

Qualitative Research

Patient and clinician perspectives of factors that influence the delivery of alcohol brief interventions in Australian primary care: a qualitative descriptive study

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Abstract

Background: Brief interventions (BIs) delivered in primary care can reduce harmful alcohol consumption. Yet, clinicians do not routinely offer BIs to reduce harmful alcohol use.

Objective: We explored the perspectives of clinicians and patients about the use of alcohol BIs during consultations in Australian primary care.

Methods: Semi-structured interviews and focus groups (face-to-face and virtual) were undertaken with 34 general practitioners, eight practice nurses and 17 patients. Field notes were made from audio-recordings and themes were identified using a descriptive qualitative approach with the field notes as the point of data analysis.

Results: Participants identified barriers within the consultation, practice setting and wider healthcare system plus across the community which reduce the delivery of BIs in primary care including: Australian drinking norms; inconsistent public health messaging around alcohol harm; primary care not recognized as a place to go for help; community stigma towards alcohol use; practice team culture towards preventive health, including systems for recording alcohol histories; limitations of clinical software and current patient resources.

Conclusion: Multiple layers of the healthcare system influence the use of BIs in primary care. Identified facilitators for embedding BIs in primary care included: (i) raising community and clinician awareness of the health harms of alcohol, (ii) reinforcing a primary care culture that promotes prevention and, (iii) supportive resources to facilitate discussion about alcohol use and strategies to reduce intake. Alcohol BIs in primary care could be further supported by community public health messages about alcohol use.

Key messages

- There are multiple barriers to clinician use of alcohol BIs in primary care.
- Patients and clinicians recognized similar barriers and facilitators.
- Consultation barriers include lack of time, adequate software and resources.
- Low community awareness of alcohol harms and drinking norms influence BI uptake.
- Facilitators relate to public health messages, practice and consultation systems.
- Public health messages about alcohol harm might support the use of BIs.

Lay summary

Alcohol is a major source of harm in the community and primary care (including family doctor and general practice settings) can play a role in reducing harmful alcohol use. When clinicians talk to their patients about alcohol use, research has shown they can reduce how much they drink each week. We spoke with general practitioners, nurses and patients in Australia to work out what is getting in the way of conversations about alcohol in primary care. We found that both clinicians and patients think we need to raise community awareness about the health harms of alcohol, that there are health system barriers, and there could be better resources to use in consultations. Low-income patients are particularly disadvantaged by financial costs associated with alcohol and counselling services when they seek help. To increase conversations about alcohol in primary care, it could be more helpful to target the broader community, the health system and primary care.

Key words: alcohol use disorder, health disparities, health promotion, health risk behaviours, primary care, screening

Background

Alcohol use is the leading risk factor globally for deaths in those aged 15–49 years (1). The World Health Organization advocates for the use of brief interventions (BIs), which effectively reduce harmful alcohol consumption as a public health approach (2).

A 2018 review provided moderate quality evidence that BIs can reduce alcohol consumption by 20 g per week (3) and these small changes can lead to improvements in community health (4). Brief interventions delivered in about five minutes seem to have similar efficacy to those that take longer (3). Although BIs are ineffective for patients with alcohol use disorders they may help identify patients for referral.

Primary care is often the first point of contact with healthcare for many people who drink at risky levels (5) and in Australia, most primary care is delivered via general practice with over 80% of the population attending at least annually (6). Australia has universal healthcare and most people are able to access a general practitioner [GP] with no out of pocket costs (6).

Rates of screening for alcohol use range between 6% and 46% in different countries and settings (4,7,8) with use affected by government policies (9). Systematic reviews show there is a small, significant benefit for using BIs in primary care (3,5,10,11). The current challenge is to better understand the barriers and facilitators of implementation in the primary care setting (12,13) which is not an uncommon issue across primary care research (14).

Despite lower levels of consumption, people from lower income groups experience higher levels of associated harm compared with higher income groups (15). As there is a lack of research that focuses on effective interventions for people in low-income groups (11), we foregrounded our methods so interventions we develop would be accessible and feasible for low-income groups (16). We explored the perspectives of clinicians and patients on how we can better support the use of BIs for alcohol in primary care.

Methods

A descriptive qualitative study using focus groups and individual interviews of primary care clinicians in Melbourne, and patients from across Victoria, Australia.

Clinician focus groups and interviews

Clinicians and general practice staff were recruited via mailed introductory and follow up letters, followed by a phone call (17); advertisements through local networks; convenience sampling of academic GPs; and social media advertising.

Focus groups were facilitated by a GP-researcher (ES). A research assistant took field notes. We used a semi-structured guide to encourage discussion, which included prompts about patients from low-income groups (18) (Supplementary Material). Existing resources were shared to gauge participants' opinion about their face validity. Telephone interviews used a similar interview guide.

Patient interviews

Patients were invited to interviews rather than focus groups due to the potentially sensitive topic. Patients over the age of 18 years were recruited from social media promoted through a healthcare consumer network as well as a peer support group for people wanting to reduce their alcohol use. Participants needed to be conversant in English, capable of providing consent, and were offered a \$AUD20 honorarium. Participants completed a semi structured interview and a survey with basic demographics and the AUDIT-C (19) for current alcohol consumption (Supplementary Material).

Data collection

Field notes were based on the participant responses and observations; audio-recording was done with consent. The research assistant reviewed these field notes while listening to the recording and added

to them as needed (20). The field notes focused on ideas and concepts raised by participants that could increase clinician use of BIs. After every focus group, and after approximately every third interview, we reviewed the interview/focus group guide to establish if further questions were needed.

All the data collection and analysis occurred between July and November 2019.

Analysis

A coding matrix based on the focus group and interview questions was used to categorize concepts. The field notes were coded in NVivo by a research assistant and reviewed by ES. Summarized findings and early interpretations were discussed with the team. We used regular small team meetings to reflect on the data as well as at two meetings with all the entire investigator team (21). We then developed a diagram informed by the socio-ecological framework (22) to demonstrate the varied levels of the concepts identified in the matrices.

Results

Participants

We recruited 59 participants (17 patients, 34 GPs and eight practice nurses). Nine focus groups were held; six within general practices, two online, and one at a University general practice department (Table 1). We conducted individual telephone interviews with five clinicians who could not attend a focus group, and all patients. Most patients had a current or prior history of heavy alcohol use, though most were classified by the AUDIT-C as current abstainers.

Barriers and facilitators for alcohol BIs in primary care

Barriers and facilitators for BIs occurred at multiple layers of the healthcare system and wider community (Fig. 1). Patients, clinicians

and practice staff had similar views and this is demonstrated via our amalgamated results.

Patient and clinician factors that influence the use of BIs

Insufficient clinician knowledge about alcohol treatment and health harms was a barrier that directly affected the confidence of clinicians to engage in conversations about alcohol. There were many comments about the ‘conflicting evidence’ about how harmful alcohol really is.

You hear about a study where having a glass of red wine is beneficial.

The GPs also spoke about limited information on risk stratification.

it's clear that drinking at a medium or high level is damaging, but at the lower levels, the evidence for abstinence and light drinking is conflicting. (Field note, GP Focus group, Practice visit 2)

Motivational interviewing was consistently raised as the best approach for working with patients. Most GPs felt that they needed training to gain this skill, although recently trained GPs said that it had been part of their curriculum.

GPs' personal experience with alcohol also influenced whether they felt well-equipped to discussing alcohol with patients—either as a non-drinker, as someone who drank themselves, or had family experience of an alcohol dependent person.

[The clinician participant] commented that [Culturally and Linguistically Diverse] GPs, especially those who don't drink or come from a background where drinking isn't acceptable, will find it even harder. (Field note, Focus group, Practice visit 2)

Clinicians and patients generally felt that people were not aware of alcohol-related harms or what a standard drink was.

Table 1. Description of participants recruited for focus groups and interviews: demographics, recruitment and type of data collection (2019)

Participant type	Mode of recruitment	Data collection format	Participant demographics				
			No.	Age (years old)	Gender	Drinking status (AUDIT-C)	Low income
Patients	Online ad/social media	Semi-structured interview	17	1 18–24 3 25–34 1 35–44 5 45–54 5 55–64 2 65–74	10 women 7 men	10 Abstainers 5 Risky drinkers 2 Low-risk drinkers	1 low income status
Participant type	Mode of recruitment	Data collection format	Participant demographics				
			No.	Gender			
General practitioners	Letter (Dillman method), special interest group newsletter advertisement	Practice visit (focus group)	Total—24 (4–9 per group)	9 Men 11 Women 4 missing			
		Online focus group	6	4 Men 4 Women			
		Semi-structured interview	4	1 Man 3 Women			
Practice nurses	As above	Practice visit (focus group)	5	5 Women			
		Online focus group	2	2 Women			
		Semi-structured interview	1	1 Woman			
Other staff (practice managers; reception staff)	As above	Practice visit (focus group)	2	2 Women			

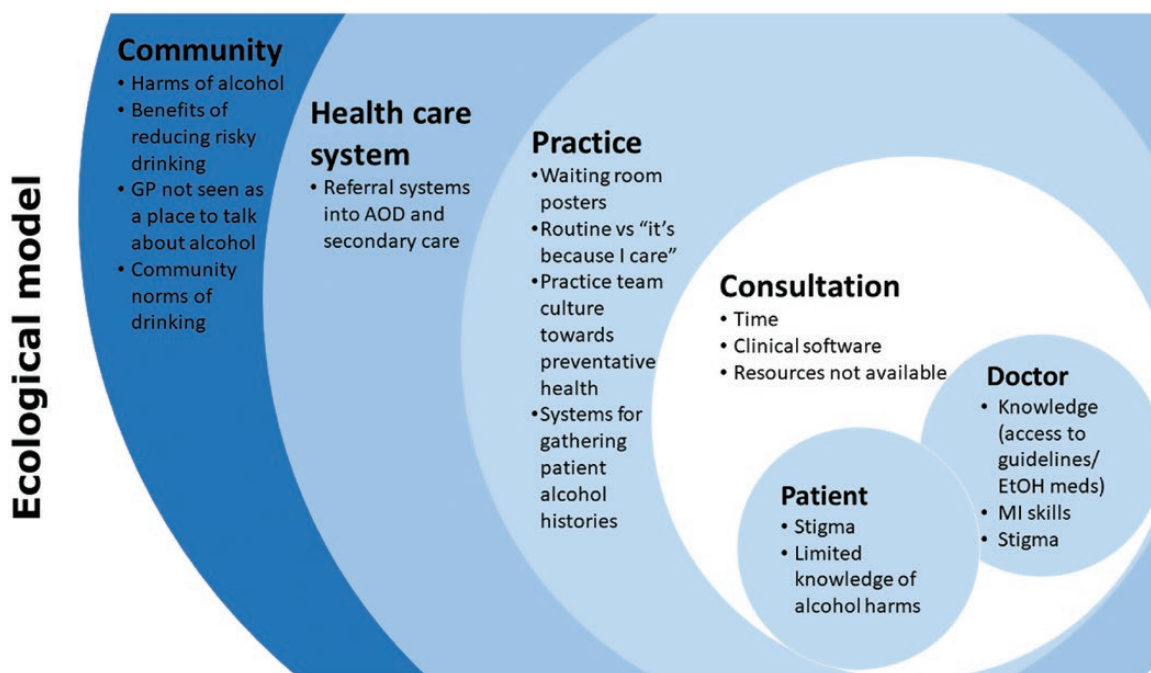


Figure 1. Socio-ecological model showing the barriers to the use of brief interventions for alcohol in primary care.

they don't believe that it's dangerous. They don't, they actually believe that it's fine and they believe that it's fine simply because alcohol is a legal drug". (Patient 12, interview)

This meant that clinicians perceived that patients needed a lot of education about alcohol prior to talking about behaviour change.

For clinicians, concern about potentially provoking feelings of shame were a barrier for asking patients about alcohol. Patients also recognized the potential for negative feelings and some reported poor prior experiences.

Well, I think it's a bit of a taboo subject in a lot of ways... I think it's a valid question. But, the sensitivity around it because not all people, but a lot of people that do have a problem with alcohol (Patient 3, interview)

Factors relating to the consultation

Not unexpectedly, limited time was consistently reported to be a barrier to providing BIs, especially if alcohol dependence was detected.

All GPs felt that didn't have enough time to talk to their patients about alcohol and they were worried that 'it might open up a can of worms and you'll be there for another hour' (Field note, Focus group, Practice visit 5)

I don't think that they have enough time to look at multiple issues on the same day unless I actively went up to them to make a longer appointment". (Patient 2, interview)

At every practice the clinicians said that their clinical software did not allow them to accurately record the patient's alcohol intake:

This software is not the best for recording alcohol because it only allows GPs to record how many drinks people have in a week so they can't accurately record binge drinking etc. (Field note, Focus group, Practice visit 6)

Clinicians felt that asking about smoking at the same time as alcohol was acceptable, but reported that patients appear to be

uncomfortable when asked about alcohol and illicit drugs in the same line of questions. This was true even for a clinician who also worked in an addiction clinic. Most clinicians reflected that they felt patients did not see alcohol and illicit drugs similarly and were concerned about added stigma when packaging the questions together.

Alcohol is usually packaged with other drugs. For people who drink a little more than they should but don't use any other drugs, putting it all together can turn people off. (Field note, online, Focus group 1)

Some patients acknowledged the difficulty that clinicians can have in how they conduct the consultation and some described instances where they have been made to feel judged and shamed.

Patient felt that the GP didn't have experience in the area as they appeared puzzled, didn't know how to help and spent a lot of time on their computer 'trying to figure out what to do with me'. Patient felt that the GP 'had very little tolerance for me. It was almost as though I was an imposition'. (Field note, Patient interview 12)

Practice level factors

Clinicians noted that when their practice had a comprehensive strategy for preventive healthcare it was easier to talk to patients about alcohol. This strategy could include procedures for taking histories, recalling patients for health checks, and the practice 'culture' or attitude towards the management of alcohol and other drug use.

As a practice they have a culture of asking regularly about [preventive health behaviours]; they don't know how they have built this culture; it is probably as they train registrars who stay on; they feel that it is a supportive 'top down' culture that assists (Field note, GPs, Practice visit 3)

Also having systems built into the practice that capture alcohol histories from patients made it part of routine care

and prompted patients and clinicians to have more detailed conversations.

Creating a culture of asking at the practice ('this is just what we do at this practice') and/or having a dedicated person to do the asking (e.g. practice nurse) or reminding GPs to ask would help. (Field note, Clinician interview 4)

Healthcare system factors

Despite Australia's universal healthcare, clinicians noted that it is more difficult to access specialist AOD services for patients without personal private health insurance. This made it harder to get help for patients from low-income groups.

If patients have alcohol dependency issues and the patient has private insurance, they will be referred [to specialist addiction services]. One GP felt that if patients didn't have private insurance it's 'a disaster' (Field note, Practice visit 2)

Public AOD services patients are referred through a centralized intake system, with clinicians stating that they found this process frustrating and time consuming for the patient, and they often had to repeat their story to multiple people before they received management. This frustration was also expressed by nurses who worked in the AOD services.

Another problem is that a patient might do the intake with one person and build some rapport with them during the course of it, but then they might be referred to another for the assessment and then to a clinician for treatment. (Field note, Clinician, Focus group 1)

The central intake is a big problem; it is delaying treatment getting to patients; it has broken down the GP-provider relationship that helps with co-ordination of care; it was meant to help with waiting lists, but her impression is that it has made things much worse (Field note, GPs, Focus group 2)

Community factors

In general, all participants expressed that drinking alcohol is a normal part of Australian culture. There is a generally accepted level of drinking, but this is teamed with individual stigma if you drink more than is considered acceptable.

Stigma but also community acceptance of alcohol (many of his patients have been told by other GPs that it is ok to drink that much, or they just need to reduce a little bit). (Field note, Clinician interview 5)

This mirrored low community understanding of the harms of drinking alcohol that was often compared to smoking where people are very aware of the health risks.

[Clinicians] compared the lack of anti-alcohol campaigns to the large, effective campaigns against smoking and obesity. 'GPs didn't go around educating the community about the risks of smoking'. The fact that patients aren't 'pre-loaded with the risks of drinking' makes it harder for GPs to talk about reducing alcohol. (Field note, Practice visit 2)

I truly believe that there's no reason why ... there can't be similar campaigns for alcohol. And I think when people are made aware, like if I had known the harms of alcohol way before it got hold of me I really would have thought twice". (Quote, Patient interview 12)

Further, many clinicians said that they didn't think that patients viewed general practice as a place to go for advice about alcohol use. Clinicians felt that this also meant that patients don't often raise the issue in a consultation.

Suggestions for increasing the use of BIs in primary care

We presented all participants with ideas about how to better support the use of BIs and also encouraged them to present ideas of their own. Participants suggested including better information for patients and clinicians, practice routines including database management, and broad public health messaging.

Supportive resources

Having resources with accurate and accessible information for patients was important. This could be a paper-based resource given during the consultation, or a weblink to direct patients to after their consultation. It was important that the information was specific for the patient group and was not overwhelming with detail.

plain English sheets on the front of those sorts of things could be helpful. If I do have a query there, I would ask my GP, 'What does this mean'. (Quote, Patient interview 3)

One GP wanted more information on risk so they could confidently tell their patients which type of alcohol was better for them and exactly how much drinking was healthy (and at what point it became unhealthy)". (Field note, Practice visit 2)

The waiting room was identified as an opportunity to prompt patients to think about their alcohol use and discuss it with their clinician.

it has happened to me before that I've been in the waiting room and seen something about a pap smear or and thought, oh, I must remember to ask the doctor about that... So, I think it's a good prompt". (Quote, Patient interview 4)

Building a primary care culture that promotes prevention

Clinicians identified that practice systems can be helpful for capturing alcohol histories and highlighting patients who could benefit from BIs. For example, health assessments and new patients are good opportunities for alcohol history taking. A practice-wide routine can normalize talking about alcohol for both patients and clinicians.

The nurse practitioner felt that normalising alcohol as part of a regular health assessment was important. (Field note, Focus group 1)

Raising community and clinician awareness of the health harms of alcohol

Most participants identified a need for stronger public health messaging around the alcohol harms.

the message should be that there is no safe level of alcohol consumption, just like there is for cigarettes" (Field note, Clinician interview 5)

Public awareness raising campaigns against alcohol would be useful. Patient felt that the messages should include the (1) toxicity of alcohol and risk of dependence, (2) risk of violence. (Field note, Patient interview 7)

I think letterbox drops, I think bill boards, I just think it should be...much more of a government initiative". (Quote, Patient interview 6)

Any public health campaign would also inform and influence GPs as members of the community.

Conclusions

Our work highlights the barriers that exist to BI use in primary care at multiple levels of the healthcare system and within the wider community. This ranges from factors related to the clinician and patient (including stigma and knowledge) to the consultation and practice systems (practice culture, software and clinical processes), and through to the impact that different policies and public health messages can have on the community perceptions of alcohol harms. Costs associated with healthcare was the only specific barrier identified by all participants for patients from low-income groups, however other factors such as health literacy and trust of healthcare providers may also be relevant (23).

Simple educational interventions aimed at upskilling practitioners are unlikely to be successful in the context of system-wide barriers (24,25). By recognizing the multiple layers of the system that influence BI use, as summarized by our ecological model, we can then intervene with different approaches to generate a theoretically and practically sound solution.

Some participants had a perception of 'safer types of alcohol'. This, alongside low awareness of risks, is a barrier to effective intervention in primary care as it contradicts high quality evidence where benefits of alcohol are not seen (26,27). This highlights the role of public messaging to provide accurate information about health harms to the community so that patients are 'primed' with this message prior to seeking healthcare. Public health campaigns could also recognize the prominent cultural enjoyment of alcohol so patients identify with the messages, while being mindful of the pervasive effects of stigma. Any public messages would also reach clinicians as members of the general community. Larger public health campaigns could also normalize the role of primary care clinicians in discussing alcohol.

This research is strengthened by the inclusion of patients and clinicians. Whole-practice focus groups helped to explore practice processes, though some participants may have been uncomfortable to share ideas due to pre-existing hierarchies. Our findings mirror two studies from the USA which also identified system level barriers to the implementation of alcohol BIs in routine practice suggesting that our work has implications outside our local healthcare setting (12,13).

Most patients had a history of heavier alcohol use which may influence their perspectives. We are not able to determine a response rate due to the diverse recruitment strategy. All clinicians reported managing patients from low-income groups, but we only recruited one patient from a low-income background reflecting known difficulty in reaching more vulnerable groups for research. Only four patients were men. We used field notes rather than transcriptions and double-checked field notes against the recordings for fidelity. We used team meetings to maintain positionality and increase reflexivity (20) while maintaining rigour and reducing the likelihood of misinterpretation.

Multiple factors at different levels of the healthcare system influence BIs from the perspective of patients and clinicians. Given how normalized alcohol use is within mainstream Australia, BIs in primary care could be supported by public health messaging educating about harms and encouraging discussions with primary care clinicians.

Supplementary Material

Supplementary material is available at *Family Practice* online.

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Declarations

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References

1. Global Burden of Disease 2016 Alcohol Collaborators. Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *Lancet*. 2018;392(10152):1015–35.
2. World Health Organisation. 'Best Buys' and other recommended interventions for the prevention and control of noncommunicable diseases. Updated Appendix 3 of the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020. Geneva, Switzerland: World Health Organization; 2017 [accessed 2021 March 3]. https://www.who.int/ncds/management/WHO_Appendix_BestBuys.pdf.
3. Beyer FR, Campbell F, Bertholet N *et al*. The cochrane 2018 review on brief interventions in primary care for hazardous and harmful alcohol consumption: a distillation for clinicians and policy makers. *Alcohol Alcohol* 2019; 54(4): 417–27.
4. Harris BR, Yu J. Attitudes, perceptions and practice of alcohol and drug screening, brief intervention and referral to treatment: a case study of New York State primary care physicians and non-physician providers. *Public Health* 2016; 139: 70–8.
5. Dzidowska M, Lee KSK, Wylie C *et al*. A systematic review of approaches to improve practice, detection and treatment of unhealthy alcohol use in primary health care: a role for continuous quality improvement. *BMC Fam Pract* 2020; 21(1): 33.
6. Australian Bureau of Statistics. *Patient Experiences in Australia: Summary of Findings 2019–20*. Canberra, Australia: Australian Bureau of Statistics, 2020.
7. Abreu ÁMM, Jomar RT, Taets GGC, Souza MHDN, Fernandes DB. Screening and brief intervention for the use of alcohol and other drugs. *Rev Bras Enferm* 2018; 71(suppl 5): 2258–63.
8. Venner KL, Sánchez V, Garcia J, Williams RL, Sussman AL. Moving away from the tip of the pyramid: screening and brief intervention for risky alcohol and opioid use in underserved patients. *J Am Board Fam Med* 2018; 31(2): 243–51.
9. Kilian Wells G, Moonie S, Pharr J. Association between alcohol screening and brief intervention during routine check-ups and alcohol consumption among adults living in California. *Arch Psychiatr Nurs* 2018; 32(6): 872–7.
10. Platt L, Melendez-Torres GJ, O'Donnell A *et al*. How effective are brief interventions in reducing alcohol consumption: do the setting, practitioner group and content matter? Findings from a systematic review and metaregression analysis. *BMJ Open* 2016; 6(8): e011473.
11. O'Donnell A, Anderson P, Newbury-Birch D *et al*. The impact of brief alcohol interventions in primary healthcare: a systematic review of reviews. *Alcohol Alcohol* 2014; 49(1): 66–78.
12. McNeely J, Kumar PC, Rieckmann T *et al*. Barriers and facilitators affecting the implementation of substance use screening in primary care clinics: a qualitative study of patients, providers, and staff. *Addict Sci Clin Pract* 2018; 13(1): 8.
13. Barry KL, Blow FC, Willenbring ML, McCormick R, Brockmann LM, Visnic S. Use of alcohol screening and brief interventions in primary care settings: implementation and barriers. *Subst Abuse* 2004; 25(1): 27–36.

14. Foy R, Eccles M, Grimshaw J. Why does primary care need more implementation research? *Fam Pract* 2001; **18**(4): 353–5.
15. Collins SE. Associations between socioeconomic factors and alcohol outcomes. *Alcohol Res* 2016; **38**(1): 83–94.
16. Newman L, Baum F, Javanparast S, O'Rourke K, Carlon L. Addressing social determinants of health inequities through settings: a rapid review. *Health Promot Int* 2015; **30** Suppl 2: ii126–43.
17. Hoddinott SN, Bass MJ. The dillman total design survey method. *Can Fam Physician* 1986; **32**: 2366–8.
18. Krueger RA, Mary AC. *Focus Groups: A Practical Guide for Applied Research*. Thousand Oaks, CA: Sage Publications; 2000.
19. Bush K, Kivlahan DR, McDonell MB, Fihn SD, Bradley KA. The AUDIT alcohol consumption questions (AUDIT-C): an effective brief screening test for problem drinking. Ambulatory Care Quality Improvement Project (ACQUIP). Alcohol Use Disorders Identification Test. *Arch Intern Med* 1998; **158**(16): 1789–95.
20. Tessier S. From field notes, to transcripts, to tape recordings: evolution or combination? *Int J Qual Methods* 2012; **11**(4): 446–60.
21. Huberman A, Miles M. *Qualitative Data Analysis: An Expanded Sourcebook*. 4th ed. Thousand Oaks, CA: Sage Publications, 2018.
22. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q* 1988; **15**(4): 351–77.
23. Lazar M, Davenport L. Barriers to health care access for low income families: a review of literature. *J Community Health Nurs* 2018; **35**(1): 28–37.
24. Kelly MP, Barker M. Why is changing health-related behaviour so difficult? *Public Health* 2016; **136**: 109–16.
25. Chauhan BF, Jeyaraman M, Mann AS, *et al*. Behavior change interventions and policies influencing primary healthcare professionals' practice—an overview of reviews. *Implement Sci* 2017; **12**(1): 3.
26. Stockwell T, Zhao J, Panwar S, Roemer A, Naimi T, Chikritzhs T. Do “moderate” drinkers have reduced mortality risk? A systematic review and meta-analysis of alcohol consumption and all-cause mortality. *J Stud Alcohol Drugs* 2016; **77**(2): 185–98.
27. Zhao J, Stockwell T, Roemer A, Naimi T, Chikritzhs T. Alcohol consumption and mortality from coronary heart disease: an updated meta-analysis of cohort studies. *J Stud Alcohol Drugs* 2017; **78**(3): 375–86.