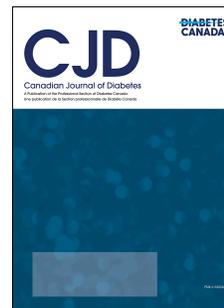


Journal Pre-proof



Barriers to type 2 diabetes management in Australian gay cisgender men: First national study

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Title page

Original Research

Title: Barriers to type 2 diabetes management in Australian gay cisgender men: First national study

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Word Counts: Abstract 249, Article 3962, 49 references

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Key Messages:

Sexuality is currently not considered a variable that may alter diabetes management, but some areas may challenge this.

Engagement by gay cis-men with the healthcare system and diabetes care may be altered by discomfort.

Unique issues such as weight concerns and homophobia in areas such as sport may be areas to target in diabetes care for gay cis-men.

Keywords: diabetes management, Australia, support, gay men, sexuality, consultation

Word Counts: Abstract 248, Body of manuscript 3802

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Declaration of Conflict of Interest

The authors declare that there is no conflict of interest.

Journal Pre-proof

1 Research article.

2 **Barriers to type 2 diabetes management in Australian gay cisgender men: First national**
3 **study**

4 **Abstract**

5 Addressing psychosocial factors in diabetes care has a significant impact on clinical outcomes.
6 There is limited research exploring how Australian men assigned male at birth who identify as
7 male and gay may influence the management of type 2 diabetes (T2D), creating a lack of
8 awareness among healthcare providers and gay people living with diabetes. This study
9 examined how sexual orientation impacts the experience and management of T2D.

10 A sequential mixed-methods design explored the experiences of Australian men assigned male
11 at birth, identifying as male and gay with T2D. Two data collection phases started with an
12 electronic survey of 83 gay men with T2D (7 screening, 63 questions covering characteristics
13 and where sexuality and diabetes intersect) and 82 without T2D (5 questions covering thoughts
14 on gay men with T2D), to explore community perceptions, followed by a second phase of 12
15 in-depth interviews with gay men with T2D. Descriptive statistics were used to analyse survey
16 data, and reflexive thematic analysis, grounded in constructivist assumptions, was used for
17 interview data.

18 Twenty-one per cent of participants had not disclosed their sexual orientation to their doctor,
19 indicating a prevalent barrier. Four themes emerged that reduce the ability of gay men to bring
20 their whole selves into healthcare consultations, creating a barrier, including:[1] Discomfort
21 around sexual orientation and diabetes; [2] Navigating uncomfortable patient-provider
22 conversations; and [3] Sexuality and diabetes, an unknown connection. These findings
23 underscore the need for tailored interventions by diabetes specialists or educators to address
24 identity-related barriers and potentially reduce diabetes-related complications.

25

26

27 Introduction

28 Healthcare is an integral component of the lived experience of Australian gay men assigned
29 male at birth identifying as male and gay (gay cis-men). However, much of the literature among
30 this group focuses on sexually transmitted infections (STIs) and mental health, with chronic
31 diseases receiving little attention. The social adjustments that gay cis-men make to manage
32 their exposure to real and perceived homophobic mockery, negativity and violence are believed
33 to promote behaviours that may inadvertently influence diabetes management. Experiences of
34 homophobia create chronic stress, which can adversely affect health behaviours and outcomes.
35 There is limited research exploring the intersection between type 2 diabetes (T2D) and sexual
36 orientation that diabetes educators should consider in consultations. This study aimed to
37 examine how sexual orientation impacts the experience and management of T2D. This is the
38 first study focusing on Australian gay men with T2D. This addresses a gap in Australian
39 research focusing on T2D, which is often conflated with type 1 despite distinct psychosocial
40 and pathological sequelae.

41

42 T2D is a chronic, progressive condition interrupting the routines of people and their significant
43 others as it progresses. In 2023, T2D was the 11th specific cause of chronic disease, equating
44 to 4.7 cases per 1000 population [1]. Preliminary evidence suggests that some rates of chronic
45 diseases, such as diabetes, may be higher in lesbian, gay, transgender, queer, intersex, asexual,
46 plus (LGBTQIA+) Australians [2]. Previous research has examined people's lived experiences
47 in the United States (US) and the United Kingdom (UK), but combined many non-heterosexual
48 identities and diabetes types [3, 4]. This study is the first to focus on Australian gay men with

49 T2D, which is important because of their unique experiences within Australian culture and
50 healthcare systems [5]. The knowledge gained may help health care practitioners (HCPs) and
51 gay men explore and contextualise new and innovative solutions to diabetes-related problems
52 that are effective and well-received by gay men.

53 ***Methods***

54 A sequential mixed-methods design was used [6], including an electronic survey followed by
55 in-depth interviews. The electronic survey of consenting gay men with or without T2D asked
56 participants about their lived experience as gay men and their T2D management. An online
57 survey was chosen because it is economical to administer, easy to distribute, and allows privacy
58 and confidentiality when completed via phone or computer [7]. Gay men without T2D were
59 asked their views of gay men with T2D, allowing for further exploration of community views,
60 known to shape in-group health behaviour [3]. Understanding the attitudes and beliefs within
61 the gay community may shape an individual's management of diabetes. The interviews with
62 Australian gay men diagnosed with T2D allowed for in-depth exploration of issues raised in
63 the survey.

65 ***Sample and Recruitment***

66 A broad recruitment strategy was used, as gay men are known to be difficult to access for
67 research [7]. The research was advertised via 36 national and state-based diabetes support
68 groups, social media platforms, radio and print media, and direct emailing to national gay
69 men's groups. Gay men living with human immunodeficiency virus (HIV) were excluded to
70 avoid confounding, as there is a higher incidence of diabetes associated with HIV [8, 9] and
71 the unique psychosocial issues related to HIV, which may obscure the role of sexual orientation
72 [10].

73

74 ***Data Collection***

75 Data was collected over one year. The survey, developed by the first author (assigned male at
76 birth who identifies as male and gay, and lived most of their life in Australia) with advice from
77 the third (nurse). It was piloted before use with 10 people, with no changes suggested, including
78 7 screening questions, 63 closed-ended questions, and provided the opportunity for participants
79 to take part in an in-depth face-to-face interview. The survey was started by 269 participants,
80 but 171 completed it. The survey was conducted on the Qualtrics platform, which was selected
81 for its security features and support. Questions required the following responses: yes, no, not
82 applicable; tick a response, 5-point Likert scale, and limited boxes to provide free text. No
83 validated tools were used. In-depth interviews provided an insider's view with a particular
84 language and shade that may not be captured in survey pre-coded questions, including
85 contradictions [6]. Domains captured in the survey were characteristics of the person,
86 healthcare interactions, and where their sexuality intersects with healthcare. A sample of
87 questions in the survey included: *what is your ethnicity? what is your religion? how old are*
88 *you? does your main general practitioner know you are gay?* A sample of paraphrased
89 interview questions with gay men included: *What was the circumstance of your diabetes*
90 *diagnosis?* and *discuss significant events in your diabetes journey and your life as a gay man.*
91 If participants selected, they did not have diabetes, they were asked a separate five questions,
92 e.g., what is your opinion of men with diabetes? This data gave a rich source of information
93 around in-group dynamics.

94

95 [Insert Table A]

96

97 All interviews were conducted face-to-face, digitally audio-recorded, and transcribed verbatim.

98 All participants were given pseudonyms, reviewed the transcripts and returned an email stating

99 they were happy to use them for analysis, and it reflected a true and accurate picture of their
100 experiences. They were also invited to clarify their experiences, but none provided additional
101 comments.

102

103 *Data Analysis*

104 Survey questions were analysed by the first author as part of a PhD, using simple descriptive
105 statistics (e.g., frequencies and proportions). Discussions were held with the third, fourth and
106 fifth authors, providing critical feedback and challenging assumptions leading to iterative
107 refinement. A reflexivity journal was maintained to reflect on the interview process and
108 interpretations, and as an insider, participants were informed of the interviewer's identity to
109 facilitate trust. Reflexive thematic analysis was used to analyse the interview transcripts,
110 allowing for the researcher's perspective [11]. The analysis involved six stages: compiling
111 (transcribing, reading, familiarising); disassembling (creating codes); reassembling (creating
112 themes by mapping codes); reviewing themes (how they fit together and tell a story); refining
113 and naming themes (ensuring consistency within the data); producing the report (choosing
114 quotes that embody the message and answer the study question) [11].

115

116 *Ethical Considerations*

117 The study was approved by [blinded] and developed in compliance with the Australian
118 National Health and Medical Research Council Guidelines. Participants were required to tick
119 a box to indicate their consent after reading a brief statement to proceed with the online survey,
120 and each interview participant provided written informed consent.

121

122 **Results**

123 Eighty-three Australian gay men with T2D and 82 gay men without T2D completed the online
124 survey. Initially, 13 men with T2D agreed to be interviewed for the survey; however, only 12
125 transcripts were analysed as one participant was lost to follow-up (see Table A).

126

127 Three themes were constructed from the analysis of interviews with gay men with T2D: [1]
128 Discomfort around sexual orientation and diabetes; [2] Navigating uncomfortable patient-
129 provider conversations; [3] Sexual orientation and diabetes, an unknown connection. Themes
130 are discussed in the context of the issues raised by the survey results, and direct quotes from
131 interview participants were used to illustrate the themes.

132

133 ***1. Discomfort around sexual orientation and diabetes***

134 Navigating uncomfortable conversations refers to the mutual unease found between gay men
135 with T2D and diabetes educators.

136 **Survey finding**

137 21% of gay men with T2D reported that they were either not out (hid their sexual orientation
138 from others), did not know (if the doctor knew their sexual orientation), or did not have a
139 regular doctor.

140 **Qualitative Findings**

141 Michael was asked if he was out to his doctor and said,

142 *No, I hid it. Always. I found a lot of discrimination in a lot of places [referring*
143 *to general practices] (Michael, aged 51, Diabetes 13 years).*

144

145 Michael further went on to say the doctor stopped him from talking about their sexual
146 orientation during a consultation, which they interpreted as rejection.

147 *I tried to open up and I got shut down, and I changed doctors. I just didn't*
148 *feel comfortable. That was the easiest way to solve it was just to change to a*
149 *new doctor (Michael, age 51, Diabetes 13 years).*

150

151 Kevin went on to talk about the reaction of others related to disclosing his sexual orientation
152 and the barriers he felt when he had to see a different doctor from his regular one, who was not
153 gay.

154 *I went to see another doctor and I just felt that it was a real waste of time ...*
155 *He assumed that I was married to a woman, and I said "No, I'm married to*
156 *a man" ... but all of a sudden ... put up these barriers but I think I did [also]*
157 *as soon as he thought I was gay (Kevin, age 69, Diabetes 13 years).*

158

159 **Survey Finding**

160 Discomfort regarding diabetes comes from the gay community itself.

161 Negative views expressed by gay men without T2D referred to gay men with T2D as being
162 lazy (54.9%), diabetes as something they should have been able to control (32.9%) and that
163 gay men with T2D lacked self-control (43.9%).

164 *Navigating uncomfortable patient-provider conversations*

165 **Qualitative finding**

166 To deal with the discomfort about their sexual orientation and diabetes, some gay men seek out
167 HCPs known to be gay, where personal conversations are possible due to shared life
168 experiences.

169 *it's ... important ... an acknowledgement that you exist. Your health care,*
170 *your life, it's not just you. Your family, friends, and support group are around*
171 *you, and I think that's important (Craig, age 49, Diabetes 1 year).*

172

173 Craig further explains *Yes [if the doctor was gay it makes a difference]... because you don't*
 174 *have to explain it [or] worry about whether they get it. You can just talk about it... use the*
 175 *language that you're comfortable with (Craig, age 49, Diabetes 1 year).*

176
 177 George lived in a small town where he knew the receptionist socially, so he was never going
 178 to come out, but announced it one day to his doctor on the proviso that he did not write it down.

179 *I just said ... "Look, if you are looking after my health, you should know ...*
 180 *I'm gay"... I'd prefer it wasn't written down, but I need you to know. ...*
 181 *[Town is]a small town and I knew all the receptionists at the doctor's*
 182 *socially, so at this stage the plan was ... never come out (George, age 47*
 183 *Diabetes 25 years).*

184
 185 While Adam was happy to tell people he was gay, only when it mattered. However, he did not
 186 routinely bring it up because he did not want to make the other person feel uncomfortable.

187 *... it's not really relevant most times ... I just don't see the point in making*
 188 *people feel uncomfortable when there's no point and purpose to it (Adam, Age*
 189 *73 Diabetes 8 years)*

190
 191 Other gay men did not worry about the sexual orientation of the HCP they visited. Instead, they
 192 'navigated the closet', where they chose to come out as gay in some circumstances but stayed
 193 closeted in others. Being closeted may reduce engagement and limit the HCPs' ability to
 194 understand the nuances that shape gay men's health journey.

195 *One of the things that have come across, a lot of older gay people, you can*
 196 *take the closet away, but notionally it is still there, and they've been*
 197 *culturised to the closet, and they'll never get out of it (Trevor, age 68,*
 198 *Diabetes 5 years).*

199

200 **Survey findings**

201 While 79% of gay men were happy to disclose their sexual orientation to doctors, there was a
 202 lack of faith among some men that their doctor understood gay cis-men's health issues.

203 **Qualitative findings**

204 Discomfort or mistrust caused their care to be fragmented, as gay men with T2D were required
 205 to see one doctor specifically for so-called gay cis-men's health issues and one for general
 206 health care.

207 *I don't have a lot of faith in doctors ... I have an LGBTI doctor that I go to*
 208 *for LGBTI stuff. I haven't told the other one that I've got Diabetes yet, but I*
 209 *think I should (Simon, age 53, Diabetes 1 year).*

210

211 **Sexual orientation and diabetes: Unrecognized connections in lifestyle factors**

212 Addressing unhelpful lifestyle practices is often the first target in managing T2D. Gay
 213 cis-men participants had key lifestyle factors that can influence diabetes management.

214 **Qualitative data**

215 The connection between diabetes and their identities as gay cis-men was unknown to some gay
 216 men.

217 *I don't see anything to do with the sexuality coming into that at all (Kevin,*
 218 *age 69, Diabetes 13 years).*

219 *Do you think there are any issues relating to Diabetes for gay people?*
 220 *(Researcher) Not that I've come across (David, age 50, Diabetes 2 years)*

221

222 **Survey data**

223 Encouraging participation in sports is a significant tool in diabetes management. 38.09% (rare,
 224 now and then, most and all occasions) of gay men with T2D reported that they had stopped
 225 participating in sports due to the fear of homophobia and the stigma associated with diabetes.

226 **Qualitative data**

227 Wayne talked about the shame of having diabetes and the lack of exercise

228 *If I had been more pro into exercise and living a healthier life I might have*
 229 *been more of a 'scene bunny' than I ever was. I think one of the things I've*
 230 *noticed [about] Diabetes is that for some reason there is a certain level of*
 231 *shame on their part that they have problems. (Wayne, age 52, Diabetes 21*
 232 *years)*

233

234 Kevins weight prevented him from participating in group sporting activities.

235 *[I have] Never [participated in team sports] Because I was such a big kid.*
 236 *I've always been big. I was always a chubby kid in primary school and very*
 237 *heavy in secondary school and I got up to 40 (Kevin, age 69, Diabetes 13*
 238 *years).*

239

240 Establishing new health routines is the cornerstone of diabetes management, with joining
 241 groups as one strategy to reinforce new behaviours. Peter felt psychologically safe in a group
 242 of gay men, which motivated him to continually turn up.

243 *If I know that on a particular day / time, I have to be doing some exercise,*
 244 *with somebody, . . . who if I don't go will be disenfranchised because I've*
 245 *upset the apple cart. I will always go (Peter, age 63, Diabetes 6 years).*

246

247 **Survey data**

248 Gay men participating in the study had lower rates of obesity (34.9% had a BMI >30) compared
 249 to the national population data (70% have a BMI >30).

250 **Qualitative data**

251 Weight concerns are significant in the gay community, as raised by Craig.

252 *We have avoided going out in recent years. [We] put on a lot of weight and*
 253 *there [were] accents of "oh God, I'm going to be judged for being chubby*
 254 *and fat. A bad gay person...". ... they'd see a photo on Facebook and say*
 255 *"Jeez, he's porked up" ... and it would find its way back to me... they were*
 256 *hurtful and frustrating because there's nothing worse than people telling,*
 257 *you look fat, when you know you look fat... (Craig, age 49, Diabetes 1 year).*

258

259 **Discussion**

260 The results indicate being a gay cis-male can shape the management of T2D in key areas, which
 261 include: mutual discomfort around disclosing sexual orientation within consultations; coping
 262 with discomfort, resulting in various patterns of interacting with HCP, including being closeted

263 and seeing a gay HCP for all their care or part of their care related to their sexual orientation;
264 and a lack of acknowledgment or understanding the connection between being a gay cis-male
265 and T2D in life style tools such as disincentives to exercise and weight concerns.

266

267 Minority stress theory refers to the additional stressors that minority groups, such as gay cis-
268 men, experience related to societal structures and internal responses [12]. Minority stress
269 theory is applicable here as it provides a link to body image, fear of disclosure in a healthcare
270 setting, [12] lower healthcare utilisation, poor communication, and reduced treatment
271 adherence [13].

272

273 Healthcare consultations can make people feel vulnerable because they are expected to disclose
274 intimate details about themselves. This vulnerability and discomfort can reduce the formation
275 of a therapeutic relationship [14]. When prominent aspects of life are filtered from one's story,
276 it reduces opportunities to explore solutions and build trust. Creating an environment conducive
277 to such conversations can be difficult when HCPs do not know what is happening in their
278 clients' heads, especially when encounters are infrequent, as often occurs with diabetes
279 educators. Gay men with T2D participating in this study talked about past negative experiences
280 with HCPs, feeling the barriers go up when they disclose their sexual orientation and, in some
281 cases, getting shut down. Such experiences can cause hypervigilance, where one self-monitors
282 and withdraws from social interaction to keep safe from rejection [15]. Others have framed this
283 experience as rejection sensitivity, where the brain is primed to expect rejection due to past
284 negative experiences [16]. Therefore, in the absence of any negative commentary, gay men can
285 feel discomfort, which has implications for HCPs creating a safe space.

286

287 While much of the focus is often directed toward people external to gay cis-men, it is equally
288 important to review the stigma from internal peers. This study highlighted that a significant
289 portion of the gay community holds negative views towards people living with T2D and related
290 risk factors such as obesity. This motivational factor may explain why the rates of obesity were
291 lower among gay men in this study compared to the general population of people with diabetes
292 [17]. These views were evident in the comments from participants, which are known
293 disincentives to engaging in exercise[18, 19], promote stress eating [20], influencing what to
294 disclose in health consultations and who to consult for health reviews—consistent with
295 minority stress theory [12, 13]. Understanding intergroup-stigma is crucial to inform
296 community-based interventions in Australia, as observed in the US [21] where collaborations
297 between LGBTQIA+ and diabetes groups may form a basis for change [22]

298
299 Some gay men shared stories of significant stigma received related to weight. Approximately
300 half of the gay men without T2D reported that they believed gay men with T2D were lazy and
301 lacked self-control. Double feelings of stigma related to weight and sexual orientation have
302 previously been reported to impede gay men from reaching out for appropriate support [23].

303
304 Some gay men addressed these discomforts by hiding their sexuality or choosing to see a
305 separate HCP for specific gay cis-men's care. While these men may hide their sexual
306 orientation, it does not mean they are necessarily uncomfortable with this decision; instead, a
307 habit (culturised) developed to avoid conflict. However, these avoidances in health
308 consultations may mask important unappreciated factors in decision-making. For example,
309 some gay men avoided team sports because of past experiences of homophobia but may forget
310 this as a barrier to exercise. This avoidance closes off meaningful discussion of strategies
311 around homophobia in sports, e.g., gay sports teams, with HCP. Choosing a gay HCP may

312 mean some gay men can use language they are comfortable with, creating a shared
313 understanding, and not having to worry about disclosing their sexual orientation or filtering
314 their conversation to avoid discomfort.

315

316 Visiting multiple HCPs to address different aspects of care to reduce discomfort can be
317 beneficial by providing confidentiality and quality assessments; however, there may be
318 disadvantages. The literature suggests that if each member of a person's healthcare team has a
319 different and incomplete picture of their health condition, it can result in duplication,
320 unnecessary visits, and medical mistakes [24]. Therefore, there is a need for all HCPs to be
321 culturally competent in this area as a strategy to reduce the fragmentation in care that can result.
322 While inclusivity is embedded in the Australian Diabetes Educators Association's constitution,
323 its current emphasis is primarily on cultural and racial diversity. To ensure comprehensive equity,
324 this scope should be broadened to explicitly include LGBTQIA+ people. Partnering with
325 LGBTQIA+ organisations may inform strategies to achieving this goal.

326

327 Experiences of homophobia, and indeed fear of it, become significant causes of chronic stress
328 among gay men from a young age [25]. Chronic stress can promote the development of diabetes
329 in complex ways [26] and be an additive effect on diabetes-related distress, which has
330 widespread implications for diabetes management [27].

331

332 Homophobia in sports [28, 29] has been widely documented in group exercise and was a shared
333 experience among the participants in this study. The benefits of group membership [30] have
334 been exploited in diabetes education to motivate behaviour such as exercise, and group
335 membership helps establish routines [31]. However, while gay men with diabetes may find
336 their way into gay sports groups, a sensitivity about their weight may prevent this. Weight

337 discrimination, as identified in this study, is a significant issue within the gay community [32],
338 which can lead to avoidance of team sports [33].

339

340 The key findings from this study suggest that diabetes education should include inclusive
341 discussions and health information that acknowledge and embrace individuals' unique lived
342 experiences. This is particularly important considering that many gay cis-men will not disclose
343 their sexual orientation but are still entitled to information that meets their needs and therefore
344 engages them.

345

346 ***Limitations***

347 This study used criterion-based sampling, which limits the generalisability of the findings. All
348 gay men participating in the online survey stated they were white, probably middle class, and
349 Australian and therefore, the results may be understated. As the sample were self-selected, the
350 sample may represent more negative experiences. The transferability of these findings is
351 limited by the sampling technique, the small sample size, non-response, self-selection, and
352 social desirability biases. However, issues around food are common. Despite these limitations,
353 the mixed methods data collection and triangulation of data provide trustworthiness of findings
354 [34].

355

356 **Conclusion**

357 The findings of this first Australian study have observed the conversations around sexuality
358 and diabetes are uncomfortable, leading to navigational practices that may be fragmenting care
359 for gay men with diabetes. Furthermore, a lack of understanding of how diabetes and sexuality
360 intersect, e.g., lifestyle factors, may be driving the indifference this topic has received by gay
361 men and community leaders. Therefore, the differences identified comparing heterosexual

362 people to Australian gay cis-men require diabetes educators to be upskilled in culturally
363 inclusive care that embraces the nuances that sexuality brings. Such education could include
364 inclusive language, understanding health disparities, creating safe inclusive environment,
365 embedding LGBTQIA+ standards into policies (rainbow tick standards [35]), and staff training
366 to challenge biases. This study mirrors studies conducted in the US and UK; however, the
367 dearth of Australian literature may signal less preparation for community interventions.
368 Ensuring patients feel comfortable taking in information that is culturally relevant and
369 accessible is the goal. However, larger studies, possibly longitudinal studies, that can clarify
370 these issues in the Australian context are required. While some features of the study can be
371 generalised to other groups, further studies need to look at different groups included in the
372 sexually and gender diverse communities, such as lesbians, bisexuals, transgender, intersex,
373 and non-binary, as well as intersections of racial groups, including culturally and linguistically
374 diverse communities and First Nations people. Ultimately, the study makes the case that
375 diabetes management does not occur in a vacuum free of identity.

376

377

378 Table A.

379 **Table A: Interview participants (Gay men assigned male at birth who identify as male**
380 **and gay)**

Pseudonym	Age (Yrs)	Religion	Relationship status (Previous & Current)	Yrs since diagnosis	Highest educational attainment	Weekly wage (median)	Employment status	Area of employment ¹	Medical issues ²	Blood sugar problem (≥ 2) ³	Annual Dr Visits
Adam	73	Anglican	Single (lives alone)	8	Year 9	\$300-99	Unemployed	Other service [#]	ED, Hearing issues.	No	2
George	47	Catholic	Single (lives alone) Previously married to woman	25	Master's degree	\$200-99	Part-time	Education & Training	BED	No	4
Peter	63	Catholic	Lives with partner.	6	Year 11	\$400-99	Unemployed	Other Service [#]	Problematic drinking ED	Yes	12
Tom	57	Catholic	Lives with partner	1	Bachelor's degree	\$1250-1499	Full-time	Education & Training	Obesity, ED, eye issues, sleep apnoea.	Yes	4
Harry	59	Catholic	Lives with partner (Previously married to woman)	0.5	Bachelor's degree	\$200-99	Casual	Other Service [#]	PVD, PN, ED, AN,	No	4
Simon	53	Uniting Church	Single (lives alone)	1	Cert III or IV	Nil Income	Unemployed	Other Service [#]	Obesity, bloating after food, sleep apnoea.	BGL not done	1
Trevor	68	Anglican	Single (lives alone)	5	Graduate Certificate/Diploma	\$600-99	Casual	Other Service [#]	Problematic drinking, Morbid obesity, PVD, PN,	No	2
Michael	51	No Religion	Lives with a partner	13	Diploma/Advanced Diploma	\$800-99	Unemployed	Nil Supplied	Stroke, eye issues, ED, heart attack, chronic foot ulcer	Yes	4
Wayne	52	No Religion	Single (lives alone)	21	Bachelor's degree	\$300-99	Unemployed	Retail Trade	Stroke, PVD, PN, ED, kidney issues, eye issues, cancer,	Yes	12
Kevin	69	No Religion	Single (lives alone)	13	Bachelor's degree	\$400-99	Unemployed	Healthcare/Social Assistance	Obesity, PVD, PN, ED, AN, sleep apnoea.	Yes	12
David	50	No Religion	Single (lives alone)	2	Master's degree	\geq \$2000	Full-Time	Professional, Scientific/Technical Services	Problematic drinking, sleep apnoea.	Nil BGL done	4
Craig	49	No Religion	Lives with partner (married to man)	1	Year 10	\$1500-1999	Full-Time	Other services [#]	PVD, ED, skin issues,	No	2
Mean	57.6		Single lives alone 7	8							5.25
Range	47-73		Single lives with others 0 Lives with partner 5 Previous married to women 2 Married to man 1	0.5-25							1-12

381 ¹SEEK.com use to categorise occupation: # Indicates employment not categorised in SEEK
382 such as the Arts.²Erectile dysfunction (ED), peripheral vascular disease (PVD), peripheral
383 neuropathy (PN), autonomic neuropathy (AN), binge eating disorder (BED). ³Blood glucose
384 level (BGL) problems – individuals were asked to indicate their average blood glucose level
385 via home measuring device before breakfast, 2 hours post meal, and before bed. Within range
386 was considered 4-8mmol/l. A problem was defined as a blood glucose reading outside 4-8
387 mmol/l.

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