangible effects in the lives of gay men. Therefore, the perspective does not necessarily represent the entire truth, but its impact on behaviour is undeniable.

The knowledge production of this research is not only the product of questioning but also memory, how participants express themselves, their comfort in responding to questions (the dynamic between the researcher and the participant), and the researcher's interpretation and presentation of findings (Lincoln & Guba, 2013). Thus, the knowledge created becomes an artefact of a co-construction between the researcher and the participant. That is, the participant is responsible for interpreting the questions from an insider's perspective, and the researcher is the instrument responsible for the analyses; that is, finding patterns in data and making sense of it.

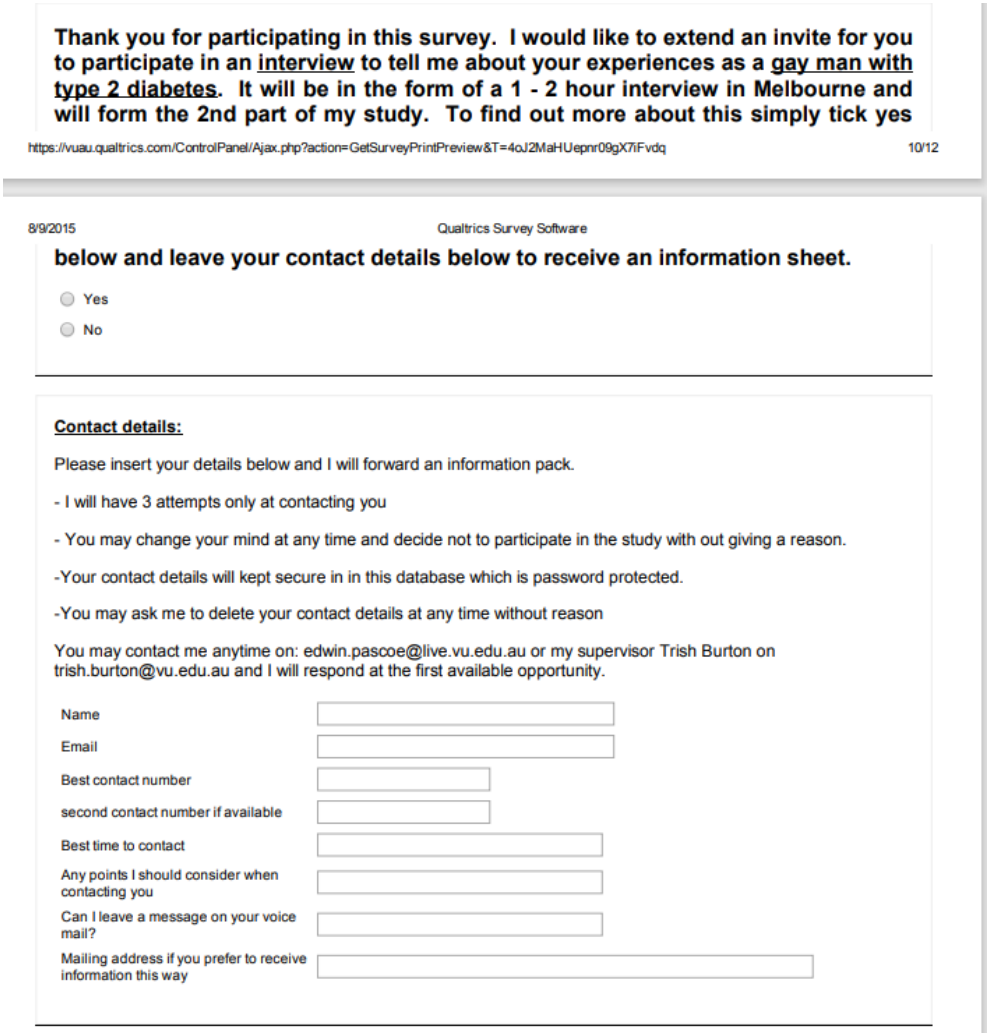
The *think* work of the researcher is a critical element of the interpretive process because themes do not emerge as preformed ideas but as constructions through an analytical process (Braun & Clarke, 2019). The interpretive work is especially important in a post-HIV epidemic era where unnoticed habits and routines unconsciously absorbed over generations continue to impact decision-making. Interpretive analysis of qualitative data allows for new discoveries as it breaks free from the positivist assumptions inherent in quantitative research that seeks only to measure known variables. As this study was seeking to look beyond traditional areas in gay men's health, such as sexually transmitted diseases and mental health, qualitative data was essential because health concerns outside conventional areas of enquiry are stigmatised and therefore hidden, which came to the fore in this research. The researcher displays these interpretations by providing a thick description, defined as giving detailed explanations and interpretations in context (Creswell & Poth, 2017; Dowsett, 2007, p. 13; Jowett et al., 2012).

4. Methodology

Mixed methods were chosen to analyse the question about cultural nuances around being gay, the impact on the journey with type 2 diabetes, and the effect this has on the consultation with a diabetes educator. Mixed methods included both quantitative data collected by an online survey and qualitative data collected by in-depth interviews and social media posts (Hesse-Biber, 2010). The reason this methodology was chosen was to triangulate data to increase credibility; that is, the various angles would support the notion that gay men with type 2 diabetes are a unique area of enquiry that does impact their journey with type 2 diabetes (Hesse-Biber, 2010). The methodology fits with constructivism (Mackenzie, 2006) because while it refers to the meaning-making in the minds of people, it does this with the acceptance that a real world exists out there that is amenable to being counted. The physical world out there has a reciprocal relationship with sense-making that goes on in the mind. That is, the physical world can shape the way a person thinks, while at the same time, the inner world can shape how one responds to it and interprets reality. Therefore, presenting qualitative and quantitative data as it relates to a phenomenon such as gay men with

type 2 diabetes allows the reader to get closer to the truth as it opens up more angles for critique (Mackenzie, 2006).

The online survey collected quantitative data from gay men with type 2 diabetes, gay men without type 2 diabetes, and gay men with type 2 diabetes and HIV. It was collected first because it was easy to distribute to multiple gay groups around Australia, achieving greater reach. In a sense, the survey entered the unique world of gay men in an unintrusive way where they were able to choose if they wanted to complete the survey, at what time, and at what location was convenient to them. At the end of the survey, participants were asked if they were interested in participating in an in-depth interview. See Figure 4 below.



Thank you for participating in this survey. I would like to extend an invite for you to participate in an interview to tell me about your experiences as a gay man with type 2 diabetes. It will be in the form of a 1 - 2 hour interview in Melbourne and will form the 2nd part of my study. To find out more about this simply tick yes

https://vuau.qualtrics.com/ControlPanel/Ajax.php?action=GetSurveyPrintPreview&T=4oJ2MaHUepnr09gX7iFvdq 10/12

8/9/2015 Qualtrics Survey Software

below and leave your contact details below to receive an information sheet.

- Yes
- No

Contact details:

Please insert your details below and I will forward an information pack.

- I will have 3 attempts only at contacting you
- You may change your mind at any time and decide not to participate in the study with out giving a reason.
-Your contact details will kept secure in in this database which is password protected.
-You may ask me to delete your contact details at any time without reason

You may contact me anytime on: edwin.pascoe@live.vu.edu.au or my supervisor Trish Burton on trish.burton@vu.edu.au and I will respond at the first available opportunity.

Name	
Email	
Best contact number	
second contact number if available	
Best time to contact	
Any points I should consider when contacting you	
Can I leave a message on your voice mail?	
Mailing address if you prefer to receive information this way	

Figure 4 Request to participate in an in-depth interview at the end of the on-line survey

5. Methods

I. Overview

The study started with an online survey link requesting demographic data, which was sent via email to 36 groups related to diabetes and gay men. Two hundred seventy-six people started the survey, but 98 did not proceed, which left 178 participants that completed it. Forty-four people completing the online survey agreed to be interviewed, but only 13 were interviewed, with one dropping out after being asked to review the completed transcript. After each interview, I wrote in a journal my impressions and perceptions at the time. The survey data was analysed using nominal counts, percentages, and chi-squares. Interview recordings were sent to be transcribed because it was felt it would reduce the time lapse between the interview and the participant receiving the transcript, therefore avoiding any issues with the erosion of memory, so participants could recall what was written in the transcript was what they had said and meant at that point in time. Once participants approved the transcripts, they were analysed using reflexive thematic analysis. Social media posts about the study on Twitter and Facebook were also analysed. I applied for an amendment of the original ethics approval by Victoria University ethics committee so the comments could be included in the study.

II. Employs criterion sampling

Purposeful sampling is a non-randomised method that uses criteria to select people from a particular group. There are different purposeful sampling techniques (Palinkas et al., 2015). However, in this study, criterion-based sampling was chosen for the first quantitative phase of the study– the online survey. The predetermined criteria in this study included self-identifying gay, HIV-free, biological men who spent most of their time in Australia with type 2 diabetes during data collection in 2016 and 2017. These selection criteria were chosen to narrow the focus for pragmatic reasons, that being time and available resources, and to eliminate factors that might alter the result's meaning. For example, the criteria biological male was used, as the term male may have resulted in transgender males (female to male) being included. Transgender people experience diabetes in unique ways due to hormone treatment and how they navigate health care (Feldman, 2002; Kapsner et al., 2017). Those participating in the second part of the study, the in-depth interviews, were then self-selected.

III. Sampling of gay men and diabetes educators in the survey

Two hundred seventy-six people started the survey, but 98 were eliminated (see Table 2 below), leaving 178 participants who met the criteria and completed the survey.

63	Decided not to proceed	
7	Qualtrics online survey extracted them because they did not meet the selection criteria	
19	Manually extracted because they were identified as not meeting the selection criteria or did not answer one or more questions (Qualtrics did not eliminate them)	Gender: 1 transgender, 1 female, 1 other, and 2 blank Diabetes type: 3 type 1, 2 other, and 2 medication induced Did not live most of their life in Australia: 2 Do you identify as a gay male: 3 blank and 1 said no
9	Did not complete most of the survey	

Table 2 Reasons for not completing the online survey

Of the 178 people who met the selection criteria, (1) 83 gay men with type 2 diabetes (no HIV), (2) 82 gay men without diabetes and (3) 13 gay men with type 2 diabetes and HIV positive completed the online survey. Group 1 was the main area under investigation, while groups two and three were used to triangulate with group one in the discussion. Groups one, two, and three had different types of questions. Diabetes Educators were selected based on having relevant qualifications and having looked after gay men with type 2 diabetes. Diabetes educators were chosen because it was considered that they could provide a unique perspective on what it was like to look after a gay man with type 2 diabetes, which could be used to triangulate the data. The collection of data to triangulate the primary group under investigation - gay men with type 2 diabetes in Australia without HIV, is consistent with the paradigm of constructivism, which seeks to provide multiple perspectives on the one phenomenon (Sukumar & Metoyer, 2019). This approach brings us closer to the truth because it reduces biases that come from relying on the one perspective and therefore increases credibility (Greyson, 2018).

IV. Participant details (gay men)

In this sample of gay men, all indicated they were white, of middle age to older men, and highly educated, with half working in jobs not listed as a category on the popular employment site SEEK. Half were unemployed, and contrary to popular belief, most did not have a high income. The categories for work, employment status, wages, and education used in this survey were comparable to those used in the employment search engine SEEK used in Australia, and religion and ethnicity categories were chosen using the Australian Bureau of Statistics.

All participants were white, and their ages ranged from 47 to 73. Five did not have a religion, and seven were Christians (four were Catholic, two were Anglican, and one was Uniting Church). The educational qualifications of participants were: four completed high school, one had a diploma/ advanced diploma, four had bachelor's degrees, one had a certificate III/ IV, one had a graduate certificate/ diploma, and two had a master's degree. Their income levels were as follows: gross income per week/ year (one nil, two $200-$299 ($10,400-$15,599), two $300-$399 ($15,600-$20,799), two $400-$599 ($20,800-$31,199), one $600-$799 ($31,200-$41,599), and one $800-$999 ($41,600-$51,999), one $1,250-$1,499 ($65,000-$77,999), one $1,500-$1,999 ($78,000-$103,999), and one $2,000 or more ($104,000 or more)). Please note the poverty line in a 2016 report noted that $426 per week was the cut-off for the poverty line using figures from 2014 and that $852 was the medium wage (Australian Council of Social Service, 2016). This cut-off means that eight were below the medium wage and four above.

Six participants interviewed were unemployed (three had no interest in work, two were related to health issues, and one was for another reason). One was part-time (contract-specific time), and three were in ongoing full-time contracts. Their areas of work were: six in other services (three unemployed, two casual, and one full-time contract ongoing), two in education and training, one in retail, one provided no details, one in health care and social assistance, and one in professional, scientific, and technical services.

Patterns noticed in these participant details were that all were white, with an age range from middle age to elderly, 75% earned lower than $1000 per week, 50% were unemployed, and half were employed in other services (other areas of employment not mentioned in the list provided). The details of the gay men interviewed in this study are provided in Table 3 below. Time and funding restrictions prevented further data collection and therefore placed limitations on the interpretation of the data. However, the body of work here provides a significant start to understanding this area of enquiry.

Table 3 Details of gay men with T2 diabetes interviewed.

	what if your ethnicity	How old are you?	What is your religion?	What is your highest educational achievement?	What is your gross income per week/ year?	What is your employment status?	What area of employment are you involved in?
1	White	73	Anglican	High School Year 9	$300-$399 ($15,600-$20,799)	Unemployed - No interest in work	Other Services
2	White	47	Catholic	Masters	$200-$299 ($10,400-$15,599)	Part time - Contract - Specific time	Education and Training
3	White	63	Catholic	High School year 11	$400-$599 ($20,800-$31,199)	Unemployed - No interest in work	Other Services
4	White	57	Catholic	Bachelor Degree	$1,250-$1,499 ($65,000-$77,999)	Full time - Contract - ongoing	Education and Training
5	White	59	Catholic	Bachelor Degree	$200-$299 ($10,400-$15,599)	Casual	Other Services
6	White	53	Uniting Church	Certificate lll or IV	Nil income	Unemployed - No interest in work	Other Services
7	White	68	Anglican	Graduate Certificate / Diploma	$600-$799 ($31,200-$41,599)	Casual	Other Services
8	White	51	No religion	Diploma / Advance Diploma	$800-$999 ($41,600-$51,999)	Unemployed - Health	Nil supplied
9	White	52	No religion	Bachelor Degree	$300-$399 ($15,600-$20,799)	Unemployed - Health	Retail Trade
10	White	69	No religion	Bachelor Degree	$400-$599 ($20,800-$31,199)	Unemployed - Other reason	Health Care and Social Assistance
11	White	50	No religion	Masters	$2,000 or more ($104,000 or more	Full time - Contract - ongoing	Professional, Scientific and Technical Services
12	White	49	No religion	High School year 10	$1,500-$1,999 ($78,000-$103,999)	Full time - Contract - ongoing	Other Services

V. Participant details (diabetes educators)

Most diabetes educators come from the nursing profession, which is primarily female. Both these diabetes educators were female and from a nursing background – see Table four below. There was diversity in terms of age, years of experience, rural versus city living, and community versus hospital

work experience. Again, a larger sample may have generated richer data, but this was not possible due to funding and time constraints.

Table 4 Details of diabetes education interviewees

	Years of practice as a diabetes educator	Age	Gender	Region	Practice setting
CDE1	10	61	Female	Inner city	Hospital
CDE2	1	31	Female	Rural	Community

VI. Recruitment of participants (gay men) – online survey

The survey link generated by the platform Qualtrics (an approved tool used by Victoria University for creating surveys as it had the appropriate backups, support, and privacy controls) was sent to a broad audience across Australia in order to cast a wide net to collect data. The purpose of the survey was to gain a deeper understanding of the gay community's demographics which could be later used to triangulate themes developed from in-depth interviews. Times have changed as gay men do not necessarily congregate in gay ghettos as they did in the past (Holt, 2011), but are interspersed throughout the community, and therefore this community can be difficult to reach. Moreover, as gay men may not be out or out in all contexts, it was considered that an online survey targeting groups and social media would be more effective in reaching this group (King et al., 2014). By distributing the survey to various gay groups to send to their membership, its reach could be further extended. As individual members had pre-established trust relationships within the group, it was felt that they would be more likely to participate in the survey. Social media such as Facebook and Twitter was deployed to send the survey link because it could reach beyond gay groups, which is especially important for those who are not out and do not venture out into the gay community. However, the problem with social media is that trolls can provide negative commentary (Russomannoso et al., 2019), so a decision was made to ignore them or provide only minimal information about the study when asked. Sending the survey online as a link meant that both time and money was saved, which was important because this was not a funded project.

As there has been a cultural shift to the online space and social media in the community generally (Khan et al., 2021), the survey was also a way of asking potential participants if they wanted to take part in an in-depth interview for the purpose of collecting qualitative data. It was necessary to distribute the survey on diabetes widely because it was unclear how gay people would respond to

it was not a topic that had been previously discussed, especially in Australian LGBTQIA+ communities (see the consent and questions used in the online survey in Appendix B). The link was sent to various groups mentioned below in Table 6, together with information about the selection criteria and purpose of the study. The selection criteria were discussed again on the front page of the survey, which displayed the consent form. If unsuitable potential participants made it past the consent form, a set of questions in the initial section of the survey asked if they met the selection criteria. If those completing the online survey did not meet the selection criteria; for example, they mentioned yes, I am biologically female, they would be taken to the end of the survey, thanked for their time and interest, and prevented from completing it. Potential participants, therefore, had three opportunities to read and understand the inclusion criteria.

Table 5 Selection criteria Qualtrics online survey

Who can fill out survey (Selection Criteria)

1) Gay men as defined as men who have sex with or have an attraction to other men . It is recognized gay men are not the only group who have sex with men or have an attraction but identity brings with it a set of psychological profiles which may be different in each sexuality subset which intern shapes behavior and experiences.
(A) Gay men with type 2 diabetes
(B) Gay men without diabetes - you will find the survey is short but information gathered is important.
(C) 18 year and older

* HIV positive men will find that the survey is very short. The reason for this is that the study is not powered to look at this. Some medications used to treat HIV are associated with an increase risk of developing diabetes which may screw the results. However the information provided by this group in the short answers may be very valuable.

As the survey could be accessed via smartphone and computer, it could be completed in the participant's own time and in a space where they felt safe, making it easier to be discreet.

Table 6 Recruitment list

(1) Pamphlet in the waiting room at General Practice	(8) Paid twitter advertisement
(2) Shared on twitter and advertisement of website	(9) Facebook webpage set up and paid Facebook advertisements
4) Small article for *ANMJ* – Nursing Journal (Pascoe, 2016)	(10) LinkedIn
(5) *Star Weekly*, *Go West* (part of Hobsons Bay Council),	(11) Free televised community advertisements via radio station Joy Melbourne
(6) PFLAG, Health canal	(12) Shared on Diabetes Australia social media and webpage listing Australian studies.
(7) (24 groups) The following groups advertised the study: Westie Queers, Gvpride, Vintage Men, MARHABA, Gay and Lesbian Rights Lobby, Vic Bear, GLBTI Melbourne, Bear Events Australia, Australian GLBTIQ Multicultural Council, Melbourne and Victoria LGBT Youth, Proud to be a Second Class Australian, Gay & Lesbian/Melbourne/Events, GAY Aussies Downunder, Queer Melbourne, Australian Lesbian and Gay Archives, Pink Mountains Community Discussion Group, AQS Network, Queer Melbourne, Second-class-citizen, Australian Bears, Australian Lesbian and Gay Archives, The Nurse Path, National Lesbian, Gay, Bisexual, Intersex and Transgender (LGBIT) Health Alliance, VU Pride, Pride TV Australia.	(13) Thorne Harbour Health (Formally Vic AIDs Council/ Gay Men's Health Centre) pamphlet left at the drop-in centres and advertised on the website They offered the use of their rooms for interviews, but they were not used.

VII. Recruitment of participants (diabetes educators)

Diabetes educators had to be contacted directly through their associations because they were not receiving the Qualtrics online survey. They were recruited through an advertisement in the weekly

newsletter of the Australian Diabetes Educators Association (ADEA) National. I spoke about the study at the Victorian branch of the ADEA meeting in a 15-minute power point presentation, which allowed diabetes educators to ask questions and raise concerns; the Victorian branch represents the largest group of diabetes educators in Australia because the association was founded in that state. Some diabetes educators do not attend the Victorian branch of the ADEA, so two other groups were contacted. These were the Australian Nursing and Midwifery Federation Diabetes Educators Special Interest Group (SIG), who informed me they would raise the study at their next meeting, and the Western Region (Victoria) special interest group of the ADEA, who spoke about it at their meetings. The reason for recruiting diabetes educators from Victoria was that it was the state where the study was being conducted.

VIII. In-depth interviews

The 44 participants who agreed to participate in an in-depth interview regarding their type 2 diabetes prompted Qualtrics to send the researcher an email. The participants were then sent an information sheet outlining the study's details and process, which took them one to two days to receive. The survey also provided the option to request information be sent via mail, which one person chose. They received an information sheet, consent form and paid return envelope addressed to the Victoria University supervisor (rather than the researcher's personal address).

There were 13 participants interviewed. Potential participants gave the following reasons for not going ahead with the interview: fear of being outed as gay during the process, not living in Melbourne where the study was being conducted (at that time, zoom was not routinely used), one was upset that he had to choose 'other' because arts was not a choice in the question on work, and some gave no reason. One withdrew after receiving the typed transcript of their interview. He felt that it needed amendment but said he had difficulty reading the transcript. The researcher, in a telephone conversation, offered to read it out to him, which he initially accepted. When the researcher later tried to arrange a meeting, the participant could not be contacted in the manner he had indicated in the survey. Therefore, the transcript had to be eliminated.

IX. Interview questions (gay men)

The questions for the in-depth interviews were framed around the experiences of gay men as they navigated their type 2 diabetes between diagnosis and the present. The questions were semi-structured, which allowed gay men to take control of the story they wanted men to hear. Semi-structured interviews gave the gay men choice in how they ordered events and what they wished to emphasise, which indicated the social discourses they had adopted, what they saw as important (activism), and how they constructed their identity. Also, the way they told their stories allowed gay

men to uncover their position within society and the strategies employed to mitigate their harsh reality (Riessman, 2008). The question about life events that changed your relationship with your diabetes was an example that revealed unsupportive views, attitudes, and comments that led them to withdraw from the gay community. Moreover, these stories uncovered language and words adopted by the gay community, which may be unfamiliar to some outside of it. For example, the word gay was used rather than homosexual among gay men, which differed from some heterosexual men who had negative views of gay men. As participants were free to discuss what they wanted, the things left out (Dhunpath & Samuel, 2009) also became a clue; for example, happy biological family experiences were not mentioned by all participants. Topics gay men leave out may highlight unique differences, such as information that is considered irrelevant, uncomfortable, or even those things they do not think about due to a lack of exposure. However, when the stories were analysed, they were not taken as absolute truths but as what was remembered. The details remembered within stories often align with the participant's values and beliefs (de Chesnay, 2015; Etherington, 2009; Riessman, 2008).

A sample of questions included:

1. What were the circumstances around the reasons for getting tested for diabetes? (Symptomatic, regular check-up, tested while being investigated for another health condition, significant others who were diagnosed with diabetes made you think of getting tested). Locations of your GP, were others aware of you being tested for this? How was life around the time you were diagnosed (family, friends-gay – straight, job, other health issues, your age, your relationships, your social activities, how you represented yourself – confident – sexy – on social sites – to friends – to family – to partner – to potential partner – work), acknowledgement of diagnosis?

2. What is type 2 Diabetes?

3. Tell me about your life as a gay man. (Your acceptance of who you are, coming out, defining yourself as gay, relationships, places you frequent or avoid, navigating your health as a gay man) (see Appendix C for a full list of questions asked during the in-depth interviews of gay men and their rationale).

X. Process of the interview (gay men)

The process followed was that an email generated by Qualtrics (online survey) was sent to participants and researcher if they had agreed to participate in an in-depth interview. Upon receipt of an email from the participant, I followed up by emailing them an information sheet (see Appendix E for the information sheet for potential participants regarding the study (gay men).

After reading the information sheet, participants were asked to indicate if they wished to participate in an in-depth interview. They were then contacted either by email or phone to organise a time and place for the interview. Before the interview, the researcher focused for ten minutes on mindfulness in order to clear his mind and to be able to concentrate on the participant and the interview. During the interview, approximately five minutes were spent developing a rapport with the interviewee before handing him both an information sheet outlining support if sexuality or diabetes issues came up (See Appendix F for the information sheet showing potential groups for gay men to reach out) and a consent form to be signed (see Appendix G for the interview consent form given to each interviewee).

The interview was recorded on a smartphone (iPhone) on the app voice memos, and a journal entry regarding the interview was made directly after the interview. The audio file was transcribed verbatim using an external service, and the transcribed texts were sent to participants for comment and approval (see Appendix D for the steps that were taken to interview gay men). There was an opportunity to add or amend the information, but no one chose to make additional comments. Once the transcripts were approved to be used in this research, they were analysed using reflexive thematic analysis.

XI. In-depth interviews (diabetes educators)

A total of five Diabetes Educators responded via email and in person, indicating they would be happy to be interviewed, and two from Victoria were eventually interviewed. The other three were not interviewed due to work-related issues and were not followed up.

XII. Interview questions (diabetes educators)

The following are selections of questions used during the interviews with diabetes educators:

1. Tell me about a time you looked after gay men with type 2 diabetes (how was he referred to you, how did you know he was gay, did he come alone or with a partner, how did you feel, age, glycaemic control, complications, engagement in self-care)
2. Was any reference made about his status as gay before the meeting?
3. What are your experiences with gay men outside this working context?

4. What was the gay man's persona like – did he look comfortable, did it feel awkward, was he free coming with information?

(See Appendix H for a full list of questions asked during the in-depth interviews with Diabetes Educators and their rationale).

XIII. Process of the interview (diabetes educators)

The process for diabetes educators was the same as for gay men with type 2 diabetes, except for the following: diabetes educators did not contact the researcher through the online survey but were directly contacted by him, or they contacted him. They did not get the information sheet outlining support if sexuality or diabetes issues came up. They were advised that a letter could be generated to indicate their participation in research, which could be used for their ongoing credentialing (see Appendix I for the steps taken to interview diabetes educators; Appendix J for information given to potential participants (diabetes educators); and Appendix G for consent to be interviewed given at the interview).

XIV. Social media posts

Paid advertising for the study was used on Twitter, Facebook, and LinkedIn; people were invited to ask questions about and participate in the study. Usually, the formula on social media sites restricts who can see the post, but when paid advertising is used, there is a greater reach. Many comments were received, and, on analysis, it was considered that they could be used in the study to support themes identified in the interviews. The comments could be classified as:

1. Homophobic/ mockery – non-gay people. One declared she was a diabetes educator.
2. Questions about the link between diabetes and gay men – I clarified this was not looking at a physical connection but psychosocial aspects.
3. Support – both gay and non-gay people
4. Questions about why other groups were not included; for example, lesbians, and type 1 diabetics.
5. The belief that the study created another stigma about HIV and mental health.

These social media comments were used in the discussion chapter as a form of triangulation to support themes. Discourses within the communities in which these gay men with type 2 diabetes live were identified in the data that made explicit the societal beliefs and values that gay men have had to navigate as part of their journey.

6. Analysis of data

In this mixed-methods design, quantitative data on gay men with type 2 diabetes and no HIV was collected from the online Qualtrics survey. These data sources were analysed using simple statistical analysis – frequency counts, percentages, and chi-square. This comparative data included gay men without diabetes and gay men with diabetes and HIV. Other qualitative sources of data collected for triangulation purposes were the in-depth interviews of diabetes educators and social media quotes. These qualitative data sources provided additional perspectives which were analysed using reflexive thematic analysis. Thirteen gay men with type 2 diabetes were interviewed, and twelve transcripts were analysed using Braun and Clarke's (2006) Reflexive Thematic Analysis (one dropped out).

Reflexive Thematic Analysis is about finding patterns of meaning across data sets, which are both latent and semantic. Semantic meanings are explicitly expressed, while latent meanings go beyond this to include hidden meanings, ideologies, and assumptions (Braun & Clarke, 2006, 2022).

7. Stages of reflexive thematic analysis

The first stage begins with listening to the audio files several times without taking notes to promote active listening. The second stage involved highlighting and writing comments in text boxes next to the part of the script that stood out. Figure 5 below is an excerpt from transcript five (Participant 5) in which social media initially stood out to me (shown in the comment). However, as analysis is an iterative process, "clicky (sic) groups" later resonated with me, so it was highlighted in red. This was the starting point where I started to think about the problems gay men have connecting to the gay community. However, the idea of social media was not disregarded but led me to reflect on the social media posts I had received in the advertisement of this study, which was subsequently utilised in the analysis.

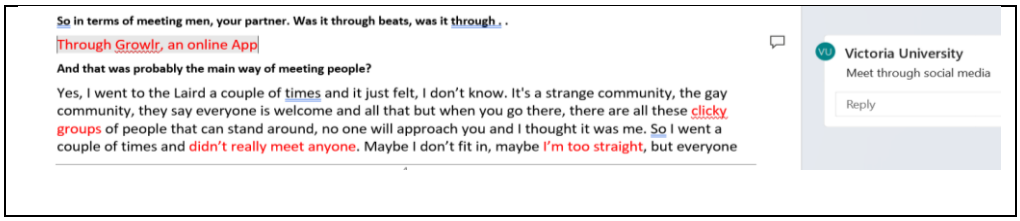


Figure 5 Transcribed transcript showing highlights and comments

The third stage involved generating initial codes in table form in a Word document. Some codes/ themes arose from repeated quotes or words which are described as semantic, while others arose from deeper meaning in the text, known as latent codes/ themes. One theme was *coming-out* during the consultation, which is demonstrated in Figure 6. For Participant eight, coming out as gay gave him the freedom to speak about diabetes-related complications with his doctor.

Quote	Code/ Theme	Comment

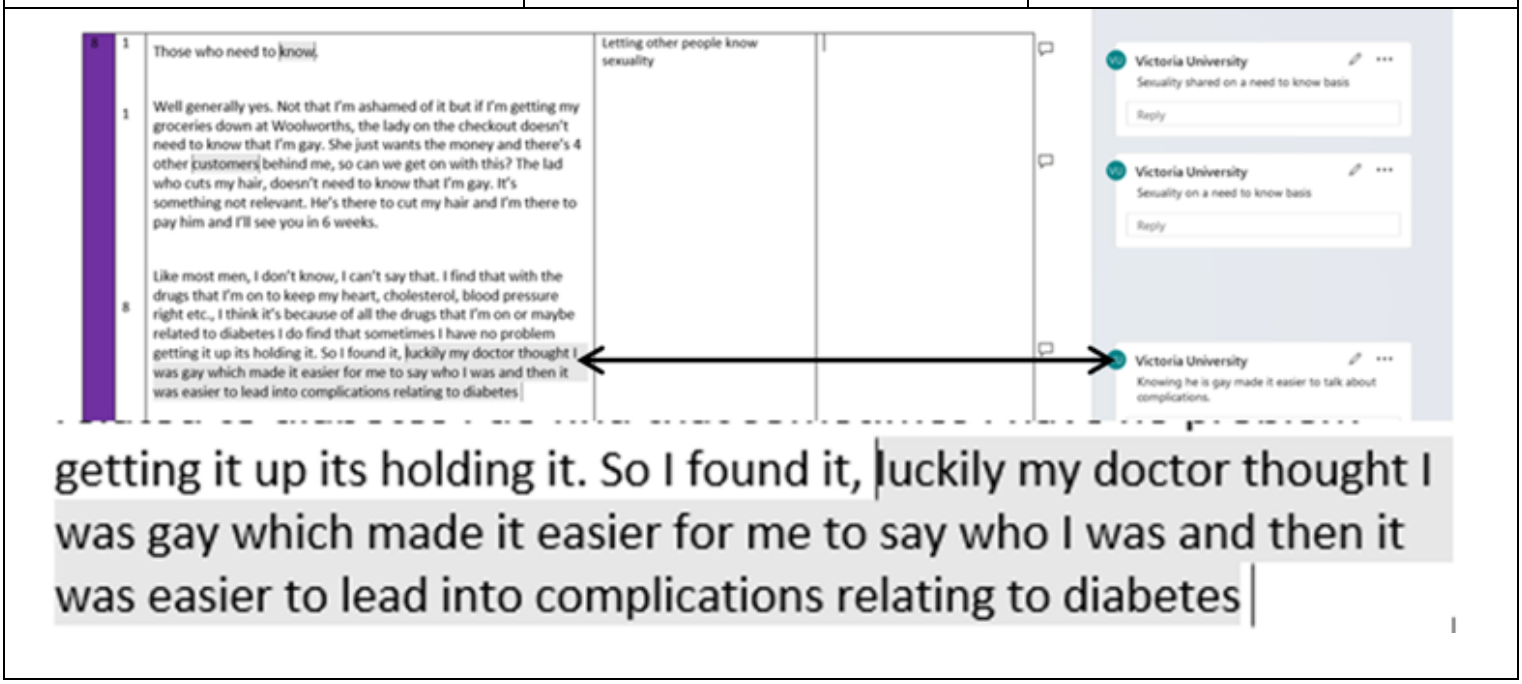


Figure 6 Quote, theme/code, comment

The next stage of reflexive thematic analysis was generating themes, reviewing them, defining and naming them, and producing a report. The analysis was a messy, iterative process of refinement and deep thinking. Several transcripts were shared with supervisors for review and comment, which went back and forth several times, resulting in the refinement of themes and writing. The results and discussion were combined in three chapters representing three major themes – the consultation, uniquely gay, and support. In chapter four, the consultative process within diabetes education examined seven factors that could lead to the disengagement of gay men with type 2 diabetes. Some examples of subthemes were the sexualisation of gay men and coming out during a consultation. Chapter five, called uniquely gay, looked at the primary factor that leads to the difference between gay and straight men: rejection related to being gay. Rejection was explored in various areas of their life and the impact it had on their risk of binge eating disorder. Exercise was explored to a lesser extent but was important to include because both eating and exercise are significant management strategies for type 2 diabetes. In chapter six, support was explored, relating to how this is received during their journey with diabetes. In this chapter, there were six areas that

made an impact on support for gay men; two examples are the presence or lack of children and prior marriage to a woman.

8. Rigour and trustworthiness of the data

This study's rigour was maintained by following the criteria for trustworthiness set out by Schwandt et al. (2007) for qualitative studies. In addition, the quality of the research was demonstrated by considering credibility, transferability, dependability, and confirmability (Lincoln & Guba, 2013). These qualities are peculiar to qualitative research, as quantitative and positivist research hold different underlying assumptions (Schwandt et al., 2007). These four qualities are defined below and the way they were achieved in this study is discussed.

Credibility is similar to internal validity in quantitative research, where the researcher can provide evidence of links between research findings and participants' reality or perspective (Schwandt et al., 2007). The definition of credibility does not indicate that the participant's beliefs of reality are accurate or stable over time but that their views are genuine in a context. In this study, to increase credibility, several devices were used, which are discussed below.

A rapport was established by ensuring that participants were happy to take part in the study before the interview commenced. They were given many opportunities to ask questions; for example, in the first email sent to them and in ongoing emails, they were encouraged to ask questions and to contact the researcher by phone, letter, or email to clarify any points. They were again asked before the recording of the interview commenced if they had any questions. The researcher maintained a professional attitude by ensuring that the process communicated to the participant was followed rigidly.

They were offered a choice of location, which could be any of the libraries on the campuses of Victoria University in Melbourne. The Victorian AIDs Council/ Gay men's Health Centre (now Thorne Harbour Health) had a space that could be used for interviews. The researcher responded to expressions of interest from the online survey within 24 hours. On meeting the participant, a rapport was established by asking them if they found the venue easily, if they needed anything before starting, and how they were feeling.

The researcher tried to ensure that participants felt comfortable about sharing information by informing them that he was gay and a student, thereby adopting the role of an inbetweener having both an insider's view as a gay man and also as an outsider because he was a person without diabetes (Milligan, 2016). Although, as a part insider, he had to keep an open mind, as LaSala (2003) reminds us, it can be easy to forget one's own assumptions they hold of the groups to which

they belong. Participants were also reassured that they would not be judged and their data would be kept confidential via email, information sheet, and consent form. The researcher did not power dress; that is, wear a suit and tie but dressed in smart casual attire. Participants were informed they could withdraw from the study at any time. Before recording the interview, privacy protocols were again explained to ensure they felt comfortable about revealing private information. Participants were only contacted in the way they had specified in the Qualtrics database. Their names were removed from the transcripts, and in the thesis, direct quotes from interviews were listed by number; for example, participant two. Any details in the approved transcripts that may identify them were adjusted; names of locations and people were removed and replaced with terms such as a pub and partner.

Member checking was employed in this study. Member checking is returning the scripts back to the participants to determine if it reflected their reality, i.e., accuracy (Birt et al., 2016). Participants had the opportunity to review and approve their transcript. They could edit the transcripts by removing information they felt was incorrect or that they did not wish to disclose and also by adding information. The researcher helped to generate confidence in participants by informing them that he was a credentialed diabetes educator and, therefore, knowledgeable about and empathic to their chronic illness. Some people with diabetes are sensitive to potential judgement regarding their diabetes, referred to as diabetes-related stigma (Speight et al., 2021). They were advised that the role of the researcher was not to provide medical advice and were given an information sheet about where to get help for their diabetes, and also psychological support that was LGBTIQ+ friendly and housing support if needed.

Participant interviews were triangulated with the online survey data, social media posts, journal entries, and the literature. Triangulation is using different sources of data to support themes. Triangulation was deployed to maintain a balanced view and overcome inherent bias (Noble & Heale, 2019). For example, the responses to the question about binge eating disorder substantiated data from the literature indicating this was an issue for people with diabetes and people who were gay. As a second example, data from interviewed gay men indicated that it was difficult to discuss their life as a gay man while in consultation with a health care provider (HCP).who was not gay. This idea was supported by social media posts that demonstrated some HCP expressed negative attitudes towards gay men and again in the literature.

Prolonged engagement with the participant is said to achieve credibility. In this research they were contacted by email and phone to arrange the interview. Interviews went for 20 to 140 minutes and were followed up with an email with a copy of the transcript attached for them to review. This process allowed participants to talk about the topic over an extended period of time.

I was reflexively aware of the impact I might have on the participants and the potential to introduce bias. I, therefore, practised at least ten minutes of mindfulness before each interview as, on most occasions, I was coming from a stressful work environment. Mindfulness has been shown to reduce bias by increasing self-awareness and focus on the participant (Burgess et al., 2017; Hafenbrack et al., 2014; Hopthrow et al., 2017). There was a prolonged opportunity to reflect on the data as transcripts went between my supervisors and me. After reading the transcripts, they were able to challenge my thinking in supervisory meetings, which ensured I reflected on my assumptions. For example, on social media, one participant identified as a diabetes educator and appeared negative towards gay men. However, my supervisors reminded me that it was difficult to conclude that this person was negative towards gay men or the idea that sexuality had an impact on diabetes management. After meeting with each participant, I sat down for about half an hour to write up my thoughts about the interview. Journaling was my way of maintaining reflexivity and truthfulness**.** The following picture in Figure 7 is an excerpt from my journal completed in the same room where the interview had been conducted. Journalling was a way of reflecting on the interview process and thinking about it; for example, what was said, not said, areas of discomfort, areas of embellishment, and things that stood out.

Figure 7 - Journal entry

Transferability is similar to external validity in quantitative research (Schwandt et al., 2007) and asks the question, can the findings be transferred to other people in the population? Transferability can be demonstrated by providing a detailed or thick description to judge the population to which they can be transferred (Cho & Trent, 2006). A thick description provides a detailed account of participatory experiences that are situated in a particular context and considers the different levels

of cultural meanings (Paoli & D'Auria, 2021). A thick description was demonstrated by providing clear selection criteria on the participant information sheet and consent forms (on Qualtrics online survey and given out before the interview) and displaying participant details, as indicated on page 48. Table three shows demographic information from the online survey, such as ethnicity, age, religion, education, income, employment status, and area of employment. Furthermore, patient details within transcripts were collated, showing details such as living arrangements (alone or not), if they had previously been married to a woman, and the presence of children. Providing details of who was excluded from the main body of analysis, such as gay men with HIV, was necessary because I wanted the focus to be on sexuality. HIV increases the risk for type 2 diabetes and creates changes in healthcare behaviours which, if included, would obscure the results, making it unclear if observed variables resulted from HIV or sexuality.

Dependability is equivalent to reliability which is used in quantitative research and refers to the repeatability of the study and getting similar results. However, this is difficult in qualitative research, given that data is collected in a context (place and time) that shapes outcomes. When a study is repeated, the period is different, and therefore there is no guarantee that the same results will be achieved, considering that the world is quickly changing. Lincoln and Guba assert that dependability can be ensured if credibility is maintained (Shenton, 2004). Open transparency has been maintained during this current research by documenting all stages of the process so that other researchers can critique the steps taken and repeat them, which can be seen in this chapter.

Confirmability requires that… 'as far as possible, the work's findings result from the experiences and ideas of the informants, rather than the characteristics and preferences of the researcher.' (Shenton, 2004, p. 72). Confirmability in this study has been maintained by ensuring participant comfort with sharing their story and confirming that participant's transcripts were in their words and portrayed their views. Potential bias was minimised by engaging in mindfulness before the interview, journaling, and ongoing critique of interpretations by supervisors.

9. Ethics and occupational health and safety

This study (HRE15243) received ethics approval on 21st October 2015 from the Victorian University Humans Research Ethics Committee upholding National Health and Medical Research Council (NHMRC) requirements. An addition was made to this low-risk ethics proposal to allow social media comments collected during advertising to be used, as it was considered that they could be a valuable addition to the discussion and answer the research question (see Appendix H). An additional ethics proposal to the Victorian AIDs Council and Gay Men's Health Centre

VAC/GMHC (now called Thorne Harbour Health) was approved on 21 December 2015 (VAC REP 15/004). VAC/GMHC offered to help distribute the survey, advertise it, provide use of their rooms for interviews and, most importantly, act as a third party in reviewing my research ideas from the perspective of the gay community (see Appendix I).

10. Limitations

This section explores the limitations of this study and the strategies deployed to minimise their impact. Where no strategies could be used, recommendations for future research are suggested. The limitations reported below include only white people being interviewed, medication-induced diabetes being excluded from the study, the low response rate from gay men with HIV, the BED tool was unvalidated, the study being self-reported, potential for malicious bots on social media, recording work, and echo chambers in social media.

To the question, what is your ethnicity? Categories obtained from the Department of Health and Ageing - The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK) (Malo et al., 2015) only attracted white people despite extensive attempts to recruit through various LGBTQIA+ groups and social media. Therefore, caution needs to be applied when interpreting the results, as shared stories are likely to differ significantly from those of white men because of psycho-socioeconomic differences. Aboriginal and Torres Strait Islander people had 2.9 times the rate of type 2 diabetes between 2018 and 2019 compared to the general Australian population (Australian Institute of Health and Welfare, 2022b). Further studies partnering with various LGBTQIA+ cultural groups and associations may have helped develop the trust needed to encourage participation among these groups (Maple-Brown et al., 2020). Gar'ban'djee'lum Network Community on Facebook is an Indigenous lesbian, gay, bisexual, transgender, sistergirl and brotherboy social network group that may have been useful to contact.

If patients had medication-induced diabetes; for example, from using steroids, they were excluded from the survey, which may be seen as a limitation. However, if gay men used steroids that did not cause their diabetes, they would have shown up in the results seen in one case. Excluding steroid-induced diabetes was problematic because when diagnosing type 2 diabetes, it is often difficult to attribute its onset to one issue; rather, it is multifactorial. There was one question in the survey that asked if participants had taken steroids. Steroid use increases the risk of diabetes (Roberts et al, 2018), and among gay men, studies have shown an increased proclivity to use these drugs related to body image (Nowicki et al., 2022). Rates of steroid use in gay and bisexual men to improve their image in Australia were 5.2%. However, those from non-Australian or New Zealander backgrounds

had higher rates at 7% (Griffiths et al., 2017). It is unclear if these questions stopped some gay men with type 2 diabetes from joining the survey. For future studies, medication-induced diabetes should be included as this is another cause of type 2 diabetes which could be explored in a sub-analysis.

I excluded gay men with HIV from the main body of the study because the focus was on sexuality. The rationale was that people with HIV have higher rates of type 2 diabetes and unique concerns that may have obscured the results. When seeking ethics approval through the Victorian AIDs Council Victoria/ Gay Man's Health Centre (Now Thorne Harbour Health), I was asked to explain this because HIV formed part of gay culture. Thorne Harbour Health is an LGBTIQ+ advocacy organization that provides health and outreach services to the community. The above rationale was explained, elaborating that this did not stop gay men without HIV from sharing their stories of how this condition had affected their lives. One participant shared a story that when he was in gay male social groups it was an unwritten rule to avoid discussion of health, which may inadvertently out someone as HIV positive. Gay men with type 2 diabetes and HIV in the online survey were diverted to a limited set of questions that were poorly answered, with only 13 responding to this section of the survey. Some examples of questions asked were if they were diagnosed with diabetes prior to or after their diagnosis of HIV, and the answer was one out of 13. Six of the 13 with HIV had seen a podiatrist, despite the rate of peripheral neuropathy being extremely high among this group at 29-38% (Julian et al., 2021). Therefore, advertising that this study was about HIV-negative gay men with type 2 diabetes may have discouraged participation and failed to capture valuable information about this subgroup.

The tool for assessing the risk for binge eating disorder (DSM) was unvalidated, which may be viewed as a limitation. The tool for BED was developed using DSM 5 criteria, similar to validated tools but with variations. Validated tools are designed to have a formal follow-up assessment by a trained psychiatrist or psychologist to confirm a diagnosis. For future studies, the use of a validated tool such as the BED-7 may increase confidence in the results (Herman et al., 2016).

The online survey was self-reported, which is where the participant reads the question in the survey and answers it of their own volition without it being validated as true or not by objective measures. That is, the data input is not objectively measured, for example, by pathology test or another person measuring aspects about their person, suggesting that may be a limitation. A study on human papillomavirus vaccine uses in gay men in Melbourne, Australia, found their actual usage was higher than in self-reported surveys (Chow et al., 2021). Another USA study found that the

incidence of various at-risk behaviours was less in self-reported survey data when compared to data collected in a clinic (Beymer et al., 2018). Beymer et al. (2018) suggested that attention filters should be used in surveys to ensure respondents pay attention to what is asked. Attention filters are blocks of writing before the question that assist the respondent in focusing on the details of the question so they are answered in the way they were intended. In this study, some attention filters were used; for example, definitions were placed before the term type 2 diabetes because some mistakenly believe that if a person is on insulin, they have type 1 diabetes. This confusion came about because, in the year 2000, there was a name change from one based on treatment (insulin-dependent versus non-insulin-dependent) to one based on aetiology (type 1 caused by an autoimmune disorder to type 2 caused by insulin resistance). Therefore, there may be some under-reporting which may be considered a limitation.

As the survey was online, there was the possibility of malicious bots that could provide fake responses, but the Qualtrics survey platform had strict safety and privacy protocols that prevented this. Malicious bots are self-propagating software created to gain unapproved entry to a computer that can compromise databases by providing fake responses and stealing information (Barbon et al., 2018). Qualtrics provided a list of IP addresses that could be checked for repetitions and addressed before the analysis of the data.

Interestingly, one gay person became upset because the question regarding work did not cover the arts, for example working as an actor, and he was therefore forced to tick 'other'. However, there was room for people to record their responses in the free-text box next to the term other. This concern was acknowledged, and he was invited to talk about this; this potential participant declined. A pilot study may have captured these concerns (Malmqvist et al., 2019).

A further limitation might be echo chambers in using social media. The echo chamber produces a homophily effect where we are attracted to and move in circles that share the same opinion or beliefs and therefore reinforce our existing beliefs (Gillani et al., 2018). However, other authors maintain that the homophily effect is overstated because genuinely interested people tend not to engage in echo chambers (Dubois & Blank, 2018). This study used paid advertising on social media such as Facebook, LinkedIn, and Twitter to get the message out to a broader audience. Evidence of this wide reach was clear in the many homophobic comments received.

11. Conclusion

This chapter outlined the mixed methods used in the study that embraced constructionist assumptions. Participants were selected using criterion sampling with three main methods of

collecting data: an online survey, in-depth interviews, and social media posts. Journaling was used as a method of reflexivity and capturing impressions from interviews. Responses from 83 Australian gay men with type 2 diabetes and no HIV were collected in the online survey, and these participants were then asked if they wanted to be interviewed. Thirteen were accepted and were selected for an interview, but one withdrew after he received his transcript. Eighty-two gay men without type 2 diabetes and 13 gay men with type 2 diabetes and HIV completed the survey, which was used to triangulate the data. Ethics approval was gained for the study, and a further application was made to include social media posts for analysis. Additional ethics approval was gained from Thorne Harbour Health (formerly called the AIDs Council/ Gay Men's Health Service) to ensure ethical issues not captured during the University ethics process were identified. Reflexive thematic analysis was used to investigate the data, and demographic data provided from the online survey were analysed using simple counts and chi-square. Three main themes were co-constructed, which include the consultation, uniquely gay, and support. The results in relation to each of these themes will now be discussed in separate chapters.

Chapter four- results - consultation

1. Introduction

This is the first of three results and discussion chapters that aims to explore the lived life of gay men as they navigate type 2 diabetes in the Australian context. Three broad themes which affect a gay man's journey with diabetes were identified from the data analysis. This chapter will focus on the consultative experience of gay men and seven features that act as barriers or considerations that impact engagement. In chapter five, the second results and discussion chapter, unique features of being gay are discussed, including the rejection of homophobia felt at many levels and its impact on the diet – particularly binge eating disorder (BED). Activities related to being gay are discussed, as well as their impact on BED and the management of type 2 diabetes. Chapter six discusses the available support accessible to gay men with type 2 diabetes and the impact this can have on the management of type 2 diabetes.

In this chapter, the consultative process focuses on the interview between the person with diabetes and the health care practitioner (HCP) to which they have been referred for diabetes management. In Australia, when a person is diagnosed with type 2 diabetes by their doctor, they are often put on a chronic disease management plan (CDM). It allows people diagnosed with chronic disease access to five subsidised visits to health care professionals (HCP) (allied health and nurses) who are experts in different components of diabetes care; for example, dietician, podiatry, ophthalmology, and diabetes education. The doctor and patient negotiate who they will see, and then it is up to the patient to book these appointments and turn up to them. Thus, people with diabetes have a multidisciplinary team. These HCP write reports back to the doctor but may only be seen once to twice per year, making it challenging to develop a therapeutic relationship. This chapter will examine the seven barriers to engagement, which include disregarding psychosocial factors, not knowing who holds a negative view, coming out during the consultation, sexualisation, being unique versus blending in, the power of language, and culturally appropriate information. It will then discuss the consequences of disengagement.

2. It is not just physical – the psychosocial

The psychosocial conditions under which diabetes is managed are often dismissed but when addressed, can improve diabetes-related outcomes. However, the issues around being gay and how that affects diabetes are relatively unknown and, therefore, often disregarded. Not being out as gay adds to the invisibility of psychosocial issues and, thus, the opportunity to discuss them.

Psychosocial aspects of care represent a layer above people's physical care, which includes medicines, monitoring, screening, and visits to multidisciplinary team members, but are often the forgotten component. Psychosocial refers to the social culture, behaviours and routines that accompany different groups a person may have a membership to, e.g., religion, gender, age, and race, along with the meaning and motivations behind these (Taylor, 2017). The psychosocial factors that influence diabetes are commonly disregarded and even criticised as an excuse, as indicated in this social media quote: “Are you an idiot. It’s not a [life] style choice” (Facebook quote, 2016). It is common to hear comments that suggest that if only the person diagnosed with diabetes had exercised more and eaten the right food, they would have prevented the disease. The following person on social media argued that psychosocial aspects have no role in diabetes management, which contrasts with the views of peak bodies in diabetes (see Browne et al., 2017; Holmes-Truscott et al., 2020; Joensen et al., 2019; Young-Hyman et al., 2016).

> And the psycho-social aspects of diabetes are? Look, diabetes is a functional disease and to separate sufferers into separate groups only increases costs and therefore reduces the bang of the research buck. This means longer times to wait for EVERYBODY [with] the disease including homosexuals, So, I can't accept your answer as logical or desirable in any scientific sense or social sense. (Facebook post, 2016)

However, this simple assessment disregards the psychosocial factors that influence lifestyle choices, which have a considerable influence on diabetes management and decisions made. In contrast, the evidence shows that addressing the psychosocial aspects of a person’s life can improve the non-medication aspects of health management, such as monitoring, diet, and exercise (Miller, 2016). Moreover, psychosocial characteristics have been shown to impact health literacy and may be the reason why 50% of people with a chronic illness do not take their medications as prescribed; that is, there is low health literacy (Brown & Bussell, 2011; Mathes et al., 2012). Gay men have their own psychosocial issues that affect their decision-making.

Treating people on their level enables diabetes educators to appreciate the context in which diabetes-related decisions are being made. Therefore, it was not surprising to hear CDE1’s response about what makes for a supportive environment in diabetes education:

> Being non-judgemental … not being shocked, you treat people on their level and try and be open and if something does shock you, or you don't know it,

> admit it. Honesty is the best thing because people see through you. Body-language. (CDE1)

Not coming out as gay hides certain realities of one's life, reducing the ability of the diabetes educator to get to appreciate and explore how diabetes-related decisions are being made. Therefore, the closet hinders the ability to establish trust and empathy, which is a unique mechanism by which sexuality alters the gay man's journey with diabetes. In a discussion about opening up about one's sexuality participant, 8 shared his experience of being shut down by a doctor when he tried to share personal problems that led him to change doctors.

> I had an older grey man; I'm not going to say who he was, and I tried to open up about things then and I got shut down and I changed doctors. I just didn't feel comfortable. That was the easiest way to solve it was just to change to a new doctor and you just bring your records to another one and they didn't say anything. But when you have personal problems, it's hard to bring them up. (Participant 8)

Conversely, by not being in the closet, participant 8 felt it was easier to talk about complications relating to his diabetes, '…luckily my doctor thought I was gay which made it easier for me to say who I was and then it was easier to lead into complications relating to diabetes…'.

Therefore, how one makes decisions is an integral part of the assessment of diabetes and not an innocent bystander. The closet, cautious behaviour, and fear of offending severely curtail the conversation and consequently an examination of the psychosocial context. These ideas will be explored in upcoming sections.

3. Not knowing who holds a negative attitude

As gay men journey with diabetes in the health care system, the attitude of health care professionals they encounter can substantially influence how they engage with it. The literature review (Chapter 2) provided a brief history of healthcare related to gay men. It still has relevance today because while many laws have changed along with societal attitudes, gay men still do not have 100% acceptance. Even though healthcare is meant to be a caring profession, some healthcare professionals hold negative views, and therefore divulging one's sexuality can be awkward and risky. This negativity varies from being dismissive of sexuality to being homophobic. The diversity of opinions is explored below.

The following social media post dismissed the idea of sexuality, using false equivalence; that is, they argued surgeons have more stress than gay people and, therefore, should have more diabetes: “Then how come you don't see higher levels of diabetes in surgeons who inarguably have greater stresses in their life than gay men?” (Facebook, 2016, Surgeon). However, this research was not addressing who has the most stress but aimed to examine the difference that sexuality brings to the management of diabetes. In addition, this study was not suggesting that stress, in and of itself, explains the difference.

Another social media post was from a diabetes educator who found it challenging to make the connection between sexuality and diabetes, which may be understandable considering that there is little research in this area. “As a retired "Diabetes Consultant " with 30 plus years' experience I find it difficult to comprehend the significance of Type 2 Diabetes and sexuality”. (Facebook, 2016, Diabetes Educator)

While she did acknowledge stress, she did not make the connection between being gay and the extra stress it puts on a person through events such as coming out of the closet and homophobia. These factors are known as minority stress and describe the additional stress groups such as gay people face, in addition to everyday stressors (Dentato, 2012). She went on to say, “Factors which trigger Type 2 diabetes, lifestyle, weight, exercise, stress, pregnancy, hereditary, & some medications. Thanks for asking [name]” (Facebook, 2016, Diabetes Educator). The minority stress model is supported in the literature, which describes the extra stress experienced because of membership of a highly stigmatised group (Verrelli et al., 2019). Another HCP displayed a more homophobic tone and seemed to suggest that external influences, for example, psychosocial factors, were irrelevant and had more to do with personal failings:

> *They can’t blame someone else for diabetes. I find this a silly argument. Their conscious is nagging at them as it is unnatural for a bloke to be with a bloke and a woman with a woman. Don't go around blaming others thru your poor diet choices. They aren't obvious happy with their diet it is bad. They are comfort eating. (Facebook, 2016, Midwife)*

Such dismissive and anti-gay attitudes on social media can often filter into healthcare workplace environments and be experienced by people receiving care. Koh et al. (2014) observed these negative attitudes in a study of LGBTI people who attended general practices in Australia:

> …many participants described fear of being judged or of receiving suboptimal care if they disclosed their sexual identity. These fears were based on actual experiences or on assumptions about the healthcare provider's attitudes rather than an experience with that provider. (Koh et al., 2014)

Lisy et al. (2018) also reported homophobic attitudes among healthcare providers in their study of oncology in Australia.

Consequently, the issue, as noted by CDE2, was that once a healthcare practitioner with a negative attitude towards gay men found out their patient is gay, the barriers could go up and change the conversation:

> I guess from what my friends and family have always said about their situation is that as soon as someone works out that you are gay, it depends what their personal feelings are towards that choice, whether it be based on religion or based on 'they're like me' or something like that then barriers go up and conversations change… (CDE2 from interview)

The concern here was that gay patients could pick up negative attitudes toward the mannerisms of HCPs and body language, reducing the therapeutic relationship.

Therefore, despite the vast improvement in attitudes towards gay men and changes in the law, some people continue to hold a negative or dismissive attitude toward gay men, which can filter into the workplace of health care practitioners. For gay men, this means that not knowing who carries a negative attitude toward them can create uncertainty, although some HCP patients may detect negative attitudes through non-verbal communication. The potential outcome of these attitudes is that forming a therapeutic relationship can be stifled, reducing the quality of diabetes-related care.

4. Let's talk about sex

Talking about sex in diabetes education is part of the job of a diabetes educator because the microvascular damage caused by high glucose can impair erectile function and cause dysfunction (ED). Therefore, diabetes educators usually obtain educational resources from drug companies, Australian Male (formally Andrology Australia, funded by the Australian government), and surgeons advertising their latest surgery. Often these groups give talks at diabetes conferences or have stalls that distribute brochures. Most of this information focuses on erectile dysfunction in heterosexual males and has only recently addressed women's sexual function. But there has never been any

discussion of the unique issues gay men or other non-heterosexual groups face in relation to diabetes.

This section will now discuss the following four points; the sexualisation of gay men including by health care providers such as diabetes educators, the belief that gay men find it easy to talk about sex, erectile dysfunction, and the role of sexually transmitted diseases.

Social media is becoming a more significant part of everyday life due to advances in telecommunication systems such as smartphones. However, it is also the place where many people express views of gay men that are sexual in nature, as demonstrated in the following quotes. “What, is semen coming with added sugar now?” (Twitter, 2016) and “diabetes is probably being pocked back in” (Twitter, 2016). This type of harassment is consistent with the hypersexualised notions of gay men and the belief they want a partner that is well-kept, attractive and thin (Baker-Hughes & Poston, 2022).

While it is easy to dismiss these comments as a few homophobic individuals from the public, diabetes educators within this study referred to sex in a way that was not meant to offend. Instead, both diabetes educators interviewed expressed support for furthering their knowledge in this area to advance care for gay men. Nevertheless, it was interesting to hear CDE2 make a direct reference to sex when asked, was there anything mentioned that surprised you during the consultation with a gay man they had looked after with type 2 diabetes, CDE2 said, “No. He didn't go and say, ‘well, these are the sexual positions that I prefer’ etc”. (CDE2 from interview).

This quote highlights how easily sex had been casually associated with gay men. This pairing has made the discussion of gay men’s issues an inappropriate subject to include in diabetes education. Later the diabetes educator again mentioned the sex act when referring to gay men and diabetes care: “I don't think sexual choice plays a big role in diabetes really on the management of it. I don't know, that might be closed-minded of me, but diabetes itself is just a medical condition that the person has” (CDE2).

Studies focused on Australian culture have found that sex is difficult to discuss among men (Latreille et al., 2014; Malta et al., 2018). Given the importance of sexual problems in people with diabetes, the general practitioner might expect to bring this up. However, a study by Malta et al. (2018) looking at elderly patients found that healthcare practitioners (general practitioners and practice nurses) thought it was the responsibility of the patient to raise the topic. Although, HCP conceded that it would be difficult for the elderly to raise the issue of sex themselves.

CDE1 was asked about topics she would discuss when preparing a talk for a group of gay men, and here again, sex was mentioned.

> …and sexual function so I would include that [topic of sex] in it as well and I would be sure that would come up because perhaps and I'm making an assumption that gay men might talk about that more easily. I found that in a typical marriage of a male and female, it's one of the hardest things for people to bring up. (CDE1 from interview)

The suggestion here was that gay men find it easier to talk about sex, for example, erectile dysfunction, but there is no proof for such a claim. Available evidence suggests the opposite; gay men and HCPs find it hard to talk about sexual issues between same-sex couples (Bauer et al., 2016; Rose et al., 2017). Evidence from other studies indicates that gay men do not find doctors a reliable source of information and support, and they prefer to get that support from the gay community, peers, friends, and the media (Mietinen, 2010). In addition, Hinchliff et al.'s (2005) UK study noted that significant numbers of general practitioners found talking about sex with lesbian, gay, bisexual, transgender, and intersex people to be embarrassing. Therefore, the notion that gay men find it easier to talk about sex is not supported; rather, they experience additional barriers to talking about it.

The concerns of gay men about the diabetes-related complication of erectile dysfunction are experienced differently when compared to straight men. The number of gay men with ED in this study approximates those seen in the general Australian community. In this study, 45.8% of gay men said they had erectile dysfunction (ED). This percentage approximates that seen in the wider Australian population at 47.2% in 2017 in people with diabetes (24.2% in the last 12 months and 22.8% in the prior to the 12 months) (Zoungas et al., 2017). However, higher rates have been seen in other countries at 66.3% in a systematic review. The impact for gay men is that a third of gay men (29.3%) said they had to change their sex life due to diabetes, as seen in Figure 8 below.

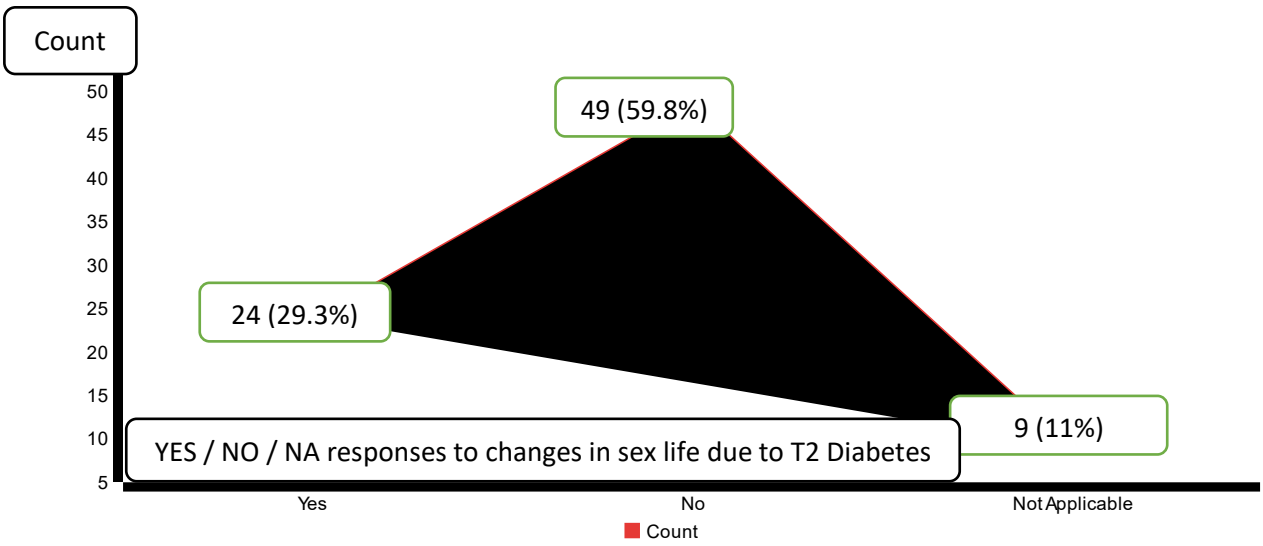


Figure 8 A third of gay men had to change their sex lives related to diabetes.

However, the data on ED rates contradicts other studies in Australia (Bancroft et al., 2005) and around the world, which suggest there are higher rates of ED in gay men (Grabski et al., 2022). Some reasons for the discrepancy may be that this current study excluded gay men with HIV who have been shown to have higher rates of ED (Huntingdon et al., 2020; Rosser et al., 2016).

This study also excluded bisexual men, but as other studies comparing rates of ED between gay and bisexual men have not revealed a difference, this probably does not explain why gay men with type 2 diabetes did not show higher rates when compared to studies around the world (Grabski et al., 2022; Grabski et al., 2019). Therefore, the exclusion of bisexual men in this study on gay men with type 2 diabetes cannot explain why gay men did not display higher rates of ED that resemble other studies in Australia and around the world.

Non-white was another variable explored in the literature to determine if it could explain the difference in the data as most gay men in the current study were white, but this was not supported (Macdonald et al., 2022). Nevertheless, other factors that cause ED and observed at higher rates in gay men remain to be explained; for example, higher rates of minority stress (Grabski et al., 2019; Li et al., 2019; Mansergh et al., 2015), smoking, mental health (anxiety, depression, stress), illicit drug use, STI, and exercise concerns (Goldmeier & Leiblum, 2005; Sivaratnam et al., 2021).

It was thought that because gay men define ED differently compared to straight men, this might cause a higher rate, but the results did not demonstrate this. ED is often described as inadequate to achieve vaginal penetration but is defined differently in gay men (Rosser et al., 2016) because anal intercourse requires a more rigid penis (HRosser et al., 2016). Due to differences in defining

ED some have criticised the tools used to measure it in various studies, which may over or underestimate numbers (Kiss et al., 2021).

In collecting this data, there was an assumption that gay men with diabetes may renegotiate their relationships and engage in more anal-receptive intercourse (bottom) due to the increased prevalence of erectile problems. Among the gay men with type 2 diabetes in this study that answered this question, 35% (30 out of 86) were versatile, i.e., participated in receptive and insertive anal sex; 22% (19 out of 86) were tops, i.e., participated in receptive anal sex only; 21% (18 out of 86%) were bottoms, i.e., participated in receptive anal sex only; 70% participated in kissing (60 out of 86); 71% participated in touching (61 out of 86); and 81% participated in other (70 out of 86), 83% participated in oral (71 out of 86). Participants could pick more than one answer.

Studies looking at prostate cancer and surgery in gay men noted that they renegotiated their relationships to adapt to ED (Dowsett et al., 2014; McInnis & Pukall, 2020; Ussher et al., 2017). The data here shows that gay men practised as both tops and bottoms at similar rates, therefore making it difficult to make a judgment about changes related to ED. In an Australian study reported in 2011, 83% of participants from this study engaged as both a bottom and top (Lyons et al., 2011), which, if compared to this current study on gay men and type 2 diabetes, might suggest the rates of people who practice as a top could be reduced in gay men with diabetes. However, further studies are needed to confirm this, as one must consider the differences between what a person identifies as and what they actually engage in (Moskowitz & Garcia, 2019).

Erectile dysfunction is more common in those who are obese compared to lower weight categories, for example, overweight (Pizzol et al., 2020), and even shares pathophysiological soil with other conditions such as inflammation, oxidative stress, increased leptin, and insulin resistance (Moon et al., 2018). Given this close association and the significant improvement that can result from weight loss (Retzler, 2019), one would assume that gay men being thinner would have less ED, but this is not the case. The following Table 7 demonstrates that gay men with type 2 diabetes are thinner compared to the general Australian population with and without diabetes (Australian Bureau of Statistics, 2015; Zoungas et al., 2017, p. 158).

Table 7 BMI ANDA data/ this study/ general population

	BMI<25		BMI 25-30		BMI >30			Total	% (BMI >25)
ANDA (2017) – Males & Females	393	10.2%	929	24.1%	2262		58.7%	3854	82.2%
This study – males only (2016)	16	18.6%	40	46.5%	30		34.9%	86	81.4%
General Australian population without diabetes ABS (2015)				42% (males)			28% (Males)		63% (71% male & 56% female)

However, Richmond et al. (2012) advises caution, as gay men tend to report being lighter when compared to straight men. Weight is often a target in diabetes management, so it is crucial to appreciate the impact that it may have on gay men in terms of strategies chosen to achieve weight reduction. Because gay men are at increased risk of disordered eating, the choice of weight loss surgery, for example, can be problematic as disordered eating before surgery has been associated with poor outcomes and may require extra support.

Figure 9 demonstrates that erectile dysfunction is more common among overweight gay men, and 42% of gay men with diabetes have ED, suggesting that weight is not the only factor contributing to this condition.

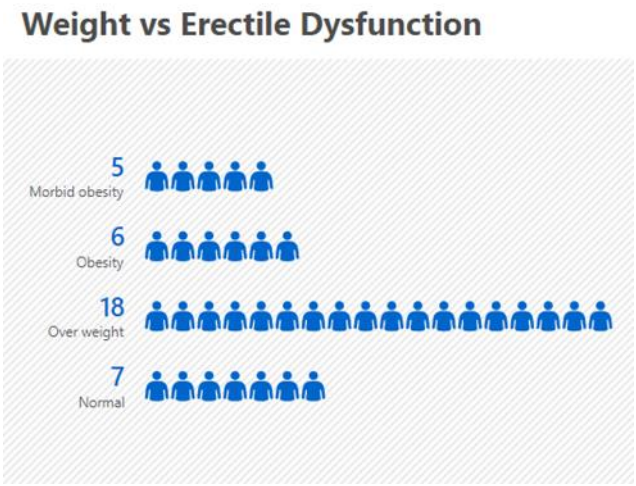


Figure 9 Weight category matched against ED.

Psychosocial circumstances around sex are different for gay men, which means sexual issues that arise in diabetes are experienced differently. Sex is often paired with talk of sexual orientation when referring to gay men, despite its far-reaching impact on all aspects of a person's life. This sexualisation of gay men may explain why it is difficult for both gay men and health care professionals to talk about sex when it is important to do so in various circumstances, such as diabetes education. The literature suggests that gay men often turn to other sources of information and support, which may or may not be ideal. The rate of erectile dysfunction for people with diabetes was the same as in the general population rather than higher, as observed in other studies. Analysis of the results in this current study indicates that there are factors that increase the risk of ED, those that have no impact, and others that reduce risk. HIV, smoking, mental health problems, illicit drug use, STIs, and lack of exercise all increase the risk of ED. Lower rates of obesity and not having HIV were shown to reduce the risk of ED. Other factors identified in the literature that do not impact risk were being white and bisexual.

Coming out during a consultation to discuss these differences comes with risk so may be avoided if it seen to be unsafe. Six issues in relation to coming out during a consultation emerged from this study on gay men with type 2 diabetes. They were: having a bad prior experience which affected ongoing consultations; common casual assumptions; a fear of a lack of knowledge regarding gay men's issues or what to do about them; gay men forget how cautious they are, as it has become a habit; coming out can improve communication; and not having to explain oneself when a gay man sees a gay doctor.

A bad reaction in the past can have an enduring effect on patients' relationships with doctors and their ability to divulge their sexual orientation, as the following participant explained: “Because I didn’t have the guts to tell him, that was my biggest problem. I didn’t know what his reaction would be because I’ve had a reaction in the past where it’s been negative, so I’ve had to hide it” (Participant 8).

While this participant was happy to be out as a gay man, in medical consultations, he remained in the closet because there was risk involved. He feared the reaction he had in the past, so it was better to keep quiet. Kar (2019) noted a similar issue with fat shaming and patients being unable to open up about their weight with doctors, and Cant (2006) observed that if coming out was followed by silence and non-communication, the informants were more likely to change clinics. Similarly, a UK study found that disclosing one’s sexuality to a healthcare provider was associated with anti-gay stigma (Schleifer, 2016).

Many healthcare practitioners do not have issues with gay men but hold unconscious biases and assumptions that shape their views and obscure the realities of gay men’s health concerns. A Tasmanian study reported that HCP was happy to care for the LGBTI community but felt they lacked the education to do so (Grant et al., 2021). Participants in this study uncovered their assumptions regarding gay men in the consultation by labelling someone as gay or straight based on their mannerisms. CDE2 discussed the mannerisms of one of her patients she thought were gay when asked about her contact with gay men by saying, “At the beginning of the session, no, he had mannerisms that made me suspect that he was potentially” (CDE2 from interview). She went on to describe his artistic flow by saying, “But for some people you can sort of say that they’ve got a very ‘artistic’ flow about them or that they are potentially leaning towards the gay side” (CDE2 from interview). However, such characterisations, i.e., presenting as more feminine or masculine, have only served to silence the diversity that exists within the gay community (Franklin et al., 2022). In a 1992 study, it was found that there was no association between being gay and having an artistic flow (Demb, 1992). Although, she acknowledged that assumptions were not helpful, “I’ve kind of assumed that a couple is gay by some of their mannerisms, but assumptions get you nowhere, so I do not ask nor assume” (CDE2 from interview). Therefore, asking about sexuality is seen as an area fraught with danger that may expose their biases, thereby silencing them.

CDE1 thought the gender of the person accompanying the patient could indicate that a person was gay. “…one I picked up when his partner came” (CDE1 from interview). She then described a caring nature as another sign that a person is gay, even though heterosexual men can also display a

caring nature. “Because they were both men and they were partners, and they were caring for each other, so perhaps I was wrong to put two and two together, but no, I think I was right, and the caring really came across” (CDE1). Similar assumptions are often made in nursing, where male nurses are assumed to be gay if they display a caring nature, and this has led some to suggest that nursing needs to be de-gendered (Sasa, 2019).

Intuition, defined as quick judgments about a person or situation made unconsciously with complex associations, is how the human brain categorises things (Julmi, 2019). It only becomes a problem if it stops the health care practitioner from exploring beyond the stereotype; that is, having an open mind. If gay men pick up biases in the consultation, it can result in them divulging less and sadly discontinuing visits to the health care professional (Spengler et al., 2016).

Some HCPs are concerned that if they pursue a certain line of enquiry, for example, around gay men and have little knowledge of the area, they would not be able to provide any meaningful advice. CDE2 expressed concern about her lack of knowledge and what to do with it.

> If a person told me “yes, I’m gay” OK, I can write down “gay” but I don’t know if I’d actually do anything about that. I wouldn’t say “oh well, then you need to go to this service and that service and you need to be having x, y and z’s done”. There’s no actual list of things that I could say I guess. I don’t know. (CDE2 from interview)

This concern about a lack of knowledge of gay men’s health is problematic, as it would improve the diabetes educators' ability to engage meaningfully with their gay male patients. This finding concurs with Sharek et al.’s (2015) findings that one in three participants felt healthcare providers lacked requite knowledge on same-sex issues. Grant et al. (2021) also made similar observations that showed that many HCPs considered there were no defined referral pathways for gay men.

In another sense, CDE2’s comment suggests that while diabetes educators may broadly understand the concerns of gay men, direct application to specific situations such as chronic health remains elusive and, therefore, not addressed in their education. Riley (2010) emphasised that nurses needed a greater understanding of the issues around patients coming out as gay. While coming out can be a positive experience for some, for others, it can mean experiencing victimisation and sexual prejudice (Riley, 2010).

It was common among diabetes educators in this study to hear that they rarely saw gay men in their practices, which may be one reason why recruiting diabetes educators for this study was

challenging. These comments echo various studies that see the lives of gay men as invisible and unrecognised by staff in healthcare facilities (O'Neill et al., 2015; Peisah et al., 2018). This lack of awareness of gay men in their health facilities underscores the reason why they lack awareness or concern for providing culturally appropriate care or even what that means. This situation makes it difficult to come out as gay.

Some gay men are unaware of how cautious they are when revealing their sexual orientation. This caution can be a product of a habit but is often manifest in particular areas. Healthcare, where they can be asked to reveal very intimate parts of their life, is an example where gay men may choose to hide their sexuality while living as openly gay in other parts of their life. Therefore, the closet continues to be as relevant today as in the past, which participant seven aptly described: "Well, you see one of the things that have come across, a lot of older gay people, you can take the closet away, but notionally it's still there" and "they've been culturised to the closet, and they'll never get out of it" (Participant 7). The words "notionally it's still there" and "culturised to the closet", are comments that suggest older men learned to seamlessly and unconsciously navigate life living in the closet while being open in other parts of their life. In the past, being in the closet was a safety issue for gay men who were condemned by the law, medicine, and religion.

Coming out in the consultation can have a positive effect because it allows people the freedom to speak freely. The following extract from an interview describes a diabetes consultation with a gay man with type 2 diabetes who chose to come out during the consultation. The psychosocial aspects of food consumption were being discussed, and as part of this, he described a gay and lesbian bar that he frequented. The comment seemed to come out of nowhere, and he checked to see the diabetes educator's response. The diabetes educator described this as a turning point in the conversation:

> I'm writing it down and he said, "do you know about [venue]", and I said, "no idea, but I can Google it at some point" and he's like "that's a gay and lesbian bar" and I'm like "ah, right". He actually did say to me, "does that surprise you?" and I said "why should it?" and then he just continued on with the conversation with me and sort of because I was "laid back" about it, and didn't make a fuss then he just went "meh, ok that's cool". (CDE2 from interview)

The declaration that he was gay was probably a strategic move to reveal his sexuality which can be seen in the comment, "does that surprise you?" Coming out, therefore, meant that he did not have to fear what might happen and left him relaxed to speak his truth. Disclosure of sexual

orientation in health consultations can provide better outcomes but is only common in men, Caucasians, highly educated, and those partnered (Ruben & Fullerton, 2018). Other people achieve this open disclosure by visiting gay doctors they can trust, which is what the following participant did to ensure an assumption-free consultation that enhanced communication:

> If the doctor were gay, would that make a difference?" Yes, that makes a difference. Because you don't have to explain it all the time. You don't have to worry about whether they get it. You can just talk about it and you can use the language that you're comfortable with and so I think that's the bigger thing. And it doesn't have to be [a] gay issues you are talking about. It can just be anything because you feel vulnerable. An example would be, [the doctor] would say "so, can [partner] help you with this. Is [partner] going to be on board with this? You have to make this change. Can [partner] help you make that change?" That sort of thing is quite important. I just can anticipate that from [the doctor] because I have been going there for years but it's an important thing but it's an acknowledgement that you exist. Your health care, your life, it's not just you. There's your family and your friends and support group around you and I think that's really important. (Participant 12)

The additional benefit for gay men of seeing a gay doctor is that there's a whole part of their life they do not have to explain because "they get it". As noted by CDE2, the lack of knowledge stopped them from engaging in discussions about sexual orientation. Durso and Meyer (2013) noted that variables impacting coming out to health care practitioners included internalised homophobia, being born outside the US, and being younger, all reduced disclosure. However, being connected to the LGB community had the opposite effect by increasing the likelihood of opening-up to healthcare practitioners about their sexuality (Durso & Meyer, 2013).

Coming out is an additional issue that gay men must confront when they attend diabetes consultations in Australia. The literature in other countries highlights that coming out to healthcare providers should be accompanied by improved knowledge regarding this process so that they can engage meaningfully. The six issues highlighted are important because they impact the development of a therapeutic relationship and thereby affect gay men's engagement with health advice, prescribed treatments, and follow-up visits.

5. Debating being unique versus blending in

There are divergent opinions in the LGBTQIA+ community that can generate impassioned debates, which range from the view that we are all the same to acknowledging a difference between gay and straight men. During this study, the researcher received an email from a gay man wanting to find out why the research was being conducted. The researcher responded by saying that it aimed to find out if being gay made a difference in the management of diabetes and referred to the study by Jowett (2017). The letter ended up on social media with some posts disputing the study and claiming we are all the same, highlighting divergent views in the gay community which may act as a barrier to its discussion. This section examines centrality versus avoiding same-sex issues, HIV centrism, and finally, arguments for and against the view that we are all the same.

The risk of disease, like diabetes, is complex; some relate it to genetics, while others relate it to lifestyle factors. However, when it comes to attributing lifestyle factors peculiar to gay men that may affect the management of diabetes, there are some that vehemently dispute this (Braun et al., 2021). This attitude was seen in a social media post describing everyone as human, which is similar to the argument that we are all the same: “ha ha is it different fo[r] them i thought they were human beings” (Facebook, 2016).

This quote could be relaying the fear of centrality. Centrality is a belief that healthcare practitioners see same-sex attraction issues as the foundation of all problems experienced by gay men due to stereotypes (Spengler et al., 2016). This concern about centrality was demonstrated in a Melbourne story of a gay man presenting to a doctor with a variety of symptoms. He spent 18 months trying to find out a reason for his symptoms, but it was assumed to be a sexually transmitted infection, so it was not investigated further. After continued visits and being treated only for the presenting symptoms, not via pathology, he was eventually diagnosed too late with terminal cancer (Morton, 2020), suggesting that finding a gay angle on a disease process may overshadow appropriate treatment. However, Spengler et al. (2016) explain that the opposite problem can also occur where same-sex issues are avoided, thereby minimising their significance. Therefore, these divergent problems of over or under-apportioning blame to sexual orientation suggest a balanced view is required. HCP need an open mind when exploring diabetes, realising that while sexual orientation may have an impact on diabetes, there can be other factors.

Part of the reason why gay men’s health focuses on infectious disease and mental health is the paucity of literature beyond these two topics and therefore lack visibility within the community. Jowett et al. (2011) and Lipton et al. (2004) talked about HIV centrism, meaning that the gay

community almost exclusively focuses on HIV to the exclusion of everything else. Pickett (2010) also noted HIV centrism within the gay community and suggested that we need to move to a more holistic approach to gay men's health by rewriting the script. Such a narrow view of gay men's health means that broader health concerns like diabetes are often ignored.

A few people used the argument that the study was discriminatory to support the position that we are all the same. For example, the following person said that the study could segregate the community.

> This is just idiotic and seems to be very discriminatory, all this research is going to do is segregate the community even more. Diabetes is diabetes, you putting it in a separate class when gay people have it is doing nothing for equality. You are doing nothing but highlight the differences... (Facebook post, 2016)

This view reflects what Hill (2009) describes as marking, which describes the process of connecting two words together. Associating diabetes with being gay only serves to accentuate the term sex, which is commonly associated with being gay and therefore opens it up for judgement. This argument is partly valid, as the sexualisation of gay men has already been discussed. However, the counterargument is that ignoring a whole section of a person's life, as in being gay, reduces areas where solutions may be found. As already discussed, being gay exposes the person to experiences that are less common for straight people, such as the use of amyl, which is known to interact with medication used to treat erectile dysfunction. Ignoring this vital fact can expose gay men to potentially serious interactions.

Another post proffered a view that was a form of gaslighting or attempting to discredit the realities of another person or group (Johnson et al., 2021a): "But I thought gay people were just as capable and equal to the rest of humans" (Facebook post, 2016). While it's difficult to determine the intent of this person's comment, whether it was a genuine concern or purposeful gaslighting, the words do have the impact of gaslighting. This comment draws attention away from behaviours and factors among gay men that may influence diabetes management to capabilities. Behaviours do not always reflect a person's capabilities. Gay men, for example, can be just as capable as straight men in sports, but barriers such as homophobia in sport make it harder to reach their capabilities.

Gaslighting came in many forms to discredit the impact of sexuality on diabetes management. Here a familiar argument of reverse discrimination was used: "Am waiting for the study for straight women with type 2 diabetes. What the hell is this difference between gay and straight people having

diabetes: not that it is discriminatory or anything ….” (Facebook post, 2016). This comment about discrimination against straight people is similar to those experienced by black people (Evans-Winters & Hines, 2020) and is labelled as neutralisation. Kaptein and van Helvoort (2019) extended the work of Sykes and Matza's techniques-of-neutralisation, which were used in criminology to justify delinquency. Techniques-of-neutralisation refers to neutralising a person's argument through a series of techniques, one of which is claiming victimhood, which was evident in the following post:

> This drives me mad! We wonder why there's discrimination then they do research on only gay men with type 11 diabetes. Study diabetes, find out the whys and wherefores and then find a cure. Don't discriminate AGAINST straight diabetes sufferers. (Facebook, 2016)

On the surface, these arguments appear sound but, on further interrogation, are problematic. Therefore, it is important to have an open mind when exploring new areas, as CDE2 explained:

> I think a novice, if they … have … a little bit of life experience [they] probably might cope better than someone that’s more concrete in thinking, … set in their ways … and not … able to step out of the square. (CDE2 from interview)

While there is a push for us all to be equal, there is also an equal need to allow space for differences to be recognised. The arguments of sameness versus difference have played on the LGBTQIA+ communities’ vulnerability and dream for true equality and have consequently stifled investigation into chronic illnesses such as type 2 diabetes. However, there is also a need for caution in over or under-apportioning the influence of being gay on diabetes. Diabetes educators should be aware of these tensions as knowledge builds in this new area of enquiry which aims to refine the way diabetes educators work with gay men to improve their journey with type 2 diabetes. This has an impact on what is written in the notes and language used.

6. One thing to talk but another to write it down

Having your sexuality written down in a medical database is a step beyond talking about it and makes some people nervous. The following participant was happy that the doctor knew he was gay but felt cautious about it being written down at his general practice:

> My doctor was probably, other than my wife, the next person to know and I just said to him “look, if you are looking after my health, you should know what that entails and I’m gay” so I’m an active gay man. I was then. He was fine. I said that I’d prefer it wasn’t written down,

> but I need you to know. He said, “You might have to remind me” and I said, “that’s alright too”. (Participant 2)

This same cautionary approach accompanied the introduction of my-health-record, an Australian national digital health record platform where medical records are stored and can be accessed by healthcare professionals within participating healthcare facilities once permission is granted. Many LGBTQIA+ people were concerned about its introduction because of privacy fears (Vimalachandran et al., 2020).

The argument of sameness has been used because sexuality is recorded only if the person is non-heterosexual, thus making it a label. A similar issue has been raised when referring to women, where phrases like women in sport or STEM are used. Some people are happy when these phrases are used, and others are not. Those who argue against the use of a label believe it highlights the abnormal because it is compared to the so-called norm. Some argue when the term woman is placed before terms such as sport or STEM, it draws attention to the fact that this area is devalued. However, those who agree with its usage believe the label acknowledges women's contribution and shines a light on discrimination and, therefore, the need for change. Diabetes educators in this study formed the opinion that the label gay or homosexual in the notes may not achieve anything: “I can't say I've ever really thought about it. It just didn't go on there because, to me, it doesn't matter. I really don't mind; I don't see the person by the label” (CDE2 from interview); and “I try and treat my patients the same” (CDE1). In healthcare, recording in the notes serves many functions, which include the recording of assessments, interventions, and justifications; for other HCP to understand previous treatments; for legal reasons; for research; and service planning through auditing (Brock, 2016; Vafaei, 2018). If terms such as gay are absent in the note’s practices, such as research and service planning, do not see gay men. Additionally, the rationale for some practitioners referring patients to a service, such as a gay-specific sports club to encourage exercise, may become unclear for other practitioners reading the notes. However, the fear of disclosing a person's sexual orientation in the notes is undeniable, given the history of homophobia in Australia. Fear of labelling among diabetes educators is real because language, or name-calling, has been used for millennia to disparage gay men, affecting their mental health (Escobar-Viera et al., 2018).

Currently, the approach of diabetes educators is to mention sexuality if the patient brings it up first. There is hesitation about being the first to raise sexuality because of the unknown response., For example, would they be insulted or embarrassed, and could they defend why they asked the question if challenged, especially if the person was not gay, and worse still if they held negative

views of gay people? As CDE2 explained: “I don't know, I just treat everybody as the same unless they highlight it with me” (CDE2). Therefore, at present, the only way to ensure that gay men know the consultation space is safe is if the patient notices symbols such as flags, stickers, and brochures on walls and shelves within the room (Grant & Nash, 2019). However, brochures with an array of topics, such as amyl use and its interaction with medications used to treat ED, need to be developed.

The language used in consultations can engage or disengage patients depending on how they perceive those words. The word homosexuality has a negative history because it was used as a medical diagnosis that referred to gay men having a mental health disorder, and as such, can elicit a strong emotional reaction (Calder et al., 2019; Matsick et al., 2018; Salomaa & Matsick, 2019; Smith et al., 2018). The word homosexual can be asked as a question, observed on the HCPs computer screen, and even put into a referral letter. In this research, it was interesting to see a pattern in how the words gay and homosexual were used. Gay was used if the people were making positive or neutral statements regarding the study. However, when the respondents on social media had a negative view, the language changed to homosexuality, as demonstrated in the following quotes: “Of for goodness sake, there is no chance of ‘choice’ for gay people…” (Facebook quote, 2016) versus “we are not homophobic, they heterophonic” (Facebook quote, 2016). Other posts changed the language to homosexual: “Please don’t keep talking about **homosexuality** as if it were normal. It’s not a health normal way to live. Lease the mixed-up poor buggers alone” (Facebook, 2016); “They are still **homosexual** and that’s what they should be called. Why don’t you call lesbian women gay? As I said they took the word gay to give themselves respectability. That means I as a normal person cannot go out to have a gay time for fear of being called a homosexual” (Facebook, 2016), and “…the **homosexual** community need to understand. They are nothing special. That deserves special attention’’ (Facebook, 2016). These shifts in language to a more dehumanising tone have been observed in other social media (Mendelsohn et al., 2020). Homosexuality has been associated with crime, sickness, and sexually deviant behaviour, which is why there is a preference for the word gay in gay groups in the USA (Mendelsohn et al., 2020). In the current study of gay men and type 2 diabetes, homosexuality was broadly associated with being against God, sickness, abnormality, and curing homosexuality. Therefore, language such as gay may be preferable to homosexual in medical notes because of its negative associations and ability to disengage a person in the care of their type 2 diabetes.

Writing a person’s sexuality in the notes and the choice of terms used can disengage gay men with type 2 diabetes. Tensions remain in the Australian healthcare system around gay men, which have

created a dilemma for HCPs attempting to provide individualised care to improve healthcare outcomes. Continuity of care, as is required in chronic conditions such as type 2 diabetes, is stifled when HCPs fear writing down pertinent issues that are affecting their patient's self-care. As such, fear of writing in the notes acts as a unique factor that affects a gay man's experience with healthcare.

7. Culturally appropriate information

Providing information and education that reflect the lives of subgroups receiving diabetes education can help engagement and subsequent outcomes such as reduced HbA1c (Captieux et al., 2018). For example, there has been material created for Islamic people who may follow the holy month of Ramadan which requires followers to fast during the day and eat big meals at sunrise and again at sunset. An Islamic person with diabetes can have problems if they are on medications such as sulfonylureas and insulin that can cause hypoglycaemia and therefore alter their journey with diabetes. Therefore, adjustments are needed to prevent this adverse outcome (Almansour et al., 2017; Hassanein et al., 2017). Likewise, gay men have circumstances that alter their journey with diabetes, but no material has been created by peak bodies that reflect their different realities.

Currently, the information given to gay people with diabetes is often generic and not individualised and, as such, is not well engaged (Alexis & Worsley, 2018; Wong, 2013). It does not have images or stories that reflect the life of gay men, such as gay couples, amyl use, and sexual positions in which gay people engage. In addition, Ussher et al.(2017) note that educational material fails to address psychosocial issues such as distress about not being marketable in a youth-orientated gay culture and the fear of being a lonely older man. Also missing was the renegotiation of sex roles and identity loss leading to estrangement from the gay community; that is, masculinity and gay identities (Alexis & Worsley, 2018; Ussher et al., 2017).

One participant talked about his interaction with a dietician, which he felt was not helpful. The information provided was general, and there were no opportunities to share his stories and workshop how he would incorporate changes into his life. "She just didn't seem to help, and she was just 'preaching' at me. Like I burst out and told her quite angrily "I've got three degrees" (Participant 6). Another talked about the large volumes of decontextualised information that was not helpful:

> I got information sent out and they gave me some websites to look at. I found most of the information, there was a lot of it, and most was generic and not

> helpful. I didn't find it particularly useful…The websites and the information is overwhelming. (Participant 12)

Because gay men cannot see their lives represented in the information provided, it seems cold, distant, and less engaging.

Therefore, gay men have additional issues that need to be addressed in terms of the handouts provided in diabetes education. Having to retrofit the educational material into their life means they are not seeing examples of what suggested behaviours might mean contextualised in their lives. The gay men in this thesis directly discuss how disengaging the information was, which concurs with other literature (Alexis & Worsley, 2018; Ussher et al., 2017; Wong, 2013). As the differences between gay and straight men are established in research, partnering with the gay community could enable informational brochures to be developed that address their specific needs.

8. The consequence of disengagement

For gay men, there appear to be differences in how they engage with diabetes management and therefore how it impacts outcomes. What has been presented in sections two to seven are differences that distinguish gay men's experiences from straight men and their impact on their engagement with diabetes management. Therefore, in this section, the following areas will be explored: visits to health care providers that are part of the diabetes team, the blunted effect of HCP, issues around peripheral neuropathy and sleep apnoea and sleep, the influence of HCP on escalation to insulin, and the impact on blood glucose levels.

Gay men do not visit diabetes health teams outside their general practitioner to the same extent as Australian people with diabetes. Table 8 below compares the percentages of gay men with type 2 diabetes who see healthcare practitioners (diabetes educators, dieticians, and endocrinologists) with those of Australian people with diabetes, suggesting that gay men are seeing these healthcare professionals less frequently.

Table 8 Comparing rate of HCP usage - gay men vs general Australian population.

This table compares diabetes treatments against comparative Australian studies			
Diabetes management	Numbers	Percentages	Comparative Australian studies in the same year
I see a diabetes educator	29	34.94%	73% (Zoungas et al., 2016)
I take insulin	24	28.92% (overall use)	57.4% (Zoungas et al., 2016). AIHW 59% (started using insulin for type 2 diabetes in 2016 with 42% female and 83% of men)(AIHW, 2016)
I have seen an endocrinologist	24	28.92%	65% (Zoungas et al., 2016)
I see a dietician	20	24.1%	50.3% (Zoungas et al., 2016)

The above results in Table 8 are consistent with Scheitle and Platt's (2019) findings that gay men in the USA engage less with the diabetes health teams. This result may reflect language, poor prior experience, lack of culturally appropriate information, and obstacles to being able to talk about their life in context, discussed earlier in this chapter. The data that follows in Table 9 supports the notion that decreased attendance may contribute to problems with complications and glycaemic management.

One would expect that visiting a diabetes educator, dietician, and endocrinologist would lead to a reduction in complications. In Table 9 below, there are two main types of complications mentioned. These are first, microvascular disease affecting small blood vessels which includes: peripheral neuropathy (funny sensation in the feet), erectile dysfunction, eye issues, autonomic neuropathy

(drop in blood pressure on standing), gastric paresis (bloating after food), and hearing impairment. Secondly, there are macrovascular diseases affecting the larger blood vessels which include: heart attack, stroke, and peripheral vascular disease. There are three complications that are uncategorised which include sleep apnoea, skin, and cancer. Table 9 compares the differences in complications observed between those seeing and not seeing one of these HCPs.

Table 9 Complications of diabetes matched with or without HCP

	No Diabetes Educator	Diabetes Educator	No insulin	Take insulin	No endocrinologist	Endocrinologist	No dietician	Dietician	Totals
Heart Attack	3	5	2	6	6	2	6	2	8
Stroke	1	1	1	1	0	2	2	0	2
Funny sensation in the feet	24	10	21	13	21	13	26	8	34
Peripheral Vascular Disease	8	6	6	8	6	8	10	4	14
Eyes	7	7	6	8	13	1	11	3	14
Erectile Dysfunction	24	14	21	17	25	13	29	9	38
Hearing Impairment	8	4	8	4	7	5	10	2	12
Sleep Apnoea	15	14	19	10	19	10	22	7	29
Skin	10	10	15	5	13	7	25	5	30
Autonomic Neuropathy	11	4	12	3	12	3	10	5	15
Cancer	1	2	2	1	2	1	2	1	3

For most of these complications, there was not a significant association between them and visiting the HCP. Visiting a diabetes educator, dietician, and endocrinologist has been shown to reduce complications by reducing glucose levels above target. According to Segal & Opie (2015), sending people to a qualified dietitian who is more attuned to generating behavioural change in dietary habits can reduce complications, which contrasts with results in gay men. Diabetes educators have an impact on reducing glycaemic figures that are above target, such as HbA1c, fasting glucose, and oral glucose tolerance test, which in turn are associated with a reduction in complications (see Burke et al., 2009; Boren et al., 2014; Duncan et al., 2011; Powell et al., 2021; Siminerio et al., 2013). Similar results of reduced glycemic figures are evident when people with diabetetes see an endocrinologist (Phillips et al., 2005; Zarora et al., 2022). However, using chi-square, there was no association between seeing these HCP or not, except in a few situations. These exceptions were: a significant association between seeing a diabetes educator and sleep apnoea, $x^2(1\ N = 83) = 3.9835$, $p = .05$; an endocrinologist and eye issues, $x^2(1\ N = 83) = 4.2243$, $p = .05$; and an endocrinologist and peripheral vascular disease, $x^2(1\ N = 83) = 4.661$, $p = .05$ (see appendix M showing all the chi-square test of independence calculations used for each of the variables mentioned above). Therefore, the results indicate that a gay man seeing a diabetes educator, dietician, and endocrinologist does not result in significant improvement except in a few situations.

Peripheral neuropathy

The diabetes-related complication of peripheral neuropathy seen in gay men is an example of a condition that is comparable to Australian people with diabetes. In this study on gay men and type 2 diabetes, 41% responded yes to 'I have funny sensation in my feet - numb, tingling, 'pins and needles, which approximates that seen in the general population, with diabetes at 39% (Zoungas et al., 2017). Obesity is a major driver of peripheral neuropathy (Bonomo et al., 2022; Callaghan et al., 2018), but the sample of gay men in this study showed a 23.8% reduction in obesity rates with no associated reduction in peripheral neuropathy.

One driver of peripheral neuropathy is drinking to excessive levels (Julian et al., 2018), reported by 25% of gay men in this study (25%), which approximates data collected in Australia in 2021 (Australian Institute of Health and Welfare, 2022a). One participant talked about his peripheral neuropathy and was adamant that it was not related to diabetes:

> My feet are fine other than I have a condition called peripheral neuropathy which is to do with my nerves. Nothing to do with the Diabetes at all. I treat that with a drug called Venlafaxine, which is an anti-depressant but used in small doses it's used for nerve damage. (Participant 3)

He further went on to say,

> Yes, Jonathan doesn't think it was caused by my Diabetes. (Participant 3)
>
> What was the cause? (Researcher)
>
> Probably alcohol. (Participant 3)

While Australia's rates of problematic drinking are 27% and almost double those of other countries (Citaristi, 2022), those with diabetes in Australia have been shown to drink less by 15.9% (Pham et al., 2019). Gay men may not be following this trend as 25% of participants interviewed talked about problematic drinking, although more robust data is required to demonstrate this.

Smoking (which was not asked in the survey) may be a reason why peripheral neuropathy did not reduce in the setting of reduced obesity rates in gay men. Smoking and drinking are often associated and more prevalent in gay men than in the general community (Perales, 2019; Puhr et al., 2019). It is not clear if smoking increases peripheral neuropathy risk (Clair et al., 2015). However, it does increase the risk of diabetes-related foot amputation (Liu et al., 2018; Mantovani

et al., 2017). Smoking and drinking are also higher in those who are in the closet, lonely and have a strong desire to reconnect (Bariola et al., 2016; DeWall & Pond, 2011; Shin et al., 2017). Because living alone is a risk factor for loneliness, for the 42% in this study who are living alone, smoking and drinking may be driving up rates of peripheral neuropathy. However, this is only theoretical, and further studies are needed.

It is plausible that HIV may be driving some of this heightened peripheral neuropathy because some gay men may go undiagnosed if they are not testing, although rates of undiagnosed HIV are higher in straight men (Kamerman et al., 2012; Kirby-Institute, 2018; Smyth et al., 2007). Rates of peripheral neuropathy in those with HIV are currently between 30% and 57% of cases (Ambrosi, 2019; Cherry et al., 2017).

Sleeping issues

Sleep apnoea is a significant issue for gay men with type 2 diabetes, but while weight loss is the cornerstone of treatment (Salzano et al., 2021), other sources may need to be investigated due to weight being less of an issue. The rates of overall sleep apnoea in this study were on the higher end; that is, 39.2 % from the online survey and 33% from those interviewed. The rates of sleep apnoea in the general population with diabetes are 18.2% in Australia and vary from 9.2% to 51.4% in different countries around the world (Einhorn et al., 2007; Elmasry et al., 2001; Feher et al., 2019; Saad et al., 2019; Senaratna et al., 2016; West et al., 2006). This wide variation is probably related to differences in diagnostic criteria used to assess sleep apnoea and socioeconomic characteristics in those areas, for example, rates of smoking.

Having sleeping problems can affect someone with diabetes regardless of their sexuality, as a lack of sleep can impair its management (Anothaisintawee et al., 2016; Lee et al., 2017). Diabetes is often accompanied by exhaustion because it interferes with energy systems in the body. Therefore, it was not surprising that two of the participants talked about fatigue as a symptom before their diagnosis of type 2 diabetes. One noted he was "…coming home exhausted all the time and falling asleep. I was drinking lots of cans of coke for energy. I think I was up to 8 or 9 cans a day. My hair even started to go grey" (Participant 10).

Another described the stress he felt at waking up constantly to go to the toilet at night.

> …it was depressing and making me quite depressed, and I think mainly because I just wasn't sleeping, I would fall asleep and then I would be awake for 10 minutes and go to the toilet and then go back to bed and then my

> husband just got jack of me complaining maybe because I also turned 50 so he said "off we go, we are going to the doctor's to sort this out". (Participant 12).

Poor sleep has been associated with an increased risk of diabetes (Allison et al., 2016; Cappuccio et al., 2010; Shan et al., 2015). Gay men have various factors that may put them at risk of sleeping problems (Galinsky et al., 2018; Patterson & Potter, 2019; Rahman & Silber, 2000) which include binge eating disorder (Olguin et al., 2017; Sockalingam et al., 2017; Tromp et al., 2016); and a higher degree of stress (Caceres et al., 2019; Galinsky et al., 2018; Ogunbajo et al., 2020), and therefore put them at a disadvantage.

A further participant talked about the rejection he felt once he had sleep apnoea which affected his work. As a primary school teacher, he said, "I snore and I'm very aware of my snoring so even when I go on school camps, I won't share a room with another person because I don't want my snoring to keep them awake or affect their sleep" (Participant 10). He went on to describe the impact t on his romantic relationships:

> …the few times that I've gone back to somebody's place, as soon as we've finished, at a respectable time afterwards I will get up and go home rather than spend the night because I'm very aware of my snoring, so I still expect that I'll be alone because it's harder to meet people the older you get. (Participant 10)

One participant said their sleeping issues came from a fear of taking insulin and having a potential severe hypoglycaemic episode (SHE). The risk of hypoglycaemia is associated with a previous history of SHE, recurrent history of cardiovascular disease, nephropathy, and neuropathy (Pawaskar et al., 2018). This fear results in compensatory behaviours such as insulin avoidance, exercise reduction, and defensive eating (Barendse et al., 2012). In Jowett's study (2011), a participant mentioned a 'hypo' or low blood sugar during sex that required defensive eating before sex which he had to explain to his partner. This participant in the current study talked about his fear of insulin:

> And I've got this big overwhelming fear that I'm going to take too much … go below zero and have a (what do you call it) Hypo and I've had a couple of Hypo's and one of them was while I was sleeping, and I was lucky to wake up and that scared the hell out of me … (Participant 8)

While many sleeping issues found in gay men with diabetes resemble those of straight men, there are some factors described in the literature that may set them apart, such as smoking, drinking, stress, and binge eating disorder.

Insulin and HCP influence

Diabetes educators and dieticians may be less influential in encouraging their gay patients with type 2 diabetes to escalate treatment. Insulin usage of participants in this study was cross-matched with HCPs usage, as seen in Table 10 below. It revealed that seeing a diabetes educator or dietician had minimal impact on insulin usage, which was not expected. Previous studies have shown that diabetes education improves health literacy which can overcome barriers to medication intensification, such as starting insulin (Andreozzi et al., 2020; Khunti et al., 2019; Manski-Nankervis et al., 2017; Okemah et al., 2018; Powell et al., 2021). However, a chi-square test of independence showed that there was not a significant association between insulin usage and seeing a diabetes educator, $x^2(1\ N = 83) = 0.6721$, $p = .05$, and there was not a significant association between insulin usage and seeing a dietitian, $x^2(1\ N = 83) = 0.2669$, $p = .05$. Although the association was not significant, there was some influence, with a 12.2% increase when gay men saw a diabetes educator and 5.6% when they saw a dietician.

Table 10 HCPs matched against insulin usage

Health Care Practitioner (HCP)	n (total)	Insulin n	Insulin %	No insulin n	No insulin %	% diff b/n HCP vs No HCP
Diabetes educator	30	11	36.7	19	63.3	
No diabetes educator	53	13	24.5	40	75.5	12.2
Dietitian	18	6	33.3	12	66.7	
No dietitian	65	18	27.7	47	72.3	5.6
Endocrinologist	24	11	45.8	13	54.2	
No endocrinologist	60	14	23.3	46	76.7	22.5

However, in this study, there was a significant association between visiting an endocrinologist and insulin usage, as seen in the chi-square test of independence $x^2(1\ N = 83) = 6.3392$, $p = .05$. This observation makes sense as endocrinologists are less hesitant to initiate insulin than general practitioners who may be less experienced (Shah et al., 2005). Therefore, the effectiveness of

HCPs in promoting the intensification of treatment to include insulin among gay men with type 2 diabetes was stifled.

Self-blood glucose monitoring

Similar to insulin, diabetes educators, dieticians, and endocrinologists did not have a major impact on improving glucose levels and help-seeking in gay men with type 2 diabetes. Participants in this study were asked to indicate their average blood glucose level by sliding a bar across to answer the following questions: Before breakfast, my average glucose reading is? Two hours after food, my average glucose reading is? Before bed, my average glucose reading is? These figures are the product of self-blood-glucose-monitoring (SBGM) using a personal device (blood glucose machine) to guide decision-making. Blood glucose levels were matched against those recorded by various healthcare providers (Diabetes Educators, Dieticians and Endocrinologists). Table 11 below shows the blood glucose levels that survey respondents claimed they got at different times of the day.

Table 11 Usual blood glucose levels at various times

Within range	Blank	Outside range

	If you use a glucose meter, consider the following statements, and slide the bar across to indicate your response					
	Over what number would you seek help or treat with extra glucose reducing medication	Under what number would you seek help or treat with glucose	Times a day you record your blood sugar	Before breakfast my average glucose reading is?	2 hours after food my average glucose reading is?	Before bed my average glucose reading is?
1	8	5	3	6	7	6
2		3	1	7		
3	15	18	3	11	10	10
4	11	1	2	5	6	5
5	9	3	3	7	7	7
6	20	4	4	7	9	12
7	13	3	2	7	6	6
8	11	4	3	8	6	8
9	8	3	1	12	0	0
10	14	1	1	7		
11	10	2	1	5	6	6
12			1	8	7	10
13	10	8	1	9	8	7
14	10	3	4	6	8	9
15	16	3	1	8	9	10
16	10	1	1	7	8	10
17	12	4	2	9	7	7
18	12	4	1	7		
19	10	3	2	6	7	7
20	16	2	3	11	9	7
21	10	3	1	12	15	14
22	15	15	2	7	9	9
23	10	3	1	5	5	5
24	10	4	8	10	13	10
25	15		5	11	8	12
26	18	2	5	5	9	
27	16	2	2	8	10	9
28	9	4	2	6		6
29	8	17	7	6		
30	20	4	1	8	10	8
31	10	7	2	6	9	7
32	12	3	1	5	7	6
33	10	4	2	6	9	8
34	14	2	2	5	7	5
35	20	20	20	4	6	7

When these figures were matched against those of health care professionals, it showed a significant relationship between the diabetes educator and blood glucose levels in the range of 4-8 before breakfast (x^2(1 N = 61) = 5.6393, p = .05) and seeking help when their figures were above 15mmol/l (x^2(1 N = 49) = 5.6393, p = .05). There was also a significant relationship between the endocrinologist and having blood glucose levels in the range (4-8) 2 hours post-meal (x^2(1 N = 49) = 3.8711, p = .05) and before bed (x^2(1 N = 49) = 4.8486, p = .05). All other parameters for diabetes educators and endocrinologists were not significant, and there was no significant result for dietitians. The non-significant result for dieticians was surprising, considering that previous studies have shown a benefit in fasting glucose, HbA1c, and 2-hour OGTT (Alshareef et al., 2018; Marincic et al., 2017; Marincic et al., 2019; Mottalib et al., 2018; Razaz et al., 2019). These results do not match the purported difference these HCPs can make and, as such, might represent a deficiency in their approach to gay men with type 2 diabetes. The blunted glucose levels in gay men suggested that the person's sexual orientation is a variable that requires HCPs to adjust their approach to cater for this group's specialised needs. All the processes that may impact the diabetes education consultation with a gay man with type 2 diabetes and possible outcomes are displayed in Figure 10 below.

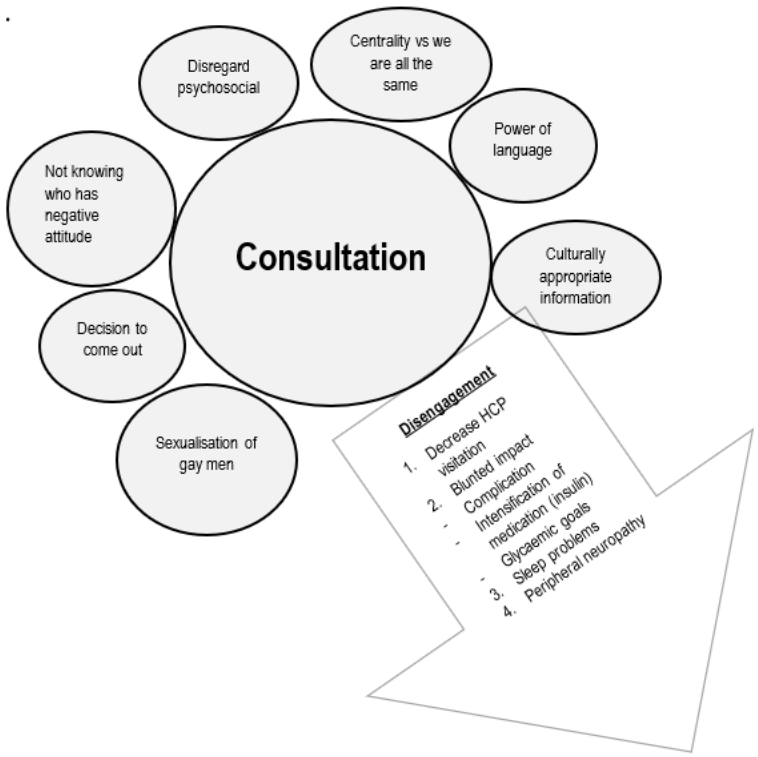


Figure 10 Factors that affect the consultation & impact

There is a trend of decreasing visitations to diabetes educators, endocrinologists, and dieticians. However, when gay men do visit these HCPs, there is a blunting of their effect because of those issues mentioned in sections 2 – 10. The areas explored were increased complications, decreased insulin usage, and impaired glucose levels and reporting. Issues around sleep and peripheral neuropathy may need to be considered.

9. Conclusion

There were seven factors in a diabetes consultation with a gay man that could influence diabetes-related outcomes. In section two, there was a denial of psychosocial factors that were specific to gay men that could influence a gay man's journey with type 2 diabetes, such as homophobia in sport. In section three, the impact of not knowing who held homophobic attitudes led gay men to be guarded until proven otherwise. In section four, let's talk about sex; the sexualisation of gay men was discussed, leading to increased awkwardness around the topic. Sexualisation prevented wider discussion of gay men's health that was characterised by assumptions among HCP and caution by older gay men. In section five, there was an examination of the two opposing positions that could impact HCPs, making a holistic assessment. One position related all presenting issues to being gay, while the opposite position ignored being gay altogether. In section six, the problems with writing down a person's sexual orientation outside accepted norms, i.e., STIs and mental health, caused anxiety among diabetes educators and gay men. An exploration of the use of the word homosexual versus gay was had showing the word homosexual may disengage some gay men. Finally, in section seven, the problem of lack of culturally appropriate information being provided was explored and its impact on engagement with the material. In section eight, the consequences of these six factors were examined in relation to blood glucose readings, insulin usage, and complications. It was identified that the effectiveness of diabetes educators, dieticians, and endocrinologists in managing glucose levels, reducing complications, and promoting insulin usage was blunted.

Chapter five – results – uniquely gay

1. Introduction

The success of diabetes management is predicated on the person with diabetes being able to make lifestyle changes such as diet and exercise and to take and monitor medication which will be covered in this section. The unique or overrepresented psychosocial circumstances around being gay alter a person's relationship with diet and exercise and have a direct impact on the management of type 2 diabetes. Binge eating disorder (BED) is overrepresented in gay men (Boisvert & Harrell, 2010; Calzo et al., 2018) and among those with type 2 diabetes (Abbott et al., 2018; Feldman & Meyer, 2007; Harris et al., 2021; Papelbaum et al., 2019). BED mainly goes underdiagnosed in Australia and has been associated with many healthcare professionals having a weight bias and reluctance to diagnose BED (Calzo et al., 2018). BED is not widely recognised compared to anorexia nervosa due to data showing gay men are overall thinner when compared to the general population (Boisvert & Harrell, 2010; Feldman & Meyer, 2007). Both BED and being gay have been linked to rejection sensitivity in a variety of social settings (Arjmand et al., 2021; Feinstein, 2019; Parker & Harriger, 2020). Social connectedness is central to this (Ong et al., 2013), with research showing that people with good social relationships are better able to buffer the stressors of life and have greater life expectancy compared to those with poor social connectedness by up to 50% in a meta-analysis (Holt-Lunstad et al., 2010). Given that gay men with type 2 diabetes continue to be rejected in many spheres of life, such as the gay community, work, church, family, and sport, this chapter will explore their uniqueness and connection to binge eating disorder and type 2 diabetes.

2. BED common in gay men with T2 diabetes

Eating disorders impact on the management of type 2 diabetes, and because there are higher rates in gay men, this creates a point of difference. Rates of BED in the general population have been estimated at 1.4% (Nieto-Martínez et al., 2017). In some studies using the more recent DSM V criteria, the rate jumps to around 25% among people with type 2 diabetes (Chevinsky et al., 2020). Studies examining BED rates have been inconsistent because of different inclusion and exclusion criteria, such as GLP1 inhibitors used for weight loss can be a BED treatment but are also a diabetes treatment. Moreover, rates vary according to country, probably related to the difference in psychosocial environments. BED rates in gay men with type 2 diabetes jump to 46.99% using the screening tool in Table 12 (results) and Table 13 (scoring) below. The screening tool used the five DSM V criteria written as statements, and participants were asked to rate their response as either

never, rarely, sometimes, most times and always. The scoring is outlined in Table 13, with always, most time, and sometimes receiving a yes, and rarely to none scoring a no. While the tool used for BED is not a validated tool, the responses do mirror those in previous research (Boisvert & Harrell, 2010; Cohn et al., 2016; Parker & Harriger, 2020).

Table 12 Response to DSM5 criteria for binge eating disorder (BED)

Response in relation to eating food

#	Field	Always	Most time	Sometimes	Rarely	Never	Total
1	Eating until feeling uncomfortably full	0.00% 0	14.63% 12	41.46% 34	35.37% 29	8.54% 7	82
2	Eating large amounts of food when not feeling physically hungry	1.20% 1	7.23% 6	38.55% 32	32.53% 27	20.48% 17	83
3	Eating much more rapidly than usual	7.23% 6	9.64% 8	33.73% 28	39.76% 33	9.64% 8	83
4	Eating alone because of being embarrassed by how much one is eating	0.00% 0	2.41% 2	15.66% 13	13.25% 11	68.67% 57	83
5	Feeling disgusted, depressed, or guilty after overeating	3.61% 3	8.43% 7	34.94% 29	15.66% 13	37.35% 31	83

Showing Rows: 1 - 5 Of 5

Table 13 Scoring for BED in gay men with T2 diabetes - not validated tool.

Scoring Three or more of these characteristics are classified as being a risk for Binge Eating Disorder (BED) DSM-5 diagnostic criteria for binge eating disorder – It was decided the categories, always, most times and sometimes would indicate YES and rarely and never would indicate NO	
Yes (always, most times and sometimes)	No (rarely and never)
39 Count	44 Count
46.99%	53.01%

3. Rejection common in gay men is a cause of BED

Rejection is experienced by many groups (gender and sexually diverse, race, sex, religion), but the reasons and how it looks are different for each group. By understanding the nuances of rejection in gay men, diabetes educators can target strategies to address rejection. For example, a diabetes educator might target homophobia in sports, which might be addressed by giving the client a list of gay sports groups in the area that he might want to consider joining. Rainey et al. (2018) found that

among gay men, food addiction was higher in those with a history of heterosexist harassment. This feeling of rejection may start in their teenage years and young adulthood as they discover their sexual orientation. It is believed that early trauma; for example, emotional neglect, can prime the brain to addiction, which is a prominent feature of BED (Quilliot et al., 2019). Part of the adaptive response may be an exaggerated cortisol release, which has been shown in studies of gay and bisexual men compared to straight men (Mijas et al., 2021). People with BED have an exaggerated cortisol release in response to stress (Naish et al., 2019) that drives central obesity and diabetes (Joseph & Golden, 2017). Keating et al. (2019) identified that those preoccupied with the prospect of rejection, as measured by rejection sensitivity, were also more likely to develop BED independent of actual rejection. Scoring high on rejection sensitivity has been associated with various mental health issues, such as depression, anxiety, and loneliness (Gao et al., 2017), which are related to poor diabetes-related outcomes. Therefore, in the absence of homophobia, gay men can still feel rejection due to internalised homophobia (self-hatred). The combined effect of negative past experiences, misinterpreting signals, and casual homophobia can exacerbate internalised homophobia. The following participant was sensitive to signals that may suggest his co-workers know he is gay, which made him guarded over his sexuality: "Very. It certainly wasn't a topic for discussion, that's for sure". The stature of his boss rather than his homophobic experiences made him guarded:

> Oh yeah, he was just the most horrible man you could ever wish. . . in actual fact he wasn't. He comes across as being a very nice person, but he has the physical size to really command attention. (Participant 3)

Casual homophobia is defined as unintentional comments that can mock or stereotype other people (othering means the act of making informal remarks to a person that suggest they do not belong to a particular group). Negative past experiences can include previous gay rejection, especially from parents, leading to elevated sensitivity to rejection (Pachankis et al., 2008). The ease with which one navigates social spheres is essential, as there is evidence that social anxiety moderates the link between obesity and metabolic function (Jaremka & Pacanowski, 2019). Participants in this study identified various reasons for social rejection in different spheres of life: the gay community, work, church, and family.

4. Fear rejection - avoid gay community

Gay men can experience a high sense of rejection from the gay community, contributing to BED and problems with managing type 2 diabetes. Connection to a community is considered vital as it

promotes a sense of identity, connectedness and especially resilience in changing times (McLaren et al., 2008; Pretty et al., 2006, p. 18). A sense of community among gay men can suppress feelings of community-level homophobia and increase the likelihood of having a healthcare provider (Anderson-Carpenter et al., 2019). Feldman and Meyer (2007) noted that there were fewer eating disorders in those who felt connected to the gay community and were therefore encouraged (McLaren et al., 2008; Wilkinson et al., 2012). However, for some gay men, there is a feeling of rejection that arises from the gay community itself (Schimanski & Treharne, 2019). The gay men in the current study avoided the gay community for many reasons, including a fear that work may find out, being perceived as needy, superficiality, body image concerns, race, and diabetes-related stigma.

I. Fear of work finding out

Some gay men avoid the gay community because of the implications for work. An Australian study by Brady et al. (2022) noted in an Australian academic workplace there was a strong fear of heterosexism as opposed to actual heterosexism, which has been negatively associated with reduced job promotion, job satisfaction, turnover, and productivity. A participant in the current study avoided gay events because of his position as a primary school teacher rather than any homophobia he experienced:

> I was a bit fearful of being involved in [Gay event] the first year for the reasons that I said before you know, being in the area where I lived I was a bit scared that if I got involved in these things if people would react negative to me being a male primary school teacher, being gay but after the first year I tested the water and did a couple and then from the third year I volunteered at nearly every [Gay] event. (Participant 10)

II. Might be rejected if I look too needy

Asking for help can have a consequence for some groups, who consequently avoid doing so. Miller et al. (2016) examined falls presentation to an emergency department and found that older adults are often reluctant to ask for help from their children because it might jeopardise their independence. Likewise, this participant did not ask for help because he feared appearing too needy and therefore losing friendships:

> …I think I've always been too scared to go to them with problems because I didn't want to be a burden to them, and I've always been scared that because I lost a lot of friends when I came out and didn't get much acceptance from my

> family, I've always been very aware of how easy it is to lose people, so I've never wanted to be that sort of burden, but I've found too that just thinking about it for a day or two some sort of a solution comes into my head. (Participant 10)

Putting on a front to cover one's infallibilities is by no means unique to gay men, but the context is unique, and the consequences may be more profound if there is no one to ask for help in their journey with diabetes.

III. Rejection over superficial body image

A group of gay men in this study referred to the superficiality of the gay community as the reason for not connecting to it. By superficial, they were describing the gay community through a very narrow lens. Superficiality was the term used in an analysis of Italian urban and rural communities, with those that had moved from rural to urban cities characterising the gay community there as superficial (Pagliacci, 2019). In a separate study looking at the experience of exercise, diet, and mindfulness of gay men, superficial was a term used to describe the gay communities' attitude towards body image (Regan et al., 2021). In the present study, one participant, who had issues with weight, described the scene (the gay community) as superficial and that he would be ignored because of his weight. He suggested that the gay community looked for superficial characteristics such as weight, which was mentioned nine times in this person's transcript; for example, "Yeah, we both don't like the superficiality (sic) that surrounds gay events, particularly the social scenes" (Participant 4).

Weight is closely tied to body image, so it is not surprising that gay men tend to weigh less when compared to the general Australian population, which has implications for type 2 diabetes (Deputy & Boehmer, 2010; Stupplebeen et al., 2019).

Another participant mentioned the superficiality of the social scene and used the word clique, which has been defined as "people who don't seem to like change and view newbies as outsiders, irrelevant" (Billsberry et al., 2022):

> …I went to [gay venue] a couple times and it just felt, I don't know. It's a strange community, the gay community, they say everyone is welcome and all that but when you go there, there are all these clique-groups of people that can stand around, no one will approach you and I thought it was me. So, I went a couple of times and didn't really meet anyone. Maybe I don't fit in, maybe I'm too straight, but everyone says I'm the life of the party but if I don't know anyone, I'm very withdrawn and hide in the corner. Once I know someone, I'm loud and

> brash etc. I felt a bit out of my depth there, but all men really wanted was hook-ups, then again so did I. (Participant 5)

The heightened concern and impact of body image on gay men (Basabas et al., 2019; Kousari-Rad & McLaren, 2013) and their mental health is a well-known phenomenon in the gay community (Davids et al., 2015). Australian research indicates that even having a partner does not diminish concerns about body image (Marmara et al., 2018). Bays et al. (2009) found that a diagnosis of type 2 diabetes exacerbated body image concerns for women, but this was not the case for men. However, in the absence of research on gay men, it is reasonable to think that a diagnosis of diabetes may heighten body concerns (August et al., 2022; Tylka, 2021). Among the sample of gay men with type 2 diabetes in the current study, body concerns were a problem when interacting with the gay community. Participant ten reported that while he had the occasional one-night stand, the prospect of a relationship was low because of his weight. He believed that although some of the gay community like "bear types" (Participant 10) for a casual encounter, they would prefer skinny people for long-term, meaningful relationships and added that skinny gay guys, "…are probably attracted to 'bear' types but not to 'long term' attraction". He thought this was analogous to the position of women: "I've heard from overweight women, a similar thing, where there are some guys who are really attracted to big, heavy women, but they won't marry them" (Participant 10). However, the subgroup bears are well documented as rejecting the status quo, valorising obesity, and enjoying meaningful relationships, but this does have implications for diabetes management (Clay & Brickell, 2022; Gough & Flanders, 2009).

Another participant was sensitive about his "gay body' image", mentioning weight 13 times and BMI once. He went on to note an incident at a gay event involving another gay person walking toward him, which took a toll on his mental health and reinforced in his mind that he would never have a relationship:

> …when he saw me, he actually recoiled because he saw the weight and the hair and that had a really bad effect on me. Like, I didn't go out for two days afterwards. I was so depressed about it, so I have always had very low self-esteem to deal with my body and that's probably another reason why I don't think I'll probably get into a relationship. (Participant 10)

Another participant described himself as lacking confidence, which came from growing up in a gay community preoccupied with image:

> The image thing that is hard to avoid if you are a gay man, I suppose. The whole 'image police' sort of thing that happens. But being a gay dad, you move out of the gay world in many respects. (Participant 12)

He added that he got most anxious and depressed when he weighed himself or looked in the mirror:

> It's too depressing. … I'm not going to weigh myself because it's too confronting. If I want to make myself depressed or anxious there are plenty of other ways, I can do that. Actually, the most depressed and anxious I get is when I weigh myself or looking at myself naked in the mirror. (Participant 12)

He talked about not going out anymore because of judgment from the gay community.

> We have avoided going out in recent years. Not just me but both [partner] and I put on a lot of weight and there was accents of "oh God, I'm going to be judged for being chubby and fat. A bad gay person. A bad gay dad too". (Participant 12)

Studies have shown that fatherhood is associated with increasing weight which may put men at risk for various health issues (Burke & Bribiescas, 2018; Neshteruk et al., 2022,) although when gay fathers were compared to gay men without children, there was a reduction in cortisol which is associated with a reduced risk for diabetes (Burke & Bribiescas, 2018)

Another participant also decided not to go out anymore because he did not tick boxes that would allow him to fit in:

> I was working all week and partying all weekend and noticed I had a lot of weight gain all of a sudden and I just thought it was a middle age spread coming on. I stopped going out because I felt I wasn't fitting into the boxes that I was before. (Participant 8)

The negative commentary came not just from strangers but friends, indicating this surveillance of weight standards in the gay community is widespread:

> … they'd see a photo on Facebook and say "Jeez, he's porked up" or something and it would find its way back to me… they were hurtful and frustrating because there's nothing worse than people telling, you look fat, when you know you look fat… (Participant 12)

Therefore, body image can drive gay men away from the gay community and negatively affect mental health. As mentioned in the introduction, these factors have been related to eating disorders and having a regular health care provider.

IV. Diabetes-related stigma

Participants in Robertson's (2006) study suggested that gay men were more health-conscious, which meant that those who fell short of these ideals were judged more harshly. A participant in the current study was harshly judged when he revealed to his gay housemates that he had diabetes: "…my two housemates told me it was my fault they were not going to have any fun or anything that tasted good anymore" (Participant 9).

Therefore, gay men experiencing stigma from other gay men can have their trust undermined and then find it difficult to ask for help (Zhang et al., 2020). There is a growing literature on stress that comes from within the gay community, in addition to minority stress that comes from living in a heteronormative world (Pachankis et al., 2022). The following participant noted the shame he felt being a person with diabetes in the gay community:

> I think one of the things I've noticed with one or two other friends who are gay and have diabetes is that for some reason there is a certain level of shame on their part that they have problems. (Participant 9)

Gay men without type 2 diabetes responded to questions broadly asking about their views on gay men with type 2 diabetes that were designed to uncover attitudes within the gay community, which is the very community with which gay men are encouraged to connect. The data in Figure 11 from the online survey showed that 32.93% of gay men without type 2 diabetes (between never to rarely) believed they brought it on themselves.

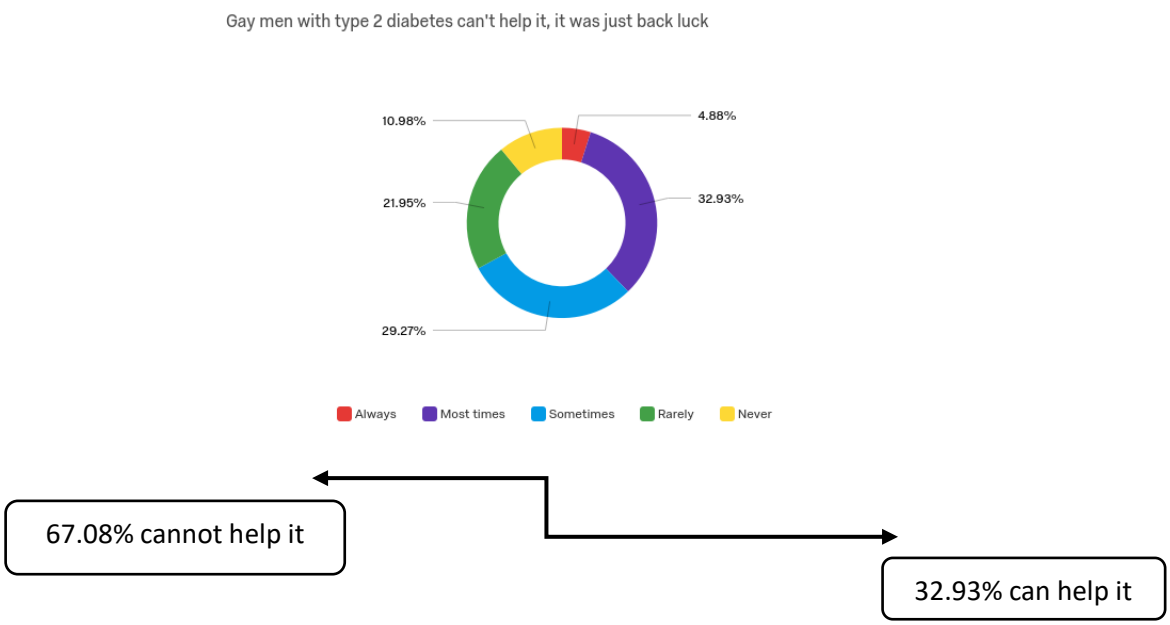


Figure 11 These are the responses of gay men without type 2 diabetes.

In Figure 12 below, 47.57% of gay men without type 2 diabetes (between most times to sometimes) believed that gay men with type 2 diabetes were lazy, again suggesting it was self-inflicted.

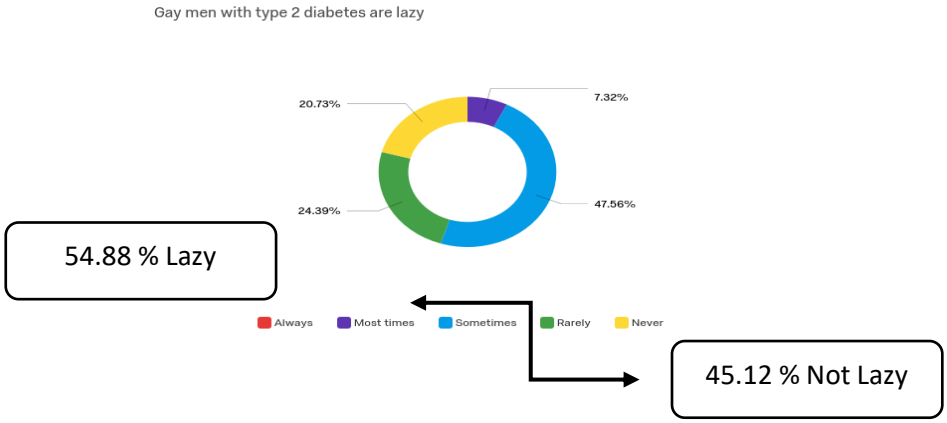


Figure 12 Responses of gay men without T2 diabetes regarding those with T2 diabetes and laziness

Finally, Figure 13 indicates that gay men without type 2 diabetes believed that gay men with type 2 diabetes had a character flaw, with 43.91% believing that they had no self-control (between sometimes to always).

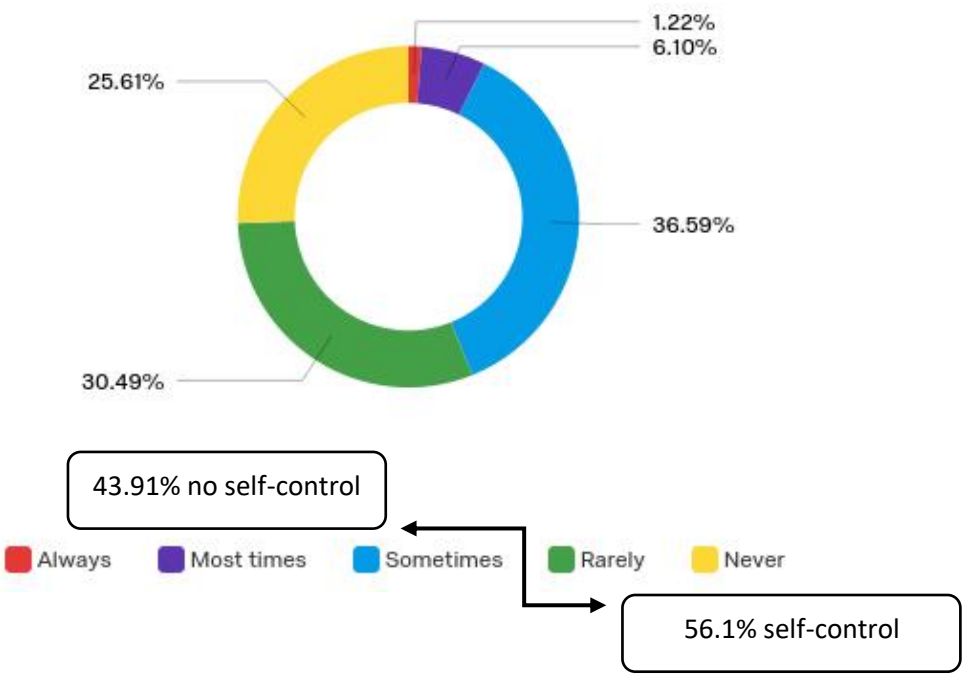


Figure 13 Responses of gay men without type 2 diabetes about self-control in gay men.

These results demonstrate that approximately 50% of gay men hold a negative attitude towards those with type 2 diabetes, making it difficult for them to ask for help. One Facebook quote reinforced this attitude: "Nothing to do with or any sort of sexual activities it is purely due to laziness" *(Facebook Quote, 2016).*

Diabetes is considered a stigmatising condition among gay men, compared to the general population, which believes diabetes is less stigmatising than illnesses such as mental health and HIV, which exposes those who have these conditions to accusations of character flaws (Schabert et al., 2013). These contrasting beliefs may stem from the tendency to see some conditions as relating to gay men and some as relating to straight men, which is problematic because resources follow these beliefs. Because HIV is considered a gay man's disease, many resources are directed toward gay men, but little is directed to straight men (Porter et al., 2017). There is a similar pattern with diabetes, where there is little educational material directed towards gay men, even in less controversial areas, such as the significant rates of type 2 diabetes in those with HIV. Therefore, stereotypes have become the driver of community health resource allocation, leaving gaps for people who do not fit into them. Cultural pigeonholing hurts not only gay men but straight men as well. This highlights the need for healthcare professionals to carefully develop educational

resources that directly address the cultural nuances within the gay community that address type 2 diabetes.

Gay men may not be able to find all their educational needs within the gay community due to cultural norms in particular subsections. For older gay men who grew up during the HIV epidemic of the1980s, it was frowned upon to discuss health because of the awkwardness it could create among those with HIV. One participant explained this etiquette:

> …it's an unwritten rule that we don't talk about others health situation and that came about because of HIV. I know of other members that are HIV but we don't discuss it and we don't mention anybody else's health and so I haven't said "hey guys, I've got diabetes" but it doesn't really worry me. (Participant 7)

Therefore, turning towards the gay community for health needs is not always a viable option or indeed a sustainable one. Information relevant to gay men should be easily accessible via general routes where people access health information about type 2 diabetes, i.e., hospitals, general practices, diabetes educators, endocrinologists, dieticians, and podiatrists just to name a few.

5. Rejection at Work

Rejection in the workplace can have tangible effects that impact the management of type 2 diabetes. It might be assumed that if gay men are being rejected at work, they will participate less in terms of employment status, such as full-time, part-time, or casual. However, Table 14 shows no difference compared to Australia's general community.

Table 14 compares the gay men with type 2 diabetes from this study with 2016 Australian Census data. It shows there were 38.2% of gay men with type 2 diabetes were not at work compared to 35.4% in the Census. Casual and part-time were combined in the 2016 census at 22% versus 16.8% of gay men with type 2 diabetes. There were 40.4% of gay men with type 2 diabetes in full-time work versus 37.3% from the 2016 Census.

Table 14 Employment status of gay men with T2 diabetes vs general Australian population

Employment Status			
	Gay men with type 2 diabetes		Census 2016
Not in work	34 (38.2%)	Health 8 Other 17 Carer 1 No interest 8	6,297,600 (35.4%)
Cannot find work	4 (4.5%)		4.40%
Casual	6 (6.7%)		
Part time	9 (10.1%)	16.80%	22%
Full time	36 (40.4%)		37.3%)
Total	89		17,768,892

(Australian Bureau of Statistics, 201; I.D.Consulting, 2016)

Therefore, while participation in the workforce did not differ from that of the general Australian population, they had significant experiences of rejection. Rejection resulted in an increase in stress related to bullying, reduced workplace opportunities, and loneliness related to not being out at work. The next section will further discuss rejection at work and the influence of education and income level on diabetes management and BED.

I. Social Connections

Having poor social connections and feeling rejected by peers in the workplace can be quite stressful for anyone, as workers spend a significant part of their day there. Bullying is one form of stress in the workforce that has been linked to type 2 diabetes and can be a substantial issue if allowed to persist (Xu et al., 2018). However, it is not just bullying but also workplace stress that has been associated with an increased risk of diabetes, prediabetes (Li et al., 2013), and reduced self-management (Weijman et al., 2005). Bullying because of one's sexual orientation is prevalent in Australian workplaces (ACON Health Limited, 2016; Hogg, 2016; Victorian Equal Opportunity & Human Rights Commission, 2019).

Bullying in the workplace has been associated with reduced self-care (Sauer & McCoy, 2016) and as being gay can be a cause of this bullying, self-care among gay men must be explored. Various national studies have noted that rates of bullying ranged from 6.8% to 15% (Chadwick & Travaglia, 2017, p. section 3.1; Potter et al., 2016), and satisfaction levels at 5.3 out of 7 or 75.7%. (Fair Work Commission, 2016, p. 46). However, the percentages of gay men in this study exceeded this, with 25% of those interviewed describing repetitive negative commentary at work and were consequently unhappy in the workplace. Participant three his experience of his work life as one of

being bullied, “the Journey basically is being bullied” (Participant 3). But whether this was due to homophobia, sensitivities, or personalities was unclear:

> Look, I don’t know to tell you the truth. I really don’t know but it was never brought up, that’s for sure. Whether it was something in the crevices of his mind, I don’t know. (Participant 3)

Hoel et al. (2022) noted in a UK study that gay men were bullied 1.34 times more than heterosexuals and were more likely if the person was not out as gay. As this participant reflected on his work-life before retirement: “But you know I’m afraid these things are much in the past to put up with that sort of nonsense to be bullied like that” (Participant 1).

The ‘pink ceiling’ describes problems gay people face in gaining senior positions and have been well documented, with UK research confirming this phenomenon (Aksoy et al., 2019). However, some gay men do reach senior positions in the workplace. Nevertheless, studies have shown they experience bad behaviour from their boss, such as unreasonable work expectations, unfair rosters, undermining of work, restrictions on their career, and sabotaging (Smith et al., 2013). Participant four worked in the motor industry as a services manager, which he found quite stressful because it felt like he, ‘… was fighting again the whole system’. Eventually ‘…[he] left, burnt out is the best way to describe it’ (Participant 4). A US study demonstrated that those in the workforce with prejudice towards gay men viewed them as less efficient, particularly if they had feminine like characteristics (Pellegrini et al., 2020). The current study did not directly ask about bullying, but 30% of participants indicated that their sexual orientation impacted on their opportunities at work, as shown in Figure 14 below.

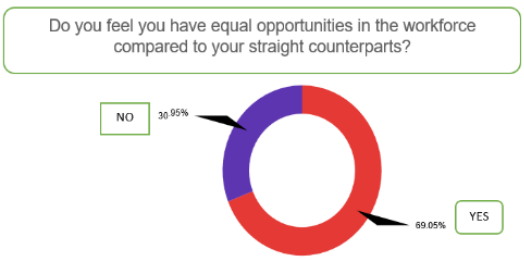


Figure 14 Survey response about equal opportunities in the workforce.

The added pressure of negative attitudes in the workplace caused one participant to start drinking to excess to cope with his work-related stress, which eventually led him to be terminated: “In the

interim I had a situation at work where I was relieved of my position because I was basically drinking myself to death" (Participant 2).

The workplace is a common location for making friends because of the length of time a person spends near other people (Back et al., 2008; Pellegrini et al., 2020). Schawbel's (2020) international study which included Australia, reported that 7% of people did not have friends at work, while 62% who had five or fewer friends at work often felt lonely. The negative effect of loneliness at work is well noted and believed to be increasing in the general community (Ozcelik & Barsade, 2018). Earlier research observed a link between a perceived lack of support at work, poor interpersonal relationships and increased diabetes risk scores (Wolff et al., 2018). The 'closet' is a factor that can undermine opportunities to make connections in the workplace and obtain support and has been associated with loneliness (Brennan, 2019). An Australian study reported that 74% of LGBT people believed being out at work was important, but only 32% were entirely out to colleagues and 63% partially out (Brown et al., 2018). Furthermore, the Work Connectivity Study revealed that 45% of LGBTQI participants were not out at work in Australia, that six in every ten experienced verbal homophobic abuse, two in ten experienced physical abuse, and one in ten experienced other types of homophobia (Schawbel, 2018). In the current study, one participant was pragmatic about revealing his sexual orientation in what he characterised as a toxic workplace, "I just don't see the point in making people feel uncomfortable when there's no point and purpose to it" (Participant 1). Conversely, another participant considered that the workplace was no place to reveal his sexual orientation and therefore was forced into the closet: "Very. It certainly wasn't a topic for discussion, that's for sure" (Participant 3).

He had learnt to suppress his sexual orientation, so opportunities for him to be his authentic self and gain support were limited. This lack of openness about his sexuality markedly contrasted with his youth when he had been an advocate for the lesbian, gay, bisexual, transgender and intersex rights movement. However, as he aged, this confidence diminished, causing him to reevaluate the need to come out at work, which contributed to his stress, the impact of which was only realised after he resigned and he started to notice changes in his physical health. Because his blood pressure normalised on retirement, he started to experience dizzy spells, which were related to blood pressure medication that was no longer required. Within this study, 65% took medication for blood pressure, slightly higher than for the general Australian population at 58.6% (ANDA-AQCA, 2017). In a US study, hypertension was noted at twice that of the general population in gay men (Patterson & Jabson, 2018). Another participant in the current study also blamed the toxic work environment for his blood pressure issues:

> Do I really need to keep taking these? [Referring to his blood pressure medication] Once I left that job and the toxic environment, what a surprise the blood pressure came back to where it should be. How amazing. Now who would have thought it? (Participant 1)

Being gay can be a unique factor that increases stress in the workplace due to negative commentary, the closet, and barriers that the pink ceiling creates despite greater educational achievements. Stress, in turn, can lead to excessive drinking, loneliness due to the closet (increased sense of lack of support, reduced interpersonal relationships, and increased risk of scores for diabetes), and hypertension secondary to stress. As work is a significant part of a person's life, rejection here, whether real or perceived, becomes a risk for BED.

II. Education

The benefits of education are well documented, but the high academic achievement of gay men has not translated into improved employment status or income that could help them manage diabetes. Gay men with type 2 diabetes are shown to have a higher level of education than the general population, which is more noticeable when looking at the graduate and post-graduate qualifications. Table 15 below compares the educational achievement of gay men with type 2 diabetes (this study), gay men in general (flax study), and CENSUS data.

Table 15 Education in general Australian population vs gay men with T2 diabetes

	This study 2016	Flax men 2016 (Clackett et al., 2018)	Australian Census 2016 (Australian Bureau of Statistics, 2017)
	Gay men	Gay men	General population
Less than year 12 high school	22%	10.3%	23.8%
Completed high school (year 12)	8%	22.6%	15.7%
Trade certificate/ Cert/ Diploma	26%	14.4%	24.6%
Undergraduate degree	20%	31.0%	22%
Postgraduate degree	24% 44%	21.4% 52.4%	22%
Other		0.3%	
No stated			10.4
No education			0.8

In general, higher levels of education equate to better employment and higher earnings (Australian Institute of Health and Welfare, 2021a).

Many studies have shown that educational level can benefit the management of type 2 diabetes (Adams & Boutwell, 2020; Amer et al., 2018; de Miguel-Infante et al., 2019; Sacerdote et al., 2012; Silveira et al., 2020; Steele et al., 2017; Wu et al., 2018), particularly in high-income countries (Cao & Cui, 2020; Seiglie et al., 2020), because educational achievement has been associated with improved responsiveness to diabetes education (Kim, 2016). There are lower rates of diabetes in gay men within Australia, with 3% in Victoria and 3.3% nationally among gay men (Hill et al., 2020) versus 6% generally among the Australian population (Health & Welfare, 2019). However, in those that do have diabetes there is no improvement in terms of complication rate, despite their higher educational achievement. Table 16 below shows ANDA 2017 data on complication rates in Australia (calculated by combining the last 12-month rate with the prior to 12-month rate) and compares them to the rates of complication in gay men with type 2 diabetes.

Table 16 Complication comparison between ANDA 2017 and gay men with T2 diabetes

	ANDA 2017	Gay men and type 2 diabetes
Heart Attack	11.7	9.6 of participants
Stroke	6.3	2.4
Funny sensation in the feet	39	41
Peripheral Vascular Disease	16	16.9
Erectile Dysfunction	47.2	45.8
Cancer	7	3.6
No complications		9 out of 83 participants

Therefore, it can be said that educational achievement does not have the same impact on diabetes management among gay men as compared to the general Australian population.

III. Income

The results in Figure 15 below demonstrate that a significant number of gay men in this study with type 2 diabetes receive an income consistent with being under the poverty line. There is a common perception that gay men have a high disposable income, that is, double income with no children, which has become known as the pink dollar, but this has been widely rejected (Davis, 2005). An Australian study found that gay men often chose jobs where they were less likely to experience discrimination, but these tended to be in lower-paid professions (Plug et al., 2014). In 2018, 13.2% of the general population in Australia was living below the poverty line. However, poverty line calculation is complex and varies across Australia, with $426 per week for a single person calculated in a 2016 report based on 2014 figures (Australian Council of Social Service, 2016). The calculation of poverty was based on fifty per cent of the medium income (Australian Council of

Social Service, 2016). In Figure 15 below, the far-right blue arrow highlights where the poverty line of $426 would fall, between $400-599, which represents 39% (N=32) that could be living below the poverty line. The middle arrow pointing to $300-399 reveals a total number of 22 gay men with type 2 diabetes at and below this point, representing 26.8% of the survey sample. The far-left blue arrow pointing at $200-299 has 17 gay men with type 2 diabetes representing 20.7% at and below this point. The percentage of gay men living at or below the poverty line (being conservative at 26.8%) exceeds that of the general population in Australia at 13.2%. These results do not support Stupplebeen et al.'s (2019) assertion (at least in gay men with type 2 diabetes) that gay men have a higher income but are consistent with Sabia et al.'s (2017) Australian study that reported a 16% to 21% reduction in income among gay men compared to heterosexual men.

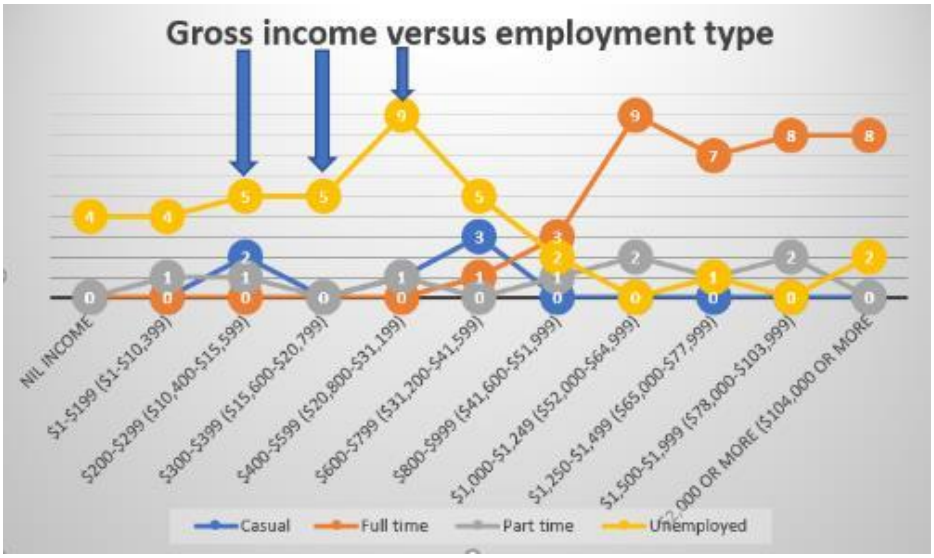


Figure 15 Wage brackets matched against employment type

For this group, being gay has had an impact on their wages, a vital resource used to manage diabetes. Poverty and household food security are associated with binge eating disorders (Dinca-Panaitescu et al., 2012; Hay et al., 2017; Hazzard et al., 2020; Rasmusson et al., 2019), and research demonstrates that the incidence of type 2 diabetes is higher among those with lower incomes (Mousavi et al., 2021). Moreover, in the current study, 26% said that their financial position had affected their ability to manage diabetes. Therefore, their sexual orientation has become a point of difference that has shaped their journey with diabetes.

6. Church rejection

The church is known to positively impact diabetes and binge eating disorders, but churches that hold negative attitudes toward gay men can undermine any benefits for them in support for diabetes management. The fact that many gay men have rejected religion means they cannot tap into this

as a potential resource. Fincham et al. (2018) noted that people with a religion displayed religious coping strategies that negatively influenced people's views of their diabetes and encouraged them to engage in behaviours that were not helpful for type 2 diabetes management (diet, activity, monitoring and medication use) (Salehi et al., 2012). Religion can also influence a person's thinking around diabetes because it can be interpreted as a punishment from their deity, resulting in poor management. However, it was also true that religion could instil positive views of their diabetes that encourage them to engage in helpful behaviours (Amadi et al., 2016; How et al., 2011; Sridhar, 2013; Watkins et al., 2013; Yazla et al., 2018). Thus, the experience for gay men can vary significantly, and this will be explored below by discussing the benefits the church provides that may be useful for a person with diabetes, being worn down over time by non-gay affirming churches, gay men identifying less with religion, religion blunting the effect of eating disorders, lack of representation, and bullying by the church.

The church can provide significant support for people of faith because it can form part of a broader support network that people with diabetes can draw on (Roger & Hatala, 2018). McCrindle et al.'s (2017, pp. 31, 39, 40, 42) Australian study found that the church was considered a resource when people required physical and emotional support. In Roger and Hatala's (2018) study, people were asked to rate the church's degree of service and inclusiveness for people with a disability: 31% indicated that it was excellent, 41% adequate, 3% inadequate, and 25% were unsure. Likewise, 48% rated mental health support as excellent, 7% as poor to very poor and 46% as unaware (NCLS Research, 2016). Despite the significant support that the church can provide, this can disappear if one decides to come out as gay in a non-gay-affirming church and leave the church. In the current study the following participant lamented his decision to leave the church and noted the gap it had left in his life; that is, its ability to provide emotional support:

> I think there is a lot to be said for the coming together of people, the communing that happens is something that resonates with me and not having been in that sort of environment for a long time, I think that has left a gap. (Participant 4)

While noting the limitations for gay men in the church, another participant conceded that he felt envious of the emotional support it could provide in times of need:

> I've always found religion to be very limiting … [so] I find that hard to accept … I am … quite envious of people who believe in a religion and faith and get some comfort from it especially in times of crisis like death, it would be really nice to have some sort of extra support. (Participant 10)

While some gay men can navigate the dissonance by affiliating with gay-affirming churches and reinterpreting anti-gay scriptures (Maluleke, 2019), others in non-gay-affirming churches may struggle as they get worn down over time. Sustained anti-gay rhetoric by leaders and congregation means that some gay men reach a point where they are unable to make sense of the contradictions and leave the church. The below participant had abandoned the church as a young person and shared his negative views:

> They've changed things to suit themselves but not to suit everything and also, I can remember growing up [thinking] how hypocritical a lot of people were. They would do all the things that the bible said not to, but then they'd go to church and pretend they were lovely, nice people then go back and hit their wives or hit the kids and whatever and swear and steal and do all those big 'sin' sort of things. (Participant 10)

Another participant said that he left the church because he was constantly reminded of being unwelcome by the use of anti-gay rhetoric:

> Well, I've been brought up Catholic, not that I really go to church …, what [Does] religion tells you. Even though it doesn't play as big a part in society as it has in previous generations, it is still out there promoting anti-gay stuff…, so I don't have anything to do with it anymore. (Participant 6)

Some try to change hearts and minds in non-gay affirming churches by advocating for change but get put back in their place by elders:

> …it got reinforced to me when I was coming out and trying to be as honest as I could about the whole thing, the idea was that you couldn't be a good little Mormon boy and be a homosexual. (Participant 9)

Because of this rejection, many gay men no longer identify with a religion. Table 17 below compares Australian data from the Australian Bureau of Statistics with the top four responses by gay men in this study, which demonstrates the significant difference between the two groups. Gay men with type 2 diabetes showed a 21.6% higher prevalence of having no religion,

Table 17 Comparing religious denominations from gay men with type 2 diabetes study to the general Australian population

Religion	This study	Count	ABS 2016	Difference
No religion	51.2%	41	29.6%	21.6%
Catholic	15.1%	13	22.6%	-7.5
Anglican	10.5%	8	13.7%	-3.2
Uniting Church	3.5%	3	3.7%	-0.2

The large percentage of gay men that do not identify with a religion (51.2%) represents a 21.6% difference from the general Australian population, and therefore these men do not have access to the practical support required for their diabetes. For example, Ayton et al. (2016) found that the church in Victoria, Australia provided support in disease screening and health education, while other churches offered pastoral care, which included visiting the sick, grief counselling, and providing financial support (Pleizier et al., 2022) and social capital (Francis & Lankshear, 2021) which has been associated with positive health outcomes (Xue et al., 2020).

For gay men that remain in non-gay-affirming churches, the positive effects noted in research, such as reduced eating disorders, can be blunted. Research indicates that those engaged with their religion and its activities, known as religiosity, have fewer eating disorders (Abramowitz et al., 2020; Akrawi et al., 2015). However, for gay men, participating in a non-gay-affirming church only serves to promote internalized homophobia (Barnes & Meyer, 2012; Kristeller & Jordan, 2018; Parker & Harriger, 2020; Stern & Wright, 2018), and increases the risk of eating and mental disorders (Barnes & Meyer, 2012). But within this current study, participants involved in religion did not show any change in eating disorder risk; that is, its effect was stifled or blunted. According to a chi-square test, there was no significant association between having possible BED (score above 12) or no BED (score of 12 and below) and religion versus no religion (Table 18).

Table 18 Chi-square statistics comparing religion with possible BED (score above 12)

	Score above 12	Score 12 + below	Marginal Row Totals
No Religion	16 (15.04) [0.06]	26 (26.96) [0.03]	42
Religion	13 (13.96) [0.07]	26 (25.04) [0.04]	39
Marginal Column Totals	29	52	81 (Grand Total)

The chi-square statistic is 0.1995. The p-value is .655119. This result is not significant at $p < .05$.

The chi-square statistic with Yates correction is 0.0461. The p-value is .829969. Not significant at $p < .05$.

Therefore, contrary to previous studies demonstrating a link between a positive impact on binge eating disorders and religion, the chi-square test did not show a significant association at P< .05.

In some churches, gay men are accepted, but the language used in the service is not adjusted to reflect acceptance. The following gay man on social media talked about his same relationship not being represented:

> I was a[t a] lovely church service on the weekend where everyone was very welcoming and the minister was very lovely to chat to. However. The entire service was on the role of the husband and wife in marriage. So, being in a husband husband relationship where do I stand? (Facebook, 2016)

However, for some, their church fully accepts them, and as a result, they continue to enjoy the privileges it provides, with "family, commitment … service and community" (Participant 9), and a sense of purpose:

> Look, I'm a part time supporter. I go occasionally. I do a bit of work for the church. I do volunteer, the Bingo I call is for the church. (Participant 2)

While research has noted the prevalence of people being bullied because of their faith (Nelson et al., 2012; Wyn et al., 2018), much less attention has been paid to bullying perpetrated by people of faith toward gay people. A Canadian study of homophobic bullying noted that religion was a significant reason for bullying, with themes of 'sin' and conversion' permeating its discourse and that bullying stemming from people of religious faith was not just pervasive in places of worship but also in schools and the home (Newman et al., 2018). Such bullying was more likely to be overlooked by church leaders, allowing it to flourish. The effects of this bullying can be felt for years. One participant tried to live as an openly gay man within the church, but some rejected him. He

experienced "… blackmailing, [and] backstabbing from a member of the congregation, which ultimately led to him leaving the church". He reflected that:

> … it still hurts. I don't think about it a lot but it's always there at the back of my mind because I was brought up in the church and saw the Methodist church become a part of the Uniting church and done the Sunday school thing, youth group, and youth leader, worship leader, song leader – real intense participation in church life. (Participant 4)

Many religious people, in response to the advertising of this study on social media, wrote negative bullying comments about gay men. The following social media post focused on lifestyle, which suggested that being gay was behavioural rather than an innate characteristic of the person. His entire post was in capital letters, often used to indicate shouting:

> IT'S BECOMING COMMON KNOWLEDGE THAT PEOPLE WHO LIVE THIS KINDA LIVE STYLE DON'T LIVE AS LONG AS THOSE THAT CHOSE GODS WAY (Social Media Quote)

Another post took the opportunity to express strong opposition to gay people:

> You have taken the rainbow, God's promise that he wouldn't not destroy the earth again with a flood, and you have adopted it as your own. Shame, shame, shame. (Social Media Post, 2016)

Religious groups in Australia are becoming politically active in Australia, which can profoundly affect public discourse that stirs anti-LGBTQIA+ sentiment and filters into every part of people's lives, such as the family home, work, and social spheres. Public debate on the rights of LGBTI people reached a crescendo in 2015 when the then-Australian Prime Minister suggested a plebiscite to determine if same-sex couples could marry (Carson et al., 2018). Having a religion was strongly associated with a 'no' vote (Perales et al., 2018). Verrelli et al. (2019) surveyed 1305 people from around Australia during the 2017 postal survey and noted the negative psychological impacts on LGBTI+ people throughout the public debates, which harmed gay men and drove some further into the closet. The following participant reported a similar experience when his church publicly debated the rights of LGBTQIA+ people in the church many years before the plebiscite, which had the result in keeping gay people hidden:

> Quite a lot of gay folk remained underground as a result of the discussion. There were pockets of support that were quite visible. But they were only pockets. It was the vocal anti minority that got all the attention. (Participant 4)

For some, the anxiety of rejection came from inbuilt processes in the church. For example, because this participant was not married by the age of 30 in the Mormon church, he was disengaged by his church elders, which forced him to consider whether to come out or pursue a sham marriage:

> … the church changes its focus for you if you are still single, … 30 …[and] someone that they want to see go somewhere … [I] found myself being disengaged from projects and programs that I was very involved with and … told to focus on finding a wife. (Participant 9)

Therefore, rejection from the church (non-gay affirming) can be a source of significant stress for those who have grown up in the church while in the closet due to internalised homophobia (self-hatred). Similarly, the act of coming out as gay within the church can also be stressful due to bullying and attempts at gay conversion. A deep sense of loss can be felt as they lose the physical and psychological support, they once had that can last for years.

7. Family rejection

Rejection by the family for being gay is still commonplace in Australia, meaning that gay men lack family support which increases the risk of binge eating disorder. Having the support of family has been shown to protect against BED (Tabler et al., 2021). There is no Australian data on the estrangement of gay men from their families. However, a US report it was noted that 39% of LGBT people indicated they had been rejected by friends and family (Pew Research Centre, 2013). Agllias's (2018) Australian study found that participants estranged from family regretted not having access to family resources such as physical and emotional support in times of need. While not all family dynamics are conducive to optimal diabetes management (Dalton & Matteis, 2014; Mayberry et al., 2015), many are, as demonstrated by the plethora of studies in this area (Dalton & Matteis, 2014; Gunn et al., 2012; Pamungkas et al., 2017). Family rejection because of their sexual orientation was a common theme among some gay men (Sigsworth, 2015). The remainder of this chapter will discuss the large number of gay men rejected by their families, the impact of politics on them, the lack of support for insulin initiation, internalised homophobia, the closet, and navigating alternative networks.

Five out of the twelve or 42% of interviewed gay men with type 2 diabetes had a breakdown in their relationship with biological family members, which meant they could not be relied on as a source of support; for example, for insulin usage, which concurs with other research (Sharma et al., 2020). In the previous chapter, it was noted that gay men used less insulin when compared to the general population, 28.92% among gay men as compared to 57.4% in the general population, or 28.48% less usage. This participant described how he was not close to his family, “A couple of cousins but I mean I haven’t heard from them in years. I assume they are still alive we were never really a close family fortunately”. (Participant 1)

With right and left agendas dominating the Australian landscape, politics can be one reason why families break up. Topics related to sexual orientation are prominent in the current discourse; for example., marriage equality and religious freedom (Cameron & McAllister, 2019; S. Ecker et al., 2019c). Politics in relation to family elicited a strong response from the following participant. “No, I’ve got no family member. Both my parents are dead, and I wouldn’t talk to my brother in a million years because he’s an absolute right-wing fascist”. (Participant 7)

An Italian study found that rejection by family members when they came out as gay was more common when the family was right-wing, conservative, and religious (Baiocco et al., 2015). This combination of religion, conservatism and right-wing ideology was common during the Australian marriage equality debate (Anderson et al., 2017).

A UK study of homeless youth found that 24% of participants identified as LGBT, and of those, 69% experienced family rejection, abuse, and violence, with 45% coming from religious families (Sigsworth, 2015). In the current study, this participant described how his partner was rejected by his Muslim parents because he was gay.

> Yes, I would pretty much have to be [next of kin] because his parents . . . he has got no contact with his family at all. None whatsoever. His family are Muslims and him being gay, that’s a “no no” and the fact that he doesn’t want to be a Muslim also a no no. And as he says, until they come to terms with how he is, that’s that. (Participant 3)

Family members that have issues with gay relatives can unknowingly affect their mental health, leading to internalised homophobia and remaining closeted. Gay men who experience internal homophobia are more susceptible to wanting to change their sexual orientation, which has been associated with psychological harm, including eating disorders (Alempijevic et al., 2020). Australian

research estimates that one in ten LGBTQA+ are susceptible to attempts to alter their sexual orientation to avert this rejection (Jones et al., 2021). The importance of family can cause gay men to question their decision to come out because of what they may lose in terms of support and, therefore, the impact on their mental health.

While family rejection can reduce significant support, some have navigated alternative networks and re-established support that can be accessed in times of need:

> I've been lucky enough in my last to relationship to have inherited family from them so from my ex from Camperdown I still call his mother Mum, she's far more maternal towards me than my own mother ever was. All of his siblings and their kids. We are all fairly close. His youngest brother has three boys. They all still call me Uncle.... (Participant 9)

The notion that family would discard them is foreign for many people but commonplace in the gay community. Therefore, rejection by family or relational issues becomes another source of risk for binge eating disorder (Erriu et al., 2020; Grogan et al., 2020). In this way, the loss of family due to being gay is a unique feature that alters their journey with diabetes and can lead to them navigating alternative support networks among friends. Support will be examined more closely in the next chapter.

8. Activity levels and BED

Exercise can help diabetes by reducing binge episodes in someone with a binge eating disorder and assisting with weight loss, but it is compromised due to homophobia (Blanchet et al., 2018; Galasso et al., 2020). Homophobia in sports is a well-known phenomenon that can reduce team sport participation and is particularly harsh on males, with participation rates in Canada at 32.8% versus 67.6% for the general population (Denison et al., 2021). In the current study, approximately 40% felt some degree of homophobia in sports; see Figure 16 below. Exercise is instrumental in the successful management of type 2 diabetes because it reduces insulin resistance, the key mechanism of type 2 diabetes (Leite et al., 2009; Scherrenberg & Dendale, 2019), and builds muscle mass which reduces glucose disposal (Sugimoto et al., 2019). Exercise is also known to have a greater impact on the management of diabetes than some medications (Kirwan et al., 2017; Paley & Johnson, 2018; Shah et al., 2021).

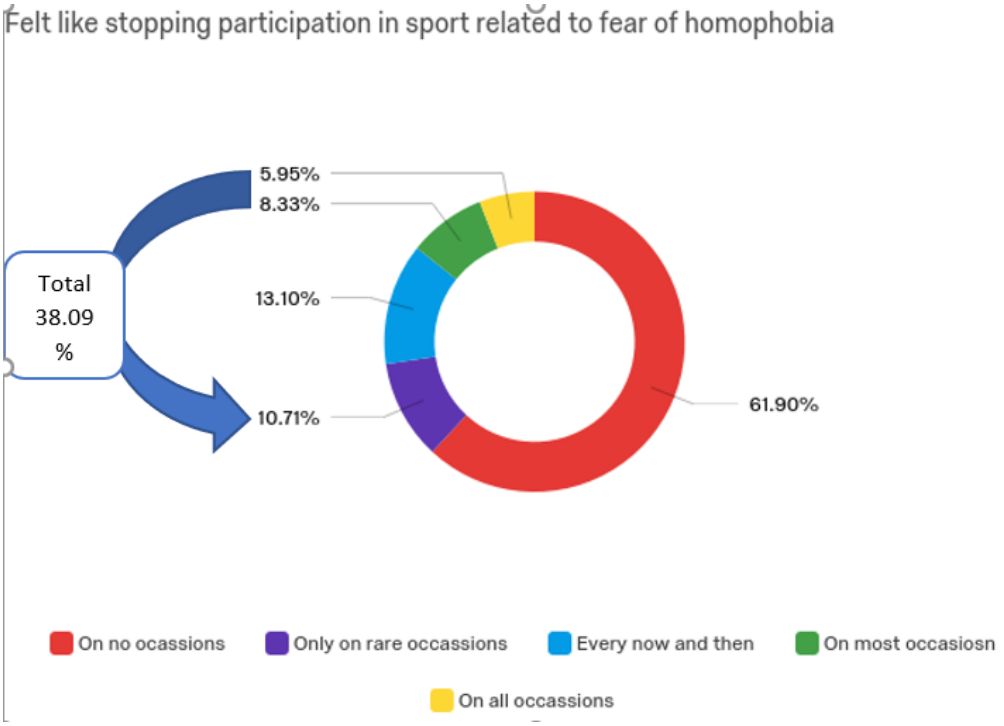


Figure 16 Gay men with T2 wanted to stop participation in sport-related to homophobia.

This result reflects the negative experiences of many young same-sex and gender-diverse youth in Australia, which is of concern because exercise in youth sets up healthy habits in older age (Storr et al., 2020). Herrick and Duncan's (2018) Canadian study found that the spaces in which many gay men exercise were considered unsafe because they were permeated with toxic masculinity, which intimidated participants. Some talked about experiences of bullying in their youth, which influenced their decision to participate in exercise later in life (Symons et al., 2014), but low levels of exercise in younger years also impact exercise later in life (Haynes et al., 2021; Telama et al., 2005). Homophobia in sports is a unique experience for gay men that changes the journey of someone managing type 2 diabetes and requires unique interventions to address the anxiety it creates.

9. Conclusion

While gay men's journey with type 2 diabetes includes consultations and getting support for management (to be discussed in the next chapter), it also encompasses rejection due to being gay that permeates every part of their life. However, rejection is invisible and is therefore often ignored or justified, even by gay men themselves. The chapter examined the different parts of gay men's life where they experience rejection – the gay community, work, church, and family – because it has been associated with BED. In each of these areas, it then examined rejection and how it related to both binge eating disorder and diabetes. These experiences are unique to gay men and arise

from simply being gay. The chapter highlighted that the experience of homophobia is not necessarily direct but can arise from sensitivities, past experiences, internalised homophobia, and biases making it an almost invisible phenomenon but nonetheless impactful. Because the experience of rejection is unique, its impact on any one individual can be difficult to understand and to develop strategies to mitigate its effect on the management of diabetes.

Chapter six– results - support

1. Introduction

For many, type 2 diabetes is a progressive illness, increasing the need to interact with healthcare services over time. It is a rising, unrelenting and intrusive health condition that requires people to consider and perform multiple tasks to reduce its impact on short-term and long-term health. Its management necessitates a willingness, motivation, and tenacity to keep it up, and at times people may fall short; this is where support from significant others can be helpful. Research has shown that a person's social milieu is a reliable indicator of their preparedness for a lifestyle change, so understanding this can help diabetes educators know where to provide support (Rad et al., 2013; Strain et al., 2014). As support for gay men within the context of diabetes has not been previously explored, it is unclear if sexual orientation brings any new perspective that may require the diabetes educator to change their approach.

A support person is included in sick-day management plans and is recognised as important by all peak bodies in diabetes (Australian Diabetes Educators Association, 2015; Diabetes Australia, 2020; The Royal Australian College of General Practitioners 2016-2018, 2016). Sick-day management plans advise on what changes need to occur during a health crisis, thereby promoting action in those who might have otherwise become immobilised. The support may include driving them to hospital or appointments, emotional support, organizing food when they are unwell, and motivating them to test their glucose more frequently. A support person can often pick a hypoglycaemic event before the person with diabetes recognises it due to changes in behaviour (Childs et al., 2005).

Family is extensively referred to in the literature, formally recognised in the National Diabetes Nursing Education Framework document (Australian Diabetes Educators Association, 2020), and in 2019 became the theme for World Diabetes Day (International Diabetes Federation, 2020). However, for some, especially gay men, support must be obtained elsewhere due to tensions in the family. This section therefore explores variables that may be more prevalent in gay men with type 2 diabetes or unique to this group.

2. Support networks

The extra tasks that diabetes imposes on people, peppered with unpredictable events such as hypoglycaemia, make this condition challenging and, at times, overwhelming. Informal support can reduce the burden of diabetes, with biological family members predominantly offering this support

(Baxter, 2016; Miller & Dimatteo, 2013). However, for gay men, the dynamics of support have shifted due to family tensions, so they are more likely to get help from partners and friends (Perales et al., 2020). But gay men previously married to a woman appear to prefer biological family. The following will discuss the preference of gay men in who they choose as support and the impact of previously being married to a woman, including the role of women and marriage in this dynamic.

Gay men who have not been previously married are more likely to choose a partner or friend rather than biological family for support. In Figure 17 below, the pie chart from the online survey shows that 42.68% of participants gained support from their partner while 8.54% from their biological family, demonstrating the shift in who gay men turn to for help.

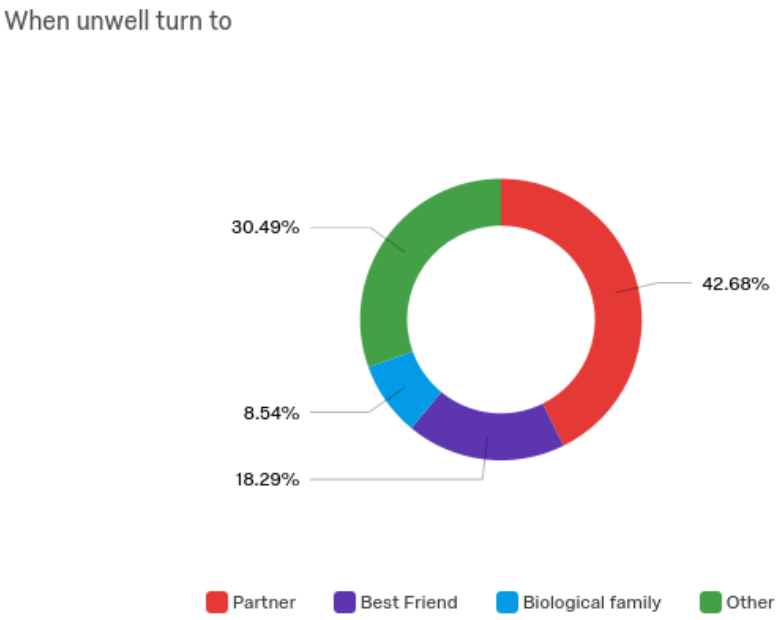


Figure 17 Who gay men with type 2 diabetes turn to when unwell.

There are many reasons for this shift from biological family to other sources, such as friends for support. Family tensions due to religion, the sexualisation of gay men, and politics were common reasons discussed in chapter five.

The shame of their diagnosis of type 2 diabetes may be a substantial reason for not seeking support among those who chose 'other'. A significant subsection of 30.49% from this sample of gay men with type 2 diabetes chose "other", of which the most frequent comment next to this was "no one". Therefore, they did not turn to their biological family, partner, or friends for support. This participant talked about shame among his friends due to his diagnosis of type 2 diabetes: "I get a sense there's a stigma to talk about it in the community because it's implied that's an . . . and this has been suggested to me a couple of times, that it's self-inflicted. 'So, you've got type 2 Diabetes, well that's

just your own fault.'" This comment aligns with the participants' nines comments that were presented in chapter five, talking about stigma in the gay community. Stigma may also stop them from seeking support in other places, such as diabetes-related programs. Stigma is an important consideration because, in a study by Winkley et al. (2015), 17% of respondents (not necessarily gay) decided not to engage in a diabetes program DESMOND because of shame.

A sub-group of gay men – those previously married to women – preferred the support of biological family members, which contrasted those never married to a woman who preferred partners and friends. Participants two, three and five in the current study who were previously married to a woman had a higher preference for biological family members such as siblings and children. One had an excellent social network of friends but described his son as his "closest confidant" and said, "he is the ICE [in case of emergency] contact on my phone…" (Participant 2). Another chose his son despite acknowledging that he can be immature at times: 'he is 30 in January, so he's an adult. Sometimes I wonder but most of the time he is an adult' (Participant 2). His choice suggests that biological families are more important than other forms of support. However, one participant chose his sister because his gay partner lacked maturity and may not take his health concerns seriously:

> I just feel more comfortable with my sister being the contact person. That's really all I can say. He can be a little bit flippant and off hand with things, so I don't know that if anything serious happened that he would treat it as necessarily as seriously as he should. (Participant 3)

Similarly, another chose his daughter because of his gay partner's lack of support when it came to food:

> He isn't very supportive when it comes to eating. He doesn't cook. So, I have to do the cooking but if I'm lazy, he likes his takeaway a lot so I tend to eat more unhealthy than I should so that's a bit of a problem. (Participant 5)

Consequently,

> Um, it might offend the kids. You see he is only young [Referring to boyfriend] so it would be my eldest daughter. We've been together just over three years [referring to his current partner]. (Participant 5)

But his reasoning was not sound as his daughter was younger than his boyfriend, suggesting there were alternative explanations for the choice. Studies have shown that in determining if someone is trustworthy, they will look to see if the person resembles someone they have previously trusted,

the prospect of future successful interactions, and the broader social context (FeldmanHall et al., 2018; Schilke et al., 2021). Therefore, a possible explanation to clarify these preferences by gay men previously married to women may lie in stereotypes they have formed over their lifetime by what they have seen represented in the media. Likewise, gay men who were previously married to a women might have internalised beliefs that gay men's relationships are unstable (Perales et al., 2020; Philpot et al., 2018). A USA study found that while gay men had the same life desires as straight people, their expectations of achieving them were significantly lowered; for example, a lowered expectation of having a permanent relationship through marriage (Tate & Patterson, 2019). Interestingly, an Australian study found that 59% of gay men believed they would grow old alone (Hughes, 2009), supported by other small-scale Australian studies (Eres et al., 2021; Hughes & Robinson, 2018). Previously married men appeared to have developed views that women symbolise caring, which are commensurate with those of the general Australian population (Economics Deloitte Access, 2020). The issue of women as primary caregivers has been hotly debated and some argue that it is primarily socially constructed rather than biological (Bick et al., 2013; Gustafsson et al., 2013). Thus, trustworthiness is shaped by past experiences and broader social beliefs about gay relationships and the role of women.

In the present study, part of women's caring role was their ability to coerce their husbands to have healthcare. However, as the gay men did not have a wife, this was viewed as a disadvantage. One commented that "Straight men have probably got it easier because women do the cooking, and they make sure that 'he' eats right" (Participant 5). He therefore found adjusting to heterosexual divorce difficult, especially when taking control of diabetes: "…I know I should control my eating more, but sometimes it's just really hard to do" (Participant 5), suggesting that he lamented the absence of a wife who could take care of some of the extra task's diabetes has imposed on him. Another participant talked about how his wife motivated him to seek help for his diabetes:

> We went to see 'A Christmas Carol' and it was something like 5 times before interval, I left the theatre to go to the toilet and the usher wouldn't let me go back to my seat I had to sit at the back of the theatre because I couldn't disturb the patrons and I could understand that, and my wife said "This isn't right. There's something horribly wrong. We need to get this." So, I went to the doctor and discovered that I had Type 1 Diabetes. (Participant 2)

Reczek et al. (2018) identified a similar pattern, where the women would encourage their husbands to seek healthcare which can be an advantage because individuals with diabetes can

underestimate the risks complications pose and become a factor in clinical inertia (Rouyard et al., 2017). Clinical inertia is defined as a delay in the intensification of treatment in diabetes and associated problems when clinically indicated due to both doctor and patient factors (Giugliano et al., 2019; Khunti et al., 2013; Reach et al., 2017). Australian men display low help-seeking behaviour, sometimes expressed in the idiom; “she'll be right” (Fish et al., 2019; Schlichthorst et al., 2016). Therefore, participant two’s wife modified her husband's perceptions of risk and got him to seek help, as reported in other studies (Handelsman & Jellinger, 2011). Although it is important to note that male-to-male relationships are not necessarily devoid of support, in heterosexual relationships a more coercive approach is applied (Reczek et al., 2018). Given that gay men are not in a relationship with a woman, this changes how support is received between gay and straight people.

Some have argued that it is not just gender but marriage itself that creates this coercive influence. For example, participant twelve was in a very supportive relationship where his husband from an overseas marriage would encourage him to seek healthcare: “If I reach for something to eat that I should not be eating, [husband] will just give me a look, and that’s usually enough to say “ok, great, thanks for the reminder”. As evident here, marriage is thought to create a stronger bond and a perception that this relationship is forever and can motivate the partner to provide more support and care beyond cohabitation (Liu et al., 2016; Reczek et al., 2018; Tuller, 2017). With so many variables at play, it is difficult to determine if the act of marriage has a health benefit. Still, there is evidence that it can reduce inpatient stays, admission to skilled nursing facilities, and to a lesser degree, mortality (Pandey et al., 2019). However, it is vital to note that most gay men are not married because it has only been recently introduced in Australia. Only one of the twelve gay men in this study was married. As of 2020, 3.7% of all marriages were same-sex, and 5.9% of all same-sex relationships recorded by the Australian Bureau of Statistics were married, contrasting with 24.1% in the general population (Australian Bureau of Statistics, 2020/2021). Thus, marriage rather than cohabitation has the potential to provide increased support in a gay person’s journey with diabetes. But as rates of same-sex marriage are a quarter of that of the general population, there is still a long way to go.

For gay men, there has been a shift in who they choose as support, that being friends and partners, compared to straight people, where biological family is more important for many. For many gay men, views of support have been shattered by family conflict. However, all three gay men in this study who were previously married to a woman chose people to whom they had biological ties, as in sisters and children. One might surmise that their decision is related to entrenched societal

beliefs about the value of the biological family and the instability of gay relationships. Another assumption in Australian society is that women act as carers who have coercive powers to encourage their partners to seek support for health issues. Moreover, marriage may strengthen ties between partners that foster a feeling of needing to provide support. These factors shape the story of what care looks like for gay men and distinguish it from the general population's journey with type 2 diabetes.

3. Being alone and stress

Five of the twelve gay men (42%) with diabetes interviewed in this study lived alone, twice that of the general Australian community, which has implications for how they manage their diabetes. Gay men are overrepresented among people that live alone in Australia (Hall & Partners, 2014), which may be as high as 20% above Australian men. In 2016 24.4% of Australians were living alone, and 10.98% of those were men (Australian Bureau of Statistics, 2017). Similar results were seen in the 2011 census, with 13% of men living alone. However, among gay men, the rates are higher, with almost half of the participants (42%) interviewed in this study living alone. Leonard et al. (2012) noted similar rates for gay men living alone in Australia: between ages 40 – 49 it was 30%, 50 – 59 it was 38% and above 60 was 44%. Hughes (2015) replicated these findings a few years later, and found that 40.4% of lesbian, gay, bisexual, transgender and intersex in New South Wales, Australia, lived alone. This 20% difference exposes gay men to a vulnerability that may affect diabetes management.

Gay men living alone had more characteristics that had the potential to disrupt a successful journey with diabetes. Living alone can be problematic for a person with type 2 diabetes as it has been associated with loneliness, being single, higher psychological stress as assessed by the Kessler 10 instrument, lower mental health as determined by SF-12 Hughes (2015), and lowered sense of belongingness (McLaren, 2020). An Australian study of those living alone by De Vaus and Qu (2015) reported increased rates of smoking and drinking, a lower sense of social support, increased loneliness and boredom, and more likelihood that they would rate their health as poor. A UK study found that when comparing gay and straight men living alone and/ or being single, gay men experienced more anxieties around social environments that were heteronormative and ageism in the gay community (Willis et al., 2022). Table 19 displays the characteristics of each participant interviewed and then compares the characteristics of those living alone with those who live in shared accommodation. It shows that there is a higher percentage for most items for those living alone that have been associated with worse outcomes: a 25.7% higher percentage of problematic drinking, a 51.4% higher probability of being single, a 45.7% increased risk of being obese, and a

2.7% increased risk of having problems with blood glucose levels within range and visiting a doctor less frequently. However, in contrast, there was a decrease of 22.9% risk of having criteria for binge eating disorder.

Table 19 Living alone vs shared accommodation

	Problematic drinking	Living situation	Single	Obesity	Blood sugar prob (2 or more issues)	Visit Dr per year	Criteria for BED
1	No	Live Alone	Single			2	
2	No		Single			4	Yes
3	Yes				Yes	Monthly	
4	No			Obesity	Yes	4	
5	N0					4	
6	No	Live Alone	Single	Obesity	Nil done	1	
7	Yes	Live Alone	Single	Morbid		2	Yes
8	N0				Yes	4	Yes
9	Past		Single		Yes	Monthly	
10	No	Live Alone	Single	Obesity	Yes	Monthly	
11	Yes	Live Alone			Nil done	4	
12	Past					2	Yes

	Problematic drinking	Single	Obesity	BGL prob (2 or more issues)	Visit Dr per year	Criteria for BED
Living alone (5)	2/5 40%	4/5 80%	3/5 60%	3/5 60%	Less Freq	1/5 20%
Shared accom (7)	1/7 14.3%	2/7 28.6%	1/7 14.3%	4/7 57.1%	More Freq	3/7 42.9%

Chronic stress, described above, in turn, has been strongly associated with a higher HbA1c, particularly in groups that experience higher levels of stress, e.g., gay men living alone (Hilliard et al., 2016). HbA1c is a blood test that measures glucose levels in red blood cells, with higher levels representing an increased risk for diabetes-related complications (Phillips, 2012). Significant stress can increase glucose by increasing stress hormones and altering behaviours that undermine management (Thangavel & Pitchaipillai, 2014). Living alone is a risk factor for loneliness which has been associated with an increase in stress (Henriksen et al., 2022). Henriksen et al. (2022) therefore, suggested that loneliness, independent of anxiety and depression, should be assessed in diabetes education. As gay men in Australia are highly represented among people who live alone, the resulting stresses can harm glycemic regulation. Not having the resources to deploy in times of need can make health decisions uncertain. The remainder of this section will discuss the over-representation of gay men living alone in Australia, the lack of planning for those living alone, and the risk factors for poor decision-making.

Among the gay men living alone, there was a lack of planning for future medical emergencies related to their diabetes. Those who lived with someone knew who they could turn to for help which changed little between the survey and later interviews. Most gay men living alone chose the response “other” in the survey, which meant they did not turn to a best friend, biological family, or partner for support. Later, when they were interviewed, there was a change in preference and a support person was identified, suggesting the discussion on support was useful. One said: “I do have friends and the [gay group], but I tend to be self-sufficient”, but was not specific to who these were. He added: “…but if I had a medical emergency, I would call the doctor and go to the hospital. But I generally enjoy good health. I don't have sick days” (Participant 7). These comments reflect studies that suggest men can act with stoicism and be self-reliant due to masculinity ideals, which prevents them from accessing health services or help generally (Hadley, 2021; Smith et al., 2006; The Lancet, 2019). However, this is not to suggest that men do not have moments where they feel vulnerable and in need of help but that they do not want to be perceived that way due to a view that it is unmasculine (Goodwin et al., 2020; Hadley, 2021; McKenzie et al., 2018).

Some responses of gay men living alone were impractical and indicated that little thought had been given to how they would approach specific emergencies such as taking care of the dogs while they were in the hospital, picking up food or medicines when sick and shops close in an hour, and taking over care responsibilities when one is too sick. Living alone, as already mentioned above, increases the risk of loneliness, which is associated with poor decision-making (Cacioppo & Hawkley, 2009; Kim & Fredriksen-Goldsen, 2014; Hindmarch et al., 2013; Stewart et al., 2020) and decreased adherence to medical advice (DiMatteo et al., 2000). Other features related to loneliness that are highly represented in gay men include social isolation, depression, social anxiety, gay community ageism, reduced perceived social support, and living in heteronormative environments, which also increase a sense of loneliness (Eres et al., 2021; Erzen & Çikrikci, 2018; Willis et al., 2022).

The following participant mentioned friends who lived overseas that provided support if he was anxious about something. However, he was silent on who could provide immediate physical help:

> Well again, the man in New Zealand I've known for about 30-40 years now. He's very good into talking sense into everyone when I've sort of overreacted to something like Landlords that have given me notice to move out because they want to sell the place and I'm doing a sort of mild sort of panic. "What am I going to do, the world is falling in on my head" he's very good at sort of talking sense to me. (Participant 1)

Another referred to his "mum or dad – in Maryborough" – 30 kms from where he lived – but they could not assist in the immediate phase of an emergency. However, when questioned further, he was able to think of friends that could help him. Therefore, the discussion encouraged him to think about support and encouraged him to come up with solutions.

Another factor that was identified was a fear of homophobia they might receive if care was required within the home. Research has shown that people living alone have a greater need for home services (Dreyer et al., 2018), which can influence their journey with diabetes. Smith and Wright (2021) noted that many gay men feared receiving home services and, in some cases, chose to hide their sexuality by '*straightening up'* or as Barrett et al., (2015) described it, de-gaying their homes to escape homophobic abuse. One participant discussed how he straightened up his home before relatives came to visit:

> she had worked out that I had been straightening up the apartment or the house in Sydney every time she came for a visit with my housemates there although during any of her visits I wasn't in a relationship as such. (Participant 9)

Such fear of expecting homophobia when care workers of relatives enter the home may encourage gay men to reject care or support in some circumstances (Mirza & Rooney, 2018).

As gay men are overrepresented among people living alone, it puts them at greater risk for loneliness and depression, which impair decision-making. They are less likely to have thought about planning for future emergencies and are at greater risk of needing home care which they may reject due to fear of homophobia.

4. Discussing available support

Having someone to discuss the practicalities of their diabetes enables these issues to be considered and addressed. Previous research has indicated that men are generally poor at health-seeking, but this seems more related to mental than physical health (Schlichthorst et al., 2019; Yousaf et al., 2015). Moreover, men are more hesitant to discuss diabetes-related issues with family and friends, which affects their willingness to test in public (Mathew et al., 2012). Gay men have significant barriers to discussing their diabetes which is particular to their sexuality, including living alone and diabetes-related shame in the gay community. Barriers to discussing support for gay men in diabetes education include not being out as gay or self-monitoring what is said because they fear or are sensitive to being criticised or dismissed over their sexuality. In this study, gay men with type 2 diabetes could discuss support in the online survey, and again during an interview,

where participants were more likely to identify someone they could turn to for support in times of need.

The act of working through your problems through repetition and verbally telling your story increase the likelihood of coming up with a solution. In Table 20 below, the 12 participants are listed along with their responses in the online survey and again in the interview to the question of who they turn to for support when they are unwell. The difference between responses online and those in the interview was noted, along with information on if they live alone. Of those who had no one to turn to and chose 'other', 83.3% (five out of six) changed their response after the interview, which compares to 16.6% (one out of six) of those who had someone they could turn to, that being biological family, partner, or best friend.

Table 20 Comparison of responses (online survey and interview) to when I'm unwell I turn to?

There was a comparison of participant responses between the online survey to the in-depth interview, asking who they turn to when unwell. It highlights if sources of support changed, stayed the same or expanded. It also relates those questions to their living arraignments, of living alone or not.				
	When I'm unwell, I turn to? - Selected Choice: Online survey	Interview responses	Live alone	
1	Other = Doctor	Friends contact by phone, self	Yes	Change
2	Other = No one	Son	No	Change
3	Biological Family	*Sister because she's married to a haematologist, Partners a bit flippant*	No	Same
4	Partner	Sister, Partner	No	Added
5	Partner	Eldest daughter	No	Change
6	Other = nothing mentioned	Mum and Day in Maryborough or friend	Yes	Change
7	Other = self-medication	Friend, a doctor in a medical emergency, self	Yes	Added
8	Other = google	Partner	No	Changed
9	Best Friend	Housemate and two close friends	No	Same
10	Other = no one	Self, friend	Yes	Changed
11	Partner	Partner, friend	Yes	Added
12	Partner	Partner	No	Same

The interview went beyond the survey because it allowed people to tell their stories and allowed them to reflect critically aloud, and find practical solutions to the complexities of their imperfect lives. The interview emulated what might be asked in diabetes education, where patients are encouraged to provide context and motivation for their behaviour, allowing them to problem-solve. Discussing support in a culturally safe space encourages gay men to identify available support and create solutions where gaps exist. For gay men, telling their stories in a non-judgmental environment can

reduce anxiety associated with impaired memory (Baram et al., 2008) and increase the creativity required to plan care (Byron et al., 2010). Research into storytelling has shown that it increases engagement (Churn, 2018) and helps people to reflect on their interpersonal relationships and come up with solutions (Meza & Passerman, 2011; Pennebaker, 2000).

Those living alone are a sub-group that may be more vulnerable due to lack of support and therefore have a greater need to discuss it. Most of those who put 'other' (four out of five) on the survey also lived alone, signifying that gay men living alone may benefit from visiting a diabetes educator to discuss their support. Those living alone tended to visit an HCP, as in diabetes educators and dieticians, less frequently, where support is more likely to be discussed. Of those that lived alone in the current study, 40% (two out of five) did not speak to a diabetes educator or dietician, compared to 28.6% (two out of seven) in those that lived with someone. While Australian research on living alone shows an increase in unhealthy behaviour, such as smoking and excessive drinking, data on health-seeking behaviour is challenging (Australian Institute of Health and Welfare, 2021b). Similarly, Japanese research found that those living alone and especially men, were less likely to engage in health-seeking (Murayama et al., 2022).

The opportunity for gay men to discuss diabetes management is stifled due to a greater number of gay men living alone and discomfort with sharing the context of their life that is intimately tied to their sexuality. However, the benefits of discussing diabetes-related issues, such as support, were demonstrated in this study. Gay men living alone changed their responses to the question of support between the survey and the interview, indicating that the opportunity to discuss diabetes was beneficial.

5. Influence of children on diabetes management,

Gay men can have children through previous heterosexual relationships, adoption, and surrogacy. While the role of parents is to look after their children, research has demonstrated that children reciprocally influence their parents' health and health behaviours throughout their lifespan and informally become part of their parents' healthcare system. Young & Morgan (2017) noted this influence of children on parents and observed that new fathers could be adversely affected mentally and physically due to the many changes that come with their new role. Conversely, the parent's exercise habits could improve by joining in their children's physical activity. This section will discuss how children influence a gay man's journey with diabetes by examining gay men's lack of access to this support through conflating gay men with paedophilia and specific ways children provide support throughout their lifespan.

As there are many barriers for gay men to be parents, the likelihood of parenthood is severely diminished. While some reasons for gay men not having children are structural, such as not having a partner and difficulties in adoption and surrogacy laws, for many, it is related to discouragement from homophobic community-level discourses. The conflation of being gay with paedophilia in political debates from 1970 to the 1980s and beyond (Angelides, 2005; Hindes & Fileborn, 2021), despite evidence to the contrary (Tenbergen et al., 2015), has discouraged many gay men. These debates remain, with some churches responsible for their continued presence in discourse, but it is thought to be only an attempt to deflect from their own moral failings, as identified in an Australian Royal Commission into institutional child abuse (Morton, 2017; Parkinson, 2014; Weir, 2020). The following participant noted this tendency in his family to see gay men as a danger to kids:

> … I've had family members die; been rejected by my two brothers when they had kids, because of course I was male, and I was going to interfere with their sons - they've rejected me; … (Participant 10)

Consequently, children are absent in the lives of many gay men as they journey with diabetes. About 55% of opposite-sex couples have children, compared to 4.5% of same-sex male couples; however, the actual figure may be closer to 11% when all family arrangements are included (Australian Institute of Family Studies, 2018). Thus, there are five times as many opposite-sex couples compared to same-sex couples with children. A few gay men have had such a strong inclination to have children that they have become heterosexually married, despite knowing they were gay. Pearcey (2005) noted that 85% of gay men were nebulously aware they were gay before entering into a heterosexual marriage, and 55% cited children as a reason for getting married.

Having children can positively influence a person's management of diabetes, as children can influence their parents' diabetes includes reminding them about health management activities such as medication, exercise, and food (Laroche et al., 2009). By contrast, childless men have poorer outcomes such as heart disease, suicide attempts, injury, addiction, and all-cause mortality (Ringbäck Weitoft et al., 2004). One participant, who had two adopted children, noted the healthy influence children had on him by helping him to refocus his priorities and build an internal drive to be healthy so he could be there for them.

> …I think having kids also tells us that we are not 22, and we're not invincible; and that you can see parts of our body falling apart so all of a sudden there's this other imperative, which is 'the kids'…With kids, I think, we've both reassessed what's important to us. We've realised that we can't afford to die.

> We don't want to die. We don't want to miss aspects of our kids' lives. (Participant 12)

Children trigger parents to re-evaluate their lives, regardless of sexuality, which can positively affect the management of type 2 diabetes by having positive attitudes towards lifestyle factors. Therefore, gay men fear the absence of children, of having no one to take care of them as they age (Wilson et al., 2018).

Children's roles often reverse as they grow up and take on caring responsibilities for their parents through providing physical care, money, and advice (Fingerman et al., 2015). As mentioned above, children were often chosen as next of kin: "…but my son would probably be my closest confidant" (Participant 2). For many gay men having children is not a reality, and as such, they are excluded from this form of healthcare.

A small subset of three gay men had children from previous relationships with women who continued to remain in their lives and act as next of kin. Consequently, they continued to experience the benefits children bring to their journey with diabetes. For example, participant five continued to have weekly contact with his children over dinner, which provided meaning and routine in his life, "Every Sunday night we have family dinner with the girls and just change the venue each week and who is hosting that week". (Participant 5)

However, many variables are at play with no guarantee that the children will accept their father or will play an ongoing role in their life. Nonetheless, the presence of children in the lives of these gay men meant there was someone to support them on their journey with diabetes.

For some gay men, children as young toddlers and again as adults are social capital that can support them on their journey with diabetes. Young children provide the drive for them to look after themselves so that they are there for them as they age. As adults, children can support their father on their journey with diabetes by becoming next of kin. In this study, four people had children, one was adopted, and three were from a previous marriage to a woman. However, the reality for many gay men is that children are absent, and social capital cannot be accessed in their journey with diabetes. Therefore, the high representation of gay men without children is a distinguishing feature and alters their journey with diabetes.

Overall, these six areas discussed in chapter six from sections two to five are represented below in Figure 18.

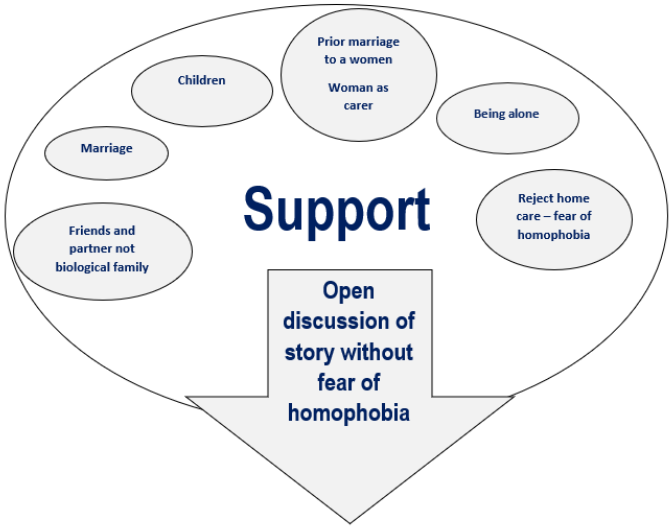


Figure 18 Diagram representing support

6. Conclusion

People often take for granted the informal support structures they have in place that reduce the burden of diabetes and ensure successful management. Care usually starts with the biological family of mum, dad, siblings, and children. However, for gay men, these relationships can be fractured, meaning they switch to friends and partners for support. Gay men previously married to women, however, can retain some support from children who can influence their journey with diabetes throughout their lifespan as children and again as adults. What came through the stories shared by gay men previously married to women was that women become symbolic of what care looks like, and which they used to judge current relationships, as in ensuring that they eat the right food and take their medications. The chapter then discussed marriage, suggesting it may have an advantage over cohabitation in terms of the support it provides. Living alone, which is highly represented in gay men, was another feature that could disadvantage diabetes management because of its inability to absorb the stressors that come with journeying with diabetes. For those living alone, being able to discuss their life without fear of homophobia was considered advantageous in finding solutions to the everyday problems of diabetes management. Gay men living alone received home services more frequently but might, also reject this care due to fear of homophobia. Finally, the chapter explored the positive influence children could have on someone's journey with diabetes; however, as most gay men are childless, they do not get to enjoy this support. Together, the many factors discussed are either unique or overrepresented in gay men, making obtaining support challenging. Diabetes Educators are in a unique position to facilitate a

discussion about support and provide potential solutions to gaps that may exist. However, more work is needed to upskill diabetes educators in creating a safe space for these conversations to take place.

Chapter seven – Pascoe's journey of life model

1. Introduction

In Australia, since its inception health has been based on the biomedical model. While there has been some attempt to create awareness of psychosocial issues in society, the model does not adequately cater for certain groups, such as gay men. Many authors have advocated for Aaron Antonovsky's Salutogenic Model (Antonovsky, 1979), which takes a more holistic approach by examining people's environments and the way they cope. However, this model has been criticised for its altruistic aspirations, making it hard to adapt to the current health system. While Antonovsky's model was meant to be an addition to the disease-focused biomedical model, it did not explain how this would work. This chapter reimagines how the two models could work together synergistically by offering five areas of departure or further clarification. It will discuss what Pascoe's Journey of life model is based on the biomedical and salutogenic models and their shortcomings, provide an introduction to Pascoe's journey of life model, and then explain the five suggested areas of departure or clarification.

2. What the model is based on

Pascoe's model of life is based on two models, the first being the Biomedical Model and the second the Salutogenic Model. While both models by themselves are limited, together, they can help explain a person's journey with chronic health conditions such as diabetes.

Biomedical model

The biomedical model has been used since the 17th century by medical practitioners. It is grounded in the philosophical belief in reductionism which breaks down the body, like a machine, to its constituent parts to generate a diagnosis (Bornstein, 2020; Buta, 2020; Cooley, 2020). Encapsulated in this model is the concept of cartesian dualism and binary thinking. Cartesian dualism assumes people can be split into mind and body as distinctly separate entities. We see this split in medicine where psychiatry and general medicine have become distinct areas of enquiry that are not blended well in practice. It is common in Australia for people with combined mental health and physical health conditions to be managed in the acute care system, where staff are often ignorant about managing mental health. Binary thinking is pervasive in Australian society and

adds to the problems regarding the biomedical model. It views the world as opposites, where one side is considered inferior or subordinate, being male/female, gay/straight, acute/chronic, normal/abnormal, and subjective/objective. It creates medical inequalities because resources and effort are directed towards the binary's valued side of being male, straight, acute, normal, and objective (Cowie and Braun, 2022; Lebowitz and Appelbaum, 2019; Novick and Ross, 2020). Therefore, binary thinking creates a system of value judgments that favours the allocation of resources in uneven ways and even segregation. For example, gay men's health has been pigeonholed into mental and STI health, often segregated into separate departments and buildings from acute care. Therefore, in STI and mental health clinics, sexual orientation is openly discussed without hesitation with developed resources at the ready. However, the opposite is true in acute care, where there is generally no enquiry regarding a person's sexual orientation and what that might bring to conditions such as diabetes. Therefore, if the question is not asked, there is no finding out or visibility of gay men's issues which is followed by no records in the medical notes to create concerns regarding patterns. This is not to say the health care staff in Australia have negative views about gay men, but that any problems that occur because of being gay are not seen. Barriers to exercise are one example that gay men face and may turn out to be a problem in areas such as cardiac rehabilitation. Secondly, the use of amyl is not discussed when prescribing medications for erectile dysfunction, remembering that the combination of these two medicines can be dangerous (Pepper, 2022; Webb et al., 1999). These two examples of disregarding gay men's issues, therefore, demonstrate how health care disproportionately disadvantages gay men.

In Australia, medicine, governed by the biomedical model and mostly blinded to psychosocial issues, has become a powerful group because it is cheaper, allowing it to become the authority on what is normal or not. The push for a disease-focused biomedical model is well supported in Australia via a national funding stream called Medicare and the pharmaceutical benefits scheme (Becker et al., 2015; Fries, 2020). This funding stream heavily subsidises doctor visits, making them very accessible while at the same time making other forms of health care less favourable due to expense. Doctors also become gatekeepers (Jutel, 2009) to other forms of funding and societal privileges, such as in disability, transport accident commission, health insurance, sick leave, allied health via Chronic Disease Management plans, and health assessments required for jobs, education, and other activities. Medicine is the gatekeeper because it makes the diagnosis and determines what is and is not normal in health (Jutel, 2009). While medicine and psychiatry have changed their mind on the classification of gay men as mentally sick, they continue to disregard

the psychosocial issues that gay men face, which influence physical health. Moreover, a few doctors continue to hold homophobic views and use them to dismiss gay men's health concerns.

Medicine has continued to defend its model based on evidence-based medicine, which means that research is the cornerstone of decision-making. However, the biomedical model and evidence-based medicine have an over-reliance on randomised controlled trials that are considered the gold standard of research at the expense of qualitative research. It is only within qualitative research that the nuanced differences in gay men's health concerns are uncovered in an era where much of gay men's health has been silenced. In a scathing review, Holmes et al. (2006) said medicine fetishes and privileges knowledge gained from quantitative data. Even though qualitative data has gained increasing acceptance in the medical community, it is often collected with positivist assumptions to gain respectability. Qualitative data collected with qualitative assumptions are given a lower priority, even though they have greater strength in being able to describe the landscape in minority groups. Qualitative research is where psychosocial aspects of health are explored and discovered, allowing healthcare providers to find reasons for a problem and possible solutions to prevent it. Given the preference for quantitative research, it is not surprising that more Australian tax-payer dollars are spent on acute care rather than on psychosocial aspects of prevention, which represent a small 1.34% of all health spending (Shiell & Jackson, 2018), despite the potential for cost savings if psychosocial issues are addressed (Sullivan & Germain, 2020).

Psychosocial data is often lost when different parts of the health care system talk to each other, and while the general practitioner may be familiar with psychosocial circumstances around a gay man's health, that information is not shared or considered important when referred to other health services. Moreover, the poor communication between these silos increases duplication, mistakes, and frustration, leaving it to be described as piecemeal by some (Assiri et al., 2018; Baum et al., 2020). Therefore, rather than seeing better health outcomes with improved access to specialists and better treatment options, patients are not meeting targets for diabetes management (Fang et al., 2021; Khunti et al., 2019; Reach et al., 2017). There has been some effort to fix these problems using my-health-record, yet there have been significant setbacks with its public perception. This initiative is a cloud-based patient record system that would allow different parts of the silos to speak to each other. However, various groups, such as LGBTQIA+ people, have been very suspicious of confidentiality, resulting in poor uptake (James & Whelan, 2022; Newman et al., 2020). For example, if the treatment of an STI at a gay men's clinic is not recorded within my-health-record, the general practitioner may not know about this if it is not shared verbally in a consultation. It may seem irrelevant, but it can cause problems when prescribing medication for diabetes, known as an

SGLT2 inhibitor used to lower glucose levels by eliminating glucose in the urine. The high glucose environment in the genital region may delay healing or exacerbate an existing STI if the patient is not taught to be extra vigilant in perianal hygiene (La Vignera et al., 2019; Unnikrishnan et al., 2018). Therefore, poor communication between silos can disadvantage gay men.

The biomedical model enables assumptions to flourish regarding gay men because it often dismisses the social context in which health is shaped due to time restriction and the suppression of banter. To facilitate quick decision-making in consultations, doctors often follow expert guidelines based on available evidence, independent of context. Likewise, doctors follow the PBS guidelines when prescribing medications, which again follows best practice. While these guidelines may be useful, they can be ineffective if they do not match the psychosocial context. Guidelines assume that all things being equal will be effective at managing glucose levels, but this is where the mistakes start, as all things are not equal, and that needs to be discussed. The duration of time within general practitioner consultations is short, with an average of fifteen minutes allocated per consultation in Australia (Irving et al., 2017). Time within allied health consultations for diabetes education is only funded for twenty minutes (Department of Health and Ageing, 2021), which is not enough time to contextualise advice. Banter within consultations functions to settle the person, form a therapeutic relationship and elicit information regarding context that could be useful in tailoring therapeutic advice from the patient's values and social norms. However, routine discussions are stifled because of awkwardness from gay men or healthcare practitioners. Also, the closet can stifle the conversation and, in some cases, mislead as the patient assembles fake stories or evades certain topics regarding their social context. Therefore, because there are barriers to gay men bringing their whole selves into the consultation, the consultation can become disengaging and leaves gay men to decode and adapt the health advice given to their lives.

Salutogenic Model

The Salutogenic Model developed by Aaron Antonovsky has been popular and initially looked at the interaction between health, stress, and coping. He suggested all people were born in a river of ubiquitous stressors that dragged them to disease, which he termed entropy, but, depending on available resources, could reorientate themselves to health. People access different resources, such as generalised resistance resources (GRR), defined as those characteristics of the person, group or community that assists them in resisting stress (Mittelmark et al., 2017) and include physical resources, knowledge, intelligence, coping strategies, and social support (Cecon et al., 2021; Mittelmark et al., 2017). Specific resistance resources (SRR) are those specific to a situation

that allows them to cope (Mittelmark et al., 2017). A generalised resistance deficit, in contrast, is a characteristic of a person's life, such as historical background and interpersonal relationships, that weakens their sense of coherence and encourages their mobilisation towards the disease end of the continuum.

Antonovsky developed the concept of a sense of coherence (SOC), a set of conditions and experiences that determine if a person will cope. The four experiences are: comprehensibility, manageability, meaningfulness, and degree of emotional attachment. Comprehensibility is the consistency in messaging heard while growing up that is clear, ordered, and structured instead of chaotic, which makes life feel predictable and safe. Manageability or load balance refers to the degree to which one has access to resources and the ability to manage situations as they arise. Meaningfulness is the degree of interest that encourages one to want to participate in meaningful decision-making. Finally, the degree of emotional attachment to others and groups was added later (Moksnes, 2021). SOC is a validated tool with high SOC, meaning that a person can cope with a health issue, and a low SOC means they are having problems coping and are, therefore, more likely to experience poor outcomes (Eriksson & Lindström, 2005). Because SOC is a validated tool that has been studied in multiple scenarios, it should be retained.

I. Comprehensibility

There are many aspects of gay men's lives that cause unpredictability. Initially, there is a lack of clarity about whether they are gay, which leads many to remain in the closet until they feel safe to come out. The closet will lead some to experience internalised homophobia which is related to increased mental health issues. For others, a decision will be made to get married to a woman so they can enter a world they feel is ordered and secures their future. Then there is the lack of clarity on how they will be received if they come out, which becomes a lifelong endeavour as they come out in new situations, for example, family, work, social settings, faith, and where they live. For many, there is the fear of growing old alone with no one to take care of them. Part of the fear of ageing alone includes the anxiety that they may be mistreated if they end up needing aged care services. A diagnosis of type 2 diabetes can be a threat to their identity if they are overweight or obese because this contravenes group norms around body image. Also, a diabetes-related complication, erectile dysfunction, can threaten their identity (Ussher et al., 2017) as it renders them sexually undesirable. As such, the fear of what their future holds emerges as their future becomes uncertain.

II. Manageability

Support has been discussed in the previous chapter, which may be inadequate if they live alone, and face rejection from family, work, sports, healthcare, religion, and the gay community itself. Gay men can experience many variables that can alter their journey with diabetes but are not routinely addressed in diabetes education. These include the use of amyl for sex, homophobia in sports, higher rates of Binge Eating Disorder, increased drinking to excess, smoking, and drug-taking, the closet, caution during healthcare consultations, and compromised support from family, friends, and work. Men may choose not to have diabetes education in some circumstances, but failing to attend diabetes education has been associated in this study with increased complications. However, because gay men as a group are thinner and more educated, these things have been associated with improved glycaemia.

III. Meaningfulness

The benefits of health care providers outside the doctor managing type 2 diabetes, such as diabetes educators, dieticians, and endocrinologists, have been discussed in terms of helping individuals keep blood glucose levels in range and reducing complications. However, as mentioned above, engagement might be stifled if they do not discuss issues relevant to gay men. Diabetes educators should review their unconscious biases so they do not bring these into the consultation, such as the sexualisation of gay men. Biases can reduce the meaningfulness of diabetes education. There should be efforts to develop educational material where gay men can see themselves represented in order to increase its meaningfulness.

IV. Emotional attachment

People's ability to form close emotional attachments can increase their health-seeking behaviour (Idan et al., 2017). However, these close emotional attachments can be fractured in gay men due to homophobic attitudes of those with whom they interact, embarrassment, or a refusal to acknowledge the problems gay men face. Similarly, gay men can be in the closet or have sensitivities around their sexuality, preventing them from talking about specific topics. These fractured relationships, such as family, work and church, cannot be relied upon for support in times of need.

3. Other models of diabetes education

This thesis has discussed various models, including structured diabetes education, chronic disease, biomedical, and salutogenic models. The chronic disease model relates to a framework with six overlapping strategies that general practitioners use to manage people with chronic illness

(fully explained in chapter one in Section three significance). The biomedical model describes a reductionist approach to disease, looking at biological processes where medical practitioners attempt to find the cause of disease by examination and ordering tests of part of the body. The salutogenic model, conversely, encourages individuals to seek to reach their full potential by being proactive, because humans have the potential for ill health.

Models of diabetes education are conducted as either one-on-one or group education that occurs within the general practice, and patients see their medical practitioner; at a location separate from their general practice, online, or a hybrid of the two. The programs can run as a one-off or over several days ranging from 20 minutes to a whole day. Hospitals run diabetes education, but it is usually reserved for acute episodes leaving long-term treatment in the hands of general practitioners. Services that provide diabetes education to specific cultural groups do exist, with proven positive results for such groups as Indigenous Australians (Yashadhana et al., 2020) and Chinese (Choi et al., 2017a; Choi et al. 2018b). Research also extends to the readability of multilingual diabetes education material (Lin et al., 2020) and culturally appropriate material (Mead et al., 2022). However, no models of diabetes education exist for gay men with type 2 diabetes that address cultural nuances that affect diabetes-related decision-making.

These practical details of models are essential because the context in which diabetes education occurs determines if it is accessible in terms of time, cost, location, welcome, and culturally appropriate content (Gucciardi et al., 2020). As discussed earlier, there is good evidence that structured diabetes education, such as DESMOND (Miller et al., 2020) and self-guided determination (Phillips & Guarnaccia, 2020; Zoffmann et al., 2016), have positive outcomes; however, none have been replicated in culturally specific groups such as gay men.

A Canadian study examined the outcomes of providing a diabetes educator and dietician in general practice to determine the impact on improvement measures. It saw a significant improvement in HbA1c but not lipids or blood pressure in one year. It can be argued that this arrangement of a one-stop-shop approach, where they receive medical care and diabetes education in a familiar and trusted place, is an important consideration for gay men. The approach is similar to what occurs in Australia, but there are key differences. In Australia, patients are often charged a small fee, visits are capped, and the diabetes educator or dietician may not work in the same location. Also, they usually do not get the opportunity to be involved in care planning or guide treatment priorities (Gucciardi et al., 2020). A collaborative approach between the team and the patient at the centre is essential, as conflicting advice by the various HCPs can increase confusion and undermine

confidence (American Association of Diabetes Educators, 2020; Maneze et al., 2019). However, the romanticised notion of collaboration can be stifled in Australia because of communication breakdowns, which includes poor documentation within referrals (Hendrie, 2020; Prime et al., 2020; Sen Goh et al., 2019; Wahlberg et al., 2015). A further issue highlighted in the current study on gay men and type 2 diabetes was that seeing multiple healthcare practitioners meant that numerous relationships had to be established, which may have been problematic for gay men who may not bring their whole selves into the consultation due to anxieties related to their sexual orientation.

During the COVID pandemic in Australia, diabetes education provided in person was discouraged by health authorities, other than in exceptional circumstances, to prevent the spread of the virus. Telehealth quickly emerged as a new model of providing diabetes education during this period. It involves the use of information communication technologies (ICT) such as webcams or smartphones to conduct real-time consultations, allowing the patient to remain in their own home while the HCP can be in their consultation suite (Monaghesh & Hajizadeh, 2020). During the COVID pandemic, telehealth was funded for diabetes education, so successful models using this have been established (Andrikopoulos & Johnson, 2020).

The use of telehealth has been associated with increased HbA1c, especially in socioeconomically disadvantaged groups (Robson & Hosseinzadeh, 2021). In a Melbourne-run study, a diabetes educator visited older adults in their homes and helped set up telehealth with the endocrinologist. The visit also involved flash glucose monitoring, which is a device worn on the back of the arm that could continually read their blood glucose levels via a smartphone or reader. Visiting people in their own homes meant that the HCP had a greater appreciation for the psychosocial circumstances under which diabetes management occurred, which improved engagement and HbA1c (Ogrin et al., 2019; Ogrin et al., 2021). Given the success and necessity of providing education online, DESMOND has branched out to include an online app called MyDesmond, which departs from their one-day workshop. Participants cover the same content in their own time, but they access forums, goal setting, ask the expert, health tracker, and monitoring steps, which have received high satisfaction rates in surveys (Quinn et al., 2021).

There are components of each of these programs that may work for gay men, as in seeing a diabetes educator in the same location as their general practitioner, remembering that many gay men choose doctors who are gay or gay-friendly and are willing to travel for these services (Newman et al., 2020). Telehealth consultations have been evaluated in gay men accessing pre-exposure prophylaxis in the USA, where participants felt that they did not feel stigmatised; it was

confidential, fast, convenient, and easy to use (Refugio et al., 2019). However, in a recent Australian study exploring the views of vulnerable groups, including gay men, on digitalisation in healthcare in the form of telehealth, the key informants expressed a lack of trust in the system. They were less likely to share personal health information, feared that digital platforms made it easy for their personal data to be leaked, and reported experiences of stigma (Newman et al., 2020). The study highlighted that while gay men were a subgroup more willing to share data, the trust established over time was also important, which did not automatically form on the first consultation. (Newman et al., 2020).

Models that employ group sessions, for example, DESMOND, can also be problematic because gay participants are more likely to screen what personal information they share among strangers (Jowett, 2011). Therefore, whatever model is deployed for diabetes education, there needs to be an overarching model that recognises how people navigate health, which is culturally determined and encompasses values, social norms, and quality of life (American Association of Diabetes Educators, 2020; Mighton et al., 2020) and habits (Byrne & Tanesini, 2015; Gardner & Lally, 2018). These factors influence when a person takes notice and assesses a situation as sufficiently necessary to switch their course of action, which is what diabetes education is trying to achieve. Therefore, cultural nuances need to be considered and demonstrated when assessing a diabetes program for gay men. The seven factors mentioned in chapter four, showing the influence that sexuality can have on the consultation, are an example of issues that can be considered during program development. One of the factors mentioned in that chapter was centrality versus we are all the same and suggests that gay and non-gay-related content should be addressed in developing a program aimed at gay men.

4. Introduction to Pascoe's journey of life model

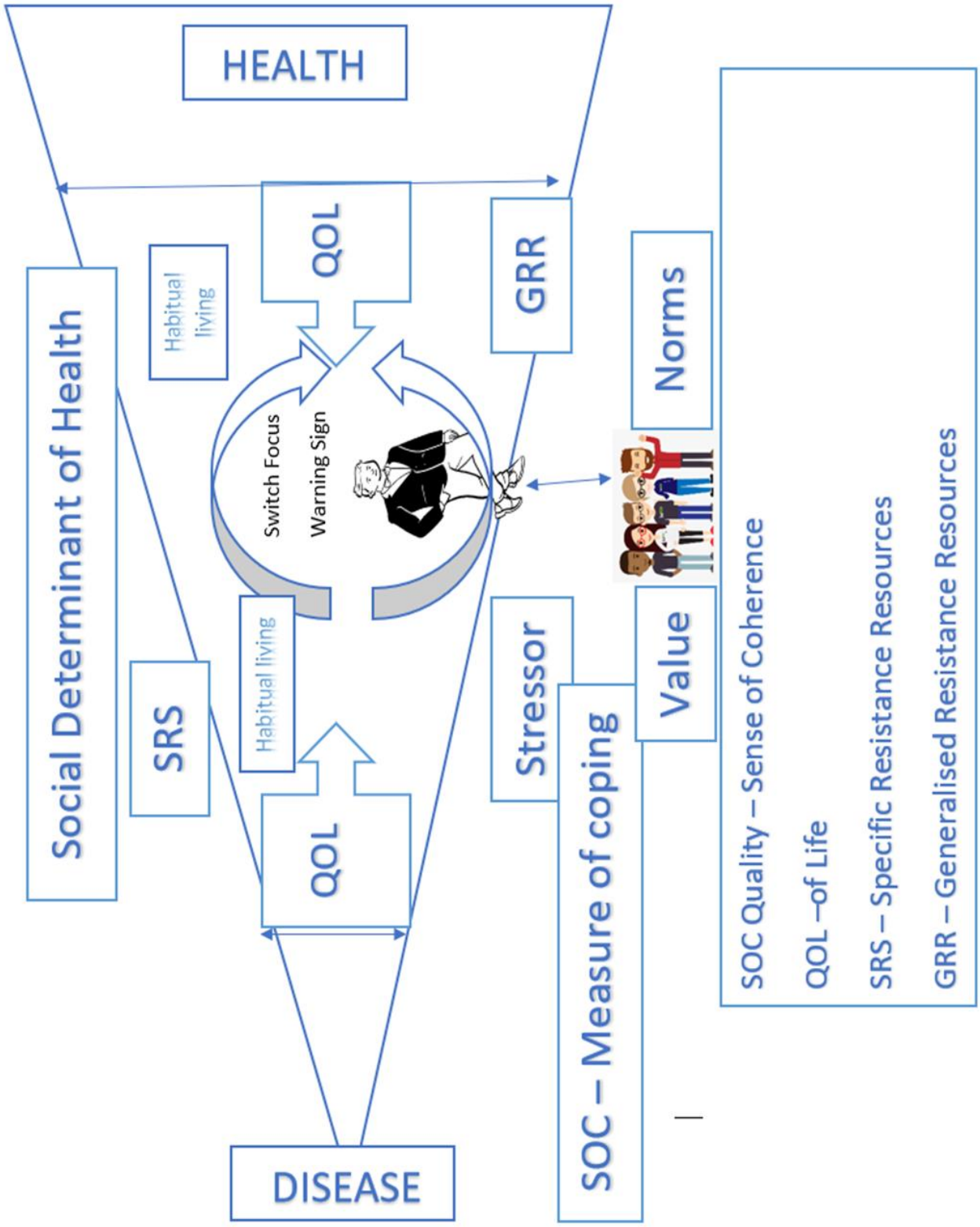


Figure 19 Pascoe's journey of life model

After my research into gay men and type 2 diabetes, it became clear that a model that captured psychosocial aspects of people's lives was required because they play a significant role in successful management. The psychosocial aspects are those factors that allow access to resources and support for the management of type 2 diabetes. However, it also became apparent that a model of health had to represent the reality of people's lives with diabetes that navigates both the acute and chronic spheres of their illness. Consequently, Pascoe's model of health includes relevant aspects of the Salutogenic and biomedical models. It retains many aspects of the Salutogenic model, such as the Sense of Coherence (a measure of coping), entropy (tendency to be drawn back to disease), generalised resistance resources (GRR), and specific resistance resources (SRR). However, there are five areas of departure or clarification, which include: quality of life guides how far health activities will go; we spend most of our life living habitually; values and social norms around health guide decision-making; receiving a warning sign allows a person to merge from habitual living to act differently; and switching focus from one of health to one of disease.

The model states that we are born into a set of circumstances, with the social determinants of health represented by the triangle, which influences how a person will journey with health. Social determinants of health are the circumstances into which a person is born that can shape every aspect of life, including work, family, and friends (Hill-Briggs et al., 2020). These circumstances will also determine what GRR and SRR we can access for managing life events. If it were not for the human instinct to survive (De Sousa & Shrivastava, 2017), we would succumb to sickness and death in a process called entropy. In addition, humans have a strong instinct to seek pleasure which is encapsulated in the concept called quality of life. While there is, no one agreed definition of quality of life, in this research, it is defined as an 'individual's perception of their position in life in the context of the culture and value systems in which they live and concerning their goals, expectations, standards and concerns (Sinha, 2019). Therefore, values and social norms are integral to understanding the quality of life, which are unconsciously acquired through socialisation and embedded into our habits. To be accepted by the gay community is a quality-of-life issue because, for some, they have been rejected by other groups. To improve their acceptability in the gay community, many aspire to be thin, with some engaging in smoking and stimulants to achieve this by reducing appetite (Carpenter & Sansone, 2021; Halkitis et al., 2005; Rozzell et al., 2020; Schwappach, 2009). Smoking and stimulants work by inhibiting the pleasure of food (Kringelbach, 2015).

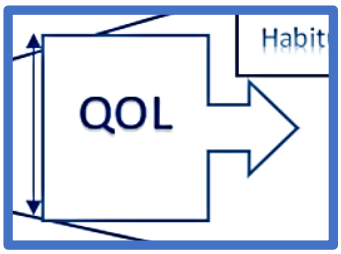
For the most part, people live habitually live; that is, they engage in automated routines that they do not have to think about much until they receive a sign that their health has changed. Therefore, it is within habits that people take routine care of themselves in a holistic sense, represented by the broad side of the triangle, that being health. Habits can include routine care of diabetes in which the disease is stable.

Once a sign indicating a change in health is received, the person can turn their attention and efforts to the disease. Generally, the earlier a signal is received, the better a person can adapt to new circumstances. As described in the Salutogenic model, how a person adapts or copes will depend on their sense of coherence (SOC). Focusing on disease is akin to the reductionist approach, which encourages the concentration of resources to deal with the specific issue, especially SRR. As the disease starts to be resolved, there is a refocusing on the wider aspects of health where predominantly GRR are again accessed.

5. Different elements of the model

I. Quality of life

Quality of life is a significant aspect of living with diseases like diabetes, which can mean a limitation on what treatments are acceptable.



Therefore, any model of health should consider how treatments and monitoring of disease may impact a person's enjoyment of life. The World Health Organization (WHO) previously defined health as 'a state of complete physical, mental and social well-being and not simply the absence of disease or infirmity' (Galea, 2021a). This definition was viewed as too idealistic, so in (2021b) they updated it to include choice and the acceptance of risk. Now WHO (2021b) '…defines [health] as an activity capable of balancing risk mitigation with the reasonable risk inherent in the pursuit of a full life, with health seen as a means to live a fulfilling life'. This definition acknowledges that in some circumstances, people accept lower standards of health when their quality of life is compromised by the actions required. The COVID pandemic has taught us that sometimes the tasks required to prevent disease are, for some, too extreme (Galea, 2021a).

The patient centres their life around the quality of life where they strike a balance between activities that cause disease and those that promote health, based on their values and norms. One could compare this to homeostasis, a physiological process in the body that keeps a constant internal environment by maintaining conditions in a narrow range. If a parameter falls outside those narrow ranges, the body reacts to return the value to the middle. For example, blood pressure is maintained between 90-130mmhg systolic, and if it climbs above or below this, the body responds to return that value to the middle to prevent disease. Human health-seeking behaviour operates similarly; if people believe their quality of life is compromised, they will adjust their behaviour to return to this comfortable place. For example, a person will accept a certain level of risk that does compromise their full enjoyment of life, like social drinking, but modify the action if they feel the risk is pushing them to disease. Likewise, a person with diabetes may decide to have insulin pump-free days and accept less tight glucose levels because they do not like having something attached to their body all day. These adjustments to behaviour are considered quality-of-life issues and play a significant part in decision-making.

II. Social norms and values

Banter is how values and norms are picked up, but gay men's capacity to engage in banter can be stifled through the awkwardness. How quality of life is assessed is determined by the values and social norms of the group with which they identify and which shape a person's assumptions.

Social norms and values align with meaningfulness within the concept of a sense of coherence from the Salutogenic model. At every step, people's values and social norms determine how they engage with healthcare and what they find meaningful due to the health information that is received. One of these assumptions can be beliefs about what a doctor thinks of them; for example, in this study, one participant thought older male doctors of non-white backgrounds were intolerant of gay men. Therefore, the awkwardness may quell the banter and stories shared in consultation that come to reveal a person's values. Silence thus reduces opportunities for diabetes educators to individualise health messages according to values. This silencing of the banter is a problem because research shows that simply providing information on topics such as diabetes is not enough, as it has been associated with poor behavioural outcomes (Bolderdijk et al., 2013; Stoll-

Kleemann, 2019). This study identified that gay men could not freely discuss their sexuality without first thinking of the consequences, evident when CDE2 discussed a story about a gay man she consulted who revealed a story about a venue he had attended. After the story, he felt the need to return to the topic and let her know this was a gay and lesbian venue, and did it surprise her. The scenario demonstrated that the need to be open was an important issue to be addressed if he was going to work with her. Research shows that aligning health messages with a person's values predicts behavioural change (Hansen et al., 2018) and is captured in social identity theory, which suggests that the social norms of a person's reference group strongly influence behaviour.

Furthermore, priming the reference group by referring to LGBTI messages and images and linking these with positive behaviours has a more substantial influence than the health messages alone (Liu et al., 2019). For example, Liu, Thomas & Higgs (2019) found that they could modify people's intention to increase vegetable intake and reduce junk food by social normative information. Assisting healthcare providers with materials that showcase health messages and images referencing the gay community may signal to gay men that it is safe to talk. However, this should proceed with caution because not all values are conducive to good health. For example, gay men can be sensitive about weight, so having too much negative messaging around obesity may disengage them in their weight loss journey.

III. Habitual living

There is a place where people habitually live without thinking, situated in the middle between health and disease. People are getting on with life, often oblivious to the health activities they are or are not doing. Like the Salutogenic Model, Pascoe's Journey of Life model has also adopted the idea of entropy, where there is a tendency to move towards disease. However, the habits people adopt prevent them from drifting into disease.

We have our own biological processes that prevent us from being dragged to disease, but over time the damage some habits inflict on the person can pull them towards disease, where they will

eventually receive a warning sign. When the activities that fill up someone's life are primarily driven by habits, this may include the unquestioned use of resources, without questioning their appropriateness, relevance, and safety.

IV. The warning signs

People get on with their lives and only think about their health if they receive a warning.

The warning can come in the form of a health care professional assessment, a blood test, others noticing a change, and signs and symptoms experienced. The point where a person is alerted to a change in health is not necessarily the point where physical health starts to decline; that could have been several days or even years before. However, the warning is the point at which decisions to act or not can occur in order to restore health. Screening activities, and education about signs of medical conditions, such as stroke, heart attack, diabetes, and health-seeking activities, can ensure early notification and, therefore, action. In this way, the disease serves to alert the person to act differently. If gay men are not engaging in healthcare due to awkwardness or healthcare professionals that are not addressing their health concerns in accessible ways, it creates a delay in the perception of the sign. A decrease in the perception of the sign can have the consequence of late treatment of disease at a point that may not be as successful.

V. Switching focus

In our journey of life, we are often shaken from our habitual living (status quo) to a decision to switch focus in relation to disease, general health, or quality of life. It is not that we cannot do one activity at a time, but one will become dominant for a moment or extended period. The resources (either internal or external) will allow that change to happen. It is important to note that we are never static in our journey of life, but the activities we do are often habitual in nature. It is only when some exacerbation or flare-up goes beyond normal that one decides to switch focus.

The disease is the motivation to seek help because it produces signals which help one adapt and grow. As mentioned earlier, the focus of the Salutogenic Model is health, which is assumed to be good, and disease, which is bad. However, the function of disease is to remind the individual that steps are needed to reduce its impact. Once we get the signal to switch, the activities we perform will either help or hinder our goal, which can be to move away from disease or to improve comfort. As time progresses, these new activities can mesh into routine care.

The support one has, whether generalised resistance resources or specific resistance resources, will act as a signal to motivate the need to switch focus. For example, motivated family members will often note something about their loved one produced by the disease that signals that a switch is required, and they will support them to achieve that. The level of support can ensure an early and smooth transition, but without support, it may delay the signals and make the switch clunky. For example, for gay men living alone, a lack of support can delay health seeking.

6. Conclusion

Pascoe's journey of life model has been presented as an alternative way of thinking about a person's journey through health. Combining the two models provided a greater capacity to capture those who get lost in the system and improve holistic care. This chapter introduced five areas of departure or clarification that demonstrated quality of life (QOL) and values and norms are essential to understanding people's motives in seeking health. These are embedded in people's day-to-day unconscious lives, called habitual living, and it is not until a person receives a sign that they can switch direction to focus on the disease in question. The model places greater emphasis on areas such as quality of life, which is gaining momentum in assessing the success of health interventions in areas such as diabetes. It also highlights the way people assess their health through values and norms and therefore makes it necessary to understand if an intervention is going to be successful. Therefore, true assessment and understanding of psychosocial issues should replace assumptions often seen in health care that favour people in the norm.

Chapter eight - conclusion

1. Introduction

This research aimed to explore three main areas: (1) to what extent is sexual orientation relevant to gay men's journey with type 2 diabetes (2) To what extent do diabetes educators have to think about sexual orientation to improve health literacy among gay men and (3) What approach and content may be useful for gay men. To help answer this question, a mixed methods study was developed consisting of a survey, in-depth interviews, and social media posts. An online survey was distributed extensively around Australia. It had three sets of questions; each focused on a different group that included Australian gay men with type 2 diabetes, gay men with type 2 diabetes and HIV, and gay men without type 2 diabetes. From the first group, the gay men with type 2 diabetes, 13 people were interviewed, with one withdrawing, leaving 12 participants. Interviews were recorded, transcribed, and then analysed using reflexive thematic analysis. Social media posts came from people's responses to the advertisement about this study inviting questions. There were discussions around the exclusion of gay men with HIV from the main body of the study, which was resolved by making it clear this was about ensuring sexuality was the focus.

The focus was on determining if the lived experience of gay men impacted their journey with type 2 diabetes in the Australian context, which has been imbued with a rich history of homophobia. Secondly, the study sought to examine the processes that diabetes educators must consider when cis gay men in Australia with type 2 diabetes receive diabetes education, such as approach and educational material that may improve outcomes through impact on engagement.

Three major themes drove the difference between gay and straight men in their journey with type 2 diabetes: consultation, unique experiences of gay men (focusing on rejection and binge eating disorder), and support. A chapter was written on each of the three themes.

2. Research questions

(1) To what extent is sexual orientation relevant to gay men's journey with type 2 diabetes? Do the cultural nuances around being gay impact the journey with type 2 diabetes?

This study found that sexual orientation is highly relevant in managing type 2 diabetes in gay men. Stress is a ubiquitous condition; therefore, there were questions about what makes sexual orientation or being gay relevant compared to other forms of stress. However, because stress

shapes behaviour, understanding stress can help uncover behaviours that are not helpful in the management of type 2 diabetes and possibly lead to the development of solutions.

One of the most significant stresses gay men face is the negative reactions to their sexual orientation and sensitivities. It has often been argued that Australians have made momentous changes that have seen the legalisation of homosexuality and same-sex marriage. While Australian gay men enjoy more acceptance now than was seen in its homophobic past, that acceptance is not complete or uniform. The stories of the 12 gay men presented in this study gave examples of how stress was operationalised in their lives and behavioural responses that could affect the management of type 2 diabetes. Therefore, the actual and perceived rejection felt by gay men was shown to be a continuing problem, shaping their management of type 2 diabetes.

This research has described a pathway whereby the additional stress from being gay can contribute to binge eating disorder (BED) through rejection received in work, religious organisations, and families. BED is an essential consideration because it can significantly influence the management of type 2 diabetes because of its impact on glycaemia, the additional need to identify it, and the specific treatment required to manage it.

Within work, the impact of rejection on social connections and support and reduced capacity for advancement, reducing potential earnings, was described. It was noted that there was a 21.6% reduction in gay men identifying with religion and, therefore, fewer gay men receiving this form of support. In addition, for gay men who identified with a religion, bullying was common in non-gay-affirming churches, as seen in social media quotes and the stories of gay men. Family support was noted to decrease BED rates and improve diabetes management in the literature. However, some gay men were seen to have fractured family relationships due to religious and political views, affecting five of the 12 participants in this study (42%). Family rejection has been associated with increased internalised homophobia and an increased chance of being in the closet, which has both been associated with eating disorders. However, some gay men navigate alternative support networks often described as their chosen families.

Rejection received by gay with type 2 diabetes can come from within the gay community. Connecting with the gay community has been associated with reduced internalised homophobia and stress linked with BED. Factors identified in this study that stopped people from connecting to the gay community included: fear their work would find out, especially in areas dealing with children; fear about asking gay friends for help because they would be seen as too needy and therefore

rejected; body image issues which had profound effects on their mental health; and diabetes-related stigma within the gay community, identified by 50% of respondents in the online survey.

Six areas of support were discussed that played a role in support that included: among friends and partners were more prominent as people of support than biological families, often due to fragmented families related to religion, the sexualisation of gay men and politics; if gay men were previously married to a woman they often felt women were symbolic of support and felt more comfortable choosing biological family members, such as children, as support; limited gay men had children, and among the few that did, their presence encouraged them to look after themselves as revealed in Participant 12 and were people they would turn to for support as they aged; very low numbers of gay men are legally married and therefore do not enjoy the extra support that can come from this; 42% of gay men lived alone, 20% higher than those in the general population.

Gay men with type 2 diabetes living alone had a more significant percentage of problematic behaviours that could affect the management of type 2 diabetes. Gay men living alone were seen to have higher levels of problematic drinking, being single, obesity, and less frequent visits to general practitioners.

Of the gay men with type 2 diabetes living alone, 80% chose “other” to the question of who they would turn to for support versus 29% of those living with someone reflecting living alone increases the degree of difficulty with identifying a specific person with whom could support them in times of need. However, giving gay men the opportunity to discuss their stories enable them to identify a specific person who could support them in times of need. Therefore, asking gay men attending diabetes education to identify particular people they could turn to in time of need can help them better articulate a more detailed action plan.

(2) What are the processes that diabetes educators must consider when cis gay men in Australia with type 2 diabetes receive diabetes education, such as approach and educational material that may serve to improve outcomes through their impact on engagement?

The sexualisation of gay men is a common strategy deployed to stop the discussion of gay men’s issues. Sexualisation is where people fixate on the sex acts of gay men as a technique to shift focus away from and diminish more holistic concerns of gay men (consciously or unconsciously). This shifting of focus makes the discussion of gay men’s concerns uncomfortable, thereby halting conversation and having flow-on effects in six areas: the decision of whether to come out, not

knowing who has a negative attitude, disregard for the psychosocial influences that impact diabetes management, debates of whether we are all the same versus centrality, choice of language (documentation), and culturally appropriate educational material.

Gay men decide whether to come out or not during a consultation. Being gay infuses every part of a person's life, so although a person may be out as gay in most circumstances, there may be some parts of their life that they are more sensitive about and hence sensor, as in healthcare and topics such as amyl use. Not knowing who has a negative attitude towards gay people forces gay men to be hypervigilant and sensitive to behaviours that may seem disapproving of gay men. There were concerns among gay men that coming out would lead to stereotypes and assumptions about their life, while diabetes educators were concerned about what to do with such information because they lacked requite knowledge on gay men's concerns and who to refer to. These concerns led some gay men to seek out gay doctors because it meant they did not have to explain themselves.

The psychosocial issues related to diabetes management are often minimised and judged harshly as an excuse. This judgment was strong when discussing the psychosocial issues of gay men and how they might affect diabetes management. Many critiques were observed on social media, including by healthcare professionals. While diabetes educators in this study talked about psychosocial factors that may impact a person's diabetes management, they were ambivalent about what sexuality had to do with it. However, taking out the context of diabetes management, they could see the negative impact of homophobia on areas such as attending a gym. As such, the lack of representation of issues to do with sexual orientation in diabetes education may be, in part, symptomatic of these critiques.

Traditional areas seen as gay men's health, for example, sexually transmitted diseases and mental health, while extremely important, overshadow their behavioural responses and wider concerns that impact diabetes. This research highlighted three areas where being gay has affected the diabetes education consultation, lifestyle choices (exercise and diet), and available support that has a direct effect on diabetes management. Despite this, it has been argued that attributing being gay to a health condition such as diabetes can blind HCPs to matters that have nothing to do with their sexuality, known as centrality. However, the reverse is also true; completely ignoring the impact that sexuality can have on a person's type 2 diabetes can result in missed opportunities to improve management. Instead, a person's sexuality may better be viewed as one of many variables that can impact a person's journey with type 2 diabetes.

Writing a person's sexuality down in the notes during diabetes education caused anxiety among gay men and diabetes educators. For gay men, there was a fear of what it might mean to have it written there. For educators, there was a fear of saying the wrong things and causing offence to the patient, and then what they do with that information, which includes referral to other healthcare professionals. In addition to this, Australian databases used in general practice, used for recording notes, have prepopulated language such as homosexuality which may be seen by some segments of the population as offensive. In social media posts, a trend was noted whereby homosexuality was primarily used when something negative was being expressed about the study and gay when it was neutral or positive. Therefore, not only is talking about sexual orientation confronting but the need to write it down.

There is a lack of culturally appropriate information that captures the nuances that shape the management of type 2 diabetes for gay men. The consequences of decontextualised information were that it was perceived as overwhelming, uninformative, and preachy. Literature should capture specific topics such as binge eating disorder, homophobia in sport, drugs such as amyl, infections such as thrush and sexually transmitted diseases, smoking, and problematic drinking. Additionally, the material on support and planning for when things go wrong should be given, especially to those that live alone. However, as previously mentioned, this should not replace general information but act as a resource amongst other sources that target the individual.

The flow-on effect of not enacting these suggestions for subsects of the gay community, especially in those living alone, may cause disengagement leading to suboptimal glycaemic levels and an increase in complications.

3. Pascoe's journey of life model

This model was developed to provide a framework that explains a person's entire journey with diabetes, rather than only capturing healthcare episodes in hospitals and primary care, representing only a small fraction of their journey. The key to making change is understanding a person's values and what enhances their quality of life, but these are not explicitly addressed in current models. Therefore, Pascoe's journey of life model can be used to evaluate existing models to determine if they address these concerns.

The Pascoe's journey of life model was developed as a hybrid of the Salutogenic and biomedical models because both focused on different aspects of the same journey with type 2 diabetes. That is, at times, people need to focus on their illness, where they will benefit from the reductionist work of medical practitioners. They will endure the short-term inconvenience that this acute phase forces

on them and the actions required to address them, despite the interruption to their quality of life. However, as people recover, they tend to broaden their focus to the rest of their life, accessing generalised resistance resources (GRR) to manage stressors as they arise. As previously discussed, GRR may include education, money, and support, which can impact gay men's ability to navigate this. Therefore, issues surrounding quality-of-life start starts to dominate during recovery, including their full expression as gay men. As the acute phase of illness resolves, people drift into non-thinking habitual living until they again receive a sign that they are drifting closer to disease. However, gay men's ability to perceive and interpret a signal as relevant may only occur if they have the resources, there is an interruption to their quality of life with pain, fear, mobility, function, and their value-driven goals are not being met.

Diabetes educators, as a specific resistance resource, can influence this through the education they provide. Still, work is needed to understand the gay man's journey with diabetes (see chapter five on uniquely gay and chapter six support) and the influence these can have (even unconsciously) during the consultation (see chapter four, the consultation).

4. Recommendations for future research

Other individual groups, such as lesbians, bisexuals, and transgender people, have not been explored in relation to type 2 diabetes. In addition, other types of diabetes need to be explored as they relate to sex and gender-diverse communities. This need became apparent while reviewing the literature; for example, bisexual men were shown to have higher rates of diabetes and cardiovascular disease than gay men in some studies (Caceres et al., 2018). Similarly, studies on transgender women with diabetes have shown a trend towards an unhealthy metabolic profile (de (Souza Santos et al., 2017; Tangpricha, 2022).

We must also look at other chronic health conditions within the LGBTQIA+ community because these are also managed in the context of a person's life, meaning people must learn to live with the disease. While similar issues are likely to be found, there will be unique issues specific to that group that need to be explored.

As most people in this research were from a white background, further research should be undertaken on other non-white groups using strategies that will encourage their participation. This is particularly important because rates of type 2 diabetes are higher in Black, Aboriginal, Torres Strait Islander, Southeast Asia, and Middle Eastern people (Abouzeid et al., 2013, Australian Institute of Health Welfare, 2022b).

Data collected by the Australian National Diabetes Audit (ANDA) about the national landscape of diabetes in Australia every year should consider adding sexual orientation in addition to other human attributes already collected. If this was achieved, it would represent a larger cohort for analysis. However, such a request may be a big ask, as many hospitals do not collect this data.

During this study, it became apparent that accessing support services for LGBTQIA+ people was difficult because many programs were poorly funded or serviced and had closed by the time people became aware of them. In addition, as funding was poor, services were difficult to access and did not return calls.

5. An original contribution of knowledge

This is the first study to map out a gay man's journey with type two diabetes in the Australian context. It is also the first time that gay men's health experience has moved beyond the medical practitioner to look at their entire experience with health care, which includes the multidisciplinary care team, the consultation, lifestyle, and support networks.

6. Contribution of this study to diabetes education

This study provided a list of seven factors that may impact gay men within diabetes consultations giving diabetes educators areas of consideration when designing diabetes education and reflecting on their practice. The seven factors included the sexualisation of gay men, the decision to come out, not knowing who has a negative attitude, disregard for the psychosocial, centrality versus we are all the same, the power of language, and culturally appropriate information. The specific material that may be considered for content and reflection during a diabetes consultation is demonstrated in chapters five (uniquely gay) and six (support). This selection is not an exhaustive list but a starting point to stimulate debate when developing a diabetes service aimed at gay men. This research led to the development of Pascoe's journey of life model to assist diabetes educators in reflecting more broadly on managing type 2 diabetes in gay men as they journey with diabetes. The model suggests that decisions are primarily shaped by available resources, beliefs and values, and quality of life issues tied to the cultural nuances of being gay.

This research validates the importance of individualised care, which is encouraged by healthcare experts but in a new area not previously identified in diabetes education. It has questioned the absence of sexual orientation in this field of inquiry and explains why this might be the case due to silencing. It emphasises that multiple factors might create a synergistic effect for gay men with type 2 diabetes; therefore, HCP should consider these various areas in their assessments and treatment plans.

This thesis contributes to the ongoing discussion and challenges the perception that the so-called gay community is a source of unwavering support for gay men. There remain tensions within the gay community that may undermine the successful management of type 2 diabetes in gay men.

From what has been discussed here, there remain significant gaps to be explored that could improve health care for LGBTQIA+ people. However, it has provided ideas about how to improve practice which include: an exploration of unconscious biases, moderating the use of language, such as the term homosexuality, and the development of educational material that addresses the concerns that impact gay men directly. Finally, policies inclusive of LGBTQIA+ people should be discussed in peak diabetes bodies such as the Australian Diabetes Educators Association.

During the PhD candidature, the researcher was invited to address a Victorian Australian Diabetes Educators Association meeting regarding the preliminary findings of this study and literature around the area; had an article published in the *Australian Nursing and Midwifery Journal*, advertising the study and canvassing recruitment; made a 10-minute presentation at the Health in Difference conference; was appointed to the editorial team of the Australian Diabetes Educators Association Journal; and had an entry in the 2020 Midsummer Pride Festival parade celebrating LGBTQIA+ diversity in Melbourne. For the Pride Festival, a brochure was developed (see Figure 20), a banner was created, and a group of volunteers (including peer diabetes educators) were recruited to march.

Edwin Pascoe RN CDE diabetes-education@hotmail.com

What is diabetes

A group of conditions with elevated glucose (sugar) in the blood, because the mechanisms required to regulate it don't work, resulting in less energy production. The sugar stays in the blood and doesn't make it into the cells resulting in less energy production, causing the person to become tired. As excess sugar is toxic to blood vessels and can lead to potential blocking, the body tries to get rid of it through the urine. Too much water and electrolytes can be lost. The crazy thing is that even though the blood is full of sugar, the person may feel hungry. The part of the system initially damaged will determined what it is called e.g. type 1 (immunity destroys insulin producing cell), type 2 (Insulin deficiency - insulin resistance), gestational (pregnancy), LADA (slower onset autoimmune disorder like type 1) etc. The type will determine the symptoms, onset and treatment. It can be overwhelming!!! so well meaning advise from friends/family should be avoided. In addition to this, diabetes forces people to consider their lifestyle which in practical terms refers to exercise, food and stress reduction. Lifestyle is a negative word LGBTIQIA+ people hear because it has become synonymous with the word choice. People don't choose their gender or sexual identity, likewise, people don't choose diabetes.There are genetic and unknown causes. The parts that can be chosen are often constrained by the psychosocial environements of particular groups (see next panel). Lifelong changes are required but can be managed well.

'recycle responsibly'

Diabetes & The LGBTQIA+ Experience

WHY IS THIS RELEVANT TO THE LGBTQIA+ COMMUNITY? In short it affects the tools that are used to manage this disease process well !!!!!

Rates – Australia does not count so we don't know. Overseas there is conflicting data, but some data suggests rates as high as 30% higher for type 2. One Australian study 2019 (APPLES) found 15% diabetes in gay and bisexual men with HIV and 9% in those without. In that same year the Australian rates were 5-6%. In 2011-12 rates LGBT were lower 3.5% (Private Lives 2) compared with national average 4.8%

Diet – increase in eating disorder in the LGBTQIA+ community e.g. Binge Eating Disorders (Rejection has been associated with this)

Exercise – homophobia and sport. Loneliness has been associated with less exercising in LGBT seniors.

Stress and stress related behaviours – stops people doing the things that they need to do, and it encourages behaviours that make it worse e.g. smoking (increases clogging of arteries and increases risk of diabetes), drinking alcohol to excess regularly (associated with severe hypoglycaemia), drug use (acute/chronic complications and onset) and high antidepressant and anxiolytic use (associated with severe hypoglycaemia).

HIV - People who carry the HIV virus have increased rates of type 2 diabetes.

Transgender – found to have increased metabolic syndrome (blood pressure, lipids) putting them at risk of diabetes related complications e.g. cardiovascular disease, requiring vigilance with monitoring and risk reduction.

Medications – As PreP affects renal function in some, close monitored is required. When used in the context of dibetes that also increases renal risk, the compounding effect may need closer observation. It can hower be managed successfully if monitored.

Amyl use – one type (Isopropyl Nitrite e.g. Liquid Gold), not all, has been associated with eye disease (Maculopathy also seen in diabetes) so may add to that. This type will be banned by the TGA but because people stockpile it may still be a problem. Erectile medication (commonly used by people with diabetes) can interact with amyl, causing life threatening drops in blood pressure. Also, there is emerging evidence that (in vitro only) that people with diabetes have increased susceptibility to oxidative stress caused by amyl, which may impact complications (the implications are unknown). Evidence in this space is small because it has not been used in the medical field for a long time. So, no bold statements can be made but we can't say it is risk free.

Support networks – people with diabetes often rely on family and external organisation such as church to provide support but often LGBTQIA+ can be estranged from these. There are more LGBTQIA+ people living alone, and in some section e.g. gay men, it might be surprising to note that comparatively they have less disposable income required to manage this disease process.

The LGBTQIA+ community – body shaming has meant that some sections e.g. gay men, avoid contact with gay groups and organisation where they could receive support. Some disengage from the gay community believing they don't fit in.

Medical consultation – many chronic diseases are multidisciplinary, meaning the primary doctor often refers the patient to a variety of other health care professionals to receive best evidence care e.g. diabetes educators, dieticians, endocrinologists, podiatry, psychologists etc. There has been evidence of some members of the LGBTQIA+ community disengaging from healthcare due to discomfort (what was said, poor knowledge and outright homophobia). In a study by Edwin Pascoe gay men were seen to use multidisciplinary teams up to 50% less resulting in higher complication rates despite being thinner (type 2).

This is general advice only, speak to your doctor and diabetes team for individualised advice.

Figure 20 Brochure given out at 2020 Midsummer Pride Festival Parade

7. Conclusion

Being gay may alter the trajectory of a gay man's life and affect how they manage their type 2 diabetes in multiple ways. While no two journeys are alike and are influenced by many factors beyond their sexuality, their sexuality can significantly impact the consultation, lifestyle factors such as food and activity, and alter the support one can call on when needed. Gay men face unique challenges that set them apart in a diabetes consultation that have the potential to shape their engagement with education. The ready association of gay men with sex makes its discussion uncomfortable for gay men and diabetes educators. The flow-on effect is that not knowing the

attitudes of the HCP before them, deciding to coming-out can feel difficult. In addition, being unfamiliar with the influence a person's sexuality has on their journey with diabetes makes it easy to disregard and difficult to justify writing it in the notes unless it relates to STIs or mental health. While Australia has moved on from its homophobic past, the legacy remains. Gay men are still combatting unconscious biases and assumptions, sensitivities, and in some cases, overt homophobia, often hidden from sight in families, churches, schools, work, and sports venues. It is hoped these research findings will help diabetes educators in their quest to provide individualised care to gay men and act as a springboard for further research in this emerging area of enquiry. It is further hoped that diabetes educators will embrace this research and build on it to ensure that gay men and the LGBTQIA+ community receive the individualised care they deserve.

References

Abbott, S., Dindol, N., Tahrani, A. A., & Piya, M. K. (2018). Binge eating disorder and night eating syndrome in adults with type 2 diabetes: A systematic review. *Journal of Eating Disorders, 6*(1), 36-36, Article 36. https://doi.org/10.1186/s40337-018-0223-1

Abouzeid, M., Philpot, B., Janus, E. D., Coates, M. J., & Dunbar, J. A. (2013). Type 2 diabetes prevalence varies by socio-economic status within and between migrant groups: analysis and implications for Australia. *BMC Public Health, 13*(1), 252. https://doi.org/10.1186/1471-2458-13-252

Abramowitz, J. S., & Buchholz, J. L. (2020). Chapter 4 - Spirituality/religion and obsessive–compulsive-related disorders. In D. H. Rosmarin & H. G. Koenig (Eds.), *Handbook of Spirituality, Religion, and Mental Health (Second Edition)* (pp. 61-78). Academic Press. https://doi.org/https://doi.org/10.1016/B978-0-12-816766-3.00004-5

ACON Health Limited. (2016). *Australian workplace equality index 2016 employee survey analysis*. ACON. http://www.pid-awei.com.au/content/uploads/2016/08/AWEI_SurveyReport_20161.pdf

Adam, J. (2011). *Chronic illness in non-heterosexual contexts: towards a critical LGBTQ health psychology* Aston University]. Birmingham, UK. https://research.aston.ac.uk/en/studentTheses/chronic-illness-in-non-heterosexual-contexts-towards-a-critical-l

Adams, C. D., & Boutwell, B. B. (2020). Can increasing years of schooling reduce type 2 diabetes (T2D)?: Evidence from a Mendelian randomization of T2D and 10 of its risk factors. *Scientific Reports, 10*(1), 12908. https://doi.org/10.1038/s41598-020-69114-8

Adhami, N., Starck, S. R., Flores, C., & Martins Green, M. (2016). A health threat to bystanders living in the homes of smokers: How smoke toxins deposited on surfaces can cause insulin resistance. *PLOS ONE, 11*(3), e0149510. https://doi.org/10.1371/journal.pone.0149510

Agllias, K. (2018). Missing family: the adult child's experience of parental estrangement. *Journal of Social Work Practice, 32*(1), 59-72. https://doi.org/10.1080/02650533.2017.1326471

AHS Media. (2004). Research shows 'poppers' use is connected with infection among MSM. *AHS Media*. https://www.ahcmedia.com/articles/6862-research-shows-8216-poppers-8217-use-is-connected-with-infection-among-msm

AIHW. (2019). *Australia's health landscape infographic*. Retrieved 17th August from https://www.health.gov.au/resources/publications/australias-health-landscape-infographic

Akasaki, Y., & Ohishi, M. (2019). Cerebrovascular and cardiovascular diseases caused by drugs of abuse. *Hypertension Research*. https://doi.org/10.1038/s41440-019-0367-7

Akrawi, D., Bartrop, R., Potter, U., & Touyz, S. (2015). Religiosity, spirituality in relation to disordered eating and body image concerns: A systematic review. *Journal of eating disorders, 3*, 29-29. https://doi.org/10.1186/s40337-015-0064-0

Aksoy, C. G., Carpenter, C. S., Frank, J., & Huffman, M. L. (2019). Gay glass ceilings: Sexual orientation and workplace authority in the UK. *Journal of Economic Behavior & Organization, 159*, 167-180. https://doi.org/https://doi.org/10.1016/j.jebo.2019.01.013

Akturk, H. K., Taylor, D. D., Camsari, U. M., Rewers, A., Kinney, G. L., & Shah, V. N. (2019). Association between cannabis use and risk for diabetic ketoacidosis in adults with type 1 diabetes. *JAMA Internal Medicine, 179*(1), 115-118. https://doi.org/10.1001/jamainternmed.2018.5142

Alempijevic, D., Beriashvili, R., Beynon, J., Birmanns, B., Brasholt, M., Cohen, J., Duque, M., Duterte, P., van Es, A., Fernando, R., Fincanci, S. K., Hamzeh, S., Hansen, S. H., Hardi, L., Heisler, M., Iacopino, V., Leth, P. M., Lin, J., Louahlia, S., …Viera, D. N. (2020). Statement on conversion therapy. *Journal of Forensic and Legal Medicine, 72*, 101930. https://doi.org/https://doi.org/10.1016/j.jflm.2020.101930

Alessi, E. J., Meyer, I. H., & Martin, J. I. (2013). PTSD and sexual orientation: An examination of criterion A1 and non-criterion A1 events. *Psychological Trauma: Theory, Research, Practice, and Policy, 5*(2), 149-157. https://doi.org/10.1037/a0026642

Alexis, O., & Worsley, A. J. (2018). The experiences of gay and bisexual men post-prostate cancer treatment: A meta-synthesis of qualitative studies. *American Journal of Men's Health, 12*(6), 2076-2088. https://doi.org/10.1177/1557988318793785

Allen, M. S., & Walter, E. E. (2018). Health-related lifestyle factors and sexual dysfunction: a meta-analysis of population-based research. *The Journal of Sexual Medicine, 15*(4), 458-475. https://doi.org/https://doi.org/10.1016/j.jsxm.2018.02.008

Allison, K. C., Spaeth, A., & Hopkins, C. M. (2016). Sleep and eating disorders. *Current Psychiatry Reports, 18*(10), 92. https://doi.org/10.1007/s11920-016-0728-8

Almansour, H. A., Chaar, B., & Saini, B. (2017). Fasting, diabetes, and optimizing health outcomes for ramadan observers: A literature review. *Diabetes Therapy, 8*(2), 227-249. https://doi.org/10.1007/s13300-017-0233-z

Alshareef, S. M., Alkhathlan, M. A., Alwabel, A. A., Al-Bawardi, A. A., Alqarni, A. H., Almuryidi, A. S., Altuwaim, I. N., Alhabib, M. K., Almuzaini, O. A., & Alqahtani, T. S. (2018). How does the utilization of diabetes dietitian and educator service in Saudi Arabia affect glycemic outcomes? *Journal of family & community medicine, 25*(2), 108-113. https://doi.org/10.4103/jfcm.JFCM_126_17

Amadi, K. U., Uwakwe, R., Odinka, P. C., Ndukuba, A. C., Muomah, C. R., & Ohaeri, J. U. (2016). Religion, coping and outcome in out-patients with depression or diabetes mellitus. *Acta Psychiatrica Scandinavica, 133*(6), 489-496. https://doi.org/10.1111/acps.12537

Ambrosi, P. B. (2019). HIV-associated sensory neuropathy. In F. Octaviana, A. Y. Safri, D. Imran, & Price (Eds.), *Peripheral Neuropathy in Connective Tissue Diseases*. IntechOpen. https://doi.org/10.5772/intechopen.73946

Amer, F. A., Mohamed, M. S., Elbur, A. I., Abdelaziz, S. I., & Elrayah, Z. A. (2018). Influence of self-efficacy management on adherence to self-care activities and treatment outcome among diabetes mellitus type 2. *Pharmacy Practice (Granada), 16*(4). https://doi.org/DOI: 10.18549/PharmPract.2018.04.1274

American Association of Diabetes Educators. (2020). An Effective Model of Diabetes Care and Education: Revising the AADE7 Self-Care Behaviors®. *The Diabetes Educator, 46*(2), 139-160. https://doi.org/10.1177/0145721719894903

American Psychiatric Association. (2013). *Posttraumatic stress disorder*. American Psychiatric Publishing,. http://www.dsm5.org/Documents/PTSD%20Fact%20Sheet.pdf

Aminoshariae, A., Kulild, J., & Gutmann, J. (2020, 2020/02/01). The association between smoking and periapical periodontitis: a systematic review. *Clinical Oral Investigations, 24*(2), 533-545. https://doi.org/10.1007/s00784-019-03094-6

Anderson-Carpenter, K. D., Sauter, H. M., Luiggi-Hernández, J. G., & Haight, P. E. (2019). Associations between perceived homophobia, community connectedness, and having a primary care provider among gay and bisexual men. *Sexuality Research and Social Policy, 16*(3), 309-316. https://doi.org/10.1007/s13178-018-0347-8

Anderson, A. E., Kerr, W. T., Thames, A., Li, T., Xiao, J., & Cohen, M. S. (2016). Electronic health record phenotyping improves detection and screening of type 2 diabetes in the general United States population: A cross-sectional, unselected, retrospective study. *Journal of biomedical informatics, 60*, 162-168. https://doi.org/10.1016/j.jbi.2015.12.006

Anderson, J., Georgantis, C., & Kapelles, T. (2017). Predicting support for marriage equality in Australia. *Australian Journal of Psychology, 69*(4), 256-262. https://doi.org/ https://doi.org/10.1111/ajpy.12164

Andreozzi, F., Candido, R., Corrao, S., Fornengo, R., Giancaterini, A., Ponzani, P., Ponziani, M. C., Tuccinardi, F., & Mannino, D. (2020). Clinical inertia is the enemy of therapeutic success in the management of diabetes and its complications: a narrative literature review. *Diabetology & Metabolic Syndrome, 12*(1), 52. https://doi.org/10.1186/s13098-020-00559-7

Andrews, C., Shelton, J., & McNair, R. (2019). Developments in responding to LGBTQ+ homelessness in Australia and the United States. *Parity, 32*(3), 21-22. https://search.informit.com.au/documentSummary;dn=688307663094494;res=IELFSC

Andrikopoulos, S., & Johnson, G. (2020). The Australian response to the COVID-19 pandemic and diabetes – Lessons learned. *Diabetes Research and Clinical Practice, 165*, 108246. https://doi.org/https://doi.org/10.1016/j.diabres.2020.108246

Angelides, S. (2005). The emergence of the paedophile in the late twentieth century. *Australian Historical Studies, 37*(126), 272-295. https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=afh&AN=18593594&site=eds-live&custid=s1145751

Anothaisintawee, T., Reutrakul, S., Van Cauter, E., & Thakkinstian, A. (2016). Sleep disturbances compared to traditional risk factors for diabetes development: Systematic review and

meta-analysis. *Sleep Medicine Reviews, 30*, 11-24. https://doi.org/https://doi.org/10.1016/j.smrv.2015.10.002

Antonovsky, A. (1979, 1979). Health, Stress, and Coping. *New Perspectives on Mental and* Physical *Well-Being*, 12-37. https://cir.nii.ac.jp/crid/1573105974919935616

Antonsson, A., de Souza, M., Wood, Z. C., Carroll, A., Van, K., Paterson, L., Pandeya, N., & Whiteman, D. C. (2021). Natural history of oral HPV infection: Longitudinal analyses in prospective cohorts from Australia. International Journal of *Cancer, 148*(8), 1964-1972. https://doi.org/https://doi.org/10.1002/ijc.33442

Arjmand, S., Mirzahossini, H., & Monirpour, N. (2021). Explaining binge eating based on rejection and disconnection schemas mediated by avoidance coping styles. *Scientific Journal of Social Psychology, 9*(59), 161-170. http://psychology.iauahvaz.ac.ir/article_681389_df6f4e5e67b6c3dd7d2fcb86312f7157.pdf

Asquith, N. L., Collison, A., Lewis, L., Noonan, K., Layard, E., Kaur, G., Bellei, F., & Yigiter, E. (2019). Home is where our story begins: CALD LGBTIQ+ people's relationships to family. *Current Issues in Criminal Justice, 31*(3), 311-332. https://doi.org/10.1080/10345329.2019.1642837

Assiri, G. A., Shebl, N. A., Mahmoud, M. A., Aloudah, N., Grant, E., Aljadhey, H., & Sheikh, A. (2018). What is the epidemiology of medication errors, error-related adverse events and risk factors for errors in adults managed in community care contexts? A systematic review of the international literature. *BMJ Open, 8*(5), e019101. https://doi.org/10.1136/bmjopen-2017-019101

August, K. J., Albright-Pierce, M. R., & Markey, C. H. Examining health experiences and body dissatisfaction in two unique samples of patients with type 2 diabetes. Journal of Health Psychology. https://doi.org/10.1177/13591053221091610

Austin, S. B., Ziyadeh, N. J., Corliss, H. L., Rosario, M., Wypij, D., Haines, J., Camargo, J. C. A., & Field, A. E. (2009). Original article: Sexual orientation disparities in purging and binge eating from early to late adolescence. *Journal of Adolescent Health, 45*(3), 238-245. https://doi.org/10.1016/j.jadohealth.2009.02.001

Australalian Bureau of Statistics. (2017). *Australian marriage law postal survey, 2017* (1800.0). https://www.abs.gov.au/ausstats/abs@.nsf/mf/1800.0

Australian-Bureau-of-Statistics. (2015). *4364.0.55.001 - National Health Survey: First Results, 2014-15* https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4364.0.55.0012014-15

Australian Bureau of Statistics. (2015a). *Australian health survey: first results, 2011-12* (4364.0.55.001). https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/D4F2A67B76B06C12CA257AA30014BC65?opendocument

Australian Bureau of Statistics. (2015b). *National Health Survey: First Results, 2014-15* (4364.0.55.001). https://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4364.0.55.0012014-15

Australian Bureau of Statistics. (2017). *Census of Population and Housing: Reflecting Australia - Stories from the Census, 2016*. Australian Bureau of Statistics. http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Snapshot%20of%20Australia,%202016~2

Australian Bureau of Statistics. (2019). *ABS Media Statement on sexual orientation and gender* identity *questions and the 2021 Census* https://www.abs.gov.au/media-centre/media-statements/abs-media-statement-sexual-orientation-and-gender-identity-questions-and-2021-census.

Australian Bureau of Statistics. (2020). *Marriages and Divorces, Australia National and state statistics on marriages and divorces, including same-sex couples, presented by age, duration and rates*. Retrieved 28th March from https://www.abs.gov.au/statistics/people/people-and-communities/marriages-and-divorces-australia/latest-release

Australian Commission on Safety and Quality in Health Care. (2014). *Health literacy national statement*. Australian Commission on Safety and Quality in Health Care. Retrieved 22/07/2016 from http://www.safetyandquality.gov.au/our-work/patient-and-consumer-centred-care/health-literacy/

Australian Council of Social Service. (2016). Poverty in Australia 2016. https://doi.org/https://doi.org/APO-68362

Australian Diabetes Educators Association. (2014). *Diabetes education offers chance to save lives and $3.9 billion*. Australian Diabetes Educators Associaton. Retrieved 18/10/2014 from http://www.adea.com.au/about-us/research/diabetes-education-offers-chance-to-save-lives-and-3-9-billion/

Australian Diabetes Educators Association. (2015). *ADEA*. http://www.adea.com.au/

Australian Diabetes Educators Association. (2020). *National Diabetes Nursing Education Framework 2020 – 2022*. https://www.ndss.com.au/about-diabetes/resources/find-a-resource/national-diabetes-nursing-education-framework/

Australian Government. (2020). Australian Alcohol Guidelines revised. https://www.health.gov.au/news/australian-alcohol-guidelines-revised

Australian Humans Rights Commission. (2015). Resilient individuals: Sexual orientation gender identity & intersex rights national consultation report 2015. Australian Human Rights Commission. https://www.humanrights.gov.au/sites/default/files/document/publication/SOGII%20Rights%20Report%202015_Web_Version.pdf

Australian Institute of Health and Welfare. (2019). *Diabetes*. https://www.aihw.gov.au/reports/diabetes/diabetes

Australian Institute of Health and Welfare. (2022b). *Diabetes: Australian facts.* Retrieved from https://www.aihw.gov.au/reports/diabetes/diabetes

Australian Institute of Health and Welfare. (2020). *National drug strategy household survey 2019* Version 6). https://doi.org/10.26193/WRHDUL

Australian Institute of Family Studies. (2018). *Same-sex parented families in Australia,*. Austarlian Government,. Retrieved 28/11/2018 from https://aifs.gov.au/cfca/publications/same-sex-parented-families-australia/export

Australian Institute of Health and Welfare. (2005). *2004 National drug strategy household survey: first results* (PHE57). AIHW. https://www.aihw.gov.au/reports/illicit-use-of-drugs/2004-ndshs-first-results/contents/table-of-contents

Australian Institute of Health and Welfare. (2019). *Health expenditure Australia 2017–18*. AIHW. Retrieved 19/07/2021 from https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2017-18/contents/summary

Australian Institute of Health and Welfare. (2020). *Alcohol, tobacco & other drugs in Australia*. Australian Government. https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia

Australian Institute of Health and Welfare. (2021a). *Higher education and vocational education*. https://www.aihw.gov.au/reports/australias-welfare/higher-education-and-vocational-education

Australian Institute of Health and Welfare. (2021b). *Social isolation and loneliness*. https://www.aihw.gov.au/reports/australias-welfare/social-isolation-and-loneliness-covid-pandemic

Australian Institute of Health Welfare. (2016). *Australia's health 2016*. https://www.aihw.gov.au/reports/australias-health/australias-health-2016

Australian Institute of Health and Welfare. (2022a). Alcohol, tobacco & other drugs in Australia. Retrieved from https://www.aihw.gov.au/reports/alcohol/alcohol-tobacco-other-drugs-australia

Ayton, D., Manderson, L., Smith, B. J., & Carey, G. (2016). Health promotion in local churches in Victoria: an exploratory study. *Health & Social Care in the Community, 24*(6), 728-738. https://doi.org/https://doi.org/10.1111/hsc.12258

Azagba, S., & Sharaf, M. F. (2011). The effect of job stress on smoking and alcohol consumption. *Health Economics Review, 1*(1), 15. https://doi.org/10.1186/2191-1991-1-15

Back, M. D., Schmukle, S. C., & Egloff, B. (2008). Becoming friends by chance. *Psychological Science, 19*(5), 439-440. https://doi.org/10.1111/j.1467-9280.2008.02106.x

Baker-Hughes, S., & Poston, D. L. (2022). Are gay men more fit? Obesity and overweight differences among gay and straight men. In G. Garcia-Alexander & J. D. L. Poston (Eds.), *International Handbook of the Demography of Obesity* (pp. 273-285). Springer International Publishing. https://doi.org/10.1007/978-3-031-10936-2_16

Baig, A. A., Benitez, A., Quinn, M. T., & Burnet, D. L. (2015). Family interventions to improve diabetes outcomes for adults. *Annals of the New York Academy of Sciences, 1353*(1), 89-112. https://doi.org/10.1111/nyas.12844

Baiocco, R., Fontanesi, L., Santamaria, F., Ioverno, S., Marasco, B., Baumgartner, E., Willoughby, B. L. B., & Laghi, F. (2015). Negative parental responses to coming out and family functioning in a sample of lesbian and gay young adults. *Journal of Child and Family Studies, 24*(5), 1490-1500. https://doi.org/10.1007/s10826-014-9954-z

Baker IDI. (2012). *Diabetes: the silent pandemic and its impact on Australia, .* https://static.diabetesaustralia.com.au/s/fileassets/diabetes-australia/e7282521-472b-4313-b18e-be84c3d5d907.pdf

Baker, P., Friel, S., Kay, A., Baum, F., Strazdins, L., & Mackean, T. (2018). What enables and constrains the inclusion of the social determinants of health inequities in government policy agendas? A narrative review. *International journal of health policy and management, 7*(2), 101-111. https://doi.org/10.15171/ijhpm.2017.130

Balakumar, P., Maung-U, K., & Jagadeesh, G. (2016). Prevalence and prevention of cardiovascular disease and diabetes mellitus. *Pharmacological Research, 113*, 600-609. https://doi.org/https://doi.org/10.1016/j.phrs.2016.09.040

Bamgboye, A. O., Oni, I. O., & Collier, A. (2021). Predisposing factors for the development of diabetic ketoacidosis with lower than anticipated glucose levels in type 2 diabetes patients on SGLT2-inhibitors: a review. *European Journal of Clinical Pharmacology, 77*(5), 651-657. https://doi.org/10.1007/s00228-020-03051-3

Bancroft, J., Carnes, L., Janssen, E., Goodrich, D., & Long, J. S. (2005). Erectile and ejaculatory problems in gay and heterosexual men. *Arch Sex Behav, 34*(3), 285-297. https://doi.org/10.1007/s10508-005-3117-7

Bankoff, S. M., Richards, L. K., Bartlett, B., Wolf, E. J., & Mitchell, K. S. (2016). Examining weight and eating behavior by sexual orientation in a sample of male veterans. *Comprehensive Psychiatry, 68*, 134-139. https://doi.org/10.1016/j.comppsych.2016.03.007

Bansal, V., Mottalib, A., Pawar, T. K., Abbasakoor, N., Chuang, E., Chaudhry, A., Sakr, M., Gabbay, R. A., & Hamdy, O. (2018). Inpatient diabetes management by specialized diabetes team versus primary service team in non-critical care units: impact on 30-day

readmission rate and hospital cost. *BMJ Open Diabetes Research & Care, 6*(1), e000460. https://doi.org/10.1136/bmjdrc-2017-000460

Baram, T., Chen, Y., Burgdorff, C., & Dubé, C. (2008). Short term stress can affect learning and memory. *Science Daily, 20*. https://www.sciencedaily.com/releases/2008/03/080311182434.htm

Barata, D. S., Adan, L. F., Netto, E. M., & Ramalho, A. C. (2013). The effect of the menstrual cycle on glucose control in women with type 1 diabetes evaluated using a continuous glucose monitoring system. *Diabetes Care, 36*(5), e70. https://doi.org/10.2337/dc12-2248

Barendse, S., Singh, H., Frier, B. M., & Speight, J. (2012). The impact of hypoglycaemia on quality of life and related patient-reported outcomes in Type 2 diabetes: a narrative review. *Diabetic Medicine, 29*(3), 293-302. https://doi.org/10.1111/j.1464-5491.2011.03416.x

Bariola, E., Lyons, A., & Leonard, W. (2015). The mental health benefits of relationship formalisation among lesbians and gay men in same-sex relationships. *Australian and New Zealand Journal of Public Health, 39*(6), 530-535. https://doi.org/10.1111/1753-6405.12432

Bariola, E., Lyons, A., & Leonard, W. (2016). Gender-specific health implications of minority stress among lesbians and gay men. *Australian and New Zealand Journal of Public Health, 40*(6), 506-512. https://doi.org/10.1111/1753-6405.12539

Barnard, K., Peveler, R. C., & Holt, R. I. G. (2013). Antidepressant medication as a risk factor for type 2 diabetes and impaired glucose regulation. *Systematic review, 36*(10), 3337-3345. https://doi.org/10.2337/dc13-0560

Barnes, D. M., & Meyer, I. H. (2012). Religious affiliation, internalized homophobia, and mental health in lesbians, gay men, and bisexuals. *American Journal of Orthopsychiatry, 82*(4), 505-515. https://doi.org/10.1111/j.1939-0025.2012.01185.x

Barbon, S., Campos, G. F., Tavares, G. M., Igawa, R. A., Jr, M. L. P., & Guido, R. C. (2018). Detection of human, legitimate bot, and malicious bot in online social networks based on wavelets. *ACM Transactions on Multimedia Computing, Communications, and Applications (TOMM), 14*(1s), 1-17. https://dl.acm.org/doi/abs/10.1145/3183506?casa_token=CaeZJhIlUp8AAAAA:HLeYs73

U0liD-CLyNVElnWOb3YuxtHn1RilZeg-PVWWmsH8f2tdhYb1CbpOdrr2wBe7wSjG1FQ8Pmg

Barr, E., Zimmet, P. Z., Welborn, T. A., Jolley, D., Magliano, D. J., Dunstan, D. W., Cameron, A. J., Dwyer, T., Taylor, H. R., & Tonkin, A. M. (2007). Risk of cardiovascular and all-cause mortality in individuals with diabetes mellitus, impaired fasting glucose, and impaired glucose tolerance: the Australian Diabetes, Obesity, and Lifestyle Study (AusDiab). *Circulation, 116*(2), 151-157. https://doi.org/10.1161/CIRCULATIONAHA.106.685628

Barrett, C., Crameri, P., Lambourne, S., Latham, J. R., & Whyte, C. (2015). Understanding the experiences and needs of lesbian, gay, bisexual and trans Australians living with dementia, and their partners. *Australasian Journal on Ageing, 34*, 34. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=edb&AN=110674807&site=eds-live

Basabas, M. C., Greaves, L., Barlow, F. K., & Sibley, C. G. (2019). Sexual orientation moderates the effect of gender on body satisfaction: Results from a national probability sample. *The Journal of Sex Research*, 1-10. https://doi.org/10.1080/00224499.2019.1667947

Bauer, M., Haesler, E., & Fetherstonhaugh, D. (2016). Let's talk about sex: older people's views on the recognition of sexuality and sexual health in the health-care setting. *Health Expectations, 19*(6), 1237-1250. https://doi.org/10.1111/hex.12418

Baum, F., Ziersch, A., Freeman, T., Javanparast, S., Henderson, J., & Mackean, T. (2020). Strife of Interests: Constraints on integrated and co-ordinated comprehensive PHC in Australia. *Social Science & Medicine, 248*, 112824. https://doi.org/https://doi.org/10.1016/j.socscimed.2020.112824

Baxter, J. (2016). *The modern Australian Family*. Australian Government. Retrieved 26th March from https://aifs.gov.au/sites/default/files/families-week2016-final-20160517.pdf

Bays, H. E., Bazata, D. D., Fox, K. M., Grandy, S., Gavin, J. R., & Group, S. S. (2009). Perceived body image in men and women with type 2 diabetes mellitus: correlation of body mass index with the figure rating scale. *Nutrition Journal, 8*(1), 57. https://doi.org/10.1186/1475-2891-8-57

Beach, L. B., Elasy, T. A., & Gonzales, G. (2018). Prevalence of self-reported diabetes by sexual orientation: Results from the 2014 behavioral risk factor surveillance system. *LGBT Health, 5*(2), 121-130. https://doi.org/10.1089/lgbt.2017.0091

Beach, L. B., Turner, B., Felt, D., Marro, R., & Phillips Ii, G. L. (2018). Risk factors for diabetes are higher among non-heterosexual US high-school students. Pediatric Diabetes, 19(7), 1137-1146. https://doi.org/https://doi.org/10.1111/pedi.12720

Beachum, F. D., & Gullo, G. L. (2020). School leadership: implicit bias and social justice. *Handbook on Promoting Social justice in Education*, 429-454. https://doi.org/https://doi.org/10.1007/978-3-319-74078-2_66-1

Beagan, B. L. (2018). A critique of cultural competence: Assumptions, limitations, and alternatives. In C. L. Frisby & W. T. O'Donohue (Eds.), *Cultural Competence in Applied Psychology: An Evaluation of Current Status and Future Directions* (pp. 123-138). Springer International Publishing. https://doi.org/10.1007/978-3-319-78997-2_6

Becker, C. M., Glascoff, M. A., Felts, W. M., & Kent, C. (2015). Adapting and using quality management methods to improve health promotion. *EXPLORE, 11*(3), 222-228. https://doi.org/https://doi.org/10.1016/j.explore.2015.02.004

Beckerman, L. (2014). PTSD as Aftermath for Bullied LGBT Adolescents: The Case for Comprehensive Assessment. *Social Work in Mental Health, 12*(3), 195-211 https://doi.org/ 10.1080/15332985.2014.888026

Belous, C. K., Wampler, R. S., & Warmels-Herring, T. (2015). Gay male adaptation in the coming-out process. *Journal of Gay & Lesbian Mental Health, 19*(1), 55-71. https://doi.org/10.1080/19359705.2014.921265

Berg, R. C., Munthe-Kaas, H. M., & Ross, M. W. (2016). Internalized homonegativity: A systematic mapping review of empirical research [Article]. *Journal of Homosexuality, 63*(4), 541-558. https://doi.org/10.1080/00918369.2015.1083788

Berger, I., & Mooney-Somers, J. (2016). Smoking cessation programs for lesbian, gay, bisexual, transgender, and intersex people: A content-based systematic review. *Nicotine & Tobacco Research, 19*(12), 1408-1417. https://doi.org/10.1093/ntr/ntw216

Bhati, P., Shenoy, S., & Hussain, M. E. (2018). Exercise training and cardiac autonomic function in type 2 diabetes mellitus: A systematic review. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 12*(1), 69-78. https://doi.org/https://doi.org/10.1016/j.dsx.2017.08.015

Bhavadharini, B., Mohan, V., Dehghan, M., Rangarajan, S., Swaminathan, S., Rosengren, A., Wielgosz, A., Avezum, A., Lopez-Jaramillo, P., Lanas, F., Dans, A. L., Yeates, K., Poirier, P., Chifamba, J., Alhabib, K. F., Mohammadifard, N., Zatońska, K., Khatib, R., Vural Keskinler, M., …Yusuf, S. (2020). White rice intake and incident diabetes: A study of 132,373 participants in 21 countries. *Diabetes Care, 43*(11), 2643. https://doi.org/10.2337/dc19-2335

Bick, J., Dozier, M., Bernard, K., Grasso, D., & Simons, R. (2013). Foster mother–infant bonding: associations between foster mothers' oxytocin production, electrophysiological brain activity, feelings of commitment, and caregiving quality. *Child Development, 84*(3), 826-840. https://doi.org/https://doi.org/10.1111/cdev.12008

Billsberry, J., Hollyoak, B. M., & Talbot, D. L. (2022). Insights into the lived experience of misfits at work: A netnographic study. *European Journal of Work and Organizational Psychology*, 1-17. https://doi.org/10.1080/1359432X.2022.2120802

Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research, 26*(13), 1802-1811. https://doi.org/10.1177/1049732316654870

Blanchet, C., Mathieu, M.-È., St-Laurent, A., Fecteau, S., St-Amour, N., & Drapeau, V. (2018). A systematic review of physical activity interventions in individuals with binge eating disorders. *Current Obesity Reports, 7*(1), 76-88. https://doi.org/10.1007/s13679-018-0295-x

Blasco-Blasco, M., Puig-García, M., Piay, N., Lumbreras, B., Hernández-Aguado, I., & Parker, L. A. (2020). Barriers and facilitators to successful management of type 2 diabetes mellitus in Latin America and the Caribbean: A systematic review. PLoS One, 15(9), e0237542. https://doi.org/10.1371/journal.pone.0237542

Bochenek, M., & Brown, A. W. (2001). Hatred in the hallways : violence and discrimination against lesbian, gay, bisexual, and transgender students in U.S. schools. *32*(5), 302-306. https://doi.org/https://doi.org/10.1080/19325037.2001.10603487

Boisvert, J. A., & Harrell, W. A. (2010). Homosexuality as a risk factor for eating disorder symptomatology in men. *The Journal of Men's Studies, 17*(3), 210-225. https://doi.org/10.3149/jms.1703.210

Bolderdijk, J. W., Gorsira, M., Keizer, K., & Steg, L. (2013). Values determine the (in)effectiveness of informational interventions in promoting pro-environmental behavior. *PloS one, 8*(12), e83911-e83911. https://doi.org/10.1371/journal.pone.0083911

Bonomo, R., Kramer, S., & M. Aubert, V. (2022). Obesity-associated neuropathy: Recent preclinical studies and proposed mechanisms. *Antioxidants & Redox Signaling*. https://doi.org/10.1089/ars.2021.0278

Bonsignore, A., Barranco, R., Morando, A., Fraternali Orcioni, G., & Ventura, F. (2019). MDMA induced cardio-toxicity and pathological myocardial effects: A systematic review of experimental data and autopsy findings [journal article]. *Cardiovascular Toxicology, 19*(6), 493-499. https://doi.org/10.1007/s12012-019-09526-9

Boren, S. A., Fitzner, K. A., Panhalkar, P. S., & Specker, J. E. (2009). Costs and Benefits Associated With Diabetes Education A Review of the Literature. The Diabetes Educator, 35(1), 72-96. https://doi.org/10.1177/0145721708326774

Bornstein, S. (2020). The challenges of behavioral health integration: The persistence of the mind-body problem. *Annals of internal medicine, 173*(2), 151-152. https://doi.org/10.7326/M20-2887

Bosley, A. (2011). Body image and eating disturbance in gay and bisexual men: A review. *Journal of GLBT Family Studies, 7*(5), 457-469. https://doi.org/10.1080/1550428X.2011.623962

Brady, B., Asquith, N. L., Ferfolja, T., & Hanckel, B. (2022). Fear of heterosexism among sexuality and gender diverse staff and students. Journal of Interpersonal Violence, 37(3-4), NP1908-NP1938. https://doi.org/10.1177/0886260520928648

Braun, T. D., Gorin, A. A., Puhl, R. M., Stone, A., Quinn, D. M., Ferrand, J., Abrantes, A. M., Unick, J., Tishler, D., & Papasavas, P. (2021). Shame and self-compassion as risk and protective mechanisms of the internalized weight bias and emotional eating link in individuals seeking bariatric surgery. *Obesity Surgery, 31*(7), 3177-3187. https://doi.org/10.1007/s11695-021-05392-z

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589-597. https://doi.org/10.1080/2159676X.2019.1628806

Braun, V., & Clarke, V. (2022). Conceptual and design thinking for thematic analysis. *Qualitative Psychology, 9*(1), 3-26. https://doi.org/10.1037/qup0000196

Brener, L., Broady, T., Cama, E., & Treloar, C. (2022). The impact of sources of stigma on health care avoidance among gay and bisexual men in Australia. *AIDS Care*, 1-9. https://doi.org/10.1080/09540121.2022.2057410

Brennan, D. J., Crath, R., Hart, T. A., Gadalla, T., & Gillis, L. (2011). Body dissatisfaction and disordered eating among men who have sex with men in Canada [Article]. *International Journal of Men's Health, 10*(3), 253-268. https://doi.org/10.3149/jmh.1003.253

Brennan, J. M. M. (2019). *Navigating the closet: A mixed methods approach to assessing the impact of concealment on psychological outcomes for sexual and gender minorities* (Publication Number 11359) University of Montana]. Montana. https://scholarworks.umt.edu/etd/11359

Brock, R. (2016). How to write in the medical notes. *BMJ, 353*, h5703. https://doi.org/10.1136/sbmj.h5703

Brooks, L. K., Kalyanaraman, N., & Malek, R. (2019). Diabetes Care for patients experiencing homelessness: Beyond metformin and sulfonylureas. *The American Journal of Medicine, 132*(4), 408-412. https://doi.org/https://doi.org/10.1016/j.amjmed.2018.10.033

Brown, C., O'Leary, J., Trau, N., & Legg, A. (2018). *Out at work: From prejudice to pride*. Diversity Council Australia. Retrieved 5th August 2019 from https://www.dca.org.au/research/project/out-work-prejudice-pride

Brown, J., & Trevethan, R. (2010). Shame, internalized homophobia, identity formation, attachment style, and the connection to relationship status in gay men. *American journal of men's health, 4*(3), 267-276. https://doi.org/10.1177/1557988309342002

Brown, L. C., Majumdar, S. R., Newman, S. C., & Johnson, J. A. (2005). History of depression increases risk of type 2 diabetes in younger adults. *Diabetes care, 28*(5), 1063-1067. https://doi.org/https://doi.org/10.2337/diacare.28.5.1063

Brown, M. T., & Bussell, J. K. (2011). Medication adherence: WHO cares? *Mayo Clinic proceedings, 86*(4), 304-314. https://doi.org/10.4065/mcp.2010.0575

Browne, J. L., Holmes-Truscott, E., Ventura, A. D., Hendrieckx, C., Pouwer, F., & Speight, J. (2017). Cohort profiles of the cross-sectional and prospective participant groups in the second Diabetes MILES—Australia (MILES-2) study. *BMJ Open, 7*(2), e012926. https://doi.org/10.1136/bmjopen-2016-012926

Browne, J. L., Ventura, A., Mosely, K., & Speight, J. (2013). 'I call it the blame and shame disease': a qualitative study about perceptions of social stigma surrounding type 2 diabetes. *BMJ Open, 3*(11), e003384-e003384. https://doi.org/10.1136/bmjopen-2013-003384

Brummett, A., & Campo-Engelstein, L. (2021). Conscientious objection and LGBTQ discrimination in the United States. Journal of Public Health Policy, 42(2), 322-330. https://doi.org/10.1057/s41271-021-00281-2

Bull, M. S. P., & Wilson, P. (1991). Homosexual law reform in Australia. *Trends and Issues in Crime and Criminal Justice*(29), 1. https://humanrights.gov.au/our-work/lgbti/publications/human-rights-australias-gays-and-lesbians-1997

Burgess, D. J., Beach, M. C., & Saha, S. (2017). Mindfulness practice: A promising approach to reducing the effects of clinician implicit bias on patients. *Patient Education and Counseling, 100*(2), 372-376. https://doi.org/https://doi.org/10.1016/j.pec.2016.09.005

Burke, S. D., Sherr, D., & Lipman, R. D. (2014). Partnering with diabetes educators to improve patient outcomes. *Diabetes, metabolic syndrome and obesity : targets and therapy, 7*, 45-53. https://doi.org/10.2147/DMSO.S40036

Burke, E. E., & Bribiescas, R. G. (2018). A comparison of testosterone and cortisol levels between gay fathers and non-fathers: A preliminary investigation. *Physiology & Behavior, 193*, 69-81. https://doi.org/https://doi.org/10.1016/j.physbeh.2018.03.011

Buta, M. G. (2020). The disenchantment of medicine. *Medicine and pharmacy reports, 93*(4), 431-434. https://doi.org/10.15386/mpr-1782

Butler, J. (2009). Performativity, precarity and sexual politics. *AIBR. Revista de Antropología Iberoamericana, 4*(3). https://doi.org/10.11156/aibr.040303e

Byrne, A., & Tanesini, A. (2015). Instilling new habits: addressing implicit bias in healthcare professionals. *Advances in Health Sciences Education, 20*(5), 1255-1262. https://doi.org/10.1007/s10459-015-9600-6

Byron, K., Khazanchi, S., & Nazarian, D. (2010). The relationship between stressors and creativity: a meta-analysis examining competing theoretical models. *Journal of Applied Psychology, 95*(1), 201. https://doi.org/10.1037/a0017868

Caceres, B. A., Brody, A. A., Halkitis, P. N., Dorsen, C., Yu, G., & Chyun, D. A. (2018). Sexual orientation differences in modifiable risk factors for cardiovascular disease and cardiovascular disease diagnoses in men. *LGBT Health, 5*(5), 284-294. https://doi.org/10.1089/lgbt.2017.0220

Caceres, B. A., Brody, A., Luscombe, R. E., Primiano, J. E., Marusca, P., Sitts, E. M., & Chyun, D. (2017). A systematic review of cardiovascular disease in sexual minorities. *American Journal of Public Health, 107*(4), e13-e21. https://doi.org/10.2105/AJPH.2016.303630

Caceres, B. A., Hickey, K. T., Heitkemper, E. M., & Hughes, T. L. (2019). An intersectional approach to examine sleep duration in sexual minority adults in the United States: findings from the Behavioral Risk Factor Surveillance System. *Sleep Health: Journal of the National Sleep Foundation, 5*(6), 621-629. https://doi.org/10.1016/j.sleh.2019.06.006

Cacioppo, J. T., & Hawkley, L. C. (2009). Perceived social isolation and cognition. *Trends in cognitive sciences, 13*(10), 447-454. https://doi.org/10.1016/j.tics.2009.06.005

Calder, R., Dunkin, R., Rochford, C., & Nichols, T. (2019). Australian health services: too complex to navigate: a review of the national reviews of Australia's health service arrangements. https://apo.org.au/sites/default/files/resource-files/2019-02/apo-nid223011.pdf

Callaghan, B. C., Gao, L., Li, Y., Zhou, X., Reynolds, E., Banerjee, M., Pop-Busui, R., Feldman, E. L., & Ji, L. (2018). Diabetes and obesity are the main metabolic drivers of peripheral

neuropathy [https://doi.org/10.1002/acn3.531]. *Annals of Clinical and Translational Neurology, 5*(4), 397-405. https://doi.org/https://doi.org/10.1002/acn3.531

Callaghan, T. D., & Van Leent, L. (2019). Homophobia in Catholic schools: An exploration of teachers' rights and experiences in Canada and Australia. *Journal of Catholic Education, 22*(3). https://doi.org/http://dx.doi.org/10.15365/joce.2203032019

Callander, D., Bourne, C., Pell, C., Finlayson, R., Forssman, B., Baker, D., de Wit, J., Hocking, J., Stoové, M., Donovan, B., Kaldor, J., & Guy, R. (2014). Recording the sexual orientation of male patients attending general practice. *Family Practice, 32*(1), 35-40. https://doi.org/10.1093/fampra/cmu061

Calzo, J. P., Austin, S. B., & Micali, N. (2018). Sexual orientation disparities in eating disorder symptoms among adolescent boys and girls in the UK. *European Child and Adolescent Psychiatry, 27*(11), 1483-1490. https://doi.org/10.1007/s00787-018-1145-9

Calzo, J. P., Masyn, K. E., Corliss, H. L., Scherer, E. A., Field, A. E., & Austin, S. B. (2015). Patterns of body image concerns and disordered weight- and shape-related behaviors in heterosexual and sexual minority adolescent males. *Developmental Psychology, 51*(9), 1216-1225. https://doi.org/https://doi.org/10.1037/dev0000027

Cameron, S., & McAllister, I. (2019). Trends in Australian political opinion: Results from the Australian election study 1987–2019. *Canberra, Australian National University*. https://onlinelibrary.wiley.com/doi/abs/10.1002/cpp.2180

Campbell, D. (2016). Economies through application of nonmedical primary-preventative health: Lessons from the healthy country healthy people experience of Australia's aboriginal eople. *International Journal of Environmental Research and Public Health, 13*(4), 400. https://www.mdpi.com/1660-4601/13/4/400

Campbell, D. J. T., Campbell, R. B., Ziegler, C., McBrien, K. A., Hwang, S. W., & Booth, G. L. (2019). Interventions for improved diabetes control and self-management among those experiencing homelessness: protocol for a mixed methods scoping review. *Systematic Reviews, 8*(1), 100. https://doi.org/10.1186/s13643-019-1020-x

Cant, B. (2006). Exploring the implications for health professionals of men coming out as gay in healthcare settings. *Health & Social Care in the Community, 14*(1), 9-16. https://doi.org/https://doi.org/10.1111/j.1365-2524.2005.00583.x

Cao, M., & Cui, B. (2020). Association of educational attainment with adiposity, type 2 diabetes, and coronary artery diseases: A mendelian randomization study. *Frontiers in Public Health, 8*(112). https://doi.org/10.3389/fpubh.2020.00112

Cappuccio, F. P., D'Elia, L., Strazzullo, P., & Miller, M. A. (2010). Quantity and quality of sleep and incidence of type 2 diabetes. *A systematic review and meta-analysis, 33*(2), 414-420. https://doi.org/10.2337/dc09-1124

Captieux, M., Pearce, G., Parke, H. L., Epiphaniou, E., Wild, S., Taylor, S. J. C., & Pinnock, H. (2018). Supported self-management for people with type 2 diabetes: a meta-review of quantitative systematic reviews. *BMJ Open, 8*(12), e024262. https://doi.org/10.1136/bmjopen-2018-024262

Carastathis, G. S., Cohen, L., Chang, P., & Kaczmarek, E. (2013). *Rejected by the family for being lesbian and gay: Exploring and testing factors that contribute to resilience,*. Edith Cowan University. Retrieved 30/07/2015 from http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1700&context=theses

Carbery, G. (2014). Towards homosexual equality In Australian criminal law - A brief history. (3). http://www.alga.org.au/files/towardsequality2ed.pdf (3) (Australian Lesbian & Gay Archives, Inc)

Carpenter, C. S., & Sansone, D. (2021). Cigarette taxes and smoking among sexual minority adults. *Journal of Health Economics, 79*, 102492. https://doi.org/https://doi.org/10.1016/j.jhealeco.2021.102492

Carson, A., Ratcliff, S., & Dufresne, Y. (2018). Public opinion and policy responsiveness: the case of same-sex marriage in Australia. *Australian Journal of Political Science, 53*(1), 3-23. https://doi.org/10.1080/10361146.2017.1381944

Cartwright, C., Hughes, M., & Lienert, T. (2012). End-of-life care for gay, lesbian, bisexual and transgender people. *Culture, Health & Sexuality, 14*(5), 537-548. https://doi.org/10.1080/13691058.2012.673639

Casey, L. S., Reisner, S. L., Findling, M. G., Blendon, R. J., Benson, J. M., Sayde, J. M., & Miller, C. (2019). Discrimination in the United States: Experiences of lesbian, gay, bisexual,

transgender, and queer Americans. *Health Services Research, 54*(S2), 1454-1466. https://doi.org/https://doi.org/10.1111/1475-6773.13229

Cassidy, S., Thoma, C., Hallsworth, K., Parikh, J., Hollingsworth, K. G., Taylor, R., Jakovljevic, D. G., & Trenell, M. I. (2016). High intensity intermittent exercise improves cardiac structure and function and reduces liver fat in patients with type 2 diabetes: a randomised controlled trial. *Diabetologia, 59*(1), 56-66. https://doi.org/10.1007/s00125-015-3741-2

Cecon, N., Pfaff, H., Lee, S., & Dresen, A. (2021). A salutogenic model predicting the need for psycho-oncological care and its utilisation—The role of generalised resistance resources and sense of coherence [https://doi.org/10.1111/ecc.13335]. *European Journal of Cancer Care, 30*(1), e13335. https://doi.org/https://doi.org/10.1111/ecc.13335

Chadwick, S., & Travaglia, J. (2017). Workplace bullying in the Australian health context: a systematic review. *Journal of Health Organization and Management, 31*(3), 286-301. https://doi.org/10.1108/JHOM-09-2016-0166

Chatterjee, S., Davies, M. J., Heller, S., Speight, J., Snoek, F. J., & Khunti, K. (2018). Diabetes structured self-management education programmes: a narrative review and current innovations. The Lancet Diabetes & Endocrinology, 6(2), 130-142. https://doi.org/https://doi.org/10.1016/S2213-8587(17)30239-5

Cheers, H., Rickman, H., Campbell, E., & Ewings, S. J. (2019). Proposal of alternative solutions to address children's rights violation: Conversion therapy. *Social Justice, Practice and Theory,, 2*(2). https://openjournals.library.sydney.edu.au/index.php/SWPS/article/view/14075/0

Cheesmond, N., Davies, K., & Inder, K. J. (2020). The role of the peer support worker in increasing rural mental health help-seeking. *Australian Journal of Rural Health, 28*(2), 203-208. https://doi.org/10.1111/ajr.12603

Chen, L., Pei, J.-H., Kuang, J., Chen, H.-M., Chen, Z., Li, Z.-W., & Yang, H.-Z. (2015). Effect of lifestyle intervention in patients with type 2 diabetes: A meta-analysis. *Metabolism, 64*(2), 338-347. https://doi.org/http://dx.doi.org/10.1016/j.metabol.2014.10.018

Chen, S., & van Ours, J. C. (2018). Subjective well-being and partnership dynamics: Are same-sex relationships different? *Demography, 55*(6), 2299-2320. https://doi.org/10.1007/s13524-018-0725-0

Cherry, C., Kamerman, P., Bennett, D., & Rice, A. (2017). Post-print: HIV-associated sensory neuropathy: still a problem in the post-stavudine era? *figshare. Journal contribution*. https://doi.org/https://doi.org/10.6084/m9.figshare.5374663.v1

Chevinsky, J. D., Wadden, T. A., & Chao, A. M. (2020). Binge eating disorder in patients with type 2 diabetes: diagnostic and management challenges. *Diabetes, metabolic syndrome and obesity : targets and therapy, 13*, 1117-1131. https://doi.org/10.2147/DMSO.S213379

Childs, B. P., Clark, N. G., Cox, D. J., & Cryer, P. E. (2005). Defining and reporting hypoglycemia in diabetes: A report from the American Diabetes Association workgroup on hypoglycemia. *Diabetes Care, 28*(5), 1245-1249. https://search.proquest.com/scholarly-journals/defining-reporting-hypoglycemia-diabetes-report/docview/223052444/se-2?accountid=14844

Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research, 6*(3), 319-340. https://doi.org/10.1177/1468794106065006

Choi, T. S. T., Walker, K. Z., Lombard, C. B., & Palermo, C. (2017a). Optimising the effectiveness of diabetes education in an East Asian population. *Nutrition & Dietetics, 74*(3), 253-260. https://doi.org/https://doi.org/10.1111/1747-0080.12339

Choi, T. S. T., Walker, K. Z., & Palermo, C. (2018b). Diabetes management in a foreign land: A case study on Chinese Australians. *Health & Social Care in the Community, 26*(2), e225-e232. https://doi.org/https://doi.org/10.1111/hsc.12501

Chow, E. P. F., Fairley, C. K., Wigan, R., Hocking, J. S., Garland, S. M., Cornall, A. M., Tabrizi, S. N., & Chen, M. Y. (2021). Accuracy of self-reported human papillomavirus vaccination status among gay and bisexual adolescent males: Cross-sectional study. *JMIR Public Health Surveill, 7*(12), e32407. https://doi.org/10.2196/32407

Christiansen, J., Larsen, F. B., & Lasgaard, M. (2016). Do stress, health behavior, and sleep mediate the association between loneliness and adverse health conditions among older people? [Article]. *Social Science & Medicine, 152*, 80-86. https://doi.org/10.1016/j.socscimed.2016.01.020

Chur-Hansen, A. (2004). Experience of being gay, lesbian or bisexual at an Australian medical school: a qualitative study. *International Journal of Inclusive Education, 8*(3), 281-291. https://doi.org/10.1080/1360311032000160607

Churn, P. A. (2018). Neuroscientific narrative consulting: how to engage our patients. *The British journal of general practice : the journal of the Royal College of General Practitioners, 68*(675), 484-484. https://doi.org/10.3399/bjgp18X699197

Citaristi, I. (2022). United Nations Office on Drugs and Crime—UNODC. In *The Europa Directory of International Organizations 2022* (pp. 248-252). Routledge.

Clair, C., Cohen, M. J., Eichler, F., Selby, K. J., & Rigotti, N. A. (2015). The effect of cigarette smoking on diabetic peripheral neuropathy: a systematic review and meta-analysis. *Journal of General Internal Medicine, 30*(8), 1193-1203. https://doi.org/10.1007/s11606-015-3354-y

Clarke, S. (2017). Cultural congruent care: A reflection on patient outcome. *Journal of Healthcare Communications, 2*(51), 2472-1654. https://doi.org/10.4172/2472-1654.100092

Clay, S., & Brickell, C. (2022). The dad bod: An impossible body? *The Journal of Men's Studies, 30*(1), 70-86. https://doi.org/10.1177/10608265211035790

Coates, V., Slevin, M., Carey, M., Slater, P., & Davies, M. (2018). Declining structured diabetes education in those with type 2 diabetes: A plethora of individual and organisational reasons. Patient Education and Counseling, 101(4), 696-702. https://doi.org/https://doi.org/10.1016/j.pec.2017.10.013

Coelho, A. R., Moreira, F. A., Santos, A. C., Silva-Pinto, A., Sarmento, A., Carvalho, D., & Freitas, P. (2018). Diabetes mellitus in HIV-infected patients: fasting glucose, A1c, or oral glucose tolerance test - which method to choose for the diagnosis? *BMC infectious diseases, 18*(1), 309-309. https://doi.org/10.1186/s12879-018-3221-7

Cohn, L., Murray, S. B., Walen, A., & Wooldridge, T. (2016). Including the excluded: Males and gender minorities in eating disorder prevention. *Eating Disorders, 24*(1), 114-120. https://doi.org/10.1080/10640266.2015.1118958

Cole, S. W. (2006). Social threat, personal identity, and physical health in closeted gay men. In *Sexual orientation and mental health: Examining identity and development in lesbian, gay, and bisexual people.* (pp. 245-267). American Psychological Association. https://doi.org/https://doi.org/10.1037/11261-012

Cooley, D. R. (2020). LGBTQI+ bioethics: A pre-queer theory bioethicist reflects. *Ethics, Medicine and Public Health, 13*, 100486. https://doi.org/https://doi.org/10.1016/j.jemep.2020.100486

Cooper, A., Kanumilli, N., Hill, J., Holt, R. I. G., Howarth, D., Lloyd, C. E., Kar, P., Nagi, D., Naik, S., Nash, J., Nelson, H., Owen, K., Swindell, B., Walker, R., Whicher, C., & Wilmot, E. (2018). Language matters. Addressing the use of language in the care of people with diabetes: position statement of the English Advisory Group. *Diabetic Medicine, 35*(12), 1630-1634. https://doi.org/10.1111/dme.13705

Costello, C., Pourgourides, E., & Youle, M. (2000). Amyl nitrite induced acute haemolytic anaemia in HIV-antibody positive man. *Int J STD AIDS, 11*(5), 334-335. https://doi.org/10.1177/095646240001100510

Cowie, L., & Braun, V. (2022). Between social and biomedical explanation: queer and gender diverse young people's explanations of psychological distress. *Psychology & Sexuality, 13*(5), 1179-1190. https://doi.org/10.1080/19419899.2021.1933147

Cramm, J. M., & Nieboer, A. P. (2015). Disease management: The need for a focus on broader self-management abilities and quality of life. *Population health management, 18*(4), 246-255. https://doi.org/10.1089/pop.2014.0120

Creswell, J. W., & Poth, C. N. (2017). *Qualitative inquiry and research design: choosing among five approaches* (4th ed.). SAGE Publishing LTD. https://d1wqtxts1xzle7.cloudfront.net/55010759/creswell_Qualitative_Inquiry_2nd_edition-with-cover-page-v2.pdf?Expires=1626598450&Signature=avXvh8NbUEVeJXwI7hYHlcY0ynrtg7eSqncuvI8ZAgB91OCN8~mUleb4rE3f6R5TUiies6noQMFlmBgXynHT-EuwYkZO-xalh10pvlsQV9Zjq2ChwmCF108mHLx1fkbdZ5jqYME4gXckNgahfGUpxXVTauTkDuBV5dH0mal1zmv5ZH2AwE-2~OHCo1Ph8tTmnuymJIqdi5xxo1QmU36LV5kxp35g-CX3VH0Odn5o6k28XjK08SDdIC-DCGGCwr7LF1ht3cEe~2VJ2LSBp~yR6MyrHe5NcmgBfCr2Uy46Z44rRlcxGoNHEBYZtB1LNKp1Bkq~I~FMUq-p8YfTbdb5VA__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

Critcher, C. R., & Ferguson, M. J. (2014). The cost of keeping it hidden: decomposing concealment reveals what makes it depleting. *Journal Of Experimental Psychology. General, 143*(2), 721-735. https://doi.org/10.1037/a0033468

Cronley, C., & Evans, R. (2017). Studies of resilience among youth experiencing homelessness: A systematic review. *Journal of Human Behavior in the Social Environment, 27*(4), 291-310. https://doi.org/10.1080/10911359.2017.1282912

Crump, C., Sundquist, J., Winkleby, M. A., & Sundquist, K. (2016). Stress resilience and subsequent risk of type 2 diabetes in 1.5 million young men. *Diabetologia, 59*(4), 728-733. https://doi.org/10.1007/s00125-015-3846-7

Cusack, K. H. C. C. (2019). *Report on the inquiry into conversion therapy - Executive summary*. https://www2.health.vic.gov.au/about/publications/ResearchAndReports/report-on-inquiry-into-conversion-therapy-executive-summary

d'Emden, D. M., Shaw, J. E., Jones, G. R., & Cheung, N. W. (2015). Guidance concerning the use of glycated haemoglobin (HbA1c) for the diagnosis of diabetes mellitus. *Med J Aust, 203*(2), 89-90. https://doi.org/10.5694/mja15.00041

Dalton, D. (2007). Genealogy of the Australian homocriminal subject. *Griffith Law Review, 16*(1), 83-106. https://doi.org/10.1080/10383441.2007.10854583

Dalton, J. M., & Matteis, M. (2014). The effect of family relationships and family support on diabetes self-care activities of older adults: A pilot study. *Self-Care, Dependent-Care & Nursing, 21*(1), 12-22. http://wallaby.vu.edu.au:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=103908764&site=eds-live

Dambha-Miller, H., Feldman, A. L., Kinmonth, A. L., & Griffin, S. J. (2019). Association between primary care practitioner empathy and risk of cardiovascular events and all-cause mortality among patients with type 2 diabetes: A population-based prospective cohort study. *The Annals of Family Medicine, 17*(4), 311. https://doi.org/10.1370/afm.2421

Dane, S., Short, L., & Healy, G. (2016). *"Swimming with sharks": the negative social and psychological impacts of Ireland's marriage equality referendum 'NO' campaign* [Monograph]. https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=ir00502a&AN=VURR.31766&site=eds-live&custid=s1145751

Danielsson, A. K., Lundin, A., Yaregal, A., Östenson, C. G., Allebeck, P., & Agardh, E. E. (2016). Cannabis use as risk or protection for type 2 diabetes: A longitudinal study of 18 000 Swedish men and women [Article]. *Journal of Diabetes Research*, 1-6. https://doi.org/10.1155/2016/6278709

Danielsson, L., Noras, A. M., Waern, M., & Carlsson, J. (2013). Exercise in the treatment of major depression: A systematic review grading the quality of evidence. *Physiotherapy Theory & Practice, 29*(8), 573-585 513p. https://doi.org/10.3109/09593985.2013.774452

Davids, C. M., Watson, L. B., Nilsson, J. E., & Marszalek, J. M. (2015). Body dissatisfaction among gay men: The roles of sexual objectification, gay community involvement, and psychological sense of community. *Psychology of Sexual Orientation and Gender Diversity, 2*(4), 376-385. https://doi.org/10.1037/sgd0000127

Davis, K. (2005). *Costs of the closet* (14472538). University of Melbourne Postgraduate Association. https://link.gale.com/apps/doc/A159180157/AONE?u=anon~aecafc93&sid=googleScholar&xid=620da64d

Day, C. (2012). ADA-EASD diabetes guidance: Individualised treatment of hyperglycaemia. *British Journal of Diabetes and Vascular Disease, 12*(3), 146-151. https://doi.org/10.1177/1474651412450477

De Barros Pinto Grifoni, L., & Navarro, C. M. (2020). Oral lesions secondary to oral sex. *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology, 129*(1), e67. https://doi.org/https://doi.org/10.1016/j.oooo.2019.06.262

de Chesnay, M. (2015). *Nursing research using life history: Qualitative designs and methods in nursing*. Springer Publishing Co. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=psyh&AN=2014-32780-000&site=eds-live

De la Fuente Coria, M. C., Cruz-Cobo, C., & Santi-Cano, M. J. (2020). Effectiveness of a primary care nurse delivered educational intervention for patients with type 2 diabetes mellitus in promoting metabolic control and compliance with long-term therapeutic targets: Randomised controlled trial. International Journal of Nursing Studies, 101, 103417. https://doi.org/https://doi.org/10.1016/j.ijnurstu.2019.103417

de Miguel-Infante, A., Martinez-Huedo, M. A., Mora-Zamorano, E., Hernández-Barrera, V., Jiménez-Trujillo, I., de Burgos-Lunar, C., Cardenas Valladolid, J., Jiménez-García, R., & Lopez-de-Andrés, A. (2019). Periodontal disease in adults with diabetes, prevalence and risk factors. Results of an observational study [https://doi.org/10.1111/ijcp.13294]. *International Journal of Clinical Practice, 73*(3), e13294. https://doi.org/https://doi.org/10.1111/ijcp.13294

De Sousa, A., & Shrivastava, A. (2017). Resilience among people who face natural disaster. *Journal of Psychiatrists' Association of Nepal, 4*(1), 1-4. https://doi.org/10.3126/jpan.v4i1.16735

Deed, G. (2018). *Type 2 diabetes:'individualising care, beyond metformin'* (27). 28). http://www.sol.com.au/delivery/healthed/monographs/Monograph%20%2328.pdf

Delsi, & James. (2016). In *Role models in and out of the LGBTQIA community JOY 94.9*. https://joy.org.au/unicornyouth/2016/07/13/role-models-lgbtqia-community/

Demant, D., Hides, L., White, K. M., & Kavanagh, D. J. (2018). LGBT communities and substance use in Queensland, Australia: Perceptions of young people and community stakeholders. *PLOS ONE, 13*(9), e0204730. https://doi.org/10.1371/journal.pone.0204730

Demb, J. (1992). Are gay men artistic? A review of the literature. *J Homosex, 23*(4), 83-92. https://doi.org/10.1300/J082v23n04_05

Denham, S. A., Ware, L. J., Raffle, H., & Leach, K. (2011). Family inclusion in diabetes education: A nationwide survey of diabetes educators. *Diabetes Educator, 37*(4), 528-535. https://doi.org/10.1177/0145721711411312

Denison, E., Bevan, N., & Jeanes, R. (2021). Reviewing evidence of LGBTQ+ discrimination and exclusion in sport. *Sport Management Review, 24*(3), 389-409. https://doi.org/10.1016/j.smr.2020.09.003

Dentato, M. P. (2012). The minority stress perspective. *Psychology and AIDS Exchange Newsletter*. https://www.apa.org/pi/aids/resources/exchange/2012/04/minority-stress

Denzin, N. K., & Lincoln, Y. S. (1998). *The landscape of qualitative research : theories and issues*. Sage Publications. https://books.google.com.au/books/about/The_Landscape_of_Qualitative_Research.html?id=GHLrswHS_vkC

Department of Health and Ageing. (2021). *Chronic Disease Management Plan - Allied Health Checklist*. Commonwealth of Australia,. https://www.health.gov.au/sites/default/files/documents/2021/12/chronic-disease-management-plan-allied-health-checklist.pdf

Deputy, N. P., & Boehmer, U. (2010). Determinants of body weight among men of different sexual orientation. *Preventive Medicine, 51*(2), 129-131. https://doi.org/https://doi.org/10.1016/j.ypmed.2010.05.010

de Souza Santos, R., Frank, A. P., Nelson, M. D., Garcia, M. M., Palmer, B. F., & Clegg, D. J. (2017). Sex, gender, and transgender: Metabolic mpact of cross hormone therapy. In F. Mauvais-Jarvis (Ed.), *Sex and Gender Factors Affecting Metabolic Homeostasis, Diabetes and Obesity* (pp. 611-627). Springer International Publishing. https://doi.org/10.1007/978-3-319-70178-3_27

De Vaus, D., & Qu, L. (2015). *Living alone and personal wellbeing* (10). Australian Institute of Family Studies. https://aifs.gov.au/publications/living-alone-and-personal-wellbeing

DeWall, C. N., & Pond, R. S. (2011). Loneliness and smoking: The costs of the desire to reconnect. *Self and Identity, 10*(3), 375-385. https://doi.org/10.1080/15298868.2010.524404

Dhunpath, R., & Samuel, M. (2009). *Life history research epistemology, methodology and representation*. Sense Publishers. https://www.amazon.com/Life-History-Research-Epistemology-Representation/dp/9087908563

Diabetes Australia. (2015). Retrieved 21/06/2015 from https://www.diabetesaustralia.com.au/diabetes-in-australia

Diabetes Australia. (2020). *Diabetes in Australia*. Diabetes Australia. Retrieved 26th May from https://www.diabetesaustralia.com.au/diabetes-in-australia

Dickinson, J. K., Guzman, S. J., Maryniuk, M. D., O'Brian, C. A., Kadohiro, J. K., Jackson, R. A., D'Hondt, N., Montgomery, B., Close, K. L., & Funnell, M. M. (2017). The use of language in diabetes care and education. *Diabetes Care, 40*(12), 1790-1799. https://doi.org/10.2337/dci17-0041

DiMatteo, M. R., Lepper, H. S., & Croghan, T. W. (2000). Depression is a risk factor for noncompliance with medical treatment: meta-analysis of the effects of anxiety and depression on aptient adherence. *Archives of Internal Medicine, 160*(14), 2101-2107. https://doi.org/10.1001/archinte.160.14.2101

Dinca-Panaitescu, M., Dinca-Panaitescu, S., Raphael, D., Bryant, T., Pilkington, B., & Daiski, I. (2012). The dynamics of the relationship between diabetes incidence and low income: Longitudinal results from Canada's National Population Health Survey [Article]. *Maturitas, 72*(3), 229-235. https://doi.org/10.1016/j.maturitas.2012.03.017

Dinenberg, R. E., McCaslin, S. E., Bates, M. N., & Cohen, B. E. (2014). Social support may protect against development of posttraumatic stress disorder: Findings from the heart and soul study. *American Journal of Health Promotion, 28*(5), 294-297. https://doi.org/https://doi.org/10.4278/ajhp.121023-quan-511

Dong, J.-Y., Zhang, Y.-H., & Qin, L.-Q. (2011). Erectile dysfunction and risk of cardiovascular disease. *Journal of the American College of Cardiology, 58*(13), 1378. https://doi.org/10.1016/j.jacc.2011.06.024

Dowsett, G. W. (2007). Researching gay men's health: The promise of qualitative methodology. In I. H. Meyer & M. E. Northridge (Eds.), *The Health of Sexual Minorities: Public Health Perspectives on Lesbian, Gay, Bisexual and Transgender Populations* (pp. 419-441). Springer US. https://doi.org/10.1007/978-0-387-31334-4_16

Dowsett, G. W., Lyons, A., Duncan, D., & Wassersug, R. J. (2014). Flexibility in men's sexual practices in response to iatrogenic erectile dysfunction after prostate cancer treatment. *Sexual Medicine, 2*(3), 115-120. https://doi.org/https://doi.org/10.1002/sm2.32

Dreyer, K., Steventon, A., Fisher, R., & Deeny, S. R. (2018). The association between living alone and health care utilisation in older adults: a retrospective cohort study of electronic health records from a London general practice. *BMC Geriatrics, 18*(1), 269. https://doi.org/10.1186/s12877-018-0939-4

Dubois, E., & Blank, G. (2018). The echo chamber is overstated: the moderating effect of political interest and diverse media. *Information, Communication & Society, 21*(5), 729-745. https://doi.org/10.1080/1369118X.2018.1428656

Duncan, A. D., Peters, B. S., Rivas, C., & Goff, L. M. (2019). Reducing risk of Type 2 diabetes in HIV: a mixed-methods investigation of the STOP-Diabetes diet and physical activity intervention. *Diabetic Medicine*. https://doi.org/10.1111/dme.13927

Duncan, I., Ahmed, T., Li, Q., Stetson, B., Ruggiero, L., Burton, K., Rosenthal, D., & Fitzner, K. (2011). Assessing the value of the diabetes educator. *The Diabetes Educator, 37*(5), 638-657. https://doi.org/10.1177/0145721711416256

Dunning, T., Speight, J., & Bennett, C. (2017). Language, the "diabetes restricted code/dialect," and what it means for people with diabetes and clinicians. *The Diabetes Educator, 43*(1), 18-26. https://doi.org/10.1177/0145721716683449

Duvivier, B. M. F. M., Schaper, N. C., Hesselink, M. K. C., van Kan, L., Stienen, N., Winkens, B., Koster, A., & Savelberg, H. H. C. M. (2017). Breaking sitting with light activities vs structured exercise: a randomised crossover study demonstrating benefits for glycaemic control and insulin sensitivity in type 2 diabetes. *Diabetologia, 60*(3), 490-498. https://doi.org/10.1007/s00125-016-4161-7

Dwyer, A., Ball, M., Lee, M., Crofts, T., & Bond, C. (2020). Barriers stopping LGBTI people from accessing LGBTI police liaison officers: analysing interviews with community and police. *Criminal Justice Studies, 33*(3), 256-275. https://doi.org/10.1080/1478601X.2020.1786280

Ecker, J., Aubry, T., & Sylvestre, J. (2019a). A review of the literature on LGBTQ adults who experience homelessness. *Journal of Homosexuality, 66*(3), 297-323. https://doi.org/10.1080/00918369.2017.1413277

Ecker, S., Riggle, E. D. B., Rostosky, S. S., & Byrnes, J. M. (2019b). Impact of the Australian marriage equality postal survey and debate on psychological distress among lesbian, gay, bisexual, transgender, intersex and queer/questioning people and allies. *Australian Journal of Psychology, 71*(3), 285-295. https://doi.org/10.1111/ajpy.12245

Ecker, S., Rostosky, S. S., Riggle, E. D. B., Riley, E. A., & Byrnes, J. M. (2019c). The Australian marriage equality debate: A qualitative analysis of the self-reported lived experience of lesbian, gay, bisexual, transgender, intersex, and queer (LGBTIQ) people. *International Perspectives in Psychology: Research, Practice, Consultation, 8*(4), 212-226. https://doi.org/10.1037/ipp0000116

Economics Deloitte Access. (2020). *The value of informal care in 2020*. https://www2.deloitte.com/au/en/pages/economics/articles/value-of-informal-care-2020.html

Ehrlich, C., Kendall, E., Parekh, S., & Walters, C. (2016). The impact of culturally responsive self-management interventions on health outcomes for minority populations: A systematic review. *Chronic Illness, 12*(1), 41-57. https://doi.org/10.1177/1742395315587764

Einhorn, D., Stewart, D., Erman, M., Gordon, N., Philis-Tsimikas, A., & Casal, E. (2007). Prevalence of sleep apnea in a population of adults with type 2 diabetes mellitus. *Endocrine Practice, 13*(4), 355-362. https://doi.org/10.4158/ep.13.4.355

Elmasry, A., Lindberg, E., Berne, C., Janson, C., Gislason, T., Awad Tageldin, M., & Boman, G. (2001). Sleep-disordered breathing and glucose metabolism in hypertensive men: a population-based study. *J Intern Med, 249*(2), 153-161. https://doi.org/https://doi.org/10.1046/j.1365-2796.2001.00787.x

English, E., Idris, I., Smith, G., Dhatariya, K., Kilpatrick, E. S., & John, W. G. (2015). The effect of anaemia and abnormalities of erythrocyte indices on HbA1c analysis: a systematic review. *Diabetologia, 58*(7), 1409-1421. https://doi.org/10.1007/s00125-015-3599-3

Eres, R., Postolovski, N., Thielking, M., & Lim, M. H. (2021). Loneliness, mental health, and social health indicators in LGBTQIA+ Australians. *American Journal of Orthopsychiatry, 91*(3), 358.

Eriksson, M., & Lindström, B. (2005). Validity of Antonovsky's sense of coherence scale: a systematic review. *Journal of Epidemiology and Community Health, 59*(6), 460-466. https://doi.org/10.1136/jech.2003.018085

Erriu, M., Cimino, S., & Cerniglia, L. (2020). The role of family relationships in eating disorders in adolescents: A narrative review. Behavioral Sciences, 10(4), 71. https://www.mdpi.com/2076-328X/10/4/71

Ervasti, J., Kivimäki, M., Dray-Spira, R., Head, J., Goldberg, M., Pentti, J., Jokela, M., Vahtera, J., Zins, M., & Virtanen, M. (2016). Psychosocial factors associated with work disability in men and women with diabetes: a pooled analysis of three occupational cohort studies. *Diabetic Medicine, 33*(2), 208-217. https://doi.org/10.1111/dme.12821

Erzen, E., & Çikrikci, Ö. (2018). The effect of loneliness on depression: A meta-analysis. *International Journal of Social Psychiatry, 64*(5), 427-435. https://doi.org/10.1177/0020764018776349

Escobar-Viera, C. G., Whitfield, D. L., Wessel, C. B., Shensa, A., Sidani, J. E., Brown, A. L., Chandler, C. J., Hoffman, B. L., Marshal, M. P., & Primack, B. A. (2018). For better or for worse? A systematic review of the evidence on social media use and depression among lesbian, gay, and bisexual minorities. *JMIR Ment Health, 5*(3), e10496. https://doi.org/10.2196/10496

Etherington, K. (2009). Life story research: a relevant methodology for counsellors and psychotherapists. *Counselling & Psychotherapy Research, 9*(4), 225-233. https://doi.org/10.1080/14733140902975282

Evans-Winters, V. E., & Hines, D. E. (2020). Unmasking white fragility: how whiteness and white student resistance impacts anti-racist education. *Whiteness and Education, 5*(1), 1-16. https://doi.org/10.1080/23793406.2019.1675182

Everett, B. G. (2013). Sexual orientation disparities in sexually transmitted infections: examining the intersection between sexual identity and sexual behavior. *Archives of sexual behavior, 42*(2), 225-236. https://doi.org/10.1007/s10508-012-9902-1

Fair Work Commission. (2016). *Australian workplace relations study*. Fair Work Commission,. Retrieved 3rd September, from https://www.fwc.gov.au/about-us/strategy-and-research/research/australian-workplace-relations-study

Fang, M., Wang, D., Coresh, J., & Selvin, E. (2021). Trends in diabetes treatment and control in U.S. adults, 1999–2018. *New England Journal of Medicine, 384*(23), 2219-2228. https://doi.org/10.1056/NEJMsa2032271

Fasoli, F., & Maass, A. (2018). Voice and Prejudice: The Social Costs of Auditory Gaydar. *Atlantic Journal of Communication, 26*(2), 98-110. https://doi.org/10.1080/15456870.2018.1432617

Feher, M., Hinton, W., Munro, N., & de Lusignan, S. (2019). Obstructive sleep apnoea in Type 2 diabetes mellitus: increased risk for overweight as well as obese people included in a national primary care database analysis. *Diabetic Medicine, 36*(10), 1304-1311. https://doi.org/10.1111/dme.13968

Feinstein, B. A. (2019). The rejection sensitivity model as a framework for understanding sexual minority mental health. *Archives of Sexual Behavior*, 1-12. https://doi.org/https://doi.org/10.1007/s10508-019-1428-3

Feldman, J. (2002). New onset of type 2 diabetes mellitus with feminizing hormone therapy: Case series. *International Journal of Transgenderism, 6*(2). https://www.scopus.com/inward/record.uri?eid=2-s2.0-3943109496&partnerID=40&md5=96e0f121c7754f86d394b6d629833681

Feldman, M. B., & Meyer, I. H. (2007). Eating disorders in diverse lesbian, gay, and bisexual populations. *International Journal of Eating Disorders, 40*(3), 218-226. https://doi.org/https://doi.org/10.1002/eat.20360

FeldmanHall, O., Dunsmoor, J. E., Tompary, A., Hunter, L. E., Todorov, A., & Phelps, E. A. (2018). Stimulus generalization as a mechanism for learning to trust. *Proceedings of the National Academy of Sciences, 115*(7), E1690-E1697. https://doi.org/10.1073/pnas.1715227115

Feller, S., Teucher, B., Kaaks, R., Boeing, H., & Vigl, M. (2013). Life satisfaction and risk of chronic diseases in the European prospective investigation into cancer and nutrition (EPIC)-Germany study. *PloS one, 8*(8), e73462-e73462. https://doi.org/10.1371/journal.pone.0073462

Fincham, F. D., Seibert, G. S., May, R. W., Wilson, C. M., & Lister, Z. D. (2018). Religious Coping and Glycemic Control in Couples with Type 2 Diabetes. *Journal of Marital and Family Therapy, 44*(1), 138-149. https://doi.org/doi:10.1111/jmft.12241

Fingerman, K. L., Kim, K., Davis, E. M., Furstenberg Jr., F. F., Birditt, K. S., & Zarit, S. H. (2015). "I'll give you the world": Socioeconomic differences in parental support of adult children. *Journal of Marriage and Family, 77*(4), 844-865. https://doi.org/10.1111/jomf.12204

Fish, J. A., Wilson, C., Prichard, I., Ettridge, K., & Grunfeld, E. A. (2019). Understanding variation in men's help-seeking for cancer symptoms: A semistructured interview study. *Psychology of Men and Masculinity, 20*(1), 61-70. https://doi.org/10.1037/men0000152

Fisher, M., Baum, F. E., MacDougall, C., Newman, L., & McDermott, D. (2016). To what extent do Australian health policy documents address social determinants of health and health equity? *Journal of Social Policy, 45*, 545. https://doi.org/https://doi.org/10.1017/s0047279415000756

Flood, M., & Hamilton, C. (2007). *Mapping homophobia in Australia*. Australia Institute Webpaper,. https://australiainstitute.org.au/wp-content/uploads/2020/12/WP79_8.pdf

Fogel, S. C. (2016). Internalized homophobia, disclosure, and health. In *Lesbian, gay, bisexual, and transgender healthcare: A clinical guide to preventative, primary, and specialist care* (pp. 39-48). Springer International Publishing. https://doi.org/10.1007/978-3-319-19752-4_4

Francis, L. J., & Lankshear, D. W. (2021). Personal predictors of congregational bonding social capital: A study among churchgoers in a multi-cultural society. In L. J. Francis & D. W. Lankshear (Eds.), *The Science of Congregation Studies: Searching for Signs of Growth* (pp. 205-225). Springer International Publishing. https://doi.org/10.1007/978-3-030-76107-3_10

Franklin, J. D., Bourne, A., & Lyons, A. (2022). Characteristics and functions of subcultural identities in the lives of gay, bisexual, and queer-identifying men in Australia. *Psychology & Sexuality, 13*(3), 459-473. https://doi.org/10.1080/19419899.2020.1856172

Fraser, B., Pierse, N., Chisholm, E., & Cook, H. (2019). LGBTIQ+ homelessness: A review of the literature. *International journal of environmental research and public health, 16*(15). https://doi.org/10.3390/ijerph16152677

Fredriksen-Goldsen, K. I., Hyun-Jun, K., Barkan, S. E., Muraco, A., & Hoy-Ellis, C. P. (2013). Health disparities among lesbian, gay, and bisexual older adults: Results from a population-based study. *American Journal of Public Health, 103*(10), 1802-1809. https://doi.org/https://doi.org/10.2105/ajph.2012.301110

Fries, C. J. (2020). Healing health care: From sick care towards salutogenic healing systems. *Social Theory & Health, 18*(1), 16-32. https://doi.org/10.1057/s41285-019-00103-2

Frost, D. M., & Meyer, I. H. (2009). Internalized Homophobia and Relationship Quality among Lesbians, Gay Men, and Bisexuals. *Journal of counseling psychology, 56*(1), 97-109. https://doi.org/10.1037/a0012844

Funnell, M. M., Nwankwo, R., Gillard, M. L., Anderson, R. M., & Tang, T. S. (2005). Implementing an empowerment-based diabetes self-management education program. *The Diabetes Educator, 31*(1), 53-61. https://doi.org/10.1177/0145721704273166

Gades, N. M., Nehra, A., Jacobson, D. J., McGree, M. E., Girman, C. J., Rhodes, T., Roberts, R. O., Lieber, M. M., & Jacobsen, S. J. (2005). Association between smoking and erectile dysfunction: A population-based study. *American Journal of Epidemiology, 161*(4), 346-351. https://doi.org/10.1093/aje/kwi052

Galasso, L., Montaruli, A., Jankowski, K. S., Bruno, E., Castelli, L., Mulè, A., Chiorazzo, M., Ricceri, A., Erzegovesi, S., Caumo, A., Roveda, E., & Esposito, F. (2020). Binge eating disorder: What is the role of physical activity associated with dietary and psychological treatment? *Nutrients, 12*(12), 3622. https://doi.org/https://doi.org/10.3390/nu12123622

Galea, S. (2021a). Why health? *Recenti progressi in medicina, 112*(6), 413-415. https://doi.org/10.1701/3620.36023

Galea, S. (2021b). [Why health?]. *Recenti progressi in medicina, 112*(6), 413-415. https://doi.org/10.1701/3620.36023

Galinsky, A. M., Ward, B. W., Joestl, S. S., & Dahlhamer, J. M. (2018, 2018/02/01/). Sleep duration, sleep quality, and sexual orientation: findings from the 2013-2015 National Health Interview Survey. *Sleep Health, 4*(1), 56-62. https://doi.org/https://doi.org/10.1016/j.sleh.2017.10.004

Gao, S., Assink, M., Cipriani, A., & Lin, K. (2017, 2017/11/01/). Associations between rejection sensitivity and mental health outcomes: A meta-analytic review. *Clinical Psychology Review, 57*, 59-74. https://doi.org/https://doi.org/10.1016/j.cpr.2017.08.007

Gardner, B., & Lally, P. (2018). Modelling Habit Formation and Its Determinants. In B. Verplanken (Ed.), *The Psychology of Habit: Theory, Mechanisms, Change, and Contexts* (pp. 207-229). Springer International Publishing. https://doi.org/10.1007/978-3-319-97529-0_12

Garnero, T. L. (2010). Providing culturally sensitive diabetes care and education for the lesbian, gay, bisexual, and transgender (LGBT) community. *Diabetes Spectrum 23*(3), 178-182. https://doi.org/10.2337/diaspect.23.3.1

Ghazi, L., Baker, J. V., Sharma, S., Jain, M. K., Palfreeman, A., Necsoi, C., Murray, D. D., Neaton, J. D., & Drawz, P. E. (2019). Role of Inflammatory biomarkers in the prevalence and incidence of hypertension among HIV-positive participants in the START trial. *American Journal of Hypertension, 33*(1), 43-52. https://doi.org/10.1093/ajh/hpz132

Ghitza, U. E., Wu, L. T., & Tai, B. (2013). Integrating substance abuse care with community diabetes care: Implications for research and clinical practice. *Substance Abuse and Rehabilitation, 4*, 3-10. https://doi.org/https://doi.org/10.2147/sar.s39982

Gill, V., & Tracey, S. (2003). Finding oneself, losing oneself: the lesbian and gay 'scene' as a paradoxical space. *International Journal of Urban and Regional Research*(4), 849. https://doi.org/https://doi.org/10.1111/j.0309-1317.2003.00487.x

Gillani, N., Yuan, A., Saveski, M., Vosoughi, S., & Roy, D. (2018). *Me, my echo chamber, and I: Introspection on social media polarization* Proceedings of the 2018 World Wide Web Conference, Lyon, France. https://doi.org/10.1145/3178876.3186130

Giugliano, D., Maiorino, M. I., Bellastella, G., & Esposito, K. (2019). Clinical inertia, reverse clinical inertia, and medication non-adherence in type 2 diabetes. *Journal of Endocrinological Investigation, 42*(5), 495-503. https://doi.org/10.1007/s40618-018-0951-8

Gobin, R., Tian, D., Liu, Q., & Wang, J. (2020). Periodontal diseases and the risk of metabolic syndrome: An updated systematic review and meta-analysis [Systematic Review]. *Frontiers in Endocrinology, 11*(336). https://doi.org/10.3389/fendo.2020.00336

Goddu, A., O'Conor, K. J., Lanzkron, S., Saheed, M. O., Saha, S., Peek, M. E., Haywood, C., Jr, & Beach, M. C. (2018). Do words matter? Stigmatizing language and the transmission of bias in the medical record. Journal of general internal medicine, 33(5), 685-691. https://doi.org/10.1007/s11606-017-4289-2

Goldmeier, D., & Leiblum, S. R. (2005). STIs and sexual dysfunction. *Sexually Transmitted Infections, 81*(5), 364. https://doi.org/10.1136/sti.2005.015727

Gonzales, G., Dedania, R., & Driscoll, R. (2019). Health insurance coverage and access to care among US-born and foreign-born sexual minorities. *Journal of Immigrant and Minority Health, 21*(3), 540-548. https://doi.org/10.1007/s10903-018-0774-x

Goodwin, B. C., Ralph, N., Ireland, M. J., Hyde, M. K., Oliffe, J. L., Dunn, J., & Chambers, S. (2020). The role of masculinities in psychological and emotional help seeking by men with prostate cancer. *Psycho-Oncology, 29*(2), 356-363. https://doi.org/https://doi.org/10.1002/pon.5264

Goter, B., & Ferraro, F. R. (2011). An analysis of eating disorders in heterosexual and homosexual males [Article]. *Psychology Journal, 8*(2), 61-69. https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=afh&AN=63481253&site=eds-live&custid=s1145751

Gough, B. (2007). Coming Out in the heterosexist world of sport: A qualitative analysis of web postings by gay athletes. *Journal of Gay & Lesbian Psychotherapy, 11*(1/2), 153. https://doi.org/https://doi.org/10.1300/j236v11n01_11

Gough, B., & Flanders, G. (2009). Celebrating" obese" bodies: gay" bears" talk about weight, body image and health. *International Journal of Men's Health, 8*(3). https://doi.org/10.3149/JMH.0803.235

Grabski, B., Kasparek, K., Koziara, K., & Mijas, M. (2022). Erectile Problems in Polish Straight, Bisexual, and Gay Men: Does Sexual Identity Really Matter? *The Journal of Sex Research*, 1-11. https://doi.org/10.1080/00224499.2022.2074952

Grabski, B., Kasparek, K., Müldner-Nieckowski, Ł., & Iniewicz, G. (2019). Sexual Quality of Life in Homosexual and Bisexual Men: The Relative Role of Minority Stress. *The Journal of Sexual Medicine, 16*(6), 860-871. https://doi.org/https://doi.org/10.1016/j.jsxm.2019.03.274

Graham, N. A., Polles, A., & Gold, M. S. (2006). Performance enhancing, non-prescription use of erectile dysfunction medications. *Journal of Addictive Diseases, 25*(1), 61-68. https://doi.org/10.1300/J069v25S01_06

Grant, R., Smith, A. K. J., Newett, L., Nash, M., Turner, R., & Owen, L. (2021). Tasmanian healthcare professionals' & students' capacity for LGBTI + inclusive care: A qualitative inquiry. *Health & Social Care in the Community, 29*(4), 957-966. https://doi.org/https://doi.org/10.1111/hsc.13130

Graves, T. D., & Mitchell, S. (2003). Acute haemolytic anaemia after inhalation of amyl nitrite. *Journal of the Royal Society of Medicine, 96*(12), 594-595. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC539661/

Greyson, D. (2018). Information triangulation: A complex and agentic everyday information practice. Journal of the Association for Information Science and Technology, 69(7), 869-878. https://doi.org/https://doi.org/10.1002/asi.24012

Grierson, J., & Smith, A. M. A. (2005). In from the outer: Generational differences in coming out and gay identity formation. *Journal of Homosexuality, 50*(1), 53-70. https://doi.org/https://doi.org/10.1300/j082v50n01_03

Griffiths, S., Murray, S. B., Dunn, M., & Blashill, A. J. (2017). Anabolic steroid use among gay and bisexual men living in Australia and New Zealand: Associations with demographics, body dissatisfaction, eating disorder psychopathology, and quality of life. *Drug Alcohol Depend, 181*, 170-176. https://doi.org/10.1016/j.drugalcdep.2017.10.003

Grogan, S., Conner, M., & Smithson, H. (2006). Sexuality and exercise motivations: are gay men and heterosexual women most likely to be motivated by concern about weight and appearance? *Sex Roles, 55*(7), 567-572. https://doi.org/10.1007/s11199-006-9110-3

Grogan, K., MacGarry, D., Bramham, J., Scriven, M., Maher, C., & Fitzgerald, A. (2020). Family-related non-abuse adverse life experiences occurring for adults diagnosed with eating disorders: a systematic review. *Journal of Eating Disorders, 8*(1), 36. https://doi.org/10.1186/s40337-020-00311-6

Guasp, A. (2013). *2013 gay and bisexual men's health survey*. Stonewall. Retrieved 09/07/2018 from https://www.stonewall.org.uk/resources/gay-and-bisexual-men%E2%80%99s-health-survey-2013

Gucciardi, E., Xu, C., Vitale, M., Lou, W., Horodezny, S., Dorado, L., Sidani, S., & Shah, B. R. (2020). Evaluating the impact of onsite diabetes education teams in primary care on clinical outcomes. *BMC Family Practice, 21*(1), 48. https://doi.org/10.1186/s12875-020-01111-2

Guidi, J., Lucente, M., Sonino, N., & Fava, G. A. (2021). Allostatic Load and Its Impact on Health: A Systematic Review. *Psychotherapy and Psychosomatics, 90*(1), 11-27. https://doi.org/10.1159/000510696

Gunn, K. L., Seers, K., Posner, N., & Coates, V. (2012). 'Somebody there to watch over you': the role of the family in everyday and emergency diabetes care. *Health & Social Care in the Community, 20*(6), 591-598. https://doi.org/10.1111/j.1365-2524.2012.01073.x

Gupta, N., & Sheng, Z. (2020). Disparities in the hospital cost of cardiometabolic diseases among lesbian, gay, and bisexual Canadians: a population-based cohort study using linked data.

Canadian Journal of Public Health, 111(3), 417-425. https://doi.org/10.17269/s41997-020-00296-4

Gustafsson, E., Levréro, F., Reby, D., & Mathevon, N. (2013). Fathers are just as good as mothers at recognizing the cries of their baby. *Nature Communications, 4*(1), 1698. https://doi.org/10.1038/ncomms2713

Hadley, R. A. (2021). 'No longer invincible': the impact of involuntary childlessness on older men. *Physical Therapy Reviews, 26*(5), 328-343. https://doi.org/10.1080/10833196.2021.1884172

Hafenbrack, A. C., Kinias, Z., & Barsade, S. G. (2014). Debiasing the mind through meditation:mindfulness and the sunk-cost bias. *Psychological Science, 25*(2), 369-376. https://doi.org/10.1177/0956797613503853

Hagmaier, T., Abele, A. E., & Goebel, K. (2018). How do career satisfaction and life satisfaction associate? *Journal of Managerial Psychology, 33*(2), 142-160. https://doi.org/https://doi.org/10.1108/jmp-09-2017-0326

Haj Mouhamed, D., Ezzaher, A., Neffati, F., Douki, W., Gaha, L., & Najjar, M. F. (2014). Original article: Effect of cigarette smoking on insulin resistance risk. *Risque d'insulino-résistance chez les fumeurs (French), 65*(1), 21-25. https://doi.org/10.1016/j.ancard.2014.12.001

Halkitis, P. N., Fischgrund, B. N., & Parsons, J. T. (2005). Explanations for Methamphetamine Use Among Gay and Bisexual Men in New York City. *Substance Use & Misuse, 40*(9-10), 1331-1345. https://doi.org/10.1081/JA-200066900

Hall & Partners. (2014). *Beyondblue Men's connectedness project*. Hall & Partners. www.mengage.org.au/images/bw0276-mens-social-connectedness-final.pdf

Hamdi, Z., Detzen, L., Fessi, S., Julia, C., Hercberg, S., Czernichow, S., Boillot, A., Touvier, M., Bouchard, P., Andreeva, V. A., & Carra, M. C. (2021). Alcoholic beverage consumption, smoking habits, and periodontitis: A cross-sectional investigation of the NutriNet-Santé study. *Journal of Periodontology, 92*(5), 727-737. https://doi.org/https://doi.org/10.1002/JPER.20-0192

Hammoud, M., Jin, F., Degenhardt, L., Lea, T., Grierson, J., Mackie, B., Pastorelli, M., Batrouney, C., Bath, N., Bradley, J., & Prestage, G. (2016). *Flux: following lives undergoing change, gay community life, drug use, and taking care of ourselves and each other, report 2014-15.* UNSW. https://www.sciencedirect.com/science/article/abs/pii/S0955395916303589?via%3Dihub

Handelsman, Y., & Jellinger, P. S. (2011). Overcoming obstacles in risk factor management in type 2 diabetes mellitus. *The Journal of Clinical Hypertension, 13*(8), 613-620. https://doi.org/10.1111/j.1751-7176.2011.00490.x

Hansen, T., Sørensen, M. I., & Eriksen, M.-L. R. (2018). How the interplay between consumer motivations and values influences organic food identity and behavior. *Food Policy, 74*, 39-52. https://doi.org/https://doi.org/10.1016/j.foodpol.2017.11.003

Harris, S. R., Carrillo, M., & Fujioka, K. (2021). Binge-eating disorder and type 2 diabetes: a review. *Endocrine Practice, 27*(2), 158-164. https://doi.org/https://doi.org/10.1016/j.eprac.2020.10.005

Harville, E. W., Zhang, J., & Hatch, M. C. (2004). Oral sex and gum disease. *Sexually Transmitted Infections, 80*(5), 418. https://doi.org/10.1136/sti.2003.009027

Hassanein, M., Al-Arouj, M., Hamdy, O., Bebakar, W. M. W., Jabbar, A., Al-Madani, A., Hanif, W., Lessan, N., Basit, A., Tayeb, K., Omar, M. A. K., Abdallah, K., Al Twaim, A., Buyukbese, M. A., El-Sayed, A. A., & Ben-Nakhi, A. (2017). Diabetes and Ramadan: Practical guidelines. *Diabetes Research and Clinical Practice, 126*, 303-316. https://doi.org/https://doi.org/10.1016/j.diabres.2017.03.003

Hatzenbuehler, M. L., O'Cleirigh, C., Grasso, C., Mayer, K., Safren, S., & Bradford, J. (2011). Effect of same-sex marriage laws on health care use and expenditures in sexual minority men: A quasi-natural experiment. *American Journal of Public Health, 102*(2), 285-291. https://doi.org/10.2105/AJPH.2011.300382

Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including Avoidant/Restrictive Food Intake Disorder (ARFID), in the Australian population. *Journal of Eating Disorders, 5*(1), 21. https://doi.org/10.1186/s40337-017-0149-z

Haynes, K. (2012). Reflexivity in qualitative research. In *Qualitative organizational research: Core methods and current challenges* (pp. 72-89). SAGE publications, Inc. https://doi.org/https://doi.org/10.4135/9781526435620.n5

Haynes, A., McVeigh, J., Hissen, S. L., Howie, E. K., Eastwood, P. R., Straker, L., Mori, T. A., Beilin, L., Ainslie, P. N., & Green, D. J. (2021). Participation in sport in childhood and adolescence: Implications for adult fitness. *Journal of Science and Medicine in Sport, 24*(9), 908-912. https://doi.org/https://doi.org/10.1016/j.jsams.2021.05.004

Hazzard, V. M., Loth, K. A., Hooper, L., & Becker, C. B. (2020). Food insecurity and eating disorders: a review of emerging evidence. *Current psychiatry reports, 22*(12), 74-74. https://doi.org/10.1007/s11920-020-01200-0

Hendrie, D. (2020). *Report questioning value of GP referral draws RACGP fire*. https://www1.racgp.org.au/newsgp/professional/report-questioning-value-of-gp-referrals-draws-rac?fbclid=IwAR17tDGN_swwsZhUv6NpkNFNFs4dSTndORhi2xoOjtcg0eMm-SfY7NQbeAw

Henriksen, R. E., Nilsen, R. M., & Strandberg, R. B. (2022). Loneliness increases the risk of type 2 diabetes: a 20 year follow-up – results from the HUNT study. Diabetologia. https://doi.org/10.1007/s00125-022-05791-6

Herdt, G., & Kertzner, R. (2006). I do, but I can't: The impact of marriage denial on the mental health and sexual citizenship of lesbians and gay men in the United States. *Sexuality Research and Social Policy Journal of NSRC, 3*(1), 33-49. https://doi.org/10.1525/srsp.2006.3.1.33

Herek, G. M. (2004). Beyond "Homophobia": Thinking about sexual prejudice and stigma in the twenty-first century. *Sexuality Research & Social Policy, 1*(2), 6-24. https://doi.org/10.1525/srsp.2004.1.2.6

Herman, B., Deal, L., Dibenedetti, D., Nelson, L., Fehnel, S., & Brown, T. (2016). Development of the 7-Item Binge-Eating Disorder Screener (BEDS-7). *The Primary Care Companion For CNS Disorders, 18*. https://doi.org/10.4088/PCC.15m01896

Herrick, S. S. C., & Duncan, L. R. (2018). A qualitative exploration of LGBTQ+ and intersecting identities within physical activity contexts. *40*(6), 325. https://doi.org/10.1123/jsep.2018-0090

Hesse-Biber, S. N. (2010). Mixed Methods Research: Merging Theory with Practice. Guilford Publications. https://books.google.com.au/books?id=jWOYskxh0_gC

Higgins, I. (2015). *Push to outlaw gay conversion therapy in the US should be mirrored in Australia, gay rights group says*. ABC. Retrieved 20/09/2015 from http://www.abc.net.au/news/2015-07-27/harmful-gay-conversion-therapy-should-be-banned-rights-group/6651078

Hill-Briggs, F., Adler, N. E., Berkowitz, S. A., Chin, M. H., Gary-Webb, T. L., Navas-Acien, A., Thornton, P. L., & Haire-Joshu, D. (2020). Social Determinants of Health and Diabetes: A Scientific Review. *Diabetes Care, 44*(1), 258-279. https://doi.org/10.2337/dci20-0053

Hill, A. O., Bourne, A., McNair, R., Carman, M., & Lyons, A. (2020). *Private Lives 3: A national survey of the health and wellbeing of LGBTIQ people in Australia* (ISBN: 978-0-6488887-4-1). (ARCSHS Monograph Series No. 122, Issue.

Hill, J. H. (2009). *The everyday language of white racism*. John Wiley & Sons. https://doi.org/https://doi.org/10.1002/9781444304732.ch1

Hilliard, M. E., Yi-Frazier, J. P., Hessler, D., Butler, A. M., Anderson, B. J., & Jaser, S. (2016). Stress and A1c among people with diabetes across the lifespan. *Current diabetes reports, 16*(8), 67-67. https://doi.org/10.1007/s11892-016-0761-3

Hinchliff, S., Gott, M., & Galena, E. (2005). 'I daresay I might find it embarrassing': general practitioners' perspectives on discussing sexual health issues with lesbian and gay patients. *Health & Social Care in the Community, 13*(4), 345-353. https://doi.org/10.1111/j.1365-2524.2005.00566.x

Hindes, S., & Fileborn, B. (2021). Reporting on sexual violence 'inside the closet': Masculinity, homosexuality and #MeToo. *Crime, Media, Culture, 17*(2), 163-184. https://doi.org/10.1177/1741659020909872

Hindmarch, T., Hotopf, M., & Owen, G. S. (2013). Depression and decision-making capacity for treatment or research: a systematic review. *BMC Medical Ethics, 14*(1), 54. https://doi.org/10.1186/1472-6939-14-54

Hoel, H., Lewis, D., Einarsdottir, A., & Notelaers, G. (2022). Openness about sexual orientation and exposure to workplace bullying. Scandinavian Journal of Work and Organizational Psychology, 7(1), 9. https://doi.org/10.16993/sjwop.164

Hogg, J. (2016). *Nearly one in two LGTBI Australians hides who they are at work*

Holas, H. (2014). *Gay or transgender youth feel alienated by faith-based homeless services*. Retrieved 20/09/2015 from http://www.news.com.au/national/gay-or-transgender-youth-feel-alienated-by-faithbased-homeless-services/story-fncynjr2-1227050043638

Holmes-Truscott, E., Ventura, A. D., Thuraisingam, S., Pouwer, F., & Speight, J. (2020). Psychosocial moderators of the Impact of diabetes stigma: Results from the second diabetes MILES–Australia (MILES-2) study. *Diabetes Care, 43*(11), 2651-2659.

Holmes, D., Murray, S. J., Perron, A., & Rail, G. (2006). Deconstructing the evidence-based discourse in health sciences: truth, power and fascism. *International Journal of Evidence-Based Healthcare, 4*(3), 180-186. https://doi.org/10.1111/j.1479-6988.2006.00041.x

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS medicine, 7*(7), e1000316-e1000316. https://doi.org/10.1371/journal.pmed.1000316

Holt, R. I. G. (2019). Association between antipsychotic medication use and diabetes. *Current Diabetes Reports, 19*(10), 96. https://doi.org/10.1007/s11892-019-1220-8

Holt, R. I. G., & Speight, J. (2017). The language of diabetes: the good, the bad and the ugly. *Diabetic Medicine, 34*(11), 1495-1497. https://doi.org/10.1111/dme.13520

Hopthrow, T., Hooper, N., Mahmood, L., Meier, B. P., & Weger, U. (2017). Mindfulness reduces the correspondence bias. *Quarterly Journal of Experimental Psychology, 70*(3), 351-360. https://doi.org/10.1080/17470218.2016.1149498

Hough, D. (2013). *A manager's guide to LGBTI workplace inclusion*. https://www.uq.edu.au/equity//filething/get/403/Managers-Guide-to-LGBTI-Workplace-Inclusion-WEB.pdf

How, C. B., Ming, K. E., & Chin, C. Y. (2011). Does religious affiliation influence glycaemic control in primary care patients with type 2 diabetes mellitus? *Mental health in family medicine, 8*(1), 21-28. https://www.ncbi.nlm.nih.gov/pubmed/22479289

Howatson, A., Wall, C., & Turner-Benny, P. (2015). The contribution of dietitians to the primary health care workforce. *Journal of primary health care, 7*(4), 324-332. https://doi.org/10.1071/hc15324

Huang, X., Zhao, Q., Yang, P., Li, Y., Yuan, H., Wu, L., & Chen, Z. (2016). Metabolic syndrome and risk of cervical human papillomavirus incident and persistent infection. *Medicine, 95*(9), e2905-e2905. https://doi.org/10.1097/MD.0000000000002905

Huang, Y., Cai, X., Mai, W., Li, M., & Hu, Y. (2016). Association between prediabetes and risk of cardiovascular disease and all cause mortality: systematic review and meta-analysis. *BMJ, 355*, i5953. https://doi.org/10.1136/bmj.i5953

Huber, C., Montreuil, C., Christie, D., & Forbes, A. (2022). Integrating self-management education and support in routine care of people with type 2 diabetes mellitus: A conceptional model based on critical interpretive synthesis and a consensus-building participatory consultation. Frontiers in Clinical Diabetes and Healthcare, 3. https://doi.org/10.3389/fcdhc.2022.845547

Huckins, L. M., Signer, R., Johnson, J., Wu, Y.-K., Mitchell, K. S., & Bulik, C. M. (2022). What next for eating disorder genetics? Replacing myths with facts to sharpen our understanding. *Molecular Psychiatry*. https://doi.org/10.1038/s41380-022-01601-y

Hughes, M. (2009). Lesbian and gay people's concerns about ageing and accessing services. *Australian Social Work, 62*(2), 186-201. https://doi.org/10.1080/03124070902748878

Hughes, M. (2015). Loneliness and social support among lesbian, gay, bisexual, transgender and intersex people aged 50 and over. *Ageing and Society, 36*(9), 1961-1981. https://doi.org/10.1017/S0144686X1500080X

Hughes, M. (2018). Health and well being of lesbian, gay, bisexual, transgender and intersex people aged 50 years and over. *Australian Health Review, 42*(2), 146-151. https://doi.org/https://doi.org/10.1071/AH16200

Hughes, M., & Robinson, P. (2018). Gay men and ageing. In *Ageing, diversity and equality: Social justice perspectives* (pp. 114-130). Routledge. https://www.taylorfrancis.com/chapters/oa-edit/10.4324/9781315226835-10/gay-men-ageing-mark-hughes-peter-robinson

Huntingdon, B., Muscat, D. M., de Wit, J., Duracinsky, M., & Juraskova, I. (2020). Factors associated with erectile dysfunction among men living with HIV: a systematic review. *AIDS Care, 32*(3), 275-285. https://doi.org/10.1080/09540121.2019.1653443

I.D.Consulting. (2016). *Australian employment status*. I.D. Consulting PTY LTD. Retrieved 23/07/2019 from https://profile.id.com.au/australia/employment-status

Ibrahim, M., Davies, M. J., Ahmad, E., Annabi, F. A., Eckel, R. H., Ba-Essa, E. M., El Sayed, N. A., Hess Fischl, A., Houeiss, P., Iraqi, H., Khochtali, I., Khunti, K., Masood, S. N., Mimouni-Zerguini, S., Shera, S., Tuomilehto, J., & Umpierrez, G. E. (2020). Recommendations for management of diabetes during Ramadan: update 2020, applying the principles of the ADA/EASD consensus. *BMJ Open Diabetes Research & Care, 8*(1), e001248. https://doi.org/10.1136/bmjdrc-2020-001248

Idan, O., Eriksson, M., & Al-Yagon, M. (2017). The Salutogenic Model: The role of Generalized Resistance Resources. In M. B. Mittelmark, S. Sagy, M. Eriksson, G. F. Bauer, J. M. Pelikan, B. Lindström, & G. A. Espnes (Eds.), *The Handbook of Salutogenesis* (pp. 57-69). Springer International Publishing. https://doi.org/10.1007/978-3-319-04600-6_7

Ilias, I., Tselebis, A., Theotoka, I., & Hatzimichelakis, E. (2004). Association of perceived family support through glycemic controlin native greek patients managing diabetes with diet alone. *Ethnicity & Disease, 14*(1), 2.

InnovationLab. (n.d.). *Funding to LGBTIQ+ causes in Australia: A report by Our Community and* GiveOUT. InnovationLab. Retrieved 9th October 2022 from https://www.ourcommunity.com.au/innovationlab/LGBTIQ+funding

International Council of Nurses. (2012). The ICN code of ethics for nurses. https://www.icn.ch/sites/default/files/inlinefiles/2012_ICN_Codeofethicsfornurses_%20eng.pdf

International Diabetes Federation. (2015). *IDF Diabetes Atlas*. International Diabetes Federation. Retrieved 05/06 from http://www.diabetesatlas.org/

International Diabetes Federation. (2020). *About World Diabetes Day 14 November find out more about World Diabetes Day*. Internationa Diabetes Federation. Retrieved 29th March from https://worlddiabetesday.org/about/2019-theme/

Ioakeimidis, N., Vlachopoulos, C., Terentes-Printzios, D., Georgakopoulos, C., Oikonomou, E., Aznaouridis, C., & Tousoulis, D. (2019). P2644Coronary atherosclerotic burden and risk of major adverse cardiac events in hypertensive patients with erectile dysfunction. *European Heart Journal, 40*(Supplement_1). https://doi.org/10.1093/eurheartj/ehz748.0965

Irving, G., Neves, A. L., Dambha-Miller, H., Oishi, A., Tagashira, H., Verho, A., & Holden, J. (2017). International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open, 7*(10), e017902. https://doi.org/10.1136/bmjopen-2017-017902

Islami, F., Moreira, D. M., Boffetta, P., & Freedland, S. J. (2014). A systematic review and meta-analysis of tobacco use and prostate cancer mortality and incidence in prospective cohort studies. *European urology, 66*(6), 1054-1064. https://doi.org/10.1016/j.eururo.2014.08.059

Jackson, A. Y. (2004). Performativity identified. *Qualitative Inquiry, 10*(5), 673-690. https://doi.org/10.1177/1077800403257673

Jackson, H., & Shiell, A. (2017). Preventive health: How much does Australia spend and is it enough. *Canberra: Foundation for Alcohol Research and Education*.

James, A., & Whelan, A. (2022). 'Ethical' artificial intelligence in the welfare state: Discourse and discrepancy in Australian social services. *Critical Social Policy, 42*(1), 22-42. https://doi.org/10.1177/0261018320985463

Jaremka, L. M., & Pacanowski, C. R. (2019). Social anxiety symptoms moderate the link between obesity and metabolic function. *Psychoneuroendocrinology*, 104425. https://doi.org/https://doi.org/10.1016/j.psyneuen.2019.104425

Joensen, L., Fisher, L., Skinner, T., Doherty, Y., & Willaing, I. (2019). Integrating psychosocial support into routine diabetes care: perspectives from participants at the Self-Management Alliance meeting 2016 [https://doi.org/10.1111/dme.13836]. *Diabetic Medicine, 36*(7), 847-853. https://doi.org/https://doi.org/10.1111/dme.13836

Johnson, G. (2021b). *Still time to care: What we can learn from the church's failed attempt to cure homosexuality*. Zondervan. https://www.goodreads.com/book/show/56097388-still-time-to-care

Johnson, M. J., & Amella, E. J. (2014). Isolation of lesbian, gay, bisexual and transgender youth: a dimensional concept analysis. *Journal of Advanced Nursing, 70*(3), 523-532. https://doi.org/10.1111/jan.12212

Johnson, V. E., Nadal, K. L., Sissoko, D. R. G., & King, R. (2021a). "It's not in your head": Gaslighting, 'splaining, victim blaming, and other harmful reactions to microaggressions. *Perspectives on Psychological Science, 16*(5), 1024-1036. https://doi.org/10.1177/17456916211011963

Jones, T., Jones, T., Power, J., Despott, N., & Pallotta-Chiarolli, M. (2021). *Healing spiritual harms: supporting recovery from LGBTQA+ change and suppression practices*. https://opal.latrobe.edu.au/articles/report/Healing_Spiritual_Harms_Supporting_Recovery_from_LGBTQA_Change_and_Suppression_Practices/16590293

Jones, T. W., Power, J., & Jones, T. M. (2022). Religious trauma and moral injury from LGBTQA+ conversion practices. *Social Science & Medicine, 305*, 115040. https://doi.org/https://doi.org/10.1016/j.socscimed.2022.115040

Jongen, C., McCalman, J., Bainbridge, R., & Clifford, A. (2018). Cultural competence education and training for health and medical students. In C. Jongen, J. McCalman, R. Bainbridge, & A. Clifford (Eds.), *Cultural Competence in Health: A Review of the Evidence* (pp. 65-74). Springer Singapore. https://doi.org/10.1007/978-981-10-5293-4_5

Joo, E.-J., Chang, Y., Kwon, M.-J., Cho, A., Cheong, H. S., & Ryu, S. (2019). High-risk human papillomavirus infection and the risk of cardiovascular disease in Korean women. *Circulation Research, 124*(5), 747-756. https://doi.org/doi:10.1161/CIRCRESAHA.118.313779

Joseph, J. J., & Golden, S. H. (2017). Cortisol dysregulation: the bidirectional link between stress, depression, and type 2 diabetes mellitus. *Annals of the New York Academy of Sciences, 1391*(1), 20-34. https://doi.org/https://doi.org/10.1111/nyas.13217

Jowett, A. (2011). Chronic illness in non-heterosexual contexts: Towards a critical LGBTQ health psychology. https://publications.aston.ac.uk/id/eprint/15807/

Jowett, A., Peel, E., & Shaw. R L. (2012). Sex and diabetes: A thematic analysis of gay and bisexual men's accounts. *Journal of Health Psychology, 17*(3), 409-418. https://doi.org/10.1177/1359105311412838

Jowett, A., & Peel, E. (2012). Physical Health. In Intersectionality, Sexuality and Psychological Therapies (pp. 163-184). https://doi.org/https://doi.org/10.1002/9781119967613.ch7

Jowett, A. (2017). Gendered accounts of managing diabetes in same-sex relationships: A discursive analysis of partner support. *Health*. https://doi.org/10.1177/1363459316688518

Joy, P., & Number, M. (2018). Constituting the ideal body: A poststructural analysis of "obesity" discourses among gay men. *Journal of Critical Dietetics, 4*(1), 47-58. http://hdl.handle.net/10222/74154

Julian, T., Glascow, N., Syeed, R., & Zis, P. (2018). Alcohol-related peripheral neuropathy: a systematic review and meta-analysis. *Journal of Neurology*. https://doi.org/10.1007/s00415-018-9123-1

Julian, T., Rekatsina, M., Shafique, F., & Zis, P. (2021). Human immunodeficiency virus–related peripheral neuropathy: A systematic review and meta-analysis [https://doi.org/10.1111/ene.14656]. *European Journal of Neurology, 28*(4), 1420-1431. https://doi.org/https://doi.org/10.1111/ene.14656

Julmi, C. (2019). When rational decision-making becomes irrational: a critical assessment and re-conceptualization of intuition effectiveness. Business Research, 12(1), 291-314. https://doi.org/10.1007/s40685-019-0096-4

Juster, R.-P., Doyle, D. M., Hatzenbuehler, M. L., Everett, B. G., DuBois, L. Z., & McGrath, J. J. (2019). Sexual orientation, disclosure, and cardiovascular stress reactivity. *Stress, 22*(3), 321-331. https://doi.org/10.1080/10253890.2019.1579793

Jutel, A. (2009). Sociology of diagnosis: a preliminary review. *Sociology of Health & Illness, 31*(2), 278-299. https://doi.org/10.1111/j.1467-9566.2008.01152.x

Kahn, S. E., Cooper, M. E., & Del Prato, S. (2014). Pathophysiology and treatment of type 2 diabetes: perspectives on the past, present, and future. *The Lancet, 383*(9922), 1068-1083. https://doi.org/https://doi.org/10.1016/s0140-6736(13)62154-6

Kaiser Permanente Research. (n.d.). *Improving chronic illness care*. Kaiser Permanente Washington Health Research Institute,. Retrieved 17th August 2017 from http://www.improvingchroniccare.org/index.php?p=The_Chronic_Care_Model&s=2

Kamen, D., Palesh, O., Gerry, A. A., Andrykowski, M. A., Heckler, C., Mohile, S., Morrow, G. R., Bowen, D., & Mustian, K. (2014). Disparities in health risk behavior and psychological distress among gay versus heterosexual male cancer survivors. *LGBT Health, 1*(2), 86-92. https://doi.org/10.1089/lgbt.2013.0022

Kamerman, P. R., Wadley, A. L., & Cherry, C. L. (2012). HIV-associated sensory neuropathy: Risk factors and genetics [journal article]. *Current Pain and Headache Reports, 16*(3), 226-236. https://doi.org/10.1007/s11916-012-0257-z

Kammer, J., Hosler, A. S., Leckman-Westin, E., & DiRienzo, A. G. (2016). Original research: Use of antidepressant medications not associated with A1C among individuals with diabetes in NHANES sample [Article]. *Primary Care Diabetes, 10*, 360-368. https://doi.org/10.1016/j.pcd.2016.03.004

Kane, G. D. (2010). Revisiting gay men's body image issues: Exposing the fault lines. *Review of General Psychology, 14*(4), 311-317. https://doi.org/10.1037/a0020982

Kann, L., O'Malley Olsen, E., McManus, T., Kinchen, S., Chyen, D., Harris, W. A., & Wechsler, H. (2011). Sexual lidentity, sex of sexual contacts, and health-risk behaviors among students in Grades 9-12--youth risk behavior surveillance, selected sites, United States, 2001-2009. morbidity and mortality weekly report. Early release. volume 60. *Morbidity and Mortality Weekly Report, 60*, 135. https://eric.ed.gov/?id=ED520413

Kapsner, P., Brar, S., Conklin, J., Sharon, N., & Colip, L. (2017). *Care of transgender patients with diabetes* European Association for the Study of Diabetes, Lisbon Portugal. http://www.abstractsonline.com/pp8/#!/4294/presentation/4612

Kar, P. (2019). Dieting and body shaming. *BMJ, 364*, l1222. https://doi.org/10.1136/bmj.l1222

Karp, P. (2019). Questions about sexual orientation and gender identity dumped from census. *Guardian Australia*. https://www.theguardian.com/australia-news/2019/oct/05/questions-about-sexual-orientation-and-gender-identity-dumped-from-census

Kearns, N. T., Carl, E., Stein, A. T., Vujanovic, A. A., Zvolensky, M. J., Smits, J. A. J., & Powers, M. B. (2018). Posttraumatic stress disorder and cigarette smoking: A systematic review. *Depression and Anxiety, 35*(11), 1056-1072. https://doi.org/10.1002/da.22828

Keating, L., Mills, J. S., & Rawana, J. S. (2019). Momentary predictors of binge eating: An attachment perspective. *Eating Behaviors, 32*, 44-52. https://doi.org/https://doi.org/10.1016/j.eatbeh.2018.12.003

Keller, K., Ramos-Cartagena, J. M., Guiot, H. M., Muñoz, C., Rodríguez, Y., Colón-López, V., Deshmukh, A. A., Tirado-Gómez, M., & Ortiz, A. P. (2022). Association of smoking with anal high-risk HPV infection and histologically confirmed anal high-grade squamous intraepithelial lesions among a clinic-based population in Puerto Rico. *Cancer Treatment and Research Communications, 30*, 100503. https://doi.org/https://doi.org/10.1016/j.ctarc.2021.100503

Kelly, M., Ventriglio, A., & Bhugra, D. (2020). Mental health aspects of rural living. In S. K. Chaturvedi (Ed.), *Mental Health and Illness in the Rural World* (pp. 17-30). Springer Singapore. https://doi.org/10.1007/978-981-10-2345-3_32

Kennedy, B., Chen, R., Fang, F., Valdimarsdottir, U., Montgomery, S., Larsson, H., & Fall, K. (2019). Low stress resilience in late adolescence and risk of smoking, high alcohol consumption and drug use later in life. *Journal of Epidemiology and Community Health, 73*(6), 496-501. https://doi.org/10.1136/jech-2018-211815

Kerr, D. L., & Oglesby, W. H. (2017). LGBT populations and substance abuse research: An overview. In J. B. VanGeest, T. P. Johnson, & S. A. Alemagno (Eds.), Research methods in the study of substance abuse (pp. 341-355). Springer International Publishing. https://doi.org/10.1007/978-3-319-55980-3_16

Khan, I., Saleh, M. A., Quazi, A., & Johns, R. (2021). Health consumers' social media adoption behaviours in Australia. Health Informatics Journal, 27(2), 14604582211009917. https://doi.org/10.1177/14604582211009917

Khan, P., Qayyum, N., Malik, F., Khan, T., Khan, M., & Tahir, A. (2019). Incidence of anxiety and depression among patients with type 2 diabetes and the predicting factors. *Cureus, 11*(3). doi:10.7759/cureus.4254

Khunti, K., Wolden, M. L., Thorsted, B. L., Andersen, M., & Davies, M. J. (2013). Clinical Inertia in People With Type 2 Diabetes. *A retrospective cohort study of more than 80,000 people, 36*(11), 3411-3417. https://doi.org/10.2337/dc13-0331

Khunti, S., Khunti, K., & Seidu, S. (2019). Therapeutic inertia in type 2 diabetes: prevalence, causes, consequences and methods to overcome inertia. *Therapeutic Advances in Endocrinology and Metabolism, 10*, 2042018819844694. https://doi.org/10.1177/2042018819844694

Kim, H.-J., & Fredriksen-Goldsen, K. I. (2014). Living arrangement and loneliness among lesbian, gay, and bisexual older adults. *The Gerontologist, 56*(3), 548-558. https://doi.org/10.1093/geront/gnu083

Kim, S. H. (2016). Educational attainment moderates the associations of diabetes education with health outcomes. *International Journal of Nursing Practice, 22*(5), 444-450. https://doi.org/10.1111/ijn.12454

Kim, T. W., Samet, J. H., Cheng, D. M., Bernstein, J., Wang, N., German, J., & Saitz, R. (2015). The spectrum of unhealthy drug use and quality of care for hypertension and diabetes: a longitudinal cohort study. *BMJ Open, 5*(12), e008508-e008508. https://doi.org/10.1136/bmjopen-2015-008508

King, D. B., O'Rourke, N., & DeLongis, A. (2014). Social media recruitment and online data collection: A beginner's guide and best practices for accessing low-prevalence and hard-to-reach populations. Canadian Psychology/Psychologie canadienne, 55(4), 240.

Kirby-Institute. (2018). *HIV, viral hepatitis and sexually transmissible infections in Australia: annual surveillance report 2018*. Kirby Institute. https://kirby.unsw.edu.au/sites/default/files/kirby/report/KI_Annual-Surveillance-Report-2018.pdf

Kirby, S., & Hay, I. (1997). (Hetero)sexing space: gay men and "straight" space in Adelaide, South Australia. *The Professional Geographer, 49*(3), 295-305. https://doi.org/10.1111/0033-0124.00078

Kirwan, J. P., Sacks, J., & Nieuwoudt, S. (2017). The essential role of exercise in the management of type 2 diabetes. *Cleveland Clinic journal of medicine, 84*(7 Suppl 1), S15-S21. https://doi.org/10.3949/ccjm.84.s1.03

Kiss, M. J., McDonagh, L. K., Sparks, B., Hamp, T., & Morrison, T. G. (2021). Accurately assessing gay men's erectile functioning: a critique of the international index of erectile function (IIEF) use with gay men. *The Journal of Sex Research, 58*(5), 589-598. https://doi.org/10.1080/00224499.2020.1811195

Kittle, K., Choi, S., & Meyer, I. (2018). Health disparities among LGB latino, NON-LGB latino, and LGB non-latino adults aged 50 and older. *Innovation in Aging*, *2*(Suppl 1), 955. https://doi.org/10.1093/geroni/igy031.3542

Kloner, R. (2006). Erectile dysfunction and hypertension. *Int J Impot Res, 19*(3), 296-302. http://dx.doi.org/10.1038/sj.ijir.3901527

Knott, M. (2016). Federal election: Bill Shorten to keep discrimination exemption for churches. *The Sydney Morning Herald*. http://www.smh.com.au/federal-politics/federal-election-2016/federal-election-bill-shorten-to-keep-discrimination-exemption-for-churches-20160524-gp2ebj.html

Koh, C. S., Kang, M., & Usherwood, T. (2014). 'I demand to be treated as the person I am': experiences of accessing primary health care for Australian adults who identify as gay, lesbian, bisexual, transgender or queer. *Sexual Health, 11*(3), 258-264. https://doi.org/http://dx.doi.org/10.1071/SH14007

Kosciw, J. G., Greytak, E. A., Bartkiewicz, M. J., Boesen, M. J., & Palmer, N. A. (2012). *The 2011 national school climate survey: Key findings on the experiences of lesbian, gay, bisexual and transgender youth in our nation's schools. executive summary*. https://www.glsen.org/sites/default/files/2020-04/2011%20GLSEN%20National%20School%20Climate%20Survey.pdf

Kouidrat, Y., Pizzol, D., Cosco, T., Thompson, T., Carnaghi, M., Bertoldo, A., Solmi, M., Stubbs, B., & Veronese, N. (2017). High prevalence of erectile dysfunction in diabetes: a systematic review and meta-analysis of 145 studies. *Diabetic Medicine, 34*(9), 1185-1192. https://doi.org/10.1111/dme.13403

Kousari-Rad, P., & McLaren, S. (2013). The relationships between sense of belonging to the gay community, body image dissatisfaction, and self-esteem among Australian gay men [Article]. *Journal of Homosexuality, 60*(6), 927-943. https://doi.org/10.1080/00918369.2013.774866

Krämer, L. V., Helmes, A. W., Seelig, H., Fuchs, R., & Bengel, J. (2014). Correlates of reduced exercise behaviour in depression: The role of motivational and volitional deficits. *Psychology & Health, 29*(10), 1206-1225. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=s3h&AN=97048222&site=eds-live

Kringelbach, M. L. (2015). The pleasure of food: underlying brain mechanisms of eating and other pleasures. *Flavour, 4*(1), 20. https://doi.org/10.1186/s13411-014-0029-2

Kristeller, J. L., & Jordan, K. D. (2018). Mindful eating: Connecting with the wise self, the spiritual self. *Frontiers in Psychology*, 1271. https://doi.org/10.3389/fpsyg.2018.01271

Kuneinen, S., Kaaja, R. J., Vahlberg, T. J., & Korhonen, P. E. (2020). Metabolic syndrome is not associated with erectile dysfunction in apparently healthy men. *Primary Care Diabetes*. https://doi.org/https://doi.org/10.1016/j.pcd.2019.12.008

Kuyper, L., & Fokkema, T. (2010). Loneliness among older lesbian, gay, and bisexual adults: the role of minority stress. *Archives Of Sexual Behavior, 39*(5), 1171-1180. https://doi.org/10.1007/s10508-009-9513-7

La Vignera, S., Condorelli, R. A., Cannarella, R., Giacone, F., Mongioi', L. M., Cimino, L., Defeudis, G., Mazzilli, R., & Calogero, A. E. (2019). Urogenital infections in patients with diabetes mellitus: Beyond the conventional aspects. *International Journal of Immunopathology and Pharmacology, 33*, 2058738419866582. https://doi.org/10.1177/2058738419866582

Lamptey, R., Robben, M. P., Amoakoh-Coleman, M., Boateng, D., Grobbee, D. E., Davies, M. J., & Klipstein-Grobusch, K. (2022). Structured diabetes self-management education and glycaemic control in low- and middle-income countries: A systematic review. *Diabetic Medicine, 39*(8), e14812. https://doi.org/https://doi.org/10.1111/dme.14812

Langevin, R., Langevin, M., Curnoe, S., & Bain, J. (2008). The prevalence of diabetes among sexual and violent offenders and its co-occurrence with cognitive impairment, mania,

psychotic symptoms and aggressive behavior. *International Journal of Prisoner Health, 4*(2), 83-95. https://doi.org/10.1080/17449200802038215

Laroche, H. H., Davis, M. M., Forman, J., Palmisano, G., Reisinger, H. S., Tannas, C., Spencer, M., & Heisler, M. (2009). Children's roles in parents' diabetes self-management. *American journal of preventive medicine, 37*(6 Suppl 1), S251-S261. https://doi.org/10.1016/j.amepre.2009.08.003

Latreille, S., Collyer, A., & TempleSmith, M. (2014). Finding a segue into sex: young men's views on discussing sexual health with a GP. *AUSTRALIAN FAMILY PHYSICIAN 43*(4), 217-221. https://www.racgp.org.au/download/Documents/AFP/2014/April/201404Latreille.pdf

Lebowitz, M. S., & Appelbaum, P. S. (2019). Biomedical explanations of psychopathology and their implications for attitudes and beliefs about mental disorders. *Annual Review of Clinical Psychology, 15*(1), 555-577. https://doi.org/10.1146/annurev-clinpsy-050718-095416

Lee, E., Mao, L., McKenzie, T., Batrouney, C., West, M., Prestage, G., Zablotska, I., De Wit, J., & Holt, M. (2016). *Gay community periodic survey: Melbourne 2016*. http://unsworks.unsw.edu.au/fapi/datastream/unsworks:38948/bin29483d7e-c748-4b41-b66b-f14e977cfe07?view=true

Lee, S. W. H., Ng, K. Y., & Chin, W. K. (2017). The impact of sleep amount and sleep quality on glycemic control in type 2 diabetes: A systematic review and meta-analysis. *Sleep Medicine Reviews, 31*, 91-101. https://doi.org/https://doi.org/10.1016/j.smrv.2016.02.001

Lefevor, G. T., Park, S. Y., & Pedersen, T. R. (2018). Psychological distress among sexual and religious minorities: An examination of power and privilege. *Journal of Gay & Lesbian Mental Health, 22*(2), 90-104. https://doi.org/10.1080/19359705.2017.1418696

Leite, S. A. O., Monk, A. M., Upham, P. A., Chacra, A. R., & Bergenstal, R. M. (2009). Low cardiorespiratory fitness in people at risk for type 2 diabetes: early marker for insulin resistance. *Diabetology & Metabolic Syndrome, 1*(1), 8. https://doi.org/10.1186/1758-5996-1-8

Leonard, W., Lyons, A., & Bariola, E. (2015). *A closer look at private lives 2: addressing the mental health and wellbeing of lesbian, gay, bisexual, and transgender (LGBT) Australians*. http://apo.org.au/resource/closer-look-private-lives-2-addressing-mental-health-and-wellbeing-lesbian-gay-bisexual-and#block-views-citation-popup-block

Leonard, W., Pitts, M., Mitchell, A., Lyons, A., Smith, A., Patel, S., Couch, M., & Barrett, A. (2012). *Private Lives 2: The second national survey of the health and wellbeing of gay, lesbian, bisexual and transgender (GLBT) Australians* (83). L. University. http://hdl.handle.net/1959.9/521906

Ley, S. (2017). *Evaluation Report of the Diabetes Care Project*. evaluation-of-the-diabetes-care-project-evaluation-report-of-the-diabetes-care-project.pdf (health.gov.au)

Li, D. H., Remble, T. A., Macapagal, K., & Mustanski, B. (2019). Stigma on the Streets, Dissatisfaction in the Sheets: Is Minority Stress Associated with Decreased Sexual Functioning Among Young Men Who Have Sex with Men? *The Journal of Sexual Medicine, 16*(2), 267-277. https://doi.org/https://doi.org/10.1016/j.jsxm.2018.12.010

Li, J., Jarczok, M. N., Loerbroks, A., Schöllgen, I., Siegrist, J., Bosch, J. A., Wilson, M. G., Mauss, D., & Fischer, J. E. (2013). Work stress is associated with diabetes and prediabetes: Cross-sectional results from the MIPH industrial cohort studies [journal article]. *International Journal of Behavioral Medicine, 20*(4), 495-503. https://doi.org/10.1007/s12529-012-9255-0

Liccardo, D., Cannavo, A., Spagnuolo, G., Ferrara, N., Cittadini, A., Rengo, C., & Rengo, G. (2019). Periodontal disease: A risk factor for diabetes and cardiovascular disease. *International Journal of Molecular Sciences, 20*(6), 1414. https://doi.org/https://doi.org/10.3390/ijms20061414

Lick, D. J., Durso, L. E., & Johnson, K. L. (2013). Minority stress and physical health among sexual minorities. *Perspectives on Psychological Science, 8*(5), 521-548. https://doi.org/10.1177/1745691613497965

Lim, G., & Hewitt, B. (2018). Discrimination at the Intersections: Experiences of Community and Belonging in Nonmonosexual Persons of Color. *Journal of Bisexuality, 18*(3), 318-352. https://doi.org/10.1080/15299716.2018.1518182

Lim, G., Waling, A., Lyons, A., Pepping, C. A., Brooks, A., & Bourne, A. (2021). The experiences of lesbian, gay and bisexual people accessing mental health crisis support helplines in Australia. Psychology & Sexuality, 1-18. https://doi.org/10.1080/19419899.2021.1904274

Lin, X., Zhang, X., Guo, J., Roberts, C. K., McKenzie, S., Wu, W. C., Liu, S., & Song, Y. (2015). Effects of exercise training on cardiorespiratory fitness and biomarkers of

cardiometabolic health: A systematic review and meta-analysis of randomized controlled trials. *Journal of the American Heart Association, 4*(7). https://doi.org/10.1161/jaha.115.002014

Lincoln, Y. S., & Guba, E. G. (2013). *The constructivist credo*. Routledge. https://doi.org/https://doi.org/10.4324/9781315418810

Lipton, B. (2004). Gay men living with non-HIV chronic illnesses. *Journal of Gay & Lesbian Social Services, 17*(2), 1-23. https://doi.org/10.1300/J041v17n02_01

Lisy, K., Peters, M. D. J., Schofield, P., & Jefford, M. (2018). Experiences and unmet needs of lesbian, gay and bisexual people with cancer care: a systematic review and meta-synthesis. *Psycho-Oncology, 27*(6), 1480-1489. https://doi.org/10.1002/pon.4674

Liu, H., Chen, I.-C., Wilkinson, L., Pearson, J., & Zhang, Y. (2019). Sexual Orientation and Diabetes During the Transition to Adulthood. LGBT Health, 6(5), 227-234. https://doi.org/10.1089/lgbt.2018.0153

Liu, H., Waite, L., & Shen, S. (2016). Diabetes risk and disease management in later life: A national longitudinal study of the role of marital quality. *The Journals of Gerontology: Series B, 71*(6), 1070-1080. https://doi.org/10.1093/geronb/gbw061

Liu, J., Thomas, J. M., & Higgs, S. (2019). The relationship between social identity, descriptive social norms and eating intentions and behaviors. *Journal of Experimental Social Psychology, 82*, 217-230. https://doi.org/https://doi.org/10.1016/j.jesp.2019.02.002

Liu, M., Zhang, W., Yan, Z., & Yuan, X. (2018). Smoking increases the risk of diabetic foot amputation: A meta-analysis. *Experimental and therapeutic medicine, 15*(2), 1680-1685. https://doi.org/10.3892/etm.2017.5538

Liu, Q., Zhang, Y., Wang, J., Li, S., Cheng, Y., Guo, J., Tang, Y., Zeng, H., & Zhu, Z. (2018). Erectile dysfunction and depression: A systematic review and meta-analysis. *The Journal of Sexual Medicine, 15*(8), 1073-1082. https://doi.org/https://doi.org/10.1016/j.jsxm.2018.05.016

Liubaoerjijin, Y., Terada, T., Fletcher, K., & Boulé, N. G. (2016). Effect of aerobic exercise intensity on glycemic control in type 2 diabetes: a meta-analysis of head-to-head

randomized trials. *Acta Diabetologica, 53*(5), 769-781. https://doi.org/10.1007/s00592-016-0870-0

Lukaschek, K., Baumert, J., Kruse, J., Emeny, R. T., Lacruz, M. E., Huth, C., Thorand, B., Holle, R., Rathmann, W., Meisinger, C., & Ladwig, K.-H. (2013). Relationship between posttraumatic stress disorder and Type 2 Diabetes in a population-based cross-sectional study with 2970 participants [Article]. *Journal of Psychosomatic Research, 74*, 340-345. https://doi.org/10.1016/j.jpsychores.2012.12.011

Lyons, A., & Hosking, W. (2014). Health disparities among common subcultural identities of young gay men: physical, mental, and sexual health. *Archives Of Sexual Behavior, 43*(8), 1621-1635. https://doi.org/10.1007/s10508-014-0315-1

Lyons, A., Hosking, W., & Rozbroj, T. (2015). Rural-urban differences in mental health, resilience, stigma, and social support among young Australian gay men. *The Journal of Rural Health, 31*(1), 89-97. https://doi.org/10.1111/jrh.12089

Lyons, A., Pitts, M., & Grierson, J. (2013). Factors related to positive mental health in a stigmatized minority: An investigation of older gay men. *Journal of Aging and Health, 25*(7), 1159-1181. https://doi.org/10.1177/0898264313495562

Lyons, A., Pitts, M., Smith, G., Grierson, J., Smith, A., McNally, S., & Couch, M. (2011). Versatility and HIV vulnerability: Investigating the proportion of Australian gay men having both insertive and receptive anal intercourse. *The Journal of Sexual Medicine, 8*(8), 2164-2171. https://doi.org/https://doi.org/10.1111/j.1743-6109.2010.02197.x

Lyons, A., Rasmussen, M. L., Anderson, J., & Gray, E. (2021). Counting gender and sexual identity in the Australian census. *Australian Population Studies 5*(1), 40-48. https://opal.latrobe.edu.au/articles/journal_contribution/Counting_gender_and_sexual_identity_in_the_Australian_census/14888865

Lyra e Silva, N. d. M., Lam, M. P., Soares, C. N., Munoz, D. P., Milev, R., & De Felice, F. G. (2019,). Insulin resistance as a shared pathogenic mechanism between depression and type 2 diabetes. *Frontiers in Psychiatry, 10*(57). https://doi.org/10.3389/fpsyt.2019.00057

Ma, Y. (2020). Social media and marriage equality in Australia: the media roles in the public sphere and the agenda-setting. *Insight-News Media, 3*(1), 1-6. https://doi.org/https://doi.org/10.18282/inm.v3i1.335

Macdonald, E. J., Gaines, J. M., Kim, J. I., & Paduch, D. A. (2022). Exploring the relationship between socioeconomic status and erectile dysfunction: an analysis of the National Health and Nutrition Examination Survey. *International Journal of Impotence Research*. https://doi.org/10.1038/s41443-022-00584-2

Mackenzie, N., & Knipe, S. (2006). Research Dilemmas: Paradigms, method & methodology. *Issues in Educational Research*, *16*(2). http://www.iier.org.au/iier16/mackenzie.html

Malmqvist, J., Hellberg, K., Möllås, G., Rose, R., & Shevlin, M. (2019). Conducting the pilot study: A neglected part of the research process? methodological findings supporting the importance of piloting in qualitative research studies. *International Journal of Qualitative Methods, 18*, 1609406919878341. https://doi.org/10.1177/1609406919878341

Malo, J. A., Versace, V. L., Janus, E. D., Laatikainen, T., Peltonen, M., Vartiainen, E., Coates, M. J., & Dunbar, J. A. (2015). Evaluation of AUSDRISK as a screening tool for lifestyle modification programs: international implications for policy and cost-effectiveness. BMJ Open Diabetes Research and Care, 3(1), e000125. https://pubmed.ncbi.nlm.nih.gov/26468399/

Malta, S., Hocking, J., Lyne, J., McGavin, D., Hunter, J., Bickerstaffe, A., & Temple-Smith, M. (2018). Do you talk to your older patients about sexual health?: 'Health practitioners' knowledge of, and attitudes towards, management of sexual health among older Australians' *Australian Journal of General Practice 47*(11), 807-811. https://search.informit.com.au/documentSummary;dn=968366906829713;res=IELHEA

Maluleke, H. (2019). *Christian lesbians and gay men's navigation of sexual and religious identity*. University of Johannesburg (South Africa). https://www.jstor.org/stable/1387818

Maneze, D., Weaver, R., Kovai, V., Salamonson, Y., Astorga, C., Yogendran, D., & Everett, B. (2019). "Some say no, some say yes": Receiving inconsistent or insufficient information from healthcare professionals and consequences for diabetes self-management: A qualitative study in patients with Type 2 Diabetes. *Diabetes Research and Clinical Practice, 156*, 107830. https://doi.org/https://doi.org/10.1016/j.diabres.2019.107830

Mansergh, G., Spikes, P., Flores, S. A., Koblin, B. A., McKirnan, D., Hudson, S. M., & Colfax, G. N. (2015). Internalised homophobia is differentially associated with sexual risk behaviour by race/ethnicity and HIV serostatus among substance-using men who have sex with

men in the United States. *Sex Transm Infect, 91*(5), 324-328. https://doi.org/10.1136/sextrans-2014-051827

Manski-Nankervis, J.-A., Furler, J., O'Neal, D., Ginnivan, L., Thuraisingam, S., & Blackberry, I. (2017). Overcoming clinical inertia in insulin initiation in primary care for patients with type 2 diabetes: 24-month follow-up of the Stepping Up cluster randomised controlled trial. *Primary Care Diabetes, 11*(5), 474-481. https://www.sciencedirect.com/science/article/pii/S1751991817301079

Mantovani, A. M., Fregonesi, C. E. P. T., Palma, M. R., Ribeiro, F. E., Fernandes, R. A., & Christofaro, D. G. D. (2017). Relationship between amputation and risk factors in individuals with diabetes mellitus: A study with Brazilian patients. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 11*(1), 47-50. https://doi.org/https://doi.org/10.1016/j.dsx.2016.08.002

Maple-Brown, L. J., Graham, S., McKee, J., & Wicklow, B. (2020). Walking the path together: incorporating Indigenous knowledge in diabetes research. Lancet Diabetes Endocrinol, 8(7), 559-560. https://ris.cdu.edu.au/ws/files/34167316/33573180.pdf

Marincic, P. Z., Hardin, A., Salazar, M. V., Scott, S., Fan, S. X., & Gaillard, P. R. (2017). Diabetes self-management education and medical nutrition therapy improve patient outcomes: A pilot study documenting the efficacy of registered dietitian nutritionist interventions through retrospective chart review. *Journal of the Academy of Nutrition and Dietetics, 117*(8), 1254-1264. https://doi.org/https://doi.org/10.1016/j.jand.2017.01.023

Marincic, P. Z., Salazar, M. V., Hardin, A., Scott, S., Fan, S. X., Gaillard, P. R., Wyatt, C., Watson, L., Green, P., Glover, P., & Hand, M. (2019). Diabetes self-management education and medical nutrition therapy: A multisite study documenting the efficacy of registered dietitian nutritionist interventions in the management of glycemic control and diabetic dyslipidemia through retrospective chart review. *J Acad Nutr Diet, 119*(3), 449-463. https://doi.org/10.1016/j.jand.2018.06.303

Marmara, J., Hosking, W., & Lyons, A. (2018). Body image disturbances as predictors of reduced mental health among Australian gay men: Being in a relationship does not serve as a protective factor. *Archives of Sexual Behavior, 47*(8), 2467-2479. https://doi.org/10.1007/s10508-018-1208-5

Mathes, T., Pieper, D., Antoine, S.-L., & Eikermann, M. (2012). 50% adherence of patients suffering chronic conditions--where is the evidence? *German medical science : GMS e-journal, 10*, Doc16-Doc16. https://doi.org/10.3205/000167

Mathew, R., Gucciardi, E., De Melo, M., & Barata, P. (2012). Self-management experiences among men and women with type 2 diabetes mellitus: a qualitative analysis. *BMC Family Practice, 13*(1), 122. https://doi.org/10.1186/1471-2296-13-122

Mathy, R. M., Kerr, S. K., & Lehmann, B. A. (2004). Mental health implications of same-sex marriage. *Journal of Psychology & Human Sexuality, 15*(2-3), 117-141. https://doi.org/10.1300/J056v15n02_07

Matsick, J. L., Kruk, M., Layland, E. K., Palmer, L. E., & Salomaa, A. C. (2018). The effects of homosexuality language on lesbian and gay people's well-being. *Innovation in Aging, 2*(Suppl 1), 218-219. https://doi.org/10.1093/geroni/igy023.805

Mayberry, L., Egede, L., Wagner, J., & Osborn, C. (2015). Stress, depression and medication nonadherence in diabetes: test of the exacerbating and buffering effects of family support [Article]. *Journal of Behavioral Medicine, 38*(2), 363-371. https://doi.org/10.1007/s10865-014-9611-4

Mayberry, L. S., & Osborn, C. Y. (2012). Family support, medication adherence, and glycemic control among adults with type 2 diabetes. *Diabetes Care, 35*(6), 1239. https://doi.org/10.2337/dc11-2103

McCann, P. D., Plummer, D., & Minichiello, V. (2010). Being the butt of the joke: homophobic humour, male identity, and its connection to emotional and physical violence for men. *Health Sociology Review, 19*(4), 505-521. https://doi.org/10.5172/hesr.2010.19.4.505

McCrindle, M., Renton, S., Phillips, A., & Miles, E. (2017). *Faith and belief in Australia: A national study on religion, spiritiuality and world view trends*. M. R. P. Ltd. https://mccrindle.com.au/wp-content/uploads/2018/04/Faith-and-Belief-in-Australia-Report_McCrindle_2017.pdf

McEvoy, P. M., Grove, R., & Slade, T. (2011). Epidemiology of anxiety disorders in the Australian general population: findings of the 2007 Australian National Survey of Mental Health and Wellbeing. *The Australian And New Zealand Journal Of Psychiatry, 45*(11), 957-967. https://doi.org/10.3109/00048674.2011.624083

McGarrity, L. A., & Huebner, D. M. (2013). Is being out about sexual orientation uniformly healthy? The moderating role of socioeconomic status in a prospective study of gay and

bisexual men. *Annals of Behavioral Medicine, 47*(1), 28-38. https://doi.org/10.1007/s12160-013-9575-6

McInnis, M. K., & Pukall, C. F. (2020). Sex after prostate cancer in gay and bisexual men: A review of the literature. *Sexual Medicine Reviews, 8*(3), 466-472. https://doi.org/https://doi.org/10.1016/j.sxmr.2020.01.004

McCay, D., Hill, A., Coates, V., O'Kane, M., & McGuigan, K. (2019). Structured diabetes education outcomes: looking beyond HbA1c. A systematic review. Practical diabetes, 36(3), 86-90h. https://doi.org/https://doi.org/10.1002/pdi.2221

McKenzie, S. K., Collings, S., Jenkin, G., & River, J. (2018). Masculinity, social connectedness, and mental health: men's diverse patterns of practice. *American journal of men's health, 12*(5), 1247-1261. https://doi.org/10.1177/1557988318772732

McLaren, S. (2020). The Relationship between living alone, sense of belonging, and depressive symptoms among older men: the moderating role of sexual orientation. *Aging & Mental Health, 24*(1), 103-109. https://doi.org/10.1080/13607863.2018.1531373

McLaren, S., Jude, B., & McLachlan, A. J. (2008). Sense of belonging to the general and gay communities as predictors of depression among Australian gay men. *International Journal of Men's Health, 7*(1), 90-99. http://wallaby.vu.edu.au:2048/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=c8h&AN=105650120&site=eds-live

Mead, C., Tindall, R., & Charlton, K. (2022). Evaluation of a nutrition education resource for refugees and newly arrived migrants to Australia. *Health Promotion Journal of Australia*, 1-8. https://doi.org/https://doi.org/10.1002/hpja.625

Mendelsohn, J., Tsvetkov, Y., & Jurafsky, D. (2020). A framework for the computational linguistic analysis of dehumanization. *Frontiers in artificial intelligence, 3*, 55. https://www.frontiersin.org/articles/10.3389/frai.2020.00055/full

Mendes, R., Martins, S., & Fernandes, L. (2019). Adherence to medication, physical activity and diet in older adults with diabetes: Its association with cognition, anxiety and depression. *Journal of clinical medicine research, 11*(8), 583-592. https://doi.org/10.14740/jocmr3894

Meza, J. P., & Passerman, D. S. (2011). *Integrating narrative medicine and evidence-based medicine: the everyday social practice of healing*. CRC Press. https://www.routledge.com/Integrating-Narrative-Medicine-and-Evidence-Based-Medicine-The-Everyday/Meza-Passerman/p/book/9781846193507#

Mezuk, B., Choi, M., DeSantis, A. S., Rapp, S. R., Diez Roux, A. V., & Seeman, T. (2016). Loneliness, depression, and inflammation: Evidence from the multi-ethnic study of atherosclerosis [Article]. *PLoS ONE, 11*(7), 1-10. https://doi.org/10.1371/journal.pone.0158056

Middlekauff, H. R., Park, J., & Moheimani, R. S. (2014). Adverse effects of cigarette and noncigarette smoke exposure on the autonomic nervous system: mechanisms and implications for cardiovascular risk. *Journal of the American College of Cardiology, 64*(16), 1740-1750. https://doi.org/http://dx.doi.org/10.1016/j.jacc.2014.06.1201

Mietinen, J. R. (2010). Talk about sex? - how HIV-positive gay men talk about sexual health with their doctors and health care providers [Master Research University of New South Wales]. Sydney http://hdl.handle.net/1959.4/44711

Mijas, M., Blukacz, M., Koziara, K., Kasparek, K., Pliczko, M. P., Galbarczyk, A., & Jasienska, G. (2021). Dysregulated by stigma: Cortisol responses to repeated psychosocial stress in gay and heterosexual men. *Psychoneuroendocrinology, 131*, 105325. https://doi.org/https://doi.org/10.1016/j.psyneuen.2021.105325

Mighton, C., Carlsson, L., Clausen, M., Casalino, S., Shickh, S., McCuaig, L., Joshi, E., Panchal, S., Semotiuk, K., Ott, K., Elser, C., Eisen, A., Kim, R. H., Lerner-Ellis, J., Carroll, J. C., Glogowski, E., Schrader, K., Bombard, Y., Bombard, Y., …Thorpe, K. E. (2020). Quality of life drives patients' preferences for secondary findings from genomic sequencing. *European Journal of Human Genetics, 28*(9), 1178-1186. https://doi.org/10.1038/s41431-020-0640-x

Miller-Archie, S. A., Jordan, H. T., Ruff, R. R., Chamany, S., Cone, J. E., Brackbill, R. M., Kong, J., Ortega, F., & Stellman, S. D. (2014). Posttraumatic stress disorder and new-onset diabetes among adult survivors of the World Trade Center disaster. *Preventive Medicine, 66*, 34-38. https://doi.org/10.1016/j.ypmed.2014.05.016

Miller, T. A. (2016). Health literacy and adherence to medical treatment in chronic and acute illness: A meta-analysis. *Patient Education and Counseling, 99*(7), 1079-1086. https://doi.org/https://doi.org/10.1016/j.pec.2016.01.020

Miller, T. A., & Dimatteo, M. R. (2013). Importance of family/social support and impact on adherence to diabetic therapy. *Diabetes, metabolic syndrome and obesity : targets and therapy, 6*, 421-426. https://doi.org/10.2147/DMSO.S36368

Miller, V. M., Davies, M. J., Etherton-Beer, C., McGough, S., Schofield, D., Jensen, J. F., & Watson, N. (2020). Increasing patient activation through diabetes self-management education: Outcomes of DESMOND in regional Western Australia. Patient Education and Counselling, 103(4), 848-853. https://doi.org/https://doi.org/10.1016/j.pec.2019.10.013

Milligan, L. (2016). Insider-outsider-inbetweener? Researcher positioning, participative methods and cross-cultural educational research. *Compare: A Journal of Comparative and International Education, 46*(2), 235-250. https://doi.org/10.1080/03057925.2014.928510

Mirza, S. A., & Rooney, C. (2018). Discrimination prevents LGBTQ people from accessing health care. *Center for American Progress, 18*. https://www.americanprogress.org/article/discrimination-prevents-lgbtq-people-accessing-health-care/

Mirzaei, M., & Khajeh, M. (2018). Comparison of anthropometric indices (body mass index, waist circumference, waist to hip ratio and waist to height ratio) in predicting risk of type II diabetes in the population of Yazd, Iran. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 12*(5), 677-682. https://doi.org/https://doi.org/10.1016/j.dsx.2018.04.026

Mittelmark, M. B., Sagy, S., Eriksson, M., Bauer, G. F., Pelikan, J. M., Lindstrèom, B., & Espnes, G. A. (2017). *The handbook of salutogenesis*. Springer International Publishing. https://doi.org/https://doi.org/10.1007/978-3-319-04600-6_1

Mohammadpour, H., Bucsek, M. J., Hylander, B. L., & Repasky, E. A. (2019). Depression stresses the immune response and promotes prostate cancer growth. *Clinical Cancer Research, 25*(8), 2363-2365. https://doi.org/10.1158/1078-0432.ccr-18-3980

Moksnes, U. K. (2021). Sense of coherence. *Health promotion in health care–Vital theories and research*, 35-46. https://doi.org/https://doi.org/10.1007/978-3-030-63135-2_4

Monaghesh, E., & Hajizadeh, A. (2020). The role of telehealth during COVID-19 outbreak: a systematic review based on current evidence. *BMC Public Health, 20*(1), 1193. https://doi.org/10.1186/s12889-020-09301-4

Moon, K. H., Park, S. Y., & Kim, Y. W. (2018). Obesity and erectile dysfunction: from bench to clinical implication. *wjmh, 37*(2), 138-147. https://doi.org/10.5534/wjmh.180026

Moskowitz, D. A., & Garcia, C. P. (2019). Top, bottom, and versatile anal sex roles in same-sex male relationships: Implications for relationship and sexual satisfaction. *Archives of Sexual Behavior, 48*(4), 1217-1225. https://doi.org/10.1007/s10508-018-1240-5

Morandini, J. S., Blaszczynski, A., Dar-Nimrod, I., & Ross, M. W. (2015). Minority stress and community connectedness among gay, lesbian and bisexual Australians: a comparison of rural and metropolitan localities. *Australian and New Zealand Journal of Public Health, 39*(3), 260-266. https://doi.org/10.1111/1753-6405.12364

Morgan, E., D'Aquila, R., Carnethon, M. R., & Mustanski, B. (2019). Cardiovascular disease risk factors are elevated among a cohort of young sexual and gender minorities in Chicago. *Journal of Behavioral Medicine, 42*(6), 1073-1081. https://doi.org/10.1007/s10865-019-00038-z

Morton, R. (2020). In *If you are queer - or care about queer people - listen to this story*. R. Schwartz, A. Bastow, & M. Macklem. https://7ampodcast.com.au/episodes/if-you-are-queer-or-care-about-queer-people-listen-to-this-story

Morton, S. (2017). Getting evidence into action to tackle institutional child abuse. *Child Abuse & Neglect, 74*, 111-114. https://doi.org/https://doi.org/10.1016/j.chiabu.2017.10.006

Mottalib, A., Salsberg, V., Mohd-Yusof, B.-N., Mohamed, W., Carolan, P., Pober, D. M., Mitri, J., & Hamdy, O. (2018). Effects of nutrition therapy on HbA1c and cardiovascular disease risk factors in overweight and obese patients with type 2 diabetes. *Nutrition Journal, 17*(1), 42. https://doi.org/10.1186/s12937-018-0351-0

Mousavi, S., Greenberg, D., Ndjaboué, R., Greiver, M., Drescher, O., Dansokho, S. C., Boutin, D., Chouinard, J.-M., Dostie, S., Fenton, R., Greenberg, M., McGavock, J., Najam, A., Rekik, M., Weisz, T., Willison, D. J., Durand, A., & Witteman, H. O. (2021). The Influence of age, sex, and socioeconomic status on glycemic control among people with type 1 and type 2 diabetes in Canada: a patient-led longitudinal retrospective cohort study. *medRxiv*, 2021.2012.2014.21267759. https://doi.org/10.1101/2021.12.14.21267759

Munukutla, S., Pan, G., Deshpande, M., Thandavarayan, R. A., Krishnamurthy, P., & Palaniyandi, S. S. (2016). Alcohol toxicity in diabetes and its complications: A double trouble? *Alcoholism: Clinical & Experimental Research, 40*(4), 686-697. https://doi.org/10.1111/acer.13008

Murayama, Y., Yamazaki, S., Hasebe, M., Takahashi, T., Yamaguchi, J., & Kobayashi, E. (2022). Psychological factors that suppress help-seeking among middle-aged and older adults living alone. *International* Journal *of Environmental Research and Public Health, 19*(17), 10620. https://doi.org/doi:10.3390/ijerph191710620

Naish, K. R., Laliberte, M., MacKillop, J., & Balodis, I. M. (2019). Systematic review of the effects of acute stress in binge eating disorder. *European Journal of Neuroscience, 50*(3), 2415-2429. https://doi.org/https://doi.org/10.1111/ejn.14110

Nam, S., Whittemore, R., Jeon, S., Davey-Rothwell, M. A., & Latkin, C. (2016). High blood pressure and related factors among individuals at high risk for HIV/sexually transmitted infections. *The Journal of Clinical Hypertension, 18*(6), 572-580. https://doi.org/10.1111/jch.12714

Narayan, M. C. (2019). CE: Addressing implicit bias in nursing: A review. *AJN The American Journal of Nursing, 119*(7), 36-43. https://doi.org/10.1097/01.NAJ.0000569340.27659.5a

National Health and Medical Research Council. (2009). *Australian guidelines to reduce health risk from drinking alcohol*. C. o. Australia. https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/ds10-alcohol.pdf

Navas-Acien, A., Selvin, E., Sharrett, A. R., Calderon-Aranda, E., Silbergeld, E., & Guallar, E. (2004). Lead, cadmium, smoking, and increased risk of peripheral arterial disease. *Circulation, 109*(25), 3196-3201. https://doi.org/10.1161/01.cir.0000130848.18636.b2

Naylor, L. A. (2020). Counting an invisible class of citizens: The LGBT population and the U.S. census. *Public Integrity, 22*(1), 54-72. https://doi.org/10.1080/10999922.2018.1487748

NCLS Research. (2016). *Disability and inclusion in churches: views and experiences of church attenders*. NCLS RESEARCH;. Retrieved 22/03/2019 from http://www.ncls.org.au/news/2016-disability-inclusion-infographics

Nelson, J. K., Possamai-Inesedy, A., & Dunn, K. M. (2012). Reinforcing substantive religious inequality: A critical analysis of submissions to the review of freedom of religion and belief in Australia inquiry. *Australian Journal of Social Issues, 47*(3), 297. http://hdl.handle.net/10453/114102

Neshteruk, C. D., Norman, K., Armstrong, S. C., Cholera, R., D'Agostino, E., & Skinner, A. C. (2022). Association between parenthood and cardiovascular disease risk: Analysis from NHANES 2011–2016. *Preventive Medicine Reports, 27*, 101820. https://doi.org/https://doi.org/10.1016/j.pmedr.2022.101820

Newman, C., MacGibbon, J., Smith, A. K., Broady, T., Lupton, D., Davis, M., Bear, B., Bath, N., Comensoli, D., & Cook, T. (2020). *Understanding trust in digital health among communities affected by BBVs and STIs in Australia*. UNSW Centre for Social Research in Health. https://research.monash.edu/en/publications/understanding-trust-in-digital-health-among-communities-affected-

Newman, P. A., Fantus, S., Woodford, M. R., & Rwigema, M.-J. (2018). "Pray that god will change you": The religious social ecology of bias-based bullying targeting sexual and gender minority youth—A qualitative study of service providers and educators. *Journal of Adolescent Research, 33*(5), 523-548. https://doi.org/10.1177/0743558417712013

Niedermaier, O. N., Smith, M. L., Beightol, L. A., Zukowska-Grojec, Z., Goldstein, D. S., & Eckberg, D. L. (1993). Influence of cigarette smoking on human autonomic function. *Circulation, 88*(2), 562-571. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=mnh&AN=8339419&site=eds-live

Noble, H., & Heale, R. (2019). Triangulation in research, with examples. *Evidence Based Nursing, 22*(3), 67. https://doi.org/10.1136/ebnurs-2019-103145

Nuevo, R., Chatterji, S., Fraguas, D., Verdes, E., Naidoo, N., Arango, C., & Ayuso-Mateos, J. L. (2011). Increased risk of diabetes mellitus among persons with psychotic symptoms: results from the WHO World Health Survey. *The Journal of clinical psychiatry, 72*(12), 1592-1599. https://doi.org/10.4088/jcp.10m06801

Nursing and Midwifery Board. (2020). Decision-making framework for nursing and midwifery,. Australian Health Regulatory Authority.

https://www.nursingmidwiferyboard.gov.au/documents/default.aspx?record=WD19%2F29157&dbid=AP&chksum=9LilUkdFvM5AJeKlaJZd1A%3D%3D

Nursing and Midwifery Board of Australia. (2018). *Code of conduct for nurses*. Nursing and Midwifery Board of Australia,. Retrieved 23/07/2018 from http://www.nursingmidwiferyboard.gov.au/documents/default.aspx?record=WD17%2f23850&dbid=AP&chksum=L8j874hp3DTIC1Sj4klHag%3d%3d

O'Neill, B. J., Swan, T. A., & Mulé, N. J. (2015). *LGBTQ people and social work: Intersectional perspectives*. Canadian Scholars' Press. https://books.google.com.au/books?id=zUMqCgAAQBAJ

O'Flaherty, M., Baxter, J., Haynes, M., & Turrell, G. (2016). The family life course and health: Partnership, fertility histories, and later-life physical health trajectories in Australia. *Demography, 53*(3), 777-804. https://doi.org/10.1007/s13524-016-0478-6

Oakley, S., & Bletsas, A. (2013). *Understanding the circumstances and experiences of young lesbian, gay, bisexual, transgender, intersex and gender questioning people who are homelessness in Australia: a scoping study*. http://homelessnessclearinghouse.govspace.gov.au/about-homelessness/commonwealth-initiatives/national-homelessness-research/research-release-understanding-the-circumstances-and-experiences-of-young-lgbtiq-people-who-are-homeless-in-australia-a-scoping-study-2013-australia/

Oakley, S., & Bletsas, A. (2017). The experiences of being a young LGBTIQ and homeless in Australia: Re-thinking policy and practice. *Journal of Sociology, 54*(3), 381-395. https://doi.org/10.1177/1440783317726373

Ogrin, R., Aylen, T., Thurgood, L., Neoh, S. L., Audehm, R., Steel, P., Churilov, L., Zajac, J., & Ekinci, E. I. (2021). Older people with type 2 diabetes–individualising management with a specialised community team (OPTIMISE): Perspectives of participants on care. *Clinical Diabetes, 39*(4), 397-410. https://doi.org/10.2337/cd20-0129

Ogunbajo, A., Restar, A., Edeza, A., Goedel, W., Jin, H., Iwuagwu, S., Williams, R., Abubakari, M. R., Biello, K., & Mimiaga, M. (2020). Poor sleep health is associated with increased mental health problems, substance use, and HIV sexual risk behavior in a large, multistate sample of gay, bisexual and other men who have sex with men (GBMSM) in Nigeria, Africa. *Sleep Health: Journal of the National Sleep Foundation*. https://doi.org/10.1016/j.sleh.2020.02.010

Okemah, J., Peng, J., & Quiñones, M. (2018). Addressing clinical inertia in type 2 diabetes mellitus: a review. *Advances in Therapy, 35*(11), 1735-1745. https://doi.org/10.1007/s12325-018-0819-5

Olguin, P., Fuentes, M., Gabler, G., Guerdjikova, A. I., Keck, P. E., & McElroy, S. L. (2017). Medical comorbidity of binge eating disorder. *Eating and weight disorders - studies on anorexia, bulimia and obesity, 22*(1), 13-26. https://doi.org/10.1007/s40519-016-0313-5

Ong, B. N., Richardson, J. C., Porter, T., & Grime, J. (2013). Exploring the relationship between multi-morbidity, resilience and social connectedness across the lifecourse. *Health, 18*(3), 302-318. https://doi.org/10.1177/1363459313497609

Novick, A. M., & Ross, D. A. (2020). Dualism and the 'difficult patient': why integrating neuroscience matters. *BJPsych Advances, 26*(6), 327-330. https://doi.org/10.1192/bja.2020.60

Orth, S. R., & Hallan, S. I. (2008). Smoking: A risk factor for progression of chronic kidney disease and for cardiovascular morbidity and mortality in renal patients—Absence of evidence or evidence of bsence? *Clinical Journal of the American Society of Nephrology, 3*(1), 226-236. https://doi.org/10.2215/cjn.03740907

Ozcelik, H., & Barsade, S. G. (2018). No employee an island: Workplace loneliness and job performance. *Academy of Management Journal, 61*(6), 2343-2366. https://doi.org/10.5465/amj.2015.1066

Pachankis, J. E., Clark, K. A., Burton, C. L., Hughto, J. M. W., Bränström, R., & Keene, D. E. (2020). Sex, status, competition, and exclusion: Intraminority stress from within the gay community and gay and bisexual men's mental health. *Journal of Personality and Social Psychology, 119*(3), 713.

Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *Journal of Consulting and Clinical Psychology, 76*(2), 306-317. https://doi.org/https://doi.org/10.1037/0022-006x.76.2.306

Pachankis, J. E., Westmaas, J. L., & Dougherty, L. R. (2011). The influence of sexual orientation and masculinity on young men's tobacco smoking. *Journal of Consulting and Clinical Psychology, 79*(2), 142-152. https://doi.org/10.1037/a0022917

Paley, C. A., & Johnson, M. I. (2018). Abdominal obesity and metabolic syndrome: exercise as medicine? *BMC Sports Science, Medicine and Rehabilitation, 10*(1), 7. https://doi.org/10.1186/s13102-018-0097-1

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and policy in mental health, 42*(5), 533-544. https://doi.org/10.1007/s10488-013-0528-y

Pamungkas, R. A., Chamroonsawasdi, K., & Vatanasomboon, P. (2017). A systematic review: Family support integrated with diabetes self-management among uncontrolled type II diabetes mellitus patients. *Behavioral Sciences, 7*(3), 62. https://doi.org/https://doi.org/10.20944/preprints201705.0104.v1

Pandey, K. R., Yang, F., Cagney, K. A., Smieliauskas, F., Meltzer, D. O., & Ruhnke, G. W. (2019). The impact of marital status on health care utilization among Medicare beneficiaries. *Medicine, 98*(12), e14871-e14871. https://doi.org/10.1097/MD.0000000000014871

Pantell, M., Rehkopf, D., Jutte, D., Syme, S. L., Balmes, J., & Adler, N. (2013). Social isolation: a predictor of mortality comparable to traditional clinical risk factors. *American Journal of Public Health, 103*(11), 2056-2062. https://doi.org/10.2105/AJPH.2013.301261)

Papelbaum, M., de Oliveira Moreira, R., Coutinho, W. F., Kupfer, R., Freitas, S., Raggio Luz, R., & Appolinario, J. C. (2019). Does binge-eating matter for glycemic control in type 2 diabetes patients? *Journal of Eating Disorders, 7*(1), 30. https://doi.org/10.1186/s40337-019-0260-4

Parihar, H. S., Thakar, H., Hongjun, Y., & Allen, S. (2016). Is depression an independent risk factor for the onset of Type 2 diabetes mellitus? *Drug Development & Therapeutics, 7*(2), 75-80. https://doi.org/10.4103/2394-6555.191148

Parker, H. W., Abreu, A. M., Sullivan, M. C., & Vadiveloo, M. K. (2022). Allostatic Load and Mortality: A Systematic Review and Meta-Analysis. *American Journal of Preventive Medicine, 63*(1), 131-140. https://doi.org/https://doi.org/10.1016/j.amepre.2022.02.003

Parker, L. L., & Harriger, J. A. (2020). Eating disorders and disordered eating behaviors in the LGBT population: a review of the literature. *Journal of Eating Disorders, 8*(1), 51. https://doi.org/10.1186/s40337-020-00327-y

Parkinson, P. (2014). Child sexual abuse and the churches: A story of moral failure? *Current Issues in Criminal Justice, 26*(1), 119-138. https://doi.org/https://doi.org/10.1080/10345329.2014.12036010

Pascoe, E. (2016). Gay men and type 2 diabetes study. *Australian Nursing and Midwifery Journal*(2), 28. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=edsihc&AN=edsihc.222997844243734&site=eds-live

Patel, J., Bernetich, M., & Alzahrani, T. (2017). Effect of Sexual orientation on the rate of heart attack. https://hsrc.himmelfarb.gwu.edu/gw_research_days/2017/SMHS/79/

Patterson, C. J., & Potter, E. C. (2019). Sexual orientation and sleep difficulties: a review of research. *Sleep Health, 5*(3), 227-235. https://doi.org/https://doi.org/10.1016/j.sleh.2019.02.004

Patterson, J. G., & Jabson, J. M. (2018). Sexual orientation measurement and chronic disease disparities: National Health and Nutrition Examination Survey, 2009–2014. *Annals of Epidemiology, 28*(2), 72-85. https://doi.org/https://doi.org/10.1016/j.annepidem.2017.12.001

Pawaskar, M., Liu, J., Ravi Shankar, R., & Rajpathak, S. (2018). Factors associated with severe hypoglycemia among patients with type 2 diabetes treated with insulin. *Diabetes, 67*(1), 384-P. https://doi.org/10.2337/db18-384-P

Pearcey, M. (2005). Gay and Bisexual Married Men's Attitudes and Experiences. *Journal of GLBT Family Studies, 1*(4), 21-42. https://doi.org/10.1300/J461v01n04_02

Pedersen, B. K. (2017). Anti-inflammatory effects of exercise: role in diabetes and cardiovascular disease. *European Journal of Clinical Investigation, 47*(8), 600-611. https://doi.org/10.1111/eci.12781

Peisah, C., Burns, K., Edmonds, S., & Brodaty, H. (2018). Rendering visible the previously invisible in health care: The ageing LGBTI communities. *Medical Journal of Australia, 209*(3), 106-108.

Pellegrini, V., De Cristofaro, V., Giacomantonio, M., & Salvati, M. (2020). Why are gay leaders perceived as ineffective? The role of the type of organization, sexual prejudice and gender stereotypes. *Personality and Individual Differences, 157*, 109817. https://doi.org/https://doi.org/10.1016/j.paid.2020.109817

Pennebaker, J. W. (2000). Telling stories: The health benefits of narrative. *Literature and Medicine, 19*(1), 3-18. https://www.proquest.com/scholarly-journals/telling-stories-health-benefits-narrative/docview/745954711/se-2?accountid=14844

Pepper, N. (2021). Alkyl Nitrite Inhalants (Poppers). In V. B. Patel & V. R. Preedy (Eds.), *Handbook of substance misuse and addictions: From biology to public health* (pp. 1-20). Springer International Publishing. https://doi.org/10.1007/978-3-030-67928-6_132-1

Perales, F. (2019). The health and wellbeing of Australian lesbian, gay and bisexual people: a systematic assessment using a longitudinal national sample. *Australian and New Zealand Journal of Public Health, 43*(3), 281-287. https://doi.org/10.1111/1753-6405.12855

Perales, F., Bouma, G., & Campbell, A. (2018). Religion, support of equal rights for same-sex couples and the Australian national vote on marriage equality. *Sociology of Religion, 80*(1), 107-129. https://doi.org/10.1093/socrel/sry018

Perales, F., Simpson Reeves, L., Plage, S., & Baxter, J. (2020). The family lives of Australian lesbian, gay and bisexual people: a review of the literature and a research agenda. *Sexuality Research and Social Policy, 17*(1), 43-60. https://doi.org/10.1007/s13178-018-0367-4

Pervanidou, P., & Chrousos, G. P. (2012). Metabolic consequences of stress during childhood and adolescence. *Metabolism, 61*(5), 611-619. https://doi.org/https://doi.org/10.1016/j.metabol.2011.10.005

Petroni, M. L., Barbanti, F. A., Bonadonna, R., Bruno, G., Caletti, M. T., Croci, M., D'Eusebio, C., Dei Cas, A., Invitti, C., Merlo, F., Molteni, A., Pontiroli, A., Trento, M., Veronelli, A., Vigili de Kreutzenberg, S., & Marchesini, G. (2019). Dysfunctional eating in type 2 diabetes mellitus: A multicenter Italian study of socio-demographic and clinical associations.

Nutrition, Metabolism and Cardiovascular Diseases, 29(9), 983-990. https://doi.org/https://doi.org/10.1016/j.numecd.2019.06.006

Pew Research Centre. (2013). *A survey of LGBT Americans attitudes, experiences and values in changing times*. P. R. Center. http://assets.pewresearch.org/wp-content/uploads/sites/3/2013/06/SDT_LGBT-Americans_06-2013.pdf

Pham, T. T. L., Callinan, S., & Livingston, M. (2019). Patterns of alcohol consumption among people with major chronic diseases. *Australian Journal of Primary Health, 25*(2), 163-167. https://doi.org/10.1071/PY18075

Phillips, P. (2012). HbA1c and monitoring glycaemia. *Australian Journal for General Practitioners, 41*, 37-40. https://www.racgp.org.au/afp/2012/january-february/hba1c-and-monitoring-glycaemia

Phillips, A. S., & Guarnaccia, C. A. (2020). Self-determination theory and motivational interviewing interventions for type 2 diabetes prevention and treatment: A systematic review. Journal of Health Psychology, 25(1), 44-66. https://doi.org/10.1177/1359105317737606

Phillips, L. S., Ziemer, D. C., Doyle, J. P., Barnes, C. S., Kolm, P., Branch, W. T., Caudle, J. M., Cook, C. B., Dunbar, V. G., El-Kebbi, I. M., Gallina, D. L., Hayes, R. P., Miller, C. D., Rhee, M. K., Thompson, D. M., & Watkins, C. (2005). An endocrinologist-supported intervention aimed at providers improves diabetes management in a primary care Sste. *Diabetes Care, 28*(10), 2352. https://doi.org/10.2337/diacare.28.10.2352

Philpot, S. P., Duncan, D., Ellard, J., Bavinton, B. R., Grierson, J., & Prestage, G. (2018). Negotiating gay men's relationships: how are monogamy and non-monogamy experienced and practised over time? *Culture, Health & Sexuality, 20*(8), 915-928. https://doi.org/10.1080/13691058.2017.1392614

Piciu, A. M., Johar, H., Lukaschek, K., Thorand, B., & Ladwig, K. H. (2018). Life satisfaction is a protective factor against the onset of Type 2 diabetes in men but not in women: findings from the MONICA/KORA cohort study. *Diabetic Medicine, 35*(3), 323-331. https://doi.org/10.1111/dme.13574

Pickett, J. (2010). Addressing gay men's health: The script needs a rewrite. *AMA Journal of Ethics: Illuminating the Art of Medicine, 12*(8), 668-672. https://doi.org/10.1001/virtualmentor.2010.12.8.pfor2-1008.

Pietraszek, A., Gregersen, S., & Hermansen, K. (2010). Review: Alcohol and type 2 diabetes. A review. *Nutrition, Metabolism and Cardiovascular Diseases, 20*, 366-375. https://doi.org/10.1016/j.numecd.2010.05.001

Pinto, K. P., Ferreira, C. M., Maia, L. C., Sassone, L. M., Fidalgo, T. K. S., & Silva, E. J. N. L. (2020). Does tobacco smoking predispose to apical periodontitis and endodontic treatment need? A systematic review and meta-analysis. *International Endodontic Journal, 53*(8), 1068-1083. https://doi.org/10.1111/iej.13316

Pitts, M., Smith, A., Mitchell, A., & Patel, S. (2006). *PRIVATE LIVES A report on the health and wellbeing of GLBTI Australians*. Australian Research Centre in Sex Health and Society. Retrieved 08/10/2016 from https://www.livingwell.org.au/wp-content/uploads/2012/11/private_lives_report_1_0.pdf

Pizzol, D., Smith, L., Fontana, L., Caruso, M. G., Bertoldo, A., Demurtas, J., McDermott, D., Garolla, A., Grabovac, I., & Veronese, N. (2020). Associations between body mass index, waist circumference and erectile dysfunction: a systematic review and META-analysis. *Reviews in Endocrine and Metabolic Disorders*. https://doi.org/10.1007/s11154-020-09541-0

Pleizier, T., Zwijze-Koning, K., & van der Meulen, M. (2022). Who cares? Exploring pastoral care in Dutch Protestant Parishes using the Church Life Survey (CLS). *Pastoral Psychology, 71*(3), 345-358. https://doi.org/10.1007/s11089-021-00981-2

Plug, E., Webbink, D., & Martin, N. (2014). Sexual roientation, prejudice, and segregation. *Journal of Labor Economics, 32*(1), 123-159. https://doi.org/10.1086/673315

Polinska, W. (2018). Mindfulness meditation as a remedy to" white ignorance" and its consequences. *Buddhist-Christian Studies, 38*, 325-341. https://doi.org/https://doi.org/10.1353/bcs.2018.0026

Polsky, S., & Akturk, H. K. (2017). Alcohol consumption, diabetes risk, and cardiovascular disease within diabetes. *Current Diabetes Reports, 17*(12), 136. https://doi.org/10.1007/s11892-017-0950-8

Porter, K. E., Brennan-Ing, M., Burr, J. A., Dugan, E., & Karpiak, S. E. (2017). HIV stigma and older men's psychological well-being: Do coping resources differ for gay/bisexual and

straight men? *The Journals of Gerontology: Series B, 74*(4), 685-693. https://doi.org/10.1093/geronb/gbx101

Potter, R. E., Dollard, M. F., & Tuckey, M. R. (2016). *Bullying and harassment in Australian workplaces: Results from the Australian workplace barometer 2014/15*. Safe Work Australia. https://www.safeworkaustralia.gov.au/system/files/documents/1705/bullying-and-harassment-in-australian-workplaces-australian-workplace-barometer-results.pdf

Powell, R. E., Zaccardi, F., Beebe, C., Chen, X. M., Crawford, A., Cuddeback, J., Gabbay, R. A., Kissela, L., Litchman, M. L., Mehta, R., Meneghini, L., Pantalone, K. M., Rajpathak, S., Scribner, P., Skelley, J. W., & Khunti, K. (2021). Strategies for overcoming therapeutic inertia in type 2 diabetes: A systematic review and meta-analysis. *Diabetes, Obesity and Metabolism, 23*(9), 2137-2154. https://doi.org/https://doi.org/10.1111/dom.14455

Poynten, I. M., Machalek, D., Templeton, D., Jin, F., Hillman, R., Zablotzska, I., Prestage, G., Holt, M., & Grulich, A. (2016). Comparison of age-specific patterns of sexual behaviour and anal HPV prevalence in homosexual men with patterns in women. *Sexually Transmitted Infections, 92*(3), 228. https://doi.org/10.1136/sextrans-2015-052032

Poynten, I. M., Waterboer, T., Jin, F., Templeton, D. J., Hillman, R. J., Law, C., Cornall, A., Tabrizi, S., Roberts, J. M., Garland, S. M., Fairley, C. K., & Grulich, A. E. (2018). Human papillomavirus seroprevalence and association with anal HPV infection and squamous intraepithelial lesions in Australian gay and bisexual men. *Cancer Epidemiology Biomarkers & Prevention, 27*(7), 768-775. https://doi.org/10.1158/1055-9965.epi-17-0694

Prasoon, R., & Chaturvedi, K. (2016). Life satisfaction: a literature review. *The Researcher-International Journal of Management Humanities and Social Sciences, 1*(2), 25-32. https://www.coursehero.com/file/45084960/01021220163pdf/

Preshaw, P. M., & Bissett, S. M. (2019). Periodontitis and diabetes. *British Dental Journal, 227*(7), 577-584. https://doi.org/10.1038/s41415-019-0794-5

Pretty, G., Bishop, B., Fisher, A., & Sonn, C. (2006). *Psychological sense of community and its relevance to well-being and everyday life in Australia*. The Australian Psychological Society. http://groups.psychology.org.au/assets/files/community-updated-sept061.pdf

Prime, S., Gradiner, C., & Haddock, R. (2020). *Optimising health care through through specialist referral forms*. D. I. f. h. p. research. https://www.researchgate.net/publication/359427188_Deeble_Institute_Issues_Brief_No_

38_Optimising_health_care_through_specialist_referral_reforms/link/623bb4133818892e0a6c6c43/download

Puhr, R., Petoumenos, K., Huang, R., Templeton, D., Woolley, I., Bloch, M., Russell, D., Law, M., & Cooper, D. (2019). Cardiovascular disease and diabetes in HIV-positive and HIV-negative gay and bisexual men over the age of 55 years in Australia: insights from the Australian Positive & Peers Longevity Evaluation Study. *HIV Medicine, 20*(2), 121-130. https://doi.org/10.1111/hiv.12689

Qiao, Q., & Nyamdorj, R. (2010). Is the association of type II diabetes with waist circumference or waist-to-hip ratio stronger than that with body mass index? *European Journal of Clinical Nutrition, 64*(1), 30-34. https://doi.org/10.1038/ejcn.2009.93

Qiu, S., Cai, X., Yin, H., Sun, Z., Zügel, M., Steinacker, J. M., & Schumann, U. (2018). Exercise training and endothelial function in patients with type 2 diabetes: a meta-analysis. *Cardiovascular Diabetology, 17*(1), 64. https://doi.org/10.1186/s12933-018-0711-2

Quidley-Rodriguez, N., & De Santis, J. P. (2016). Physical, psychosocial, and social health of men who identify as bears: a systematic review. *Journal of Clinical Nursing, 25*(23-24), 3484-3496. https://doi.org/10.1111/jocn.13368

Quidley-Rodriguez, N., & De Santis, J. P. (2017). A literature review of health risks in the bear community, a gay subculture. *Am J Mens Health, 11*(6), 1673-1679. https://doi.org/10.1177/1557988315624507

Quilliot, D., Brunaud, L., Mathieu, J., Quenot, C., Sirveaux, M.-A., Kahn, J.-P., Ziegler, O., & Witkowski, P. (2019). Links between traumatic experiences in childhood or early adulthood and lifetime binge eating disorder. *Psychiatry Research, 276*, 134-141. https://doi.org/https://doi.org/10.1016/j.psychres.2019.05.008

Quinn, L. M., Davies, M. J., Northern, A., Brough, C., Schreder, S., Stribling, B., Khunti, K., & Hadjiconstantinou, M. (2021). Use of MyDesmond digital education programme to support self-management in people with type 2 diabetes during the COVID-19 pandemic. *Diabet Med, 38*(3), e14469. https://doi.org/10.1111/dme.14469

Rad, G. S., Bakht, L. A., Feizi, A., & Mohebi, S. (2013). Importance of social support in diabetes care. *Journal of education and health promotion, 2*, 62-62. https://doi.org/10.4103/2277-9531.120864

Raevuori, A., Suokas, J., Haukka, J., Gissler, M., Linna, M., Grainger, M., & Suvisaari, J. (2015). Highly increased risk of type 2 diabetes in patients with binge eating disorder and bulimia nervosa. *International Journal of Eating Disorders, 48*(6), 555-562. https://doi.org/10.1002/eat.22334

Rahman, Q., & Silber, K. (2000). Sexual orientation and the sleep–wake cycle: A preliminary investigation [journal article]. *Archives of Sexual Behavior, 29*(2), 127-134. https://doi.org/10.1023/a:1001999821083

Rainbow health Victoria. (2016). *Rainbow health Victoria*. Gay and Lesbian Health Victoria. Retrieved 14/02/2016 from https://www.rainbowhealthvic.org.au/

Rainey, J. C., Furman, C. R., & Gearhardt, A. N. (2018). Food addiction among sexual minorities. *Appetite, 120*, 16-22. https://doi.org/https://doi.org/10.1016/j.appet.2017.08.019

Rajanahally, S., Raheem, O., Rogers, M., Brisbane, W., Ostrowski, K., Lendvay, T., & Walsh, T. (2019). The relationship between cannabis and male infertility, sexual health, and neoplasm: a systematic review. *Andrology, 7*(2), 139-147. https://doi.org/10.1111/andr.12585

Raskin, J. D. (2012). Evolutionary constructivism and humanistic psychology. *Journal of Theoretical and Philosophical Psychology, 32*(2), 119. https://doi.org/10.1037/a0025158

Rasmusson, G., Lydecker, J. A., Coffino, J. A., White, M. A., & Grilo, C. M. (2019). Household food insecurity is associated with binge-eating disorder and obesity. *International Journal of Eating Disorders, 52*(1), 28-35. https://doi.org/https://doi.org/10.1002/eat.22990

Razaz, J. M., Rahmani, J., Varkaneh, H. K., Thompson, J., Clark, C., & Abdulazeem, H. M. (2019). The health effects of medical nutrition therapy by dietitians in patients with diabetes: A systematic review and meta-analysis: Nutrition therapy and diabetes. *Primary Care Diabetes, 13*(5), 399-408. https://doi.org/https://doi.org/10.1016/j.pcd.2019.05.001

Reach, G., Pechtner, V., Gentilella, R., Corcos, A., & Ceriello, A. (2017). Clinical inertia and its impact on treatment intensification in people with type 2 diabetes mellitus. *Diabetes & Metabolism, 43*(6), 501-511. https://doi.org/https://doi.org/10.1016/j.diabet.2017.06.003

Reczek, C., Gebhardt-Kram, L., Kissling, A., & Umberson, D. (2018). Healthcare Work in Marriage: How Gay, Lesbian, and Heterosexual Spouses Encourage and Coerce Medical Care. *Journal of Health and Social Behavior, 59*(4), 554-568. https://doi.org/10.1177/0022146518808718

Reed, S. G., Lopatin, D. E., Foxman, B., & Burt, B. A. (2000). Oral Chlamydia trachomatis in patients with established periodontitis. *Clinical Oral Investigations, 4*(4), 226-232. https://doi.org/10.1007/s007840000083

Reeders, D., Tran, J., Cornelisse, V., Race, K., & Kidd, P. (2018). *Joint submission (ACSM #24)*. https://www.tga.gov.au/sites/default/files/submission-scheduling-nov18-alkyl-nitrites-reeders.pdf

Refugio, O. N., Kimble, M. M., Silva, C. L., Lykens, J. E., Bannister, C., & Klausner, J. D. (2019). Brief report: PrEPTECH: A telehealth-based initiation program for HIV Pre-exposure prophylaxis in young men of color who have sex with men. A pilot study of feasibility. *JAIDS Journal of Acquired Immune Deficiency Syndromes, 80*(1). https://journals.lww.com/jaids/Fulltext/2019/01010/Brief_Report__PrEPTECH__A_Telehealth_Based.9.aspx

Regan, H., Jama, A., Mantzios, M., Keyte, R., & Egan, H. (2021). Exploring the experiences of gay men with regards to eating, exercise, and mindfulness-based concepts. *American Journal of Men's Health, 15*(3), 15579883211016341. https://doi.org/10.1177/15579883211016341

Reinholdt, K., Thomsen, L. T., Munk, C., Dehlendorff, C., Carstensen, B., Jørgensen, M. E., & Kjaer, S. K. (2021). Incidence of HPV-related anogenital intraepithelial neoplasia and cancer in men with diabetes compared with the general population. *Epidemiology, 32*(5), 705-711. https://doi.org/10.1097/ede.0000000000001375

Rendall, M. S., Weden, M. M., Favreault, M. M., & Waldron, H. (2011). The protective effect of marriage for survival: A review and update. *Demography, 48*(2), 481. https://doi.org/10.1007/s13524-011-0032-5

Retzler, K. (2019). Erectile dysfunction: a review of comprehensive treatment options for optimal outcome. *Journal of Restorative Medicine, 8*. https://doi.org/10.14200/jrm.2019.0104

Rewbury, R., Hughes, E., Purbrick, R., Prior, S., & Baron, M. (2017). Poppers: legal highs with questionable contents? A case series of poppers maculopathy. *British Journal of Ophthalmology, 101*(11), 1530-1534. https://doi.org/10.1136/bjophthalmol-2016-310023

Reynolds, E. (2016). *How far Australia has come — is it far enough?* new.com.au Retrieved 28th March from http://www.news.com.au/lifestyle/real-life/how-far-australia-has-come--is-it-far-enough/news-story/f7758427c03865f1d9598c23d4b6995a

Reynolds, R. (2002). *From camp to queer: Re-making the Australian homosexual*. Melbourne University Publish. https://researchers.mq.edu.au/en/publications/from-camp-to-queer-remaking-the-australian-homosexual

Reynolds, R., Dennis, S., Hasan, I., Slewa, J., Chen, W., Tian, D., Bobba, S., & Zwar, N. (2018). A systematic review of chronic disease management interventions in primary care. *BMC Family Practice, 19*(1), 11. https://doi.org/10.1186/s12875-017-0692-3

Richmond, T. K., Walls, C. E., & Austin, S. B. (2012). Sexual Orientation and Bias in Self-Reported BMI. *Obesity, 20*(8), 1703-1709. https://doi.org/https://doi.org/10.1038/oby.2012.9

Riessman, C. K. (2008). *Narrative methods for the human sciences*. Thousand Oaks : Sage Publications. https://www.researchgate.net/publication/287084492_Catherine_Kohler_Riessman_2008_Narrative_methods_for_the_human_sciences

Riley, B. H. (2010). GLB Adolescent's “Coming out”. Journal of Child and Adolescent Psychiatric Nursing, 23(1), 3-10. https://doi.org/https://doi.org/10.1111/j.1744-6171.2009.00210.x

Ringbäck Weitoft, G., Burström, B., & Rosén, M. (2004). Premature mortality among lone fathers and childless men. *Social Science & Medicine, 59*(7), 1449-1459. https://doi.org/https://doi.org/10.1016/j.socscimed.2004.01.026

Rivera, A. S., Rusie, L., Planck, M., Siddique, J., Beach, L. B., Lloyd-Jones, D., & Feinstein, M. J. (2018). Association of cumulative viral load with the incidence of hypertension and diabetes in people with HIV. Hypertension, https://doi.org/doi:10.1161/HYPERTENSIONAHA.122.19302

Rivers, I. (2004). Recollections of Bullying at School and Their Long-Term Implications for Lesbians, Gay Men, and Bisexuals. *Crisis, 25*(4), 169-175. https://doi.org/10.1027/0227-5910.25.4.169

Robbins, J. M., Thatcher, G. E., Webb, D. A., & Valdmanis, V. G. (2008). Nutritionist visits, diabetes classes, and hospitalization rates and charges: the Urban Diabetes Study. *Diabetes care, 31*(4), 655-660. https://doi.org/https://doi.org/10.2337/dc07-1871

Roberts, A. L., Agnew-Blais, J. C., & Spiegelman, D. (2015). Posttraumatic stress disorder and incidence of type 2 diabetes mellitus in a sample of women: A 22-year longitudinal study. *JAMA Psychiatry, 72*(3), 203-210. https://doi.org/10.1001/jamapsychiatry.2014.2632

Roberts, A. L., Austin, S. B., Corliss, H. L., Vandermorris, A. k., & Koenen, K. C. (2010). Pervasive trauma exposure among US sexual orientation minority adults and risk of posttraumatic stress disorder. *American Journal of Public Health, 100*(12), 2433-2441. https://doi.org/10.2105/ajph.2009.168971

Roberts, A., James, J., & Dhatariya, K. (2018). Management of hyperglycaemia and steroid (glucocorticoid) therapy: a guideline from the Joint British Diabetes Societies (JBDS) for Inpatient Care group [https://doi.org/10.1111/dme.13675]. *Diabetic Medicine, 35*(8), 1011-1017. https://doi.org/https://doi.org/10.1111/dme.13675

Robertson, S. (2006). 'Not living life in too much of an excess': lay men understanding health and well-being. *Health, 10*(2), 175-189. https://doi.org/10.1177/1363459306061787

Robson, N., & Hosseinzadeh, H. (2021). Impact of telehealth care among adults living with type 2 diabetes in primary care: A systematic rand meta-analysis of randomised controlled trials. *International Journal of Environmental Research and Public Health, 18*(22), 12171. https://www.mdpi.com/1660-4601/18/22/12171

Roger, K. S., & Hatala, A. (2018). Religion, spirituality & chronic illness: A scoping review and implications for health care practitioners. *Journal of Religion & Spirituality in Social Work: Social Thought, 37*(1), 24-44. https://doi.org/10.1080/15426432.2017.1386151

Romeril, K. R., & Concannon, A. J. (1981). Heinz body haemolytic anaemia after sniffing volatile nitrites. *Med J Aust, 1*(6), 302-303. https://doi.org/10.5694/j.1326-5377.1981.tb135582.x

Romero, C. (2019). Praying for torture: Why the United Kingdom should ban conversion therapy. *Geo. Wash. Int'l L. Rev., 51*, 201-230. https://gwilr.org/wordpress/wp-content/uploads/2019/06/Praying-For-Torture_Romero.pdf

Rose, D., Ussher, J. M., & Perz, J. (2017). Let's talk about gay sex: gay and bisexual men's sexual communication with healthcare professionals after prostate cancer. *European Journal of Cancer Care, 26*(1), e12469. https://doi.org/10.1111/ecc.12469

Rosoff, M. H., & Cohen, M. V. (1986). Profound bradycardia after amyl nitrite in patients with a tendency to vasovagal episodes. *British Heart Journal, 55*(1), 97. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=edb&AN=66266184&site=eds-live

Rosser, B. R. S., Hunt, S. L., Capistrant, B. D., Kohli, N., Konety, B. R., Mitteldorf, D., Ross, M. W., Talley, K. M., & West, W. (2019). Understanding prostate cancer in gay, bisexual, and other men who have sex with men and transgender women: A review of the literature. *Current Sexual Health Reports, 11*(4), 430-441. https://doi.org/10.1007/s11930-019-00234-7

Rosser, B. R. S., Merengwa, E., Capistrant, B. D., Iantaffi, A., Kilian, G., Kohli, N., Konety, B. R., Mitteldorf, D., & West, W. (2016). Prostate cancer in gay, bisexual, and other men who have sex with men: A review. *LGBT Health, 3*(1), 32-41. https://doi.org/10.1089/lgbt.2015.0092

Rouyard, T., Kent, S., Baskerville, R., Leal, J., & Gray, A. (2017). Perceptions of risks for diabetes-related complications in Type 2 diabetes populations: a systematic review. *Diabetic Medicine, 34*(4), 467-477. https://doi.org/10.1111/dme.13285

Roveda, E., Montaruli, A., Galasso, L., Pesenti, C., Bruno, E., Pasanisi, P., Cortellini, M., Rampichini, S., Erzegovesi, S., Caumo, A., & Esposito, F. (2018). Rest-activity circadian rhythm and sleep quality in patients with binge eating disorder. *Chronobiology International, 35*(2), 198-207. https://doi.org/10.1080/07420528.2017.1392549

Roxburgh, A., Lea, T., de Wit, J., & Degenhardt, L. (2016). Sexual identity and prevalence of alcohol and other drug use among Australians in the general population. *Int J Drug Policy, 28*, 76-82. https://doi.org/10.1016/j.drugpo.2015.11.005

Roy Morgan Research Ltd. (2016). *"Homosexuality is immoral," say almost 3 in 10 coalition voters* (6872). Roy Morgan Research Ltd. https://www.roymorgan.com/findings/6872-plebiscite-voters-who-say-homosexuality-is-immoral-march-2016-201606301142

Rozzell, K. N., Nogg, K. A., Oshana, A., & Blashill, A. J. (2020). Body image and cigarette smoking among sexual minority Latino men. *Psychology of Sexual Orientation and Gender Diversity, 7*(2), 154-161. https://doi.org/10.1037/sgd0000367

Ruben, M. A., & Fullerton, M. (2018). Proportion of patients who disclose their sexual orientation to healthcare providers and its relationship to patient outcomes: A meta-analysis and review. *Patient Education and Counseling, 101*(9), 1549-1560. https://doi.org/https://doi.org/10.1016/j.pec.2018.05.001

Russomanno, J., Patterson, J. G., & Jabson Tree, J. M. (2019). Social media recruitment of marginalized, hard-to-reach populations: Development of recruitment and monitoring guidelines. JMIR Public Health Surveill, 5(4), e14886. https://doi.org/10.2196/14886

Rustad, J. K., Musselman, D. L., & Nemeroff, C. B. (2011). Review: The relationship of depression and diabetes: Pathophysiological and treatment implications. *Psychoneuroendocrinology, 36*, 1276-1286. https://doi.org/10.1016/j.psyneuen.2011.03.005

Saad, A. M. J., Hiyasat, D., Jaddou, H., & Obeidat, N. (2019). The prevalence of high risk obstructive sleep apnoea among patients with type 2 diabetes in Jordan. *Diabetes Research and Clinical Practice, 152*, 16-22. https://doi.org/https://doi.org/10.1016/j.diabres.2019.04.035

Sabia, J. J., Wooden, M., & Nguyen, T. T. (2017). Sexual identity, same-sex relationships, and labour market dynamics: new evidence from longitudinal data in Australia. *Southern Economic Journal, 83*(4), 903-931. https://doi.org/10.1002/soej.12181

Sacerdote, C., Ricceri, F., Rolandsson, O., Baldi, I., Chirlaque, M.-D., Feskens, E., Bendinelli, B., Ardanaz, E., Arriola, L., Balkau, B., Bergmann, M., Beulens, J. W., Boeing, H., Clavel-Chapelon, F., Crowe, F., de Lauzon-Guillain, B., Forouhi, N., Franks, P. W., Gallo, V., … Wareham, N. (2012). Lower educational level is a predictor of incident type 2 diabetes in European countries: The EPIC-InterAct study. *International Journal of Epidemiology, 41*(4), 1162-1173. https://doi.org/10.1093/ije/dys091

Saini, R., Saini, S., & Sharma, S. (2010). Oral sex, oral health and orogenital infections. *Journal of global infectious diseases, 2*(1), 57-62. https://doi.org/10.4103/0974-777X.59252

Salehi, S., Ghodousi, A., & Ojaghloo, K. (2012). The spiritual experiences of patients with diabetes- related limb amputation. *Iranian journal of nursing and midwifery research, 17*(3), 225-228. https://www.ncbi.nlm.nih.gov/pubmed/23833617

Salomaa, A. C., & Matsick, J. L. (2019). Carving sexuality at its joints: Defining sexual orientation in research and clinical practice. *Psychological Assessment, 31*(2), 167-180. https://doi.org/10.1037/pas0000656

Salzano, G., Maglitto, F., Bisogno, A., Vaira, L. A., De Riu, G., Cavaliere, M., di Stadio, A., Mesolella, M., Motta, G., Ionna, F., Califano, L., & Salzano, F. A. (2021). Obstructive sleep apnoea/hypopnoea syndrome: relationship with obesity and management in obese patients. ACTA Otorhinolaryngologica Italica, 41(2), 120-130. https://doi.org/10.14639/0392-100X-N1100

Sälzer, S., Graetz, C., Dörfer, C. E., Slot, D. E., & Van der Weijden, F. A. (2020). Contemporary practices for mechanical oral hygiene to prevent periodontal disease. *Periodontology 2000, 84*(1), 35-44. https://doi.org/https://doi.org/10.1111/prd.12332

Saunders, J. B., Degenhardt, L., Reed, G. M., & Poznyak, V. (2019). Alcohol Use Disorders in ICD-11: Past, Present, and Future. *Alcoholism: Clinical and Experimental Research, 43*(8), 1617-1631. https://doi.org/https://doi.org/10.1111/acer.14128

Sanchez, A. A., Southgate, E., Rogers, G., & Duvivier, R. J. (2017). Inclusion of Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Health in Australian and New Zealand Medical Education. *LGBT Health, 4*(4), 295-303. https://doi.org/10.1089/lgbt.2016.0209

Sasa, R. I. (2019). Male nurse: A concept analysis. *Nursing Forum, 54*(4), 593-600. https://doi.org/https://doi.org/10.1111/nuf.12374

Sauer, P. A., & McCoy, T. P. (2016). Nurse bullying: Impact on nurses' health. *Western Journal of Nursing Research, 39*(12), 1533-1546. https://doi.org/10.1177/0193945916681278

Savin-Williams, R. C. (1995). An exploratory study of pubertal maturation timing and self-esteem among gay and bisexual male youths. *Developmental Psychology, 31*(1), 56-64. https://doi.org/10.1037/0012-1649.31.1.56

Saxby, K., Chan, C., & Bavinton, B. R. (2022). Structural stigma and sexual health disparities among gay, bisexual, and other men who have sex with men in Australia. *JAIDS Journal of Acquired Immune Deficiency Syndromes, 89*(3), 241-250. https://doi.org/10.1097/QAI.0000000000002851

Schabert, J., Browne, J. L., Mosely, K., & Speight, J. (2013). Social stigma in diabetes. *The Patient - Patient-Centered Outcomes Research, 6*(1), 1-10. https://doi.org/10.1007/s40271-012-0001-0

Schatz, D. (2016). 2016 Presidential address: diabetes at 212°—Confronting the invisible disease. *Diabetes Care, 39*(10), 1657-1663. https://doi.org/https://doi.org/10.2337/dc16-1558

Schauber, J., & Herzinger, T. (2012). 'Poppers' dermatitis. *Clinical And Experimental Dermatology, 37*(5), 587-588. https://doi.org/10.1111/j.1365-2230.2011.04230.x

Schawbel, D. (2018). *Back to Human: How Great Leaders Create Connection in the Age of Isolation*. Da Capo Lifelong Books. https://workplacetrends.com/the-work-connectivity-study/

Scheitle, C. P., & Platt, L. F. (2019). Sexual identity and confidence in medicine: an analysis of national survey data. *Culture, Health & Sexuality*, 1-17. https://doi.org/10.1080/13691058.2019.1615126

Schellenberg, E. S., Dryden, D. M., Vandermeer, B., Ha, C., & Korownyk, C. (2013). Lifestyle Interventions for Patients With and at Risk for Type 2 Diabetes A Systematic Review and Meta-analysis. *Annals of Internal Medicine, 159*(8), 543-+. https://doi.org/10.7326/0003-4819-159-8-201310150-00007

Schernthaner, G., & Schernthaner-Reiter, M. H. (2018). Diabetes in the older patient: heterogeneity requires individualisation of therapeutic strategies. *Diabetologia, 61*(7), 1503-1516. https://doi.org/https://doi.org/10.1007/s00125-018-4547-9

Scherrenberg, M., & Dendale, P. (2019). Exercise training in diabetes. *European Journal of Preventive Cardiology, 26*(7), 698-700. https://doi.org/10.1177/2047487319829674

Schetzer, A. (2016). *Street harassment of LGBTI people rife, La Trobe University study finds*. T. Age. http://www.theage.com.au/victoria/street-harassment-of-lgbti-people-rife-la-trobe-university-study-finds-20160406-gnzq0z.html

Schilke, O., Reimann, M., & Cook, K. S. (2021). Trust in social relations. *Annual Review of Sociology, 47*, 239-259. https://doi.org/https://doi.org/10.1146/annurev-soc-082120-082850

Schimanski, I. D., & Treharne, G. J. (2019). "Extra marginalisation within the community": queer individuals' perspectives on suicidality, discrimination and gay pride events. *Psychology & Sexuality, 10*(1), 31-44. https://doi.org/10.1080/19419899.2018.1524394

Schleifer, G. *Coming out to healthcare providers: Factors associated with same-sex disclosure from the 2016 American men's internet survey* [Masters Emory University]. https://etd.library.emory.edu/concern/etds/p8418n25z?locale=es

Schlichthorst, M., King, K., Turnure, J., Phelps, A., & Pirkis, J. (2019). Engaging Australian men in masculinity and suicide – A concept test of social media materials and a website [https://doi.org/10.1002/hpja.246]. Health Promotion Journal of Australia, 30(3), 390-401. https://doi.org/https://doi.org/10.1002/hpja.246

Schlichthorst, M., Sanci, L. A., Pirkis, J., Spittal, M. J., & Hocking, J. S. (2016). Why do men go to the doctor? Socio-demographic and lifestyle factors associated with healthcare utilisation among a cohort of Australian men. *BMC Public Health, 16*(3), 1028. https://doi.org/10.1186/s12889-016-3706-5

Schmitz, N., Deschênes, S. S., Burns, R. J., Smith, K. J., Lesage, A., Strychar, I., Rabasa-Lhoret, R., Freitas, C., Graham, E., Awadalla, P., & Wang, J. L. (2016). Depression and risk of type 2 diabetes: the potential role of metabolic factors. *Molecular Psychiatry, 21*(12), 1726-1732. https://doi.org/10.1038/mp.2016.7

Schumacher, J. A., Coffey, S. F., & Stasiewicz, P. R. (2006). Symptom severity, alcohol craving, and age of trauma onset in childhood and adolescent trauma survivors with comorbid alcohol dependence and posttraumatic stress disorder. *The American Journal on Addictions, 15*(6), 422-425. https://doi.org/10.1080/10550490600996355

Schwandt, T. A. (1994). *Constructivist, interpretivist approaches to human inquiry* (Vol. 1). Sage. https://www.scirp.org/(S(351jmbntvnsjt1aadkposzje))/reference/ReferencesPapers.aspx?ReferenceID=435054

Schwandt, T. A., Lincoln, Y. S., & Guba, E. G. (2007). Judging interpretations: But is it rigorous? trustworthiness and authenticity in naturalistic evaluation. *New Directions for Evaluation, 2007*(114), 11-25. https://doi.org/10.1002/ev.223

Schwappach, D. L. B. (2009). Queer Quit: Gay smokers' perspectives on a culturally specific smoking cessation service [https://doi.org/10.1111/j.1369-7625.2009.00550.x]. *Health Expectations, 12*(4), 383-395. https://doi.org/https://doi.org/10.1111/j.1369-7625.2009.00550.x

Schwartz, B. G., & Kloner, R. A. (2010). Drug interactions with phosphodiesterase-5 inhibitors used for the treatment of erectile dysfunction or pulmonary hypertension. *Circulation, 122*(1), 88-95. https://doi.org/10.1161/circulationaha.110.944603

Seemann, J. (2018). Meeting the challenges facing religious schools: An Australian perspective. In K. Trimmer, R. Dixon, & Y. S. Findlay (Eds.), *The Palgrave Handbook of Education Law for Schools* (pp. 217-256). Springer International Publishing. https://doi.org/10.1007/978-3-319-77751-1_10

Segal, L., & Opie, R. (2015). A nutrition strategy to reduce the burden of diet related disease: access to dietician services must complement population health approaches. *Frontiers in Pharmacology, 6*(160). https://doi.org/10.3389/fphar.2015.00160

Seiglie, J. A., Marcus, M.-E., Ebert, C., Prodromidis, N., Geldsetzer, P., Theilmann, M., Agoudavi, K., Andall-Brereton, G., Aryal, K. K., Bicaba, B. W., Bovet, P., Brian, G., Dorobantu, M., Gathecha, G., Gurung, M. S., Guwatudde, D., Msaidié, M., Houehanou, C., Houinato, D., … Manne-Goehler, J. (2020). Diabetes prevalence and its relationship with education, wealth, and BMI in 29 Low- and middle-Income countries. Diabetes Care, 43(4), 767-775. https://doi.org/10.2337/dc19-1782

Sellner, J. E. (2022). *The Impact of Cannabis and Alcohol Use on the Management of Type 1 Diabetes Mellitus* https://scholarcommons.sc.edu/etd/6583

Sen Goh, R. W., Styan, L. E., Bond, C. A., & Oosthuizen, J. C. (2019). General practitioner referral audit: are the new Clinical Prioritisation Criteria required? *Australian Journal of Otolaryngology; Vol 2 (December 2019): Australian Journal of Otolaryngology*. https://www.theajo.com/article/view/4237

Senaratna, C. V., English, D. R., Currier, D., Perret, J. L., Lowe, A., Lodge, C., Russell, M., Sahabandu, S., Matheson, M. C., Hamilton, G. S., & Dharmage, S. C. (2016). Sleep apnoea in Australian men: disease burden, co-morbidities, and correlates from the Australian longitudinal study on male health [journal article]. *BMC Public Health, 16*(3), 1029. https://doi.org/10.1186/s12889-016-3703-8

Shah, B. R., Hux, J. E., Laupacis, A., Zinman, B., & van Walraven, C. (2005). Clinical inertia in response to inadequate glycemic control. *Diabetes Care, 28*(3), 600. https://doi.org/10.2337/diacare.28.3.600

Shah, S. Z. A., Karam, J. A., Zeb, A., Ullah, R., Shah, A., Haq, I. U., Ali, I., Darain, H., & Chen, H. (2021). Movement is improvement: The therapeutic effects of exercise and general physical activity on glycemic control in patients with type 2 diabetes mellitus: A systematic review and meta-analysis of randomized controlled trials. *Diabetes Therapy, 12*(3), 707-732. https://doi.org/10.1007/s13300-021-01005-1

Shan, Z., Ma, H., Xie, M., Yan, P., Guo, Y., Bao, W., Rong, Y., Jackson, C. L., Hu, F. B., & Liu, L. (2015). Sleep duration and risk of type 2 diabetes: A meta-analysis of prospective studies. *Diabetes Care, 38*(3), 529-537. https://doi.org/10.2337/dc14-2073

Sharek, D. B., McCann, E., Sheerin, F., Glacken, M., & Higgins, A. (2015). Older LGBT people's experiences and concerns with healthcare professionals and services in Ireland. *International Journal of Older People Nursing, 10*(3), 230-240. https://doi.org/https://doi.org/10.1111/opn.12078

Sharma, S. K., Kant, R., Kalra, S., & Bishnoi, R. (2020). Prevalence of primary non-adherence with insulin and barriers to insulin initiation in patients with type 2 diabetes mellitus - an exploratory study in a tertiary care teaching public hospital. *European endocrinology, 16*(2), 143-147. https://doi.org/10.17925/EE.2020.16.2.143

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-75. https://doi.org/https://doi.org/10.3233/efi-2004-22201

Shiell, A., & Jackson, H. (2018). How much does Australia spend on prevention and how would we know whether it is enough? *Health Promotion Journal of Australia, 29*(S1), 7-9. https://doi.org/10.1002/hpja.165

Shin, J. Y., Roh, S.-G., Lee, N.-H., & Yang, K.-M. (2017). Influence of epidemiologic and patient behavior–related predictors on amputation rates in diabetic patients: systematic review and meta-analysis. *The International Journal of Lower Extremity Wounds, 16*(1), 14-22. https://doi.org/10.1177/1534734617699318

Shinton, R., & Beevers, G. (1989). Meta-analysis of relation between cigarette smoking and stroke. *Bmj, 298*(6676), 789-794. https://doi.org/https://doi.org/10.1136/bmj.298.6676.789

Shrivastava, D., & Dharia, D. (2021). Conversion therapy: The futile'cure'for homosexuality. *Issue 3 Int'l JL Mgmt. & Human., 4*, 4456. https://heinonline.org/HOL/LandingPage?handle=hein.journals/ijlmhs11&div=390&id=&page=

Sigsworth, T. (2015). *Lgbt youth homelessness: A Uk national scoping of cause, prevalence, response, and outcome.* AVIVA and Barclays PLC. https://www.akt.org.uk/research

Silveira, E. A., de Souza Rosa, L. P., de Souza Cardoso, C. K., & Noll, M. (2020). Type 2 diabetes mellitus in class II and III obesity: Prevalence, associated factors, and correlation between glycemic parameters and body mass index. *International journal of environmental research and public health, 17*(11), 3930. https://doi.org/10.3390/ijerph17113930.

Siminerio, L., Ruppert, K. M., & Gabbay, R. A. (2013). Who can provide diabetes self-management support in primary care? Findings from a randomized controlled trial. *Diabetes Educ, 39*(5), 705-713. https://doi.org/10.1177/0145721713492570

Sinha, B. R. K. (2019). Introduction: An overview of the concept of quality of life. In B. R. K. Sinha (Ed.), *Multidimensional approach to quality of life issues: A spatial analysis* (pp. 3-23). Springer Singapore. https://doi.org/10.1007/978-981-13-6958-2_1

Sivaratnam, L., Selimin, D. S., Abd Ghani, S. R., Nawi, H. M., & Nawi, A. M. (2021). Behavior-related erectile dysfunction: A systematic review and meta-analysis. *The Journal of Sexual Medicine, 18*(1), 121-143. https://doi.org/https://doi.org/10.1016/j.jsxm.2020.09.009

Skidmore, S. J., Lefevor, G. T., & Dillon, F. R. (2022). Belongingness and depression among LGBQ Mormons: The moderating effect of internalized homonegativity. *Journal of Gay & Lesbian Mental Health*, 1-18. https://doi.org/10.1080/19359705.2022.2041521

Smith, B. A., Motta, M., Theys, M., Murib, Z., & Callaghan, T. H. (2018). "Gay" or "Homosexual"? The implications of social category labels for the structure of mass Attitudes. *American Politics Research, 46*(2), 336-372. https://doi.org/10.1177/1532673X17706560

Smith, I., Oades, L. G., & McCarthy, G. (2013). The Australian corporate closet, why it's still so full: a review of incidence rates for sexual orientation discrimination gender identity discrimination in the workplace. *Gay and Lesbian Issues and Psychology Review, 9*(1), 51-63. https://ro.uow.edu.au/gsbpapers/373/

Smith, I. P., & McCarthy, G. (2017). The Australian corporate closet: Why it's still so full! *Journal of Gay & Lesbian Mental Health, 21*(4), 327-351. https://doi.org/10.1080/19359705.2017.1354793

Smith, J. A., Braunack-Mayer, A., & Wittert, G. (2006). What do we know about men's help-seeking and health service use? *Medical Journal of Australia, 184*(2), 81-83. https://doi.org/https://doi.org/10.5694/j.1326-5377.2006.tb00124.x

Smith, J. A., Herriot, M., Williams, C., Judd, J., Griffiths, K., & Bainbridge, R. (2019). Health promotion: A political imperative. *Health promotion journal of Australia: official journal of Australian Association of Health Promotion Professionals, 30*(2), 133. https://doi.org/https://doi.org/10.1002/hpja.242

Smith, K. M., & Romanelli, F. (2005). Recreational Use and Misuse of Phosphodiesterase 5 Inhibitors. *Journal of the American Pharmacists Association, 45*(1), 63-75. https://doi.org/https://doi.org/10.1331/1544345052843165

Smyth, K., Affandi, J., McArthur, J., Bowtell-Harris, C., Mijch, A., Watson, K., Costello, K., Woolley, I., Price, P., Wesselingh, S., & Cherry, C. (2007). Prevalence of and risk factors for HIV-associated neuropathy in Melbourne, Australia 1993–2006. *HIV Medicine, 8*(6), 367-373. https://doi.org/10.1111/j.1468-1293.2007.00478.x

Sockalingam, S., Tehrani, H., Taube-Schiff, M., Van Exan, J., Santiago, V., & Hawa, R. (2017). The relationship between eating psychopathology and obstructive sleep apnea in

bariatric surgery candidates: A retrospective study. *International Journal of Eating Disorders, 50*(7), 801-807. https://doi.org/10.1002/eat.22701

Sonoda, N., Morimoto, A., Ugi, S., Morino, K., Sekine, O., Nemoto, K.-I., Godai, K., Maegawa, H., & Miyamatsu, N. (2015). Predictors for mild and severe hypoglycemia in insulin-treated Japanese diabetic patients. *Plos One, 10*(6), e0130584-e0130584. https://doi.org/10.1371/journal.pone.0130584

Sowe, B. J., Brown, J., & Taylor, A. J. (2014). Sex and the sinner: comparing religious and nonreligious same-sex attracted adults on internalized homonegativity and distress. *The American Journal Of Orthopsychiatry, 84*(5), 530-544. https://doi.org/10.1037/ort0000021

Spengler, E. S., Miller, D. J., & Spengler, P. M. (2016). Microaggressions: Clinical errors with sexual minority clients. *Psychotherapy, 53*(3), 360-366. https://doi.org/10.1037/pst0000073 (Clinical Errors)

Spurway, K., Sullivan, C., Leha, J., Trewlynn, W., Briskman, L., & Soldatic, K. (2022). "I felt invisible": First nations LGBTIQSB+ young people's experiences with health service provision in Australia. Journal of Gay & Lesbian Social Services, 1-24. https://doi.org/10.1080/10538720.2022.2045241

Sridhar, G. R. (2013). Diabetes, religion and spirituality. *International Journal of Diabetes in Developing Countries, 33*(1), 5-7. https://doi.org/10.1007/s13410-012-0097-8

Stanley, I. H., Hom, M. A., Chu, C., Dougherty, S. P., Gallyer, A. J., Spencer-Thomas, S., Shelef, L., Fruchter, E., Comtois, K. A., Gutierrez, P. M., Sachs-Ericsson, N. J., & Joiner, T. E. (2019). Perceptions of belongingness and social support attenuate PTSD symptom severity among firefighters: A multistudy investigation. *Psychological Services, 16*(4), 543-555. https://doi.org/10.1037/ser0000240

Storr, R., Robinson, K., Davies, C., Nicholas, L., & Collison, A. (2020). Game to play? Exploring the experiences and attitudes towards sport, exercise and physical activity amongst same sex attracted and gender diverse young people. https://doi.org/10.26183/5ea655c87697e

Steele, C. J., Schöttker, B., Marshall, A. H., Kouvonen, A., O'Doherty, M. G., Mons, U., Saum, K.-U., Boffetta, P., Trichopoulou, A., Brenner, H., & Kee, F. (2017). Education achievement and type 2 diabetes—what mediates the relationship in older adults? Data from the

ESTHER study: a population-based cohort study. *BMJ Open, 7*(4), e013569. https://doi.org/10.1136/bmjopen-2016-013569

Stern, S., & Wright, A. J. (2018). Discrete effects of religiosity and spirituality on gay identity and self-esteem [Article]. *Journal of Homosexuality, 65*(8), 1071-1092. https://doi.org/10.1080/00918369.2017.1368769

Stewart, C. C., Yu, L., Glover, C. M., Mottola, G., Bennett, D. A., Wilson, R. S., & Boyle, P. A. (2020). Loneliness interacts with cognition in relation to healthcare and financial decision making among community-dwelling older adults. *The Gerontologist, 60*(8), 1476-1484. https://doi.org/10.1093/geront/gnaa078

Stoll-Kleemann, S. (2019). Feasible options for behavior change toward more effective ocean literacy: A systematic review. *Frontiers in Marine Science, 6*(273). https://doi.org/10.3389/fmars.2019.00273

Strain, W. D., Blüher, M., & Paldánius, P. (2014). Clinical inertia in individualising care for diabetes: is there time to do more in type 2 diabetes? *Diabetes therapy : research, treatment and education of diabetes and related disorders, 5*(2), 347-354. https://doi.org/10.1007/s13300-014-0077-8

Stupplebeen, D. A., Eliason, M. J., LeBlanc, A. J., & Sanchez-Vaznaugh, E., V. (2019). Differential influence of weight status on chronic diseases by reported sexual orientation identity in men. *LGBT Health, 6*(3), 126-133. https://doi.org/10.1089/lgbt.2018.0167

Sudhakaran, S., Jha, A., & Shabaraya, A. (2021). A review on nonpharmacological treatment of diabetic mellitus: Myth v/s reality. *dementia, 15*, 16. https://doi.org/https://doi.org/10.52403/ijrr.20210708

Sukumar, P.T., & Metoyer, R. (2019). Replication and Transparency of Qualitative Research from a Constructivist Perspective. https://doi.org/10.31219/osf.io/6efvp

Sugimoto, K., Tabara, Y., Ikegami, H., Takata, Y., Kamide, K., Ikezoe, T., Kiyoshige, E., Makutani, Y., Onuma, H., Gondo, Y., Ikebe, K., Ichihashi, N., Tsuboyama, T., Matsuda, F., Kohara, K., Kabayama, M., Fukuda, M., Katsuya, T., Osawa, H., …Rakugi, H. (2019). Hyperglycemia in non-obese patients with type 2 diabetes is associated with low muscle mass: The multicenter study for clarifying evidence for sarcopenia in patients with diabetes mellitus. *Journal of Diabetes Investigation, 10*(6), 1471-1479. https://doi.org/https://doi.org/10.1111/jdi.13070

Sullivan, S., & Germain, M.-L. (2020). Psychosocial risks of healthcare professionals and occupational suicide. *Industrial and Commercial Training, 52*(1), 1-14. https://doi.org/10.1108/ICT-08-2019-0081

Symons, C., O'Sullivan, G., Borkoles, E., Andersen, M. B., & Polman, R. C. J. (2014). *The Impact of Homophobic bullying during sport and physical education participation on same-sex attracted and gender-diverse young Australians' depression and anxiety levels "The Equal Play Study"*. Victoria University. http://eprints.bournemouth.ac.uk/22294/

Symons, C. M., O'Sullivan, G. A., & Polman, R. (2017). The impacts of discriminatory experiences on lesbian, gay and bisexual people in sport. *Annals of Leisure Research, 20*(4), 467-489. https://doi.org/10.1080/11745398.2016.1251327

Szubert, A., Gibberd, A., Buisson, E., Hooker, C., & Ivory, K. (2018). *Mistreatment in Australian medical education: a student-led scoping of experiences*. Retrieved 2 from https://issuu.com/amsj/docs/amsj_8.2_final_proof_010418

Szychta, P., Szychta, W., Lewiński, A., & Karbownik-Lewińska, M. (2015). Co-existence of chronic non-communicable diseases and common neoplasms among 2,462 endocrine adult inpatients – a retrospective analysis [journal article]. *Annals of Agricultural and Environmental Medicine, 22*(4), 747-754. https://doi.org/10.5604/12321966.1185788

Tangpricha, V. (2022). Gender-affirming Hormone Therapy and Risk of Diabetes in Transgender Persons. *The Journal of Clinical Endocrinology & Metabolism, 107*(6), e2632-e2633. https://doi.org/10.1210/clinem/dgac060

Tarburton, J. P. (2019). Methemoglobinization of diabetic's blood with ethyl nitrite and hexyl nitrite. *J Clin Endocrinol Res, 1*(1), 2-4. https://www.alliedacademies.org/articles/methemoglobinization-of-diabetics-blood-with-ethyl-nitrite-and-hexyl-nitrite-11138.html

Tate, D. P., & Patterson, C. J. (2019). Desire for parenthood in context of other life aspirations among lesbian, gay, and heterosexual young adults. *Frontiers in Psychology, 10*(2679). https://doi.org/10.3389/fpsyg.2019.02679

Taylor, M., Rode, L., Bjørngaard, J., Taylor, A. E., Bojesen, S. E., Åsvold, B. O., Gabrielsen, M. E., Lewis, G., Nordestgaard, B. G., Romundstad, P. R., Hickman, M., & Munafò, M. R.

(2018). Is smoking heaviness causally associated with alcohol use? a mendelian randomization study in four European cohorts. *International Journal of Epidemiology, 47*(4), 1098-1105. https://doi.org/10.1093/ije/dyy027

Taylor, S. (2017). Psychosocial Research. In B. Gough (Ed.), The Palgrave Handbook of Critical Social Psychology (pp. 225-241). Palgrave Macmillan UK. https://doi.org/10.1057/978-1-137-51018-1_12

Telama, R., Yang, X., Viikari, J., Välimäki, I., Wanne, O., & Raitakari, O. (2005). Physical activity from childhood to adulthood: A 21-year tracking study. *American Journal of Preventive Medicine, 28*(3), 267-273. https://doi.org/https://doi.org/10.1016/j.amepre.2004.12.003

Templeton, D. J., Read, P., Varma, R., & Bourne, C. (2014). Australian sexually transmissible infection and HIV testing guidelines for asymptomatic men who have sex with men 2014: a review of the evidence. *Sexual Health (14485028), 11*(3), 217-229. https://doi.org/10.1071/SH14003

Tenbergen, G., Wittfoth, M., Frieling, H., Ponseti, J., Walter, M., Walter, H., Beier, K. M., Schiffer, B., & Kruger, T. H. C. (2015). The neurobiology and psychology of pedophilia: recent advances and challenges. *Frontiers in human neuroscience, 9*, 344-344. https://doi.org/10.3389/fnhum.2015.00344

Thangavel, D., & Pitchaipillai, V. (2014). Association of duration of illness and compliance with stress levels In Type 2 diabetes mellitus patients – a pilot study. *National Journal of Physiology, Pharmacy & Pharmacology, 4*(3), 249 – 251. https://doi.org/10.5455/njppp.2014.4.230520141

The International Centre for Allied Health Evidence. (2014). *Rapid review of literature for consumer centred care in people with diabetes*. International Centre for Allied Health Evidence. https://www.adea.com.au/wp-content/uploads/2013/08/ADEA_Consumer-centred-care_2014_MASTER_FINAL_REPORT.pdf

The Lancet. (2019, Nov 16). Raising the profile of men's health. *Lancet, 394*(10211), 1779. https://doi.org/10.1016/s0140-6736(19)32759-x

The Royal Australian College of General Practitioners 2016-2018. (2016). *General practice management of type 2 diabetes*. RACGP. https://static.diabetesaustralia.com.au/s/fileassets/diabetes-australia/5d3298b2-abf3-487e-9d5e-0558566fc242.pdf

Therapeutic Goods Administration. (2019). *Notice of a final decision to amend (or not amend) the current Poisons Standard*. Department of Health: Australian Government. Retrieved 26 December 2019 from https://www.tga.gov.au/scheduling-decision-final/final-decisions-matters-referred-march-2019-joint-acms-accs-meeting

Thornton, J., Edwards, R., Mitchell, P., Harrison, R. A., Buchan, I., & Kelly, S. P. (2005). Smoking and age-related macular degeneration: a review of association. *Eye, 19*(9), 935-944. http://dx.doi.org/10.1038/sj.eye.6701978

Tomsen, S. (2017). Masculinity and homophobic violence in Australia's recent past. *Sexuality & Culture, 21*(3), 813-829. https://doi.org/10.1007/s12119-017-9423-0

Tran, P., Tran, L., & Tran, L. (2021). A comparison of routine diabetes screening by sexual orientation in US adults. Practical Diabetes, 38(1), 17-21a. https://doi.org/https://doi.org/10.1002/pdi.2315

Tromp, M. D., Donners, A. A., Garssen, J., & Verster, J. C. (2016). Sleep, eating disorder symptoms, and daytime functioning. *Nature and science of sleep, 8*, 35-40. https://doi.org/10.2147/NSS.S97574

Tsai, M.-T., Erickson, S. R., Cohen, L. J., & Wu, C.-H. (2016). Research paper: the association between comorbid anxiety disorders and the risk of stroke among patients with diabetes: an 11-year population-based retrospective cohort study [Article]. *Journal of Affective Disorders, 202*, 178-186. https://doi.org/10.1016/j.jad.2016.03.060

Tuller, D. (2017). The health effects of legalizing same-sex marriage. *Health Affairs, 36*(6), 978-981. https://doi.org/10.1377/hlthaff.2017.0502

Tumin, D., & Kroeger, R. A. (2020). Private health insurance coverage among same-sex couples after obergefell v. hodges. *LGBT Health, 7*(5), 264-270. https://doi.org/10.1089/lgbt.2019.0323

Turan, J. M., Elafros, M. A., Logie, C. H., Banik, S., Turan, B., Crockett, K. B., Pescosolido, B., & Murray, S. M. (2019). Challenges and opportunities in examining and addressing intersectional stigma and health. *BMC Medicine, 17*(1), 7. https://doi.org/10.1186/s12916-018-1246-9

Turhan Cakir, A., Sel, G., Balci, S., Harma, M., & Harma, M. I. (2022). Evaluation of HPV, smear and colposcopy results in patients with diabetes. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 16*(1), 102335. https://doi.org/https://doi.org/10.1016/j.dsx.2021.102335

Turner, J. K. (2019). *Experiences of Sizeism among Fat and Big Men: A Phenomenological Approach (Publication No. 2301550970) [Doctoral dissertation, New Mexico State University].* ProQuest Dissertations Publishing. https://www.proquest.com/dissertations-theses/experiences-sizeism-among-fat-big-men/docview/2301550970/se-2

Tylka, T. L. (2021). Models of body image for boys and men. *Eating disorders in boys and men*, 7-20. https://doi.org/10.1007/978-3-030-67127-3_2

Uecker, J. E. (2012). Marriage and mental health among young adults. *Journal of Health and Social Behavior, 53*(1), 67-83. https://doi.org/10.1177/0022146511419206

Ulcickas Yood, M., DeLorenze, G. N., Quesenberry, C. P., Oliveria, S. A., Tsai, A.-L., Kim, E., Cziraky, M. J., McQuade, R. D., Newcomer, J. W., & L'Italien, G. J. (2011). Association between second-generation antipsychotics and newly diagnosed treated diabetes mellitus: does the effect differ by dose? *BMC Psychiatry, 11*(1), 197. https://doi.org/10.1186/1471-244X-11-197

University Office for Diversity and Inclusion. (n.d.). *Interrupting heteronormativity in research* http://diversity.unc.edu/interrupting-heteronormativity-in-research/

Unnikrishnan, A. G., Kalra, S., Purandare, V., & Vasnawala, H. (2018). Genital infections with sodium glucose cotransporter-2 inhibitors: occurrence and management in patients with T2 diabetes mellitus. *Indian Journal of Endocrinology and Metabolism, 22*(6), 837-842. https://doi.org/10.4103/ijem.IJEM_159_17

Ussher, J. M., Perz, J., Rose, D., Dowsett, G. W., Chambers, S., Williams, S., Davis, I., & Latini, D. (2017). Threat of sexual dsqualification: the consequences of erectile dysfunction and other sexual changes for gay and bisexual men with prostate cancer. *Archives Of Sexual Behavior, 46*(7), 2043-2057. https://doi.org/10.1007/s10508-016-0728-0

Ussher, J. M., Power, R., Perz, J., Hawkey, A. J., & Allison, K. (2022). LGBTQI inclusive cancer care: A discourse analytic study of health care professional, patient and carer perspectives. Frontiers in Oncology, 12. https://doi.org/10.3389/fonc.2022.832657

Vaccher, S. J., Hammoud, M. A., Bourne, A., Lea, T., Haire, B. G., Holt, M., Saxton, P., Mackie, B., Badge, J., Jin, F., Maher, L., & Prestage, G. (2020). Prevalence, frequency, and motivations for alkyl nitrite use among gay, bisexual and other men who have sex with men in Australia. *International Journal of Drug Policy, 76*, 102659. https://doi.org/https://doi.org/10.1016/j.drugpo.2019.102659

Vafaei, S. M., Manzari, Z. S., Heydari, A., Froutan, R., & Farahani, L. A. (2018). Improving nursing care documentation in emergency department: A participatory action research study in Iran. *Open Access Maced J Med Sci, 6*(8), 1527-1532. https://doi.org/10.3889/oamjms.2018.303

Vancampfort, D., Mugisha, J., Hallgren, M., De Hert, M., Probst, M., Monsieur, D., & Stubbs, B. (2016). The prevalence of diabetes mellitus type 2 in people with alcohol use disorders: a systematic review and large scale meta-analysis. *Psychiatry Research, 246*, 394-400. https://doi.org/https://doi.org/10.1016/j.psychres.2016.10.010

Verhulst, M. J., Loos, B. G., Gerdes, V. E., & Teeuw, W. J. (2019). Evaluating All Potential Oral Complications of Diabetes Mellitus. *Frontiers in Endocrinology*, *10*. https://doi.org/10.3389/fendo.2019.00056

Verrelli, S., White, F. A., Harvey, L. J., & Pulciani, M. R. (2019). Minority stress, social support, and the mental health of lesbian, gay, and bisexual Australians during the Australian Marriage Law Postal Survey. *Australian Psychologist, 54*(4), 336-346. https://doi.org/10.1111/ap.12380

Viagra and poppers: A `dynamite' combination. (1998). *Brown University Psychopharmacology Update, 9*(10), 622. https://search.ebscohost.com/login.aspx?direct=true&AuthType=shib&db=afh&AN=1256073&site=ehost-live&custid=s1145751

Victorian Equal Opportunity & Human Rights Commission. (2019). *Proud, visible, safe responding to workplace harm experienced by LGBTI employees in Victoria police*. Victorian Equal Opportunity & Human Right Commission. https://www.police.vic.gov.au/sites/default/files/2019-05/Proud-Visible-Safe--Responding-to-Workplace-Harm-Experienced-by-LGBTI-Employees-in-Victoria-Police.pdf

Vignal-Clermont , C., Audo , I., Sahel , J.-A., & Paques , M. (2010). Poppers-associated retinal toxicity. *New England Journal of Medicine, 363*(16), 1583-1585. https://doi.org/doi:10.1056/NEJMc1005118

Vimalachandran, P., Liu, H., Lin, Y., Ji, K., Wang, H., & Zhang, Y. (2020). Improving accessibility of the Australian My Health Records while preserving privacy and security of the system. *Health Information Science and Systems, 8*(1), 31. https://doi.org/10.1007/s13755-020-00126-4

Waasdorp, T. E., Mehari, K. R., Milam, A. J., & Bradshaw, C. P. (2019). Health-related risks for involvement in bullying among middle and high school youth. *Journal of Child and Family Studies, 28*(9), 2606-2617. https://doi.org/10.1007/s10826-018-1260-8

Wåhlberg, H., Valle, P. C., Malm, S., & Broderstad, A. R. (2015). Impact of referral templates on the quality of referrals from primary to secondary care: a cluster randomised trial. *BMC Health Services Research, 15*(1), 353. https://doi.org/10.1186/s12913-015-1017-7

Walker, G. S., Chen, J. Y., Hopkinson, H., Sainsbury, C. A. R., & Jones, G. C. (2018). Structured education using Dose Adjustment for Normal Eating (DAFNE) reduces long-term HbA1c and HbA1c variability. Diabetic Medicine, 35(6), 745-749. https://doi.org/https://doi.org/10.1111/dme.13621

Wallace, S. P., Cochran, S. D., Durazo, E. M., & Ford, C. L. (2011). The health of aging lesbian, gay and bisexual adults in California. *Policy brief (UCLA Center for Health Policy Research)*, 1-11. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3698220/

Wang, J., Lv, J., Wang, W., & Jiang, X. (2016). Alcohol consumption and risk of periodontitis: a meta-analysis. *Journal of Clinical Periodontology, 43*(7), 572-583. https://doi.org/https://doi.org/10.1111/jcpe.12556

Ward, M., & Druss, B. (2015). The epidemiology of diabetes in psychotic disorders. *The Lancet Psychiatry, 2*(5), 431-451. https://doi.org/https://doi.org/10.1016/S2215-0366(15)00007-3

Watkins, Y. J., Quinn, L. T., Ruggiero, L., Quinn, M. T., & Choi, Y.-K. (2013). Spiritual and religious beliefs and practices and social support's relationship to diabetes self-care activities in African Americans. *The Diabetes educator, 39*(2), 231-239. https://doi.org/10.1177/0145721713475843

Webb, D. J., Freestone, S., Allen, M. J., & Muirhead, G. J. (1999). Sildenafil citrate and blood-pressure–lowering drugs: results of drug interaction studies with an organic nitrate and a calcium antagonist. *The American Journal of Cardiology, 83*(5, Supplement 1), 21-28. https://doi.org/https://doi.org/10.1016/S0002-9149(99)00044-2

Wee, S. L., Tan, C. G., Ng, H. S., Su, S., Tai, V. U., Flores, J. V., & Khoo, D. H. (2008). Diabetes outcomes in specialist and general practitioner settings in Singapore: challenges of right-siting. *Annals Academy of Medicine Singapore, 37*(11), 929. https://pubmed.ncbi.nlm.nih.gov/19082199/

Wei, X., E, M., & Yu, S. (2015). Review: A meta-analysis of passive smoking and risk of developing Type 2 Diabetes Mellitus [Review Article]. *Diabetes Research and Clinical Practice, 107*, 9-14. https://doi.org/10.1016/j.diabres.2014.09.019

Weijman, I., Ros, W. J. G., Rutten, G. E. H. M., Schaufeli, W. B., Schabracq, M. J., & Winnubst, J. A. M. (2005). The role of work-related and personal factors in diabetes self-management. *Patient Education and Counseling, 59*(1), 87-96. https://doi.org/10.1016/j.pec.2004.10.004

Weiner, P., Waizman, J., Weiner, M., Rabner, M., Magadle, R., & Zamir, D. (2000). Smoking and first acute myocardial infarction: age, mortality and smoking cessation rate. *The Israel Medical Association Journal: IMAJ, 2*(6), 446-449. http://0-search.ebscohost.com.library.vu.edu.au/login.aspx?direct=true&db=mnh&AN=10897236&site=eds-live

Weir, B. E. (2020). *Child sexual abuse and the Australian Roman catholic church: Using techniques of neutralisation to examine institutional responses to clergy-perpetrated child sexual abuse* Queensland University of Technology]. Queensland. https://eprints.qut.edu.au/177244/1/Bridget_Weir_Thesis.pdf

Wen, G., & Zheng, L. (2019). The influence of internalized homophobia on health-related quality of life and life satisfaction among gay and bisexual men in china. *Am J Mens Health, 13*(4), 1557988319864775. https://doi.org/10.1177/1557988319864775

West, S. D., Nicoll, D. J., & Stradling, J. R. (2006). Prevalence of obstructive sleep apnoea in men with type 2 diabetes. *Thorax, 61*(11), 945-950. https://doi.org/10.1136/thx.2005.057745

White, B. M., Logan, A., & Magwood, G. S. (2016). Access to diabetes care for populations experiencing homelessness: an integrated review. *Current Diabetes Reports, 16*(11), 112. https://doi.org/10.1007/s11892-016-0810-y

Wight, G. R., LeBlanc, A. J., & Badgett, M. V. L. (2012). *Same-sex legal marriage and tobacco use: Findings from the 2009 California Health Interview Survey* APHA 140th Annual Meeting and Expo, San Francisco California. https://apha.confex.com/apha/140am/webprogram/Paper257562.html

Wight, R. G., LeBlanc, A. J., & Badgett, M. V. L. (2013). Same-sex legal marriage and psychological well-Being: findings from the California Health Interview Survey. *American Journal of Public Health, 103*(2), 339-346. https://doi.org/10.2105/AJPH.2012.301113

Wilkins, R. (2015). *The household, income and labour dynamics in Australia (HILDA) survey*. https://melbourneinstitute.unimelb.edu.au/hilda#:~:text=The%20Household%2C%20Income%20and%20Labour%20Dynamics%20in%20Australia,of%20Australians%20over%20the%20course%20of%20their%20lives.

Wilkinson, J., Bittman, M., Holt, M., Rawstorne, P., Kippax, S., & Worth, H. (2012). Solidarity beyond sexuality: the personal communities of gay men. *Sociology, 46*(6), 1161-1177. https://doi.org/10.1177/0038038511435064

Willis, E., Reynolds, L., & Keleher, H. (2016). *Understanding the Australian health care system*. Elsevier Health Sciences. https://www.google.com.au/books/edition/Understanding_the_Australian_Health_Care/nlwtDAAAQBAJ?hl=en&gbpv=1&dq=Australian+health+care+system&pg=PP1&printsec=frontcover

Willis, P., Vickery, A., & Jessiman, T. (2022). Loneliness, social dislocation and invisibility experienced by older men who are single or living alone: accounting for differences across sexual identity and social context. *Ageing and Society, 42*(2), 409-431. https://doi.org/10.1017/S0144686X20000914

Wilson, K., Kortes-Miller, K., & Stinchcombe, A. (2018). Staying 0ut of the closet: LGBT older adults' hopes and fears in considering End-of-Life. *Canadian Journal on Aging / La Revue canadienne du vieillissement, 37*(1), 22-31. https://doi.org/10.1017/S0714980817000514

Wolff, M. B., Gay, J. L., Wilson, M. G., DeJoy, D. M., & Vandenberg, R. J. (2018). Does organizational and coworker support moderate diabetes risk and job stress among employees? *American Journal of Health Promotion, 32*(4), 959-962. https://doi.org/https://doi.org/10.1177/0890117116685802

Wong, A., Koutsogiannis, Z., Greene, S., & McIntyre, S. (2013). A case of hemolysis and methemoglobinemia following amyl nitrite use in an individual with G6PD deficiency. *Journal of Acute Medicine, 3*(1), 23-25. https://doi.org/http://dx.doi.org/10.1016/j.jacme.2012.12.005

Wong, W. K. T., Lowe, A., Dowsett, G.W., Duncan, D., O'Keeffe, D., & Mitchell, A. (2013). *Prostate cancer information needs of Australian gay and bisexual men*. Prostate Cancer Foundation of Australia. file:///E:/prostate/prostate_cancer_gay_bi_men.pdf

Winkley, K., Evwierhoma, C., Amiel, S. A., Lempp, H. K., Ismail, K., & Forbes, A. (2015). Patient explanations for non-attendance at structured diabetes education sessions for newly diagnosed Type 2 diabetes: a qualitative study [https://doi.org/10.1111/dme.12556]. *Diabetic Medicine, 32*(1), 120-128. https://doi.org/https://doi.org/10.1111/dme.12556

Wu, H., Lau, E. S., Kong, A. P., Ma, R. C., Ozaki, R., Cheung, K. K., Chow, E., Tsang, C. C., Lau, K. P., Hui, E. M., So, W. Y., Gasevic, D., Wild, S. H., Chan, J. C., & Luk, A. (2018). Association between educational level and cardiovascular disease and all-cause mortality in patients with type 2 diabetes: a prospective study in the Joint Asia Diabetes Evaluation Program. *Clin Epidemiol, 10*, 1561-1571. https://doi.org/10.2147/clep.s177437

Wyn, J., Khan, R., & Dadvand, B. (2018). *Multicultural youth Australia Census status report 2017/18,* . Multicultural Youth Australia Project Team Youth Research Centre. https://education.unimelb.edu.au/__data/assets/pdf_file/0011/2972036/MY-Aust-Report-17-18.pdf

Xu, T., Magnusson Hanson, L. L., Lange, T., Starkopf, L., Westerlund, H., Madsen, I. E. H., Rugulies, R., Pentti, J., Stenholm, S., Vahtera, J., Hansen, Å. M., Kivimäki, M., & Rod, N. H. (2018). Workplace bullying and violence as risk factors for type 2 diabetes: a multicohort study and meta-analysis [journal article]. *Diabetologia, 61*(1), 75-83. https://doi.org/10.1007/s00125-017-4480-3

Xue, X., Reed, W. R., & Menclova, A. (2020). Social capital and health: a meta-analysis. *Journal of Health Economics, 72*, 102317. https://doi.org/https://doi.org/10.1016/j.jhealeco.2020.102317

Yashadhana, A., Fields, T., Blitner, G., Stanley, R., & Zwi, A. B. (2020). Trust, culture and communication: determinants of eye health and care among Indigenous people with diabetes in Australia. *BMJ Global Health, 5*(1), e001999. https://doi.org/10.1136/bmjgh-2019-001999

Yazla, E., Karadere, M. E., Küçükler, F. K., Karşıdağ, Ç., İnanç, L., Kankoç, E., Dönertaş, M., & Demir, E. (2018). The effect of religious belief and forgiveness on coping with diabetes. *Journal of Religion & Health, 57*(3), 1010-1019. https://doi.org/10.1007/s10943-017-0504-z

Yong, M., Parkinson, K., Goenka, N., & O'Mahony, C. (2010). Diabetes and genital warts: an unhappy coalition. *International Journal of STD & AIDS, 21*(7), 457-459. https://doi.org/10.1258/ijsa.2010.010061

Yorick, S. (2013). "It Is one of those things that nobody can explain": medicine, homosexuality, and the Australian criminal courts during World War II [research-article]. *Journal of the History of Sexuality, 22*(3), 501. https://doi.org/https://doi.org/10.7560/jhs22306

Young-Hyman, D., de Groot, M., Hill-Briggs, F., Gonzalez, J. S., Hood, K., & Peyrot, M. (2016). Psychosocial care for people with diabetes: a position statement of the American Diabetes Association. *Diabetes Care, 39*(12), 2126-2140. https://doi.org/10.2337/dc16-2053

Zabor, E. C., Klebanoff, M., Yu, K., Zhang, J., Nansel, T., Andrews, W., Schwebke, J., & Jeffcoat, M. (2010). Association between periodontal disease, bacterial vaginosis, and sexual risk behaviours. *Journal of clinical periodontology, 37*(10), 888-893. https://doi.org/10.1111/j.1600-051X.2010.01593.x

Zamboni, B. D., Crawford, I., & Carrico, A. W. (2008). *Predictors of sports motivation among gay and bisexual men*. https://www.ncbi.nlm.nih.gov/pubmed/18826171

Zarate-Garza, P. P., Biggs, B. K., Croarkin, P., Morath, B., Leffler, J., Cuellar-Barboza, A., & Tye, S. J. (2017). How well do we understand the long-term health implications of childhood bullying? *Harvard Review of Psychiatry, 25*(2). https://journals.lww.com/hrpjournal/Fulltext/2017/03000/How_Well_Do_We_Understand_the_Long_Term_Health.5.aspx

Zhang, D., Shen, X., & Qi, X. (2016). Resting heart rate and all-cause and cardiovascular mortality in the general population: a meta-analysis. *CMAJ: Canadian Medical Association Journal = Journal De L'association Medicale Canadienne, 188*(3), E53-E63. https://doi.org/10.1503/cmaj.150535

Zhang, M., Barreto, M., & Doyle, D. (2020). Stigma-based rejection eperiences affect trust in others. *Social Psychological and Personality Science, 11*(3), 308-316. https://doi.org/10.1177/1948550619829057

Zoffmann, V., Hörnsten, Å., Storbækken, S., Graue, M., Rasmussen, B., Wahl, A., & Kirkevold, M. (2016). Translating person-centered care into practice: A comparative analysis of motivational interviewing, illness-integration support, and guided self-determination. Patient Education and Counseling, 99(3), 400-407. https://doi.org/https://doi.org/10.1016/j.pec.2015.10.015

Zarora, R., Immanuel, J., Chivese, T., MacMillan, F., & Simmons, D. (2022). Effectiveness of integrated diabetes care interventions involving diabetes specialists working in primary and community care settings: A systematic review and meta-analysis. Int J Integr Care, 22(2), 11. https://doi.org/10.5334/ijic.6025

Zoungas, S., Pease, A., Ranasinha, S., Earnest, A., Truong, T.-A., Danek, E., Lilburn, E., Wischer, N., & Andrikopoulos, S. (2017). *ANDA-AQCA 2017 Australian national diabetes audit - Australian quality clinical audit*. https://www.health.gov.au/resources/publications/australian-national-diabetes-audit-anda

Zoungas, S., Woodward, M., Li, Q., Cooper, M. E., Hamet, P., Harrap, S., Heller, S., Marre, M., Patel, A., Poulter, N., Williams, B., Chalmers, J., & for the, A. C. g. (2014). Impact of age, age at diagnosis and duration of diabetes on the risk of macrovascular and microvascular complications and death in type 2 diabetes. *Diabetologia, 57*(12), 2465-2474. https://doi.org/10.1007/s00125-014-3369-7

Appendices

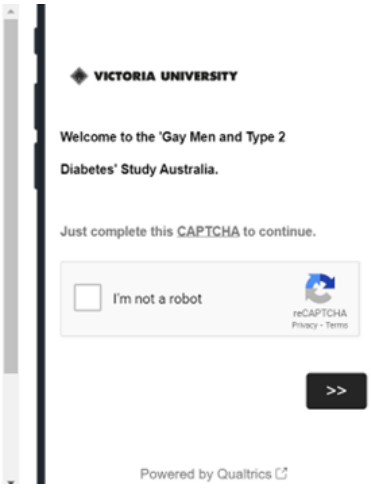
A. Drug usage among gay men

	Private Lives 2 (2012)		Flux annual report		National Drug Strategy Household Survey Detailed report		Gay Community Periodic Survey: Melbourne 2016	
	In the last 12 months (Leonard et al., 2012)		(2014-15) In the last six months (Hammoud et al., 2016)		In the last 12 months (AIHW, 2013)		In the previous six months prior –	
Drug	n 1627 - Gay	%	n 2251 – Gay & Bi	%	n 23,855 (M + F – all sexualities) *Only estimates	%	N 2,886 gay/homosexual (n=2620, 90.8%) or bisexual (n=149, 5.2%)	%
Marijuana	927	24.2	662	29.4	2433	10.2	938	31.2
Painkillers	790	20.6			787	3.3		
Tranquillisers	480	12.5			381	1.6		
Ecstasy	Ecs12.3	12.3	398	17.7	596	2.5#	587	19.5
Meth/ amphetamines	333	8.7	135 (speed) 269 (Crystal)	6 (speed) 12% (Crystal)	501	2.1	309	10.3
Cocaine	272	7.1	281	12.5	501	2.1	456	15.2
LSD 12	126	3.3	81	3.6	310	1.3 (Hallucinogens)		
Ketamine	106	2.8	82	3.8	72	0.3	150	5
GBH	89	2.3	156	6.9	<24	*<0.1	204	6.8
Naturally occurring hallucinogens	89	2.3						
Barbiturates	49	1.3						
Steroids	35	0.9			24	*0.1	37	1.2
Kava	34	0.9						
Heroin	12	0.3	3	0.1	24	0.1#	16	0.5
Other	191	5						
None	1668	43.5						
Amyl (Poppers)			723	32.1			1,156	38.5
Viagra			630	28			536	17.8
Cialis			493	22				
Levitra			113	5.02				

* Estihmate has a relative standard error of 25% to 50% and should be used with caution.

\# Statistically significant change between 2010 and 2013.

B. Qualtrics survey – consent and questions



Informed Consent Form

Introduction

This study will explore the experiences of gay men with type 2 diabetes in relation to their understanding and management of their health. What is type 2 diabetes: This is a condition of insulin resistance were the cells of the body (fat, liver and muscle) does not respond to insulin produced by the pancreas. Insulin's role is to take the glucose (blood sugar) from the blood into the cell where it is used. This is opposed to type 1 diabetes in which the insulin producing cells of the pancreas get destroyed by the immune system. Initially type 2 diabetes may be managed by diet and exercise but may progress on to tablets. From here insulin may be required to control the blood glucose. Type 2 does not turn into type 1 - they are different diseases. This study is being done as part of my studies through Victoria University College of Education, Melbourne Victoria Australia.

Procedures You will be asked to respond to questions which will take you approximately 10 minutes. At the end of the survey you will be invited to participate in an in-depth interview exploring the lived life of a gay man with type 2 diabetes. If you choose to participate you will be sent an information pack via email or mail as directed by you. If you need further information about this you are provided with my email. This questionnaire will be conducted with an online Qualtrics-created survey which has been set up to give you 1 weeks to answer the questions. If after that you have not finished, the survey will be automatically concluded and the completed questions recorded.

Who can fill out survey (Selection Criteria)

1) Gay men as defined as men who have sex with or have an attraction to other men. It is recognized gay men are not the only group who have sex with men or have an attraction but identity brings with it a set of psychological profiles which may be different in each sexuality subset which intern shapes behavior and experiences.

(A) Gay men with type 2 diabetes

(B) Gay men without diabetes. (C) 18 year and older * Gay men without diabetes will find this section very short but responses are valuable and contribute to our understanding. * HIV positive men will find that the survey is very short. The reason for this is that the study is not powered to look at this. Some medications used to treat HIV are associated with an increased risk of developing diabetes which may skew the results. However, the information provided by this group in the short answers may be very valuable.

Risk

Risks are minimal for involvement in this study. However, you may feel emotionally uneasy when asked to answer some of these questions as they ask some very personal questions. Although we do not expect any harm to come upon any participants due to electronic malfunction of the computer, it is possible though extremely rare and uncommon.

Benefits

There are no direct benefits for participants. However, it is hoped that the information

generated will help the gay community i.e. be a source of information that health professionals can use to inform their practice, shape targeted information on type 2 diabetes for gay men (handouts) and ultimately health education that specifically addresses gay men's perspectives in managing their diabetes and health outcomes.

Confidentiality

All data obtained from participants will be kept confidential and will only be reported in an aggregate format (by reporting only combined results and never reporting individual ones). All questionnaires will be concealed, and no one other than then primary investigator and assistant researchers listed below will have access to them. The data collected will be stored in the HIPPA-compliant, Qualtrics-secure database until it has been deleted by the primary investigator.

Compensation

There is no direct compensation. Participation in this research study is completely voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy. If you desire to withdraw, please just close your internet browser.

What happens with the information?

Data generated from this survey will be displayed in demographic tables and compared to information gained from the second part of my research (in-depth interviews with gay men with type 2 diabetes). It will be stored for 5 year post the study and may be used for subsequent research. It will be published in a thesis which will be stored in the Victoria University Library Archives. Data generated may be written up or talked about in journals, books, conferences or other forums.

Questions about the Research

If you have questions regarding this study, you may contact Student Researcher Edwin Pascoe, at edwin.pascoe@live.vu.edu.au or Supervisor Dr Trish Burton on trish.burton@vu.edu.au

Questions about your Rights as Research Participants Any queries about your participation in this project may be directed to the Chief Investigator listed above. If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, at researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

Page Break

Q16 Confirm you have read the above text, meet the selection criteria and are happy to progress

- I agree (1)
- I disagree (2)

Skip To: End of Survey If Confirm you have read the above text, meet the selection criteria and are happy to progress = I disagree

Q1 What is your biological sex?

- female (1)
- Male (2)

Skip To: End of Survey If What is your biological sex? = female

Q33 What gender do you identify as?

- Male (1)
- Female (2)
- Transgender - male to female (3)
- Transgender - female to male (4)
- Other (5) _____

Skip To: End of Survey If What gender do you identify as? = Female
Skip To: End of Survey If What gender do you identify as? = Transgender - male to female
Skip To: End of Survey If What gender do you identify as? = Transgender - female to male
Skip To: End of Survey If What gender do you identify as? = Other

Q9 Do you have diabetes?

- Yes (1)
- No (2)

Skip To: End of Block If Do you have diabetes? = No

Page Break

Q10 What type of diabetes do you have?
Type 2 diabetes - related to insulin resistance and treated with changes in diet/ exercise, maybe tablets and for some insulin. Most frequently seen in adults from middle age but we are starting to see it in children. Can be associated with obesity but not necessarily.

Type 1 - caused by an immune disorder and can **only** be treated by insulin. *Please note type 2 does not turn into type 1 as they are separate diseases.

Gestational - diabetes related to pregnancy

Medication related - diabetes related to side effects of medication i.e. steroids, HIV medication and anti psychotic medication

Surgery - diabetes caused by the removal of part or all of the pancreas usually related to cancer but can be other causes such as trauma. **Other** - LADA (Latent Autoimmune Diabetes of the adulthood), Monogenic diabetes etc

- ○ Type 1 diabetes (1)
- ○ Type 2 diabetes (2)
- ○ Gestational Diabetes (3)
- ○ Medication related? (4)
- ○ Surgery related (5)
- ○ Other (6)
- ○ Unsure (7)

Skip To: End of Survey If What type of diabetes do you have? Type 2 diabetes - related to insulin resistance and treated... = Type 1 diabetes
Skip To: End of Survey If What type of diabetes do you have? Type 2 diabetes - related to insulin resistance and treated... = Gestational Diabetes
Skip To: End of Survey If What type of diabetes do you have? Type 2 diabetes - related to insulin resistance and treated... = Surgery related
Skip To: End of Survey If What type of diabetes do you have? Type 2 diabetes - related to insulin resistance and treated... = Other

Q65 Are you HIV positive?

- Yes (1)
- No (2)

Skip To: End of Block If Are you HIV positive? = Yes

Page Break

Q45 Do you live the majority of your life in Australia?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If Do you live the majority of your life in Australia? = No

Q68 what if your ethnicity
(Reference: Department of Health and Ageing - The Australian Type 2 Diabetes Risk Assessment Tool (AUSDRISK).

- ○ Aboriginal or Torres Strait Islanders (8)
- ○ White (1)
- ○ Pacific Islander or Māori decent (2)
- ○ Asia (including the Indian sub-continent) (3)
- ○ Middle East (4)
- ○ North Africa (5)
- ○ Southern Europe (6)
- ○ Other (7) _____

Q11 Do you identify as a gay male?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Survey If Do you identify as a gay male? = No

Page Break

Q13 How old are you?

▼ 16 (1) ... 110 (95)

Q42 What is your religion?

▼ Christianity (1) ... No religion (38)

Q37 What is your highest educational achievement?

▼ High School Year 9 (1) ... PhD (11)

Q38 What is your relationship status?

▼ Single (1) ... Complicated (6)

Q39 What is your gross income per week/ year?

▼ Nil income (1) ... $2,000 or more (1$104,000 or more (11)

Q40 What is your employment status?

▼ Unemployed - Can't find work (1) ... Casual (10)

Q41 What area of employment are you involved in?

▼ Agriculture, Forestry and Fishing (1) ... Other Services (17)

Q53 Post code in Australia where you live

○ Post Code (1) _____

Page Break

Q59 What position do you identify with in the sex act - you may choose more than one?

- [ ] Bottom or receptive anal sex (1)
- [ ] Top or penetrative anal sex (2)
- [ ] Oral sex - receiving (3)
- [ ] oral sex - giving (4)
- [ ] Touching (5)
- [ ] kissing (6)
- [ ] I'd prefer not to say (7)
- [ ] Other (8)

Q43 Do you feel you have equal opportunity's in the workforce compared to your straight counterparts?

- ○ Yes (1)
- ○ No (2)

Q17 Does your main General Practitioner (GP) know you are gay?

- ○ Yes (1)
- ○ No (2)
- ○ Don't Know (3)
- ○ I don't have a regular GP (4)

Q21 Why have you chosen that general practice (Medical Center) ? (you may choose more than one answer)

- [ ] Random : I don't have a regular General Practice (Medical Center) (1)
- [ ] They bulk bill (2)
- [ ] They have after hours (3)
- [ ] The doctor is gay or gay friendly (4)
- [ ] The practice is close (5)
- [ ] I don't know where else to go (6)
- [ ] I've always gone to this doctor so its routine (7)
- [ ] I'm impressed with the doctors skills they have displayed (8)
- [ ] I'm impressed with the staff and facilities at the practice (9)
- [ ] There are other services I use there (10)

Q19 Has your doctor said anything about your homosexuality (being a gay man) that has made you feel uncomfortable?

- ○ Yes (1)
- ○ No (2)
- ○ My doctors does not know I'm gay (3)

Q61 When talking to your doctor would you tell the doctor about the following if it was relevant?

	Yes (1)	Maybe (2)	No (3)
Discomfort around anal passage? (1)	○	○	○
Your relationship status? (2)	○	○	○
Ability to form an erection? (3)	○	○	○
Possibility of adjusting your medication to suit your social circumstances? (4)	○	○	○
Your mental health - feeling depressed, anxious? (5)	○	○	○
Your sexual practices? (6)	○	○	○
If you felt you had an eating disorder? (7)	○	○	○
About your genitals (penis and scrotum) rash, discharge or discomfort? (8)	○	○	○
Feet discomfort? (9)	○	○	○
Problems with illicit substance use e.g. ice, heroin (10)	○	○	○

Q20 Have you you adjusted or limited your visits to health care practitioners **SPECIFICALLY** due to fear of homophobia in the following scenarios?

	Yes (1)	No (2)	Not applicable (3)
Education Groups (1)	○	○	○
When seeking advice about Sexually Transmitted Infection (Diseases) (2)	○	○	○
When seeking advice about erectile dysfunction (3)	○	○	○
Providing information about my relationship status (4)	○	○	○
I have reduced my visits to the doctor? (5)	○	○	○
I have looked elsewhere (non medical) - to resolve my health issues i.e. looked up computer engines such as Google? (6)	○	○	○
I have taken up complimentary therapies (herbs, vitamin, minerals, essences, alternative healers etc) to void having to go the doctor? (7)	○	○	○

Q17 Have you ever felt like stopping participation in sport related to fear of homophobia?

- On no occasions (1)
- Only on rare occasions (2)
- Every now and then (3)
- On most occasions (4)
- On all occasions (5)

Q60 Has your financial position negatively affected your ability to manage your diabetes?

- Yes (1)
- No (2)

Q30 How would describe your body shape?

On line BMI calculator
http://www.heartfoundation.org.au/healthy-eating/Pages/bmi-calculator.aspx

Asian BMI calculation
file:///C:/Users/s3042109/Downloads/13.BMIforAsianAndAsianAmericanAdults-Horizontal-EN-2015.pdf

- Morbid obesity (1)
- Obesity (2)
- Over weight (3)
- Normal weight (4)
- Underweight (5)

Page Break

Q16 Read the following statements and indicate your response in relation to eating?

Eating until feeling uncomfortably full (1)	▼ Always (1) ... Never (7)
Eating large amounts of food when not feeling physically hungry (2)	▼ Always (1) ... Never (7)
Eating much more rapidly than usual (3)	▼ Always (1) ... Never (7)
Eating alone because of being embarrassed by how much one is eating (4)	▼ Always (1) ... Never (7)
Feeling disgusted, depressed, or guilty after overeating (5)	▼ Always (1) ... Never (7)

Q21 My diabetes has meant that I have had to adjust my social life in the following ways

	Yes (1)	No (2)	Not Applicable (3)
I have avoided going out with friends (1)	○	○	○
I have avoided going out with work colleagues (2)	○	○	○
I have avoided forming a relationship (3)	○	○	○
Diabetes makes no difference to social life (4)	○	○	○
I have adjusted my sex life (5)	○	○	○

Q22 I have adjusted my medication to avoid people knowing I have diabetes even if it may effect my blood glucose levels?

- ○ Yes (1)
- ○ No (2)

Q34 Have you ever taken steroids for body image?

- ○ Yes (1)
- ○ No (2)

Q26 Diabetes has reduced my circle of friends?

- ○ Yes (1)
- ○ No (2)
- ○ Not sure (3)

Q24 When I'm unwell I turn to?

- ○ Partner (1)
- ○ Best Friend (2)
- ○ Biological family (3)
- ○ Other (4) _____

Q27 Tick the items that best describes your diabetes management in the last 12 months (you many choose more than one item).

- ☐ I take insulin (1)
- ☐ I take tablets (2)
- ☐ I don't take medication (3)
- ☐ I see a diabetes educator (4)
- ☐ I see a dietitian (5)
- ☐ I have had my feet checked (6)
- ☐ I have had my eyes checked (7)
- ☐ I test blood sugar (glucose) at home (8)
- ☐ I test my blood pressure at home (9)
- ☐ I take medication for my blood pressure (10)
- ☐ I take medication for my cholesterol (11)
- ☐ I have seen an endocrinologist (12)
- ☐ I am signed up to the National Diabetes Service Scheme (NDSS) - a diabetes card that allow me to get cheaper supplies? (13)

Q28 How often do you see your doctor about your diabetes? (reflect on the last 2 years)

- ○ Never (1)
- ○ Less than once a year (2)
- ○ Once a year (3)
- ○ Twice a year (4)
- ○ Four times a year (5)
- ○ Monthly (6)
- ○ Twice a month (7)
- ○ Twice a month (8)
- ○ Weekly (9)
- ○ Twice a week (10)
- ○ More regularly (11)

Q29 I have the following complication possibly related to my diabetes (you may choose more than one item)?

- [ ] Stroke (1)
- [ ] Heart attack (2)
- [ ] I have poor circulation to feet which can cause pain when I walk - peripheral vascular disease (3)
- [ ] I have funny sensation in my feet - numb, tingling, 'pins and needles' (4)
- [ ] I have erectile dysfunction (difficulty forming an erection) (5)
- [ ] I have kidney issues (6)
- [ ] I have eye issues (7)
- [ ] I have hearing issues (8)
- [ ] I have skin issues (thrush in groin, dark pigmented areas in skin folds, little skin tags). (9)
- [ ] Feel dizzy when I stand up / my blood pressure drops (autonomic neuropathy) (10)
- [ ] I constantly feel bloated after food (11)
- [ ] I have cancer (12)
- [ ] I have sleep apnoea that is either treated or not (Stop breathing during sleep, snoring etc) (13)

Q31 Have you been hospitalized with diabetes?

- ○ Yes (1)
- ○ No (2)

Q62 Have you spent time in an Intensive Care Unit related to your diabetes?

- ○ Yes (1)
- ○ No (2)

Q32 How do you know how your diabetes control is going?

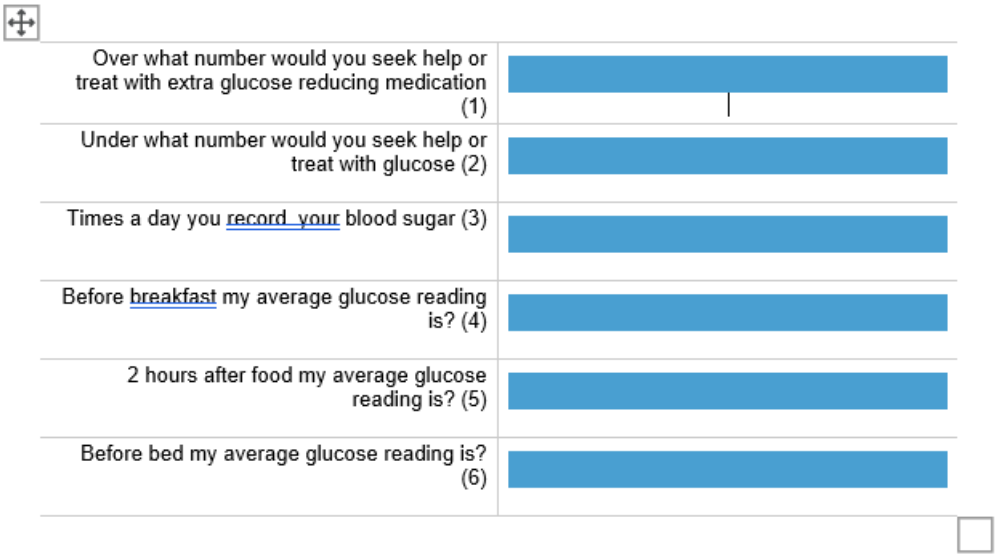
- ○ The doctor tells me (1)
- ○ I have a glucose meter and I understand normal levels (2)
- ○ My friends tell me (3)
- ○ My family tell me (4)
- ○ My HbA1c is under 7 or at level set by my health care practitioner (5)
- ○ I don't know how my diabetes is going (6)
- ○ I'm not interested in how my diabetes is going (7)
- ○ I don't have any symptoms (8)

Q55 Have you avoided starting insulin when advised to by your doctor or health care professional for any of the following reasons? (you may choose more than one response).

- [ ] Fear of needles (1)
- [ ] Fear of insulin's effect on my body (2)
- [ ] Fear of low blood glucose levels - hypoglycemia (3)
- [ ] Fear of how this will effect my social life (4)
- [ ] Fear of how this effect my love life (5)
- [ ] I know someone who started on insulin and they had a bad time (6)
- [ ] Too time consuming (7)
- [ ] It will effect my job (8)
- [ ] I will not be able to keep it private anymore (9)

Q63 If you use a glucose meter consider the following statements and slide the bar across to indicate your response.

0 2 4 6 8 10 12 14 16 18 20



Q54 The End

Q56
Thank you for participating in this survey. I would like to extend an invitation for you to participate in an interview to tell me about your experiences as a gay man with type 2 diabetes. It will be in the form of a 1 - 2 hour interview in Melbourne and will form the 2nd part of my study. To find out more about this simply tick yes below and leave your contact details below to receive an information sheet.

- Yes (1)
- No (2)

Skip To: End of Survey If Thank you for participating in this survey. I would like to extend an invitation for you to part... = No

Q57 **Contact details:**

Please insert your details below and I will forward an information pack.

- I will have 3 attempts only at contacting you

- You may change your mind at any time and decide not to participate in the study with out giving a reason.

-Your contact details will kept secure in in this database which is password protected.

-You may ask me to delete your contact details at any time without reason

You may contact me anytime on: edwin.pascoe@live.vu.edu.au or my supervisor Trish Burton on trish.burton@vu.edu.au and I will respond at the first available opportunity.

- Name (1) _____
- Email (2) _____
- Best contact number (3) _____
- second contact number if available (4) _____
- Best time to contact (5) _____
- Any points I should consider when contacting you (6) _____
- Can I leave a message on your voice mail? (7)
- Mailing address if you prefer to receive information this way (8) _____

Q58 The end

Skip To: End of Survey If The end Is Displayed

End of Block: Default Question Block

Start of Block: Block 2

Q18 What is your opinion of men with type 2 diabetes?

	Always (1)	Most times (2)	Sometimes (3)	Rarely (4)	Never (5)
They are lazy (1)	○	○	○	○	○
They can not help it, it was just bad luck they got it (2)	○	○	○	○	○
They have no self control (3)	○	○	○	○	○
If a person revealed to you that that they had type 2 diabetes would that effect your decision to date them? (4)	○	○	○	○	○
If only they ate less and exercised more they would not have it (5)	○	○	○	○	○

Q21 The end

Skip To: End of Survey If The end Is Displayed

End of Block: Block 2

Start of Block: Block 1

Q51 Were you advised by your health care provider that some medication for HIV might increase your chances of getting diabetes and therefore there was a need to regularly check for this?

- ○ Yes (1)
- ○ No (2)

Q52 When you were diagnosed with diabetes which of the following best describes the education you received (You may choose more than one answer) ?

- ☐ Doctor only - He was rushed (1)
- ☐ Doctor only - has gave me an adequate explanation (2)
- ☐ Practice Nurse (3)
- ☐ Seen by a Diabetes Educator (4)
- ☐ Seen by a Dietitian (Food) (5)
- ☐ Seen by a podiatrist (Feet) (6)
- ☐ Seen by an exercise physiologist (7)
- ☐ seen by an Optometrist (Eyes) (8)
- ☐ Seen by an Endocrinologist (Specialist Doctor in Diabetes). (9)

Q14 Did you have type 2 diabetes prior to being diagnosed with HIV?

- ○ Yes (1)
- ○ No (2)

C. Questions asked during in-depth interview to gay men

Diagnosis - What were the circumstances around the reasons for getting tested for diabetes?

(Symptomatic, regular check-up, tested while being investigated for another health condition, significant others who were diagnosed with diabetes made you think of getting tested). Locations, your GP, were others aware of you being tested for this? How was life around the time you were diagnosed (family, friends-gay – straight, job, other health issues, your age, your relationships, your social activities, how you represented yourself – confident – sexy – on social sites – to friends – to family – to partner – to potential partner – work), acknowledgement of diagnosis

What is type 2 Diabetes?

Tell me about your life as a gay man? (Your acceptance of who you are, coming out, defining yourself as gay, relationships, places you frequent or avoid, navigating your health as a gay man).

What was your immediate reaction to this diagnosis? (Feelings, your assumptions about how people might react, not telling people).

People you saw – professionals – interactions, i.e., questions you asked and didn't ask (Dietician, CDE, endocrinologist, podiatrist, exercise physiologist, ophthalmologist, optometrist, local GP, practise nurse etc.)

Monitoring – glucose meters, understanding of what health care professionals said

Medication taking – taking tablets for the first time, increasing the tables, starting insulin, alternative ways of treatment

Escalation of disease – glucose control, complications (stroke, heart attack, foot problems, eyes problems)

Navigating your social life – friends, partners (potential partners), who was the most supportive, who was the least supportive

Life events that changed your relationship with your diabetes? I.e., formed a relationship, you moved, significant people, what changes in the world/community

Sacrifices you made, regrets and things you would have changed, what support was there/ not there, what could health care professionals do better, what advice do you have with gay men with type 2 diabetes.

Probing questions

Age, Religion, Ethnicity

Changes over time, i.e., first year, first five years, ten years

D. Process of the interview (gay men)

1 Email generated from Qualtrics expressing their interest to be interviewed was received.

2 The information sheet outlines the study process and their rights to privacy, and the ability to pull out at any time without having to give a reason was given to them via email. I positioned myself as a researcher within the College of Education at Victoria University with a background as a Nurse Credentialed Diabetes Educator and a gay man. It was made clear that my role was to conduct research and not supply medical advice. However, I did offer to provide Diabetes Education after analysing the data as reciprocity for their kind participation in the process.

3 The participant would return an email expressing their wishes to continue or not in the interview or ask further questions.

4 A time and place were organized with the participant to conduct the interview. Booking of room and follow up email reminding them of the interview time and location.

5 As the researcher was the instrument, there needed to be time to reflect on beliefs and values regularly. These would have had the potential to influence the data collection, analysis, and interpretation through biases (de Chesnay, 2015). In this study, I took the stance as an inbetweener which holds the position between the emic and etic view, i.e., having both an external view as a researcher and diabetes educator and an internal view as a gay man. This

positioning allowed me to access the participant's world authentically without them putting up barriers. It is authentic because it reduces participants' risk of censoring their conversation, allowing the researcher to come closer to the truth (Milligan, 2016). Before the interview, ten minutes of mindfulness was performed to clear the mind.

6 I met with the participant, which was mainly conducted at Victoria University, either King Street Library, Footscray Park Library or Flinders Street Library. One was held at their work.

7 They were greeted, thanked for their time, and spent five minutes building rapport with them. The study was again explained, and an opportunity was given for them to ask questions. They were given a second information sheet outlining resources they could access if the study brought up uncomfortable feelings, i.e., psychology and counselling from within the University or external (General and Gay specific services). The resource also gave them information on whom to reach out to if they needed help with their diabetes, i.e., their General Practitioner (GP) and Diabetes Australia

8 Consent form signed

9 Once the person was ready, the interview was recorded using the iPhone on the app 'Voice Memos'. A list of questions was used to guide the interview. Interviews lasted from 24 minutes to 2 hours was achieved. Participants were invited to email back or come for a second interview if they felt they had more to say. However, all thought they had nothing further to add.

10 After the interview, a journal entry was made to capture the emotional atmosphere, non-verbal cues and environmental factors (de Chesnay, 2015).

11 The recorded interview was sent to the transcriber, who took one and two months to return the transcripts. The recordings were of good quality, so all data was captured.

12 Transcripts were sent to the participants for them to read and gain their approval. They could adjust the scripts, but minimal adjustments were made overall – only minor spelling errors. Participants sent back the transcript

saying they were happy for me to use the script and that it was a true and accurate representation of what they had said.

E. Participant information for gay men with type 2 diabetes

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled 'Gay men and type 2 diabetes'. This project is being conducted by a student researcher Edwin Pascoe as part of a Masters of Research (Education) at Victoria University under the supervision of Dr Patricia Burton Senior Lecturer College of Health and Biomedicine and Dr Margaret Malloch, FRSA Director of Research Training College of Education. It is hoped this study will progress onto PhD.

Project explanation

This study which aims to explore participant's experiences as they navigate their lives from the time they become diagnosed with type 2-diabetes to current. It is hoped that by sharing personal stories a greater understanding of the lived life of gay men with type 2 diabetes will inform Credentialed Diabetes Educators and other health care professionals in planning care. It will also inform the gay community in dealing with this health condition about common issues, how people have coped and the need for further research and resources.

What will I be asked to do?

You will be interviewed for between 1 – 2 hours where you will be asked questions regarding your life as a gay man with type 2-diabetes from diagnosis onwards which will include questions on: what caused you to know how you had type 2-diabetes; your interaction with health care professionals, family, friends etc.; your feeling, beliefs, values; your treatments; conflicts with treatment and people and how these were resolved or not are some examples. You will be invited to bring in artefacts like pictures, medical records, equipment, diary entries etc if it will help you to tell your story. You will also have the opportunity to come back in for a second time if you felt you have not finished your story. The purpose is to get your view so no judgment is placed on what is said instead diversity is celebrated in this form of research. The interview will be recorded.

Locations

Peter Knight Centre Health Promotion, Operations & Counselling Services 6 Claremont Street South Yarra Vic 3141 Phone: (03) 9865 6700 Fax: (03) 9826 2700 Toll Free: 1800 134 840

Victoria University (Library – private room at any of the following locations)

300 Flinders Street
Melbourne

225 King Street
Melbourne

256, 283, 295 & 300 Queen Street Melbourne

Corner of Nicholson and Buckley Streets
Footscray

Ballarat Road
Footscray

Rees Road
Melton South

460 Ballarat Road
Sunshine

Hoppers Lane
Werribee

138 Nicholson Street
Footscray

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

You may look at the website for more information on locations http://www.vu.edu.au/library/hours-locations

Time

I will negotiate this with you at a time that suits you and me. Times will also include afterhours and weekends.

What will I gain from participating?

During the interview you will not be provided with any education on diabetes. So I will offer a one hour free diabetes education session in my role as Credentialed Diabetes Educator (Registered Nurse) at a time and place to be mutually organized which may be attended by you alone or with a partner/friend/ family. A letter can be written up and forwarded to your doctor as a record of this interview. A free glucose meter can be given out if this is relevant to your care.

How will the information I give be used?

The recorded interviews will be analysed using a technique called 'thematic analysis' along with the data from other people to obtain themes.

Your individual data will also be reorganized into a time line (beginning middle and end) and presented as a story. Your identity will be protected by the use of a pseudonym (A name you choose) in the writing up of this report. You will be presented with a copy of the text before analysis and asked to read and determine if it truly reflects what you wanted to say. You may choose to eliminate a section if you feel uncomfortable with it.

Text s and emails you give will be deleted once information is acted upon and will not be shown to anyone except supervisors if it impacts on the study. Text s and emails may be used with your permission if you feel you need to add or correct something that was discussed in the in-depth interview. If they are kept they will be stored on a password protected computer and then stored long term on a Victoria University (VU) secure Data Base Drive.

Contact details you provide on the on the online survey are password protected.

The recorded interviews will be transcribed by me word for word. The recording will be saved as an mp3 file on the recording device which is pass-word protected and deleted once put onto VU Data Base Drive. The transcribed texts will be stored as text on a password protected computer and long term on a secure VU Data Base Drive.

The consent form (paper base) will be scanned and stored VU Data Base Drive. The paper will be shredded once this is done.

You may choose to withdraw from the study at any point without giving an explanation. There will be no consequences for you.

Stored data will be kept for 7 years and may be used in other projects.

The results will be written up as a thesis which is stored at Victoria University. This study may be talked about at conferences and written up in journals or other texts.

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

What are the potential risks of participating in this project?

People may find out about your sexual orientation which may be unwanted leading to isolation from friends, groups and family causing discomfort. This may extend to acts of violence and homelessness. However it may have beneficial outcomes of friends, groups and friends being totally accepting.

To reduce the risk all information is kept confidential (see information sheet). Communication will be conducted in a way that you choose. You will be presented with a list of groups and services that you may choose to access that can assist you.

If you experience any unwanted effects I would ask you to refer to the information sheet I give you or if you misplace this you are welcome to call or email me to get this information edwin.pascoe@live.vu.edu.au

How will this project be conducted?

Life history is a method of obtaining a story of how people live their lives in a sociocultural context set in a particular historical time frame. This is done in many ways but this study will use taped interviews with artefacts shared by the participant to aid memory. This doesn't just tell us about the facts but the interpretation of facts that have guided their lives. By empathically looking through the eyes of someone else can we really understand people's actions and maybe cause readers to reflect on how they react when they come across 'Gay men with type 2 Diabetes'.

In the analysis 'thematic analysis' is used as a method to look for themes that jump out of the data which can be explored at a later date and compared with other data i.e. those from the online survey you filled in.

Who is conducting the study?

If you need further information please don't hesitate to contact myself on:

Edwin Pascoe RN CDE
Student at Victoria University
0402 112 888
Email: edwin.pascoe@live.vu.edu.au

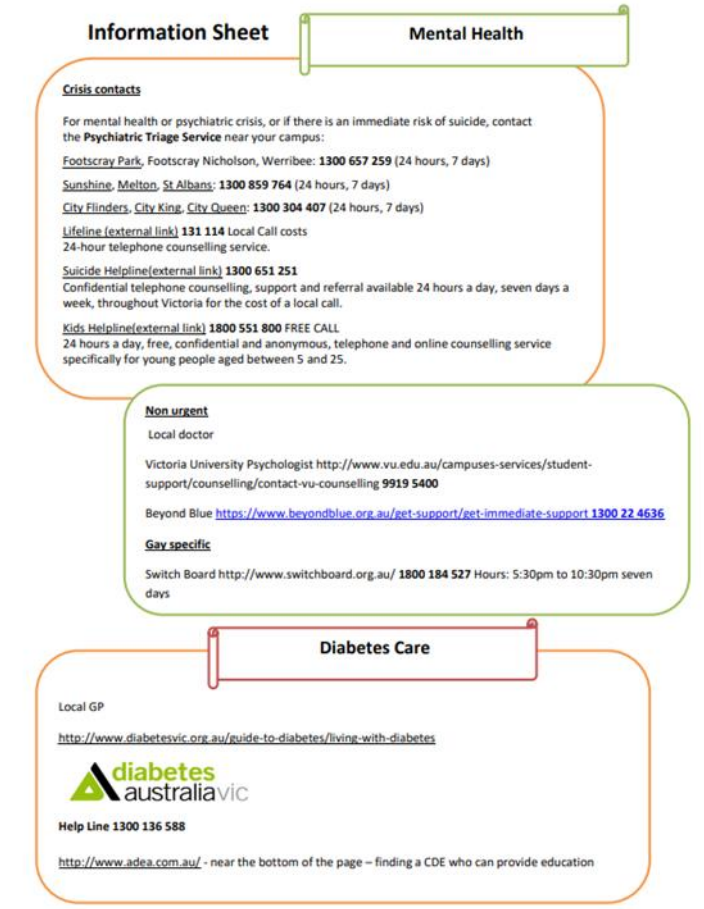
or any of my supervisors who are monitoring my progress:

Dr Trish Burton
Senior Lecturer
Curriculum Development Leader
Nursing
College of Health and Biomedicine
Victoria University
Melbourne, Australia
Phone 03 9919 2197
Email: trish.burton@vu.edu.au

Margaret Malloch, FRSA
Director of Research Training
College of Education
Victoria University
Melbourne, Australia
Phone (03) 399194175
Email: marg.malloch@vu.edu.au

Any queries about your participation in this project may be directed to the Chief Investigator listed above. If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

F. Information sheet showing potential groups for gay men to reach out to given at interview



Information Sheet

Mental Health

Crisis contacts

For mental health or psychiatric crisis, or if there is an immediate risk of suicide, contact the **Psychiatric Triage Service** near your campus:

Footscray Park, Footscray Nicholson, Werribee: **1300 657 259** (24 hours, 7 days)

Sunshine, Melton, St Albans: **1300 859 764** (24 hours, 7 days)

City Flinders, City King, City Queen: **1300 304 407** (24 hours, 7 days)

Lifeline (external link) **131 114** Local Call costs
24-hour telephone counselling service.

Suicide Helpline(external link) **1300 651 251**
Confidential telephone counselling, support and referral available 24 hours a day, seven days a week, throughout Victoria for the cost of a local call.

Kids Helpline(external link) **1800 551 800** FREE CALL
24 hours a day, free, confidential and anonymous, telephone and online counselling service specifically for young people aged between 5 and 25.

Non urgent

Local doctor

Victoria University Psychologist http://www.vu.edu.au/campuses-services/student-support/counselling/contact-vu-counselling **9919 5400**

Beyond Blue https://www.beyondblue.org.au/get-support/get-immediate-support **1300 22 4636**

Gay specific

Switch Board http://www.switchboard.org.au/ **1800 184 527** Hours: 5:30pm to 10:30pm seven days

Diabetes Care

Local GP

http://www.diabetesvic.org.au/guide-to-diabetes/living-with-diabetes

diabetes australiavic

Help Line 1300 136 588

http://www.adea.com.au/ - near the bottom of the page – finding a CDE who can provide education

Information Sheet

Homelessness

Homelessness Services Frontyard Youth Services
19 King Street
Melbourne, VIC 3000
Phone: (03) 9611 2411
Out of hours: 1800 825 955

Melbourne City Mission
Adult Homelessness
229 Barkly Street
Footscray, VIC 3011
Phone: (03) 9687 4997

Tel: 03 8625 4444
Fax: 03 8625 4410
Po Box 13210
Law Courts, Melbourne, VIC 8010, Australia
164–180 Kings Way
South Melbourne, VIC 3205, Australia

http://www.homeground.org.au/need-our-help/contact-us/Housing
freecall 1800 048 325
phone 9288 9611
fax 9288 9602
northernhousing@homeground.org.au

Gay Culture

Arab - 7elem (Arab Gay Group) - 7elem2012@gmail.com or facebook "Helem Melbourne"

Greek - Greek and Gay & Greek and Girls - www.greekandgay.com

Asian - Yellow Kitties - www.yellowkitties.org

Muslim - Marhaba (Muslim LGBTIQs in Melbourne) - marhaba.melbourne@gmail.com
Queer Muslims in Australia - groups.yahoo.com/group/queermuslims

Italian - I Ragazzi (Italian Gay Group) - iragazzi13@gmail.com

G. Consent to be interviewed given at interview

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

CONSENT FORM FOR PARTICIPANTS INVOLVED IN RESEARCH

INFORMATION TO PARTICIPANTS:
We would like to invite you to be a part of a study into '**Gay men and type 2 Diabetes**'.

This study which aims to explore participant's experiences as they navigate their lives from the time they become diagnosed with type 2-diabetes to current. It is hoped that by sharing personal stories a greater understanding of the lived life of gay men with type 2 diabetes will inform Credentialed Diabetes Educators and other health care professionals in planning care. It will also inform the gay community in dealing with this health condition about common issues, how people have coped and the need for further research and resources. This study will be conducted using a technique called Life History and analysed using 'thematic analyses'.

CERTIFICATION BY SUBJECT

I, "[Click here & type participant's name]"
of "[Click here & type participant's suburb]"

certify that I am at least 18 years old* and that I am voluntarily giving my consent to participate in the study:
'Gay men and type 2 Diabetes' being conducted at Victoria University by:

Edwin Pascoe

I certify that the objectives of the study, together with any risks and safeguards associated with the procedures listed hereunder to be carried out in the research, have been fully explained to me by:

Edwin Pascoe

and that I freely consent to participation involving the below mentioned procedures:

- Be contacted via the method you indicated on the online survey or other method you came to know about this study. This may be phone or email.
- To read and fully understand information sheet provided and ask questions to get clarification.
- To clarify and update researcher (Edwin Pascoe) on how you want to be contacted.
- Attend a mutually agreed location and time to participate in a taped 1 -2 hour interview.
- To bring along any artefacts to the interview that may help you remember your story.
- To be contacted after the interview by the researcher if further clarification is required via phone or email using rules you have shared.
- To freely contact the researcher (Edwin Pascoe) if you want to provide further clarification about details you shared in the interview – This information could be shared by email, phone or direct contact (another interview).

I certify that I have had the opportunity to have any questions answered and that I understand that I can withdraw from this study at any time and that this withdrawal will not jeopardise me in any way.

I have been informed that the information I provide will be kept confidential.

Signed:

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Date:

Any queries about your participation in this project may be directed to the researcher
Edwin Pascoe
Mobile: 0402 112 888; Email: edwin.pascoe@live.vu.edu.au

If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email Researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

[*please note: Where the participant/s are aged under 18, separate parental consent is required; where the participant/s are unable to answer for themselves due to mental illness or disability, parental or guardian consent may be required.]

H. Questions asked during in-depth interview to diabetes educators

Tell me about a time you looked after gay men with type 2 diabetes (how was he referred to you, how did you know he was gay, did he come alone or with a partner, how did you feel, age, glycaemic control, complications, engagement in self-care).

Was any reference made about his status as gay before meeting?

What are your experiences with gay men outside this working context?

What was the gay man's persona like – did he look comfortable, did it feel awkward, was he free coming with information?

What was the physical environment like were the interview took place (space, noise, could people hear, interruptions etc.)?

What strategies did you employ to enhance the therapeutic relationship?

What topics did you bring up and discuss?

What education material did you give him?

Were there topics you steered away from – why?

Where there any shocks to you?

What are issues related to gay men that may impact on their diabetes?

What are your experiences of providing care for gay men?

Looking back what could have been done better?

If you had to do a talk on gay men, what topics would you feel is important to explore?

How long was the interview?

I. Process of the interview (diabetes educators)

1 After receiving an email/call from Diabetes Educators (DE), an information sheet was sent out, giving the study's details.

2 If the DE returned the email advising they were happy to progress to the interview, a time and place were organized at a location of their choice. Both were within their area of work.

3 As the researcher was the instrument, there needed to be time to reflect on beliefs and values regularly. These would have had the potential to influence the data collection, analysis, and interpretation (de Chesnay, 2015). It is essential to separate the emic and etic views (de Chesnay, 2015). Before the interview, ten minutes of mindfulness was performed to clear the mind. Mindfulness has been found to reduce implicit bias and therefore reduce assumptions and judgements (Beachum & Gullo, 2020; Nam et al., 2016; Polinska, 2018). Mindfulness was implemented because often, the interviews were conducted after stressful work.

4 They were greeted, thanked for their time, and five minutes were spent building rapport with them. The study was again explained, and an opportunity was given for them to ask questions.

5 They were asked to sign the consent form.

6 Once the participant was ready, the interview was recorded using the iPhone on the app 'Voice Memos'. The phone was placed in the middle of the table. The list of questions with interviews lasting from 24 minutes to two hours was achieved. Participants were invited to email back or come for a second interview if they felt they had more to say. However, all thought they had nothing further to add.

7 After the interview, a journal entry was made to capture the emotional atmosphere, non-verbal cues and environmental factors (de Chesnay, 2015).

8 The recorded interview was sent to the transcriber, who took between one and two months to return the transcripts. The recordings were of good quality, so all data was captured.

9 Transcripts were sent to the participants for them to read and gain their approval. They were allowed to adjust the scripts, but minimal changes were made overall – only minor spelling errors. Participants sent back the transcript stating they were happy for me to use the script and that it was true and accurate to what they had said.

J. Information given to potential participants (diabetes educators)

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

INFORMATION TO PARTICIPANTS INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled 'Gay men and type 2 diabetes'. This project is being conducted by a student researcher Edwin Pascoe as part of a Masters of Research (Education) at Victoria University under the supervision of Dr Patricia Burton Senior Lecturer College of Health and Biomedicine and Dr Margaret Malloch, FRSA Director of Research Training College of Education. It is hoped this study will progress onto PhD.

Project explanation

This study which aims to explore participant's experiences as they navigate their lives from the time they become diagnosed with type 2-diabetes to current. It is hoped that by sharing personal stories a greater understanding of the lived life of gay men with type 2 diabetes will inform Credentialed Diabetes Educators and other health care professionals in planning care. It will also inform the gay community in dealing with this health condition about common issues, how people have coped and the need for further research and resources.

What will I be asked to do?

You will be interviewed for 1 – 2 hour on your experiences of looking after gay man with type 2 diabetes. The purpose is to get your view so no judgment is placed on what is said instead diversity is celebrated in this form of research. The interview will be recorded. You are invited to bring along artefacts that may enhance your story. However you are asked to maintain the privacy of your clients in discussions.

Locations

Interviews may occur in your home, work or any of the following locations below:

Peter Knight Centre Health Promotion, Operations & Counselling Services 6 Claremont Street South Yarra Vic 3141 Phone: (03) 9865 6700 Fax: (03) 9826 2700 Toll Free: 1800 134 840

Victoria University (Library – private room at any of the following locations)

300 Flinders Street https://www.vu.edu.au/library/hours-locations/city-flinders-library

Melbourne https://www.vu.edu.au/library/hours-locations/footscray-park-library

Ballarat Road
Footscray

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Time

I will negotiate this with you at a time that suits you and me. Times will also include afterhours and weekends.

What will I gain from participating?

By participating in this you will gain credentialing points that goes toward you're re-credentialing as a CDE with The Australian Diabetes Educators Association. There is no financial compensation.

How will the information I give be used?

The recorded interviews will be analysed using a technique called 'thematic analysis' along with the data from other people to obtain themes.

Your information will be used to compare to those of gay men with type 2 diabetes, a process call triangulation of data (data from different sources) to balance out subjectivity.

Texts and emails you give will be deleted once information is acted upon and will not be shown to anyone except supervisors if it impacts on the study. Text s and emails may be used with your permission if you feel you need to add or correct something that was discussed in the in-depth interview. If they are kept they will be stored on a password protected computer and then stored long term on a Victoria University (VU) secure Data Base Drive.

The recorded interviews will be transcribed. The recording will be saved as an mp3 file on the recording device which is pass-word protected and deleted once put onto VU Data Base Drive. The transcribed texts will be stored as text on a password protected computer and long term on a secure VU Data Base Drive.

The consent form (paper base) will be scanned and stored VU Data Base Drive. The paper will be shredded once this is done.

You may choose to withdraw from the study at any point without giving an explanation. There will be no consequences for you.

Stored data will be kept for 7 years and may be used in other projects.

The results will be written up as a thesis which is stored at Victoria University. This study may be talked about at conferences and written up in journals or other texts.

What are the potential risks of participating in this project?

It is expected that the risk of participation in this research is low however potential risks are:

Speaking about sensitive issues during the interview process can in some circumstances. To address this Edwin will provide an information sheet with people you can talk to. Also if at any time during the interview you feel distress you may choose to terminate the interview without giving a reason and without consequence.

How will this project be conducted?

Life history is a method of obtaining a story of how people live their lives in a sociocultural context set in a particular historical time frame. This is done in many ways but this study will use taped interviews with artefacts

VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

shared by the participant to aid memory (Gay men with type 2 diabetes). This will be checked again information that Diabetes Educators provide and information gained from the online survey. This doesn't just tell us about the facts per se but how facts have been interpreted and guided their lives. By empathically looking through the eyes of someone else can we really understand people's actions and maybe cause readers to reflect on how they react when they come across 'Gay men with type 2 Diabetes'.

Who is conducting the study?

If you need further information please don't hesitate to contact myself on:

Edwin Pascoe RN CDE
Student at Victoria University
0402 112 888
Email: edwin.pascoe@live.vu.edu.au

or any of my supervisors who are monitoring my progress:

Dr Trish Burton
Senior Lecturer
Curriculum Development Leader
Nursing
College of Health and Biomedicine
Victoria University
Melbourne, Australia
Phone 03 9919 2197
Email: trish.burton@vu.edu.au

Margaret Malloch, FRSA
Director of Research Training
College of Education
Victoria University
Melbourne, Australia
Phone (03) 399194175
Email: marg.malloch@vu.edu.au

Any queries about your participation in this project may be directed to the Chief Investigator listed above. If you have any queries or complaints about the way you have been treated, you may contact the Ethics Secretary, Victoria University Human Research Ethics Committee, Office for Research, Victoria University, PO Box 14428, Melbourne, VIC, 8001, email researchethics@vu.edu.au or phone (03) 9919 4781 or 4461.

K. Ethics Victoria University

Quest Ethics Notification - Application Process Finalised - Application Approved

QU quest.noreply@vu.edu.au
To: trish.burton@vu.edu.au; Cc: Edwin Pascoe; Marg.Malloch@vu.edu.au;

Reply all | ▾
Wed 21/10/2015 3:08 PM

Inbox

Dear DR PATRICIA BURTON,

Your ethics application has been formally reviewed and finalised.

» Application ID: HRE15-243
» Chief Investigator: DR PATRICIA BURTON
» Other Investigators: MR Edwin Pascoe, DR MARGARET MALLOCH
» Application Title: Gay Men and Type 2 Diabetes
» Form Version: 13-07

The application has been accepted and deemed to meet the requirements of the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007)' by the Victoria University Human Research Ethics Committee. Approval has been granted for two (2) years from the approval date; 21/10/2015.

Continued approval of this research project by the Victoria University Human Research Ethics Committee (VUHREC) is conditional upon the provision of a report within 12 months of the above approval date or upon the completion of the project (if earlier). A report proforma may be downloaded from the Office for Research website at: http://research.vu.edu.au/hrec.php.

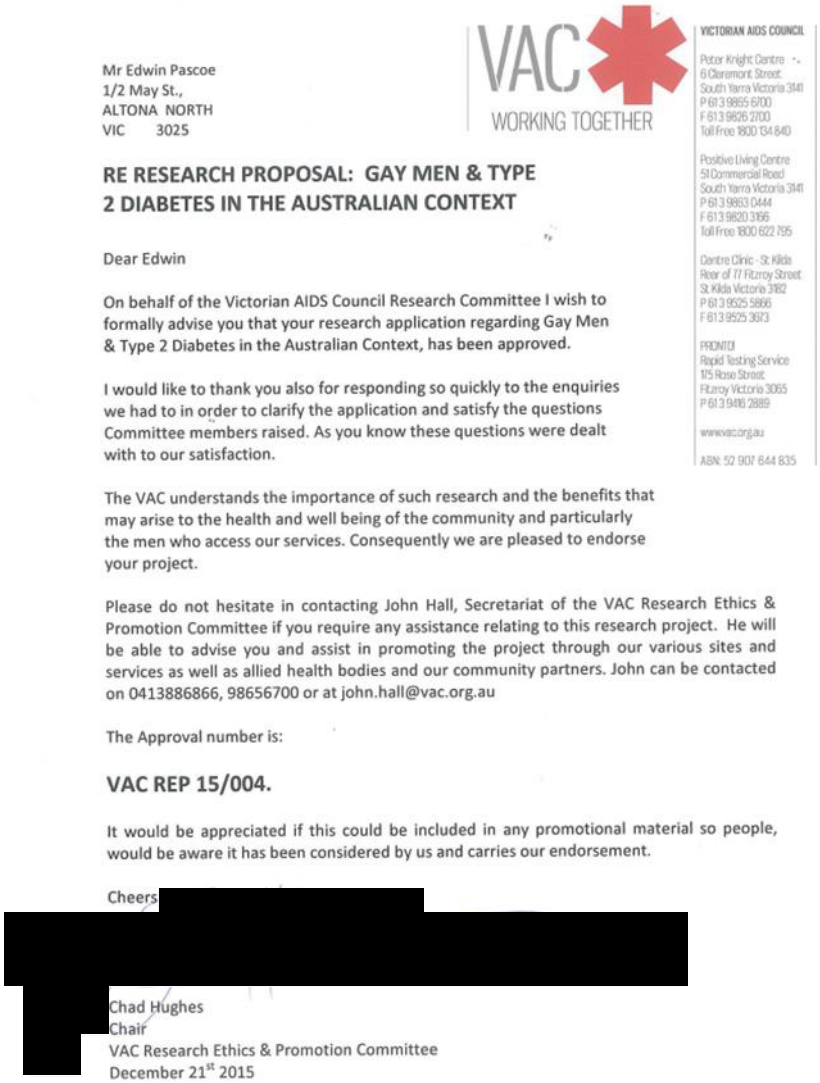
Please note that the Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious events or adverse and/or unforeseen events that may affect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes. Researchers are also reminded of the need to notify the approving HREC of changes to personnel in research projects via a request for a minor amendment. It should also be noted that it is the Chief Investigators' responsibility to ensure the research project is conducted in line with the recommendations outlined in the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007).'

On behalf of the Committee, I wish you all the best for the conduct of the project.

Secretary, Human Research Ethics Committee
Phone: 9919 4781 or 9919 4461
Email: researchethics@vu.edu.au

This is an automated email from an unattended email address. Do not reply to this address.

L. Ethics Victorian Aids Council (now Thorne Harbour Health)



Mr Edwin Pascoe
1/2 May St.,
ALTONA NORTH
VIC 3025

VAC
WORKING TOGETHER

VICTORIAN AIDS COUNCIL
Peter Knight Centre
6 Claremont Street
South Yarra Victoria 3141
P 61 3 9865 6700
F 61 3 9826 2700
Toll Free 1800 134 840

Positive Living Centre
51 Commercial Road
South Yarra Victoria 3141
P 61 3 9863 0444
F 61 3 9820 3166
Toll Free 1800 622 795

Centre Clinic - St Kilda
Rear of 77 Fitzroy Street
St Kilda Victoria 3182
P 61 3 9525 5866
F 61 3 9525 3673

PRONTO!
Rapid Testing Service
175 Rose Street
Fitzroy Victoria 3065
P 61 3 9416 2889

www.vac.org.au

ABN: 52 907 644 835

RE RESEARCH PROPOSAL: GAY MEN & TYPE 2 DIABETES IN THE AUSTRALIAN CONTEXT

Dear Edwin

On behalf of the Victorian AIDS Council Research Committee I wish to formally advise you that your research application regarding Gay Men & Type 2 Diabetes in the Australian Context, has been approved.

I would like to thank you also for responding so quickly to the enquiries we had to in order to clarify the application and satisfy the questions Committee members raised. As you know these questions were dealt with to our satisfaction.

The VAC understands the importance of such research and the benefits that may arise to the health and well being of the community and particularly the men who access our services. Consequently we are pleased to endorse your project.

Please do not hesitate in contacting John Hall, Secretariat of the VAC Research Ethics & Promotion Committee if you require any assistance relating to this research project. He will be able to advise you and assist in promoting the project through our various sites and services as well as allied health bodies and our community partners. John can be contacted on 0413886866, 98656700 or at john.hall@vac.org.au

The Approval number is:

VAC REP 15/004.

It would be appreciated if this could be included in any promotional material so people, would be aware it has been considered by us and carries our endorsement.

Cheers [redacted]

[redacted]

Chad Hughes
Chair
VAC Research Ethics & Promotion Committee
December 21st 2015

M. Chi square analysis of online survey data

Results

	PVD	No PVD	Row Totals
Dietitian	4 (3.54) [0.06]	17 (17.46) [0.01]	21
No dietitian	10 (10.46) [0.02]	52 (51.54) [0.00]	62
Column Totals	14	69	83 (Grand Total)

The chi-square statistic is 0.0953. The *p*-value is .757554. The result is *not* significant at $p < .05$.

Results

	Heart Attack	No heart attacks	Row Totals
Dietitian	2 (1.93) [0.00]	18 (18.07) [0.00]	20
No dietitian	6 (6.07) [0.00]	57 (56.93) [0.00]	63
Column Totals	8	75	83 (Grand Total)

The chi-square statistic is 0.004. The *p*-value is .949872. The result is *not* significant at $p < .05$.

Results

	Cancer	No cancer	Row Totals
Dietitian	1 (0.76) [0.08]	20 (20.24) [0.00]	21
No dietitian	2 (2.24) [0.03]	60 (59.76) [0.00]	62
Column Totals	3	80	83 (Grand Total)

The chi-square statistic is 0.1062. The *p*-value is .744458. The result is *not* significant at $p < .05$.

Results

	Skin issues	No skin issues	Row Totals
Dietitian	5 (5.06) [0.00]	16 (15.94) [0.00]	21
No dietitian	15 (14.94) [0.00]	47 (47.06) [0.00]	62
Column Totals	20	63	83 (Grand Total)

The chi-square statistic is 0.0013. The *p*-value is .97163. The result is *not* significant at $p < .05$.

Results

	Sleep apnoea	No sleep apnoea	Row Totals
Dietitian	7 (6.99) [0.00]	13 (13.01) [0.00]	20
No dietitian	22 (22.01) [0.00]	41 (40.99) [0.00]	63
Column Totals	29	54	83 (Grand Total)

The chi-square statistic is 0. The *p*-value is .994825. The result is *not* significant at $p < .05$.

Results

	Autonomic neuropathy	No autonomic neuropathy	Row Totals
Dietitian	5 (3.80) [0.38]	16 (17.20) [0.08]	21
No dietitian	10 (11.20) [0.13]	52 (50.80) [0.03]	62
Column Totals	15	68	83 (Grand Total)

The chi-square statistic is 0.625. The *p*-value is .429202. The result is *not* significant at $p < .05$.

Results

	Hearing issues	No hearing issues	Row Totals
Dietitian	2 (3.04) [0.35]	19 (17.96) [0.06]	21
No dietitian	10 (8.96) [0.12]	52 (53.04) [0.02]	62
Column Totals	12	71	83 (Grand Total)

The chi-square statistic is 0.5534. The *p*-value is .456939. The result is *not* significant at $p < .05$.

Results

	Hearing issues	No hearing issues	Row Totals
Dietitian	2 (3.04) [0.35]	19 (17.96) [0.06]	21
No dietitian	10 (8.96) [0.12]	52 (53.04) [0.02]	62
Column Totals	12	71	83 (Grand Total)

The chi-square statistic is 0.5534. The *p*-value is .456939. The result is *not* significant at $p < .05$.

Results

	PVD	No PVD	Row Totals
Endocrinologist	7 (3.76) [2.79]	17 (20.24) [0.52]	24
No endocrinologist	6 (9.24) [1.14]	53 (49.76) [0.21]	59
	13	70	83 (Grand Total)

The chi-square statistic is 4.661. The p-value is .030855. The result is significant at p < .05.

Results

	Cancer	No cancer	Row Totals
Endocrinologist	1 (0.90) [0.01]	24 (24.10) [0.00]	25
No endocrinologist	2 (2.10) [0.00]	56 (55.90) [0.00]	58
Column Totals	3	80	83 (Grand Total)

The chi-square statistic is 0.0153. The *p*-value is .901672. The result is *not* significant at $p < .05$.

Results

	Skin issues	No skin issues	Row Totals
Endocrinologist	7 (6.02) [0.16]	18 (18.98) [0.05]	25
No endocrinologist	13 (13.98) [0.07]	45 (44.02) [0.02]	58
Column Totals	20	63	83 (Grand Total)

The chi-square statistic is 0.2981. The *p*-value is .585099. The result is *not* significant at $p < .05$.

Results

	Autonomic neuropathy	No autonomic neuropathy	Row Totals
Endocrinologist	3 (4.52) [0.51]	22 (20.48) [0.11]	25
No endocrinologist	12 (10.48) [0.22]	46 (47.52) [0.05]	58
Column Totals	15	68	83 (Grand Total)

The chi-square statistic is 0.8909. The *p*-value is .345221. The result is *not* significant at $p < .05$.

Results			
	Hearing issues	No hearing issues	*Row Totals*
Endocrinologist	5 (3.61) [0.53]	20 (21.39) [0.09]	25
No endocrinologist	7 (8.39) [0.23]	51 (49.61) [0.04]	58
Column Totals	12	71	83 (Grand Total)

The chi-square statistic is 0.8885. The *p*-value is .345879. The result is *not* significant at $p < .05$.

Results			
	ED	No ED	*Row Totals*
Endocrinologist	13 (10.99) [0.37]	11 (13.01) [0.31]	24
No endocrinologist	25 (27.01) [0.15]	34 (31.99) [0.13]	59
Column Totals	38	45	83 (Grand Total)

The chi-square statistic is 0.956. The *p*-value is .3282. The result is *not* significant at $p < .05$.

Results			
	Peripheral neuropathy	No Peripheral Neuropathy	*Row Totals*
Endocrinologist	13 (10.24) [0.74]	12 (14.76) [0.52]	25
No endocrinologist	21 (23.76) [0.32]	37 (34.24) [0.22]	58
Column Totals	34	49	83 (Grand Total)

The chi-square statistic is 1.8018. The *p*-value is .179495. The result is *not* significant at $p < .05$.

Results			
	PVD	No PVD	*Row Totals*
Diabetes educator	6 (4.89) [0.25]	23 (24.11) [0.05]	29
No diabetes educator	8 (9.11) [0.13]	46 (44.89) [0.03]	54
Column Totals	14	69	83 (Grand Total)

The chi-square statistic is 0.4644. The *p*-value is .495578. The result is *not* significant at $p < .05$.

Results			
	Heart Attack	No heart attacks	*Row Totals*
Diabetes educator	5 (2.80) [1.74]	24 (26.20) [0.19]	29
No diabetes educator	3 (5.20) [0.93]	51 (48.80) [0.10]	54
Column Totals	8	75	83 (Grand Total)

The chi-square statistic is 2.9583. The *p*-value is .08544. The result is *not* significant at $p < .05$.

Results			
	Skin issues	No skin issues	*Row Totals*
Diabetes educator	10 (6.99) [1.30]	19 (22.01) [0.41]	29
No diabetes educator	10 (13.01) [0.70]	44 (40.99) [0.22]	54
Column Totals	20	63	83 (Grand Total)

The chi-square statistic is 2.629. The *p*-value is .104926. The result is *not* significant at $p < .05$.

Results			
	Sleep apnoea	No sleep apnoea	*Row Totals*
Diabetes educator	14 (9.90) [1.70]	14 (18.10) [0.93]	28
No diabetes educator	15 (19.10) [0.88]	39 (34.90) [0.48]	54
Column Totals	29	53	82 (Grand Total)

The chi-square statistic is 3.9835. The *p*-value is .045948. The result is significant at $p < .05$.

Results			
	Autonomic neuropathy	No autonomic neuropathy	*Row Totals*
Diabetes educator	4 (5.24) [0.29]	25 (23.76) [0.06]	29
No diabetes educator	11 (9.76) [0.16]	43 (44.24) [0.03]	54
Column Totals	15	68	83 (Grand Total)

The chi-square statistic is 0.5513. The *p*-value is .457801. The result is *not* significant at $p < .05$.

Results			
	Eye issues	No eye issues	*Row Totals*
Diabetes educator	7 (4.89) [0.91]	22 (24.11) [0.18]	29
No diabetes educator	7 (9.11) [0.49]	47 (44.89) [0.10]	54
Column Totals	14	69	83 (Grand Total)

The chi-square statistic is 1.6803. The *p*-value is .194885. The result is *not* significant at $p < .05$.

Results			
	Peripheral neuropathy	No Peripheral Neuropathy	*Row Totals*
Dietitian	7 (7.95) [0.11]	13 (12.05) [0.08]	20
No dietitian	26 (25.05) [0.04]	37 (37.95) [0.02]	63
Column Totals	33	50	83 (Grand Total)

The chi-square statistic is 0.2492. The p-value is .617667. The result is not significant at p < .05.

Results			
	Bloated	Not bloated	*Row Totals*
Diabetes educator	2 (3.61) [0.72]	28 (26.39) [0.10]	30
No diabetes educator	8 (6.39) [0.41]	45 (46.61) [0.06]	53
Column Totals	10	73	83 (Grand Total)

The chi-square statistic is 1.284. The *p*-value is .257155. The result is *not* significant at $p < .05$.

Results			
	Bloated	Not bloated	*Row Totals*
Dietician	2 (2.53) [0.11]	19 (18.47) [0.02]	21
No dietitian	8 (7.47) [0.04]	54 (54.53) [0.01]	62
Column Totals	10	73	83 (Grand Total)

The chi-square statistic is 0.1691. The *p*-value is .680946. The result is *not* significant at $p < .05$.

Results

	Bloated	Not bloated	*Row Totals*
Endocrinologist	3 (3.01) [0.00]	22 (21.99) [0.00]	25
No endocrinologist	7 (6.99) [0.00]	51 (51.01) [0.00]	58
Column Totals	10	73	**83 (Grand Total)**

The chi-square statistic is 0.0001. The *p*-value is .992935. The result is *not* significant at $p < .05$.

Results

	Gastric paresis	No gastric paresis	*Row Totals*
Insulin	4 (2.89) [0.42]	20 (21.11) [0.06]	24
No insulin	6 (7.11) [0.17]	53 (51.89) [0.02]	59
Column Totals	10	73	**83 (Grand Total)**

The chi-square statistic is 0.6796. The *p*-value is .409717. The result is *not* significant at $p < .05$.

Results

	ED	No ED	*Row Totals*
Diabetes educator	14 (13.28) [0.04]	15 (15.72) [0.03]	29
No diabetes educator	24 (24.72) [0.02]	30 (29.28) [0.02]	54
Column Totals	38	45	83 (Grand Total)

The chi-square statistic is 0.1116. The *p*-value is .738351. The result is *not* significant at $p < .05$.

Results

	Peripheral neuropathy	No Peripheral Neuropathy	*Row Totals*
Diabetes educator	10 (11.88) [0.30]	19 (17.12) [0.21]	29
No diabetes educator	24 (22.12) [0.16]	30 (31.88) [0.11]	54
Column Totals	34	49	83 (Grand Total)

The chi-square statistic is 0.7742. The *p*-value is .378917. The result is *not* significant at $p < .05$.

Results

	Cancer	No cancer	*Row Totals*
Diabetes educator	14 (13.28) [0.04]	15 (15.72) [0.03]	29
No diabetes educator	24 (24.72) [0.02]	30 (29.28) [0.02]	54
Column Totals	3	80	83 (Grand Total)

The chi-square statistic is 0.1116. The *p*-value is .738351. The result is *not* significant at $p < .05$.

Results

	Sleep apnoea	No sleep apnoea	*Row Totals*
Endocrinologist	10 (8.49) [0.27]	14 (15.51) [0.15]	24
No endocrinologist	19 (20.51) [0.11]	39 (37.49) [0.06]	58
Column Totals	29	53	82 (Grand Total)

The chi-square statistic is 0.5893. The p-value is .442686. The result is not significant at $p < .05$.

Results

	Hearing issues	No hearing issues	*Row Totals*
Diabetes educator	4 (4.19) [0.01]	25 (24.81) [0.00]	29
No diabetes educator	8 (7.81) [0.00]	46 (46.19) [0.00]	54
Column Totals	12	71	83 (Grand Total)

The chi-square statistic is 0.0159. The *p*-value is .899577. The result is *not* significant at $p < .05$.

Results

	Eye issues	No eye issues	*Row Totals*
Endocrinologist	1 (4.22) [2.45]	24 (20.78) [0.50]	25
No endocrinologist	13 (9.78) [1.06]	45 (48.22) [0.21]	58
Column Totals	14	69	83 (Grand Total)

The chi-square statistic is 4.2243. The *p*-value is .039849. The result is significant at $p < .05$.