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Communicating alcohol-related harms through warning labels: A qualitative study among adults in the Netherlands

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Abstract

Background: Alcohol, a toxic substance, contributes to multiple health problems, including premature death, cancers, injuries, and accidents. Different policy strategies exist to decrease alcohol consumption, yet public understanding of alcohol-related harms, in particular cancer risk, remains low. A promising policy option is the use of health warning labels on alcoholic products, however, qualitative research on perceptions and understanding by the local populations is lacking. This qualitative study therefore aimed to better understand the perspectives of the Dutch adult population regarding communicating alcohol-related harms through warning labels.

Methods: Sixteen adults (18–65 years) were recruited using purposive sampling and interviewed based on a pre-developed question protocol. The I-Change Model provided a deductive framework for organising themes, supplemented by inductive coding to capture emergent patterns not predetermined by the model.

Results: Participants generally revealed support for the implementation of health warning labels, although they reported minimal expected changes in their own drinking behaviour. Specific, negatively-framed messages, particularly those including the word 'warning' were perceived as having the most impact. Placing health warnings on the front, alongside an image, and using explicit colours such as yellow and red were considered most effective, although participants' personal preferences regarding acceptability of those characteristics varied.

Conclusion: With the highest levels of alcohol consumption concentrated in the WHO European Region, labelling should be part of a comprehensive national and European public health approach for the benefit of the general public. By combining alcohol health warning labels with other risk-reducing strategies, better health outcomes can be achieved, thereby reducing alcohol-related harm throughout the WHO European Region.

Background

In 2019, alcohol use was responsible for 2.6 million deaths globally, contributing to 4.7% of all deaths worldwide (World Health Organization [WHO], 2024a). Alcohol contributes to multiple health problems, including premature death, cancers, injuries, and accidents (WHO, 2018). It has been shown to increase the risk of seven types of cancer, with approximately 4.3% of all global cancer-related deaths attributable to alcohol in 2019 (Anderson et al., 2023). In the WHO European Region, adults (15 years and older) consumed an average of 9.2 litres of pure alcohol in 2019, surpassing the global average of 5.5 litres (WHO, 2024a). In the Netherlands, 77.5% of the adult population (18 years and older) reported drinking in the last 12 months in 2022, amounting to almost 11 million adults (Trimbos Instituut, 2023).

Different policy strategies exist to decrease alcohol consumption, such as regulating alcohol availability, strengthening marketing and advertising controls, implementing impaired-driving policies, and enacting taxation and pricing regulations (Giesbrecht et al., 2016; WHO, 2019), but they are often poorly implemented (Stockwell et al., 2021). Public understanding and awareness of the health hazards associated with alcohol consumption, in particular of cancer risk, remains notably low (Neufeld et al., 2024; Scheideler & Klein, 2018). A promising policy option involves the incorporation of alcohol health warning labels (AHWLs), informing consumers about the health hazards linked to different products (Giesbrecht et al., 2022). Despite their proven effectiveness in increasing knowledge (Correia et al., 2024), AHWLs are not mandatory in the Netherlands (WHO, 2024b), allowing producers autonomy in self-regulating label information (Trimbos Instituut, n.d.). However, in practice, many products do include industry-

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provided messages such as pregnancy warnings and drink-driving symbols, often in small sized font and with limited visibility, while information on specific health risks (e.g. cancer) is absent (Trimbos Instituut, 2021). Compared to other European countries, the Netherlands aligns with the broader EU context, where the alcohol content is the only mandatory information presented on the label of all alcoholic beverages, as well as the energy value on wines since 2021 (Regulation 2021/2117), and where mandatory health warnings are not common practice (Katsarova, 2025).

Qualitative research in the field of alcohol labelling holds significant value for understanding different perspectives, revealing nuances, and investigating areas that are inaccessible or unsuitable for quantitative research (Pope & Mays, 2019). Recent qualitative studies have explored the acceptability and effectiveness of AHWLs among the general population (Davies et al., 2023; Hassan et al., 2022; Jones et al., 2021; Kemper et al., 2024; Ma et al., 2023; May et al., 2021; Roderique-Davies et al., 2020) , but many of them are focused on English speaking countries, such as the United Kingdom (UK), the United States (US), Australia or New Zealand. To date, no research has focused directly on the perspectives of adults living in the Netherlands regarding AHWLs. Considering potential cultural variations in how different populations perceive and react to alcohol control measures, it is particularly valuable to identify local needs, given they can inform the development of targeted harm reduction strategies, and determine the most effective content of AHWLs (Davies et al., 2022; Kilian et al., 2019). Addressing these gaps, this study aimed to investigate the perspectives of the Dutch adult population regarding communicating the risks of alcohol through warning labels, with focus on the perception of impact of labels on awareness, attitude, and behaviour, as well as views regarding different types of AHWLs.

Methods

Study design

Due to the descriptive and exploratory nature of the study, a qualitative research approach was deployed using semi-structured interviews. This allowed for open-ended questions to be asked within a flexible structure, and encouraged participants to share their thoughts freely (Pope & Mays, 2019). The Consolidated Criteria for Reporting Qualitative Research Checklist (COREQ; Tong et al., 2007) was used to safeguard explicit and comprehensive reporting, and ensure the rigour of the research (Supplementary File 3).

Sampling and recruitment

A purposive sampling strategy was used to capture diverse perspectives, and ensure demographic representation (Pope & Mays, 2019). Participants were eligible if they were of legal alcohol purchase age (18 years and older), spoke the local language of the country (Dutch), and had consumed alcohol at least once in the past year to ensure individuals would be engaging with AHWLs. Six distinct drinking categories were created based on the four drinking classifications established by the Trimbos Instituut (2024), ranging from drinker to heavy drinker (see Supplementary File 4 for additional information). Adults diagnosed with alcohol use disorder were excluded due to the potential sensitivity associated with the subject matter (Coste et al., 2020).

Participants were recruited in person and via email in personal and professional networks, as well as through social media (Instagram) between 25 March and 15 April 2024. Different age categories were included, and equal gender distribution was ensured by purposefully including at least three male and three female participants within the age categories of 18–29 years and 30–49 years, and including two males and two females in the age category of 50–65 years. Sixteen adults living in the Netherlands participated, with no dropout. See Table 1 for the demographic characteristics of the participants. Data saturation was reached after 16 interviews, that is, the point where no new patterns or themes emerged on the key topics of interest (Hennink et al., 2017; Saunders et al., 2018).

Procedure and materials

The study was conducted as a stand-alone study by a female Master's student at the Department of Health Education and Promotion at Maastricht University as part of the Master's curriculum. The researcher had no relationship with any of the respondents before the study, and participants only knew about the research once it was presented to them. The research proposal was approved by the Maastricht University's Ethics Review Committee Health, Medicine and Life Sciences (FHML-REC).

Before the interview, participants received an email containing the informed consent form, which was digitally signed and returned to the researcher. Participants were informed about data anonymisation, the option to withdraw at any time without providing a reason, and assured of confidentiality. Single interviews were conducted via Microsoft Teams and lasted 25 to 35 minutes. No field notes were made and transcripts were not returned to participants for correction. The interview was pilot-tested with a convenience sample of one tester aged 58 years, and adapted based on the comments.

The interview guide (Supplementary File 1) was developed in collaboration with the members of the Alcohol, Illicit Drugs and Prison Health Unit of the WHO/Europe based on following a mixed approach. The constructs of the I-Change Model (de Vries, 2005) provided a theoretical foundation for developing the interview questions, complemented by relevant constructs based on existing labelling research (Kokole et al., 2021). The message content originated from prior research and contributions from the research team, including messages such as: *Alcohol causes cancer*, *Alcohol can harm your unborn baby*, *Warning: alcohol increases the risk of cancer*, and *Enjoy responsibly*. A design expert from the WHO developed the images with different message formats. Figure 1 illustrates an example, with additional examples in Supplementary File 2.

During the interviews, participants were shown example AHWLs to prompt discussion and explore reactions to visual and textual elements, presented via screen sharing (stimuli

available in Supplementary File 2). Questions included participants' knowledge of the risks associated with alcohol consumption and its impact on health, the sources of information that shape their perceptions, and their opinions about different forms and ways of communicating health warning messages. The latter included the type of message, use of signal words, use of causal language, and framing; and for the design, the position of the label, the colour scheme used, the use of images, and the size.

Data analysis

Each recorded interview was transcribed verbatim and the transcript was double checked against the original recording. Participants did not provide feedback on the findings. Transcripts were analysed in the original language following Braun and Clarke's (2006) six-step approach for thematic analysis: (a) familiarisation with the data; (b) generating initial codes; (c) searching for themes; (d) reviewing themes; (e) defining and naming themes, and (f) producing the report (Braun & Clarke, 2006). A codebook was developed together with another researcher and a member of the Alcohol, Illicit Drugs and Prison Health Unit of the WHO. The Integrated Change Model (ICM; de Vries, 2005) served as a deductive framework for providing the base codes, with the informational factors, and with the awareness, motivational, and behavioural factors as the main anchors. The emergence of subthemes within the constructs of the ICM (theory-driven approach) was complemented with additional inductive coding (data-driven approach).

Data were coded by using ATLAS.ti for Windows (version 24.1.0). To ensure rigour and enhance reliability, two researchers independently coded three transcripts. Two interviews were coded together to ensure a complete understanding of the constructs and codes. Any discrepancies were discussed until consensus was reached. Inter-coder reliability (ICR) was calculated for the three interviews, deploying a percentage agreement approach to assess coder overlap. While no universal standard exists for percentage agreement methods (O'Connor & Joffe, 2020), Miles and Huberman (1994) argue 80% across 95% of the coded data as acceptable. This resulted in an ICR of 75%, 81%, and 84%, respectively. Neuendorf (2002) examined the general guidelines for interpreting ICR values, and noted that ICR scores above 0.9 are universally considered acceptable, with scores above 0.8 acceptable to many. This illustrated sufficient agreement to proceed with coding independently.

Results

Findings are organised and presented as themes and subthemes. Five main themes emerged from the analysis. All themes and subthemes, including their illustrative quotes, are displayed in Tables 2 to 6.

Table 1

***Characteristics of participants interviewed* (n = *16*)**

Participant	Gender	Age	Age category	Education	Level of drinking[a]
1	Female	18	18–29	Higher applied education	Heavy drinker
2	Female	24	18–29	Higher applied education	Heavy drinker
3	Female	25	18–29	University	Occasional heavy & occasional excessive drinker
4	Female	31	30–49	University	Heavy drinker
5	Female	36	30–49	Higher applied education	Occasional heavy drinker
6	Female	38	30–49	Higher applied education	Heavy drinker
7	Female	50	50–65	Higher applied education	Drinker
8	Female	56	50–65	Secondary vocational education	Guideline drinker
9	Male	21	18–29	University	Excessive & heavy drinker
10	Male	25	18–29	University	Heavy drinker
11	Male	28	18–29	University	Heavy drinker
12	Male	36	30–49	University	Heavy drinker
13	Male	42	30–49	Higher applied education	Occasional heavy & occasional excessive drinker
14	Male	46	30–49	Secondary vocational education	Heavy drinker
15	Male	54	50–65	Higher applied education	Heavy drinker
16	Male	60	50–65	Higher applied education	Occasional heavy drinker

[a] Six distinct drinking categories were created based on the four drinking classifications established by the Trimbos Instituut (2024); see Supplementary file 4 for additional information

Theme 1 – Alcohol and alcohol-related harm

Associations with alcohol

Most participants expressed a strong sense of enjoyment when contemplating alcohol consumption. The term *gezelligheid* was cited by thirteen participants, with nearly everyone associating alcohol with social events and parties. *Gezelligheid* is a Dutch term reflecting cosiness, warmth, and a sense of friendly, comfortable togetherness. It describes a pleasant atmosphere experienced in a variety of settings, such as spending time with loved ones or engaging in cheerful social interactions.

Knowledge of risks

When asked about the effects of alcohol on health, the majority of participants acknowledged its negative impact on the brain by pointing out how it causes brain cells to die, with two particularly mentioning Korsakoff syndrome. A few also expressed concerns about weight gain and the high sugar content in alcoholic products. A few participants had less understanding (e.g., 'I think it's widely known that it's not good for you, but I don't know all the exact risks' – 31-year-old female; 'Not very much actually, but it won't be good for you' – 21-year-old male). These participants tended to be younger (under 40 years old).

Regarding specific knowledge on cancer, the majority stated that alcohol had a negative influence on its development, though they struggled to articulate the underlying reasons (e.g., 'Yes, there is a relationship between alcohol consumption and cancer, at least as far as I think and somewhat know. But I don't know the exact details' – 60-year-old male). A minority of the respondents considered that drinking in moderation will not 'do much harm' (36-year-old female), indicating a perception that there is only an elevated risk of cancer with high levels of alcohol consumption.

Having trouble articulating the specific harms of alcohol was similar to respondents' knowledge of heart health, where the majority stated that alcohol has 'an influence' on heart health (18-year-old female), but failed to provide the exact details. The rest of the participants stated that they 'don't really know much about the effects on your heart' (42-year-old male).

Furthermore, nearly all participants felt their health was not at risk from alcohol. They identified as occasional drinkers, indicating a general perception that alcohol causes harm only if consumed frequently, in substantial amounts. However, this self-identification conflicts with the data presented in Table 1, which shows most participants were heavy drinkers (defined as at least weekly consumption of four [women] or six [men] drinks at one occasion). This suggests they may have inaccurately assessed their own drinking behaviour, indicating a mismatch between perceived and actual drinking behaviour.

Table 2

Theme 1: Illustrative quotes

Theme & description	Subtheme	Illustrative quotes
Alcohol and alcohol-related harm	***Associations with alcohol***	*'Gezelligheid', that's the first thing that comes to mind. Yes, I think that does fit best when I think of alcohol* (31-year-old female)
Reflects participants' varying opinions and beliefs about the consumption of alcohol and its effects. These views encompassed cultural, social, medical, and personal perspectives on whether alcohol is beneficial, acceptable, or harmful.	***Knowledge of risks***	***General health*** *It's not good for your weight. I know it's not good for your brain either, especially when you're growing* (42-year-old male) *Yes, of course there are risks and it's not very good overall, but I haven't looked into it deeply, so I don't really know the exact risks* (18-year-old female) ***Cancer risk*** *Yes, there is a relationship between alcohol consumption and cancer, at least as far as I think and somewhat know. But I don't know the exact details* (60-year-old male) *Yes, that even one glass would indeed increase the risk of colorectal cancer is, of course, not true* (36-year-old female) ***Heart health*** *And cardiovascular disease, I don't know if it also clogs your arteries and such. I don't know enough about that, but enough to say that it's just not healthy for you* (50-year-old female) ***Perceived own health risk*** *So yes I understand what you mean in terms of asking the question, so to speak, but personally I estimate that health risk to myself now in terms of quantity and what I am consuming, is minimal. But that's ignorance, maybe* (46-year-old male)

Theme 2 – General sentiment towards AHWLs

Attitude to AHWL implementation

Prior to being shown the different warnings developed for the purpose of the study, the participants were asked about their views on the implementation of AHWLs in general. The majority expressed that it would be 'good' (42-year-old male), and 'wise' (36-year-old male) to implement AHWLs. Several participants emphasised the lack of public awareness about the risks associated with alcohol use, suggesting that AHWLs could be an effective means to inform the public.

Despite respondents' positive stance towards AHWLs in general, a minority stated that they were not convinced of their effectiveness They found it 'a little exaggerated' (36-year-old female), and thought it would also 'take away some of the charm of consumption' (54-year-old male). Another participant illustrated how 'confronting people is good' although 'prevention should come from a different angle' (56-year-old female).

Perceived acceptability of AHWLs

When participants were prompted to describe their perceptions of how people around them, including family and friends, would view the implementation of AHWLs, it elicited diverse responses. Some indicated that mandatory AHWLs would be accepted, while others were critical of how others would perceive this approach. Most participants holding this opinion were between the ages of 18 and 36. One participant reiterated that it is not a matter of them finding it acceptable, because you either buy it or you do not, 'and if you don't find it acceptable, then you don't buy it' (27-year-old male).

Attitudes towards existing labelling practices

With regard to existing labelling practice in the Netherlands, the participants were shown the sample label of a Dutch beer bottle of a Dutch brand, including the pregnancy warning symbol and the symbol warning against impaired driving. The majority reported that the symbols on the label were not presented in a way that they would notice. They described how 'this obviously indicates nothing to consumers about the dangers' (36-year-old male), and that they 'don't think anyone actually sees them' (27-year-old male). Some reported they had never noticed the warnings on their drinks before (e.g., 'I can honestly tell you that I have never seen that label.' – 46-year-old male).

Table 3

Theme 2: Illustrative quotes

Theme & description	Subtheme	Illustrative quotes
General sentiment towards AHWLs The collective attitudes and opinions held by the participants regarding the application of HWLs on alcoholic beverages	***Attitude to AHWL implementation***	*In itself, I think that would be a good thing. Yes, I still think that there might be people who are perhaps less informed about it or don't always have it in mind, and that at least offers the chance for everyone to see it again* (38-year-old female)
		That is certainly true, but I don't need to be pointed out by someone else, you know. I get a bit of a feeling like, yeah, as if a society is trying to cover itself against all the risks that exist. Yes, and I don't really believe in that (54-year-old male)
	Perceived acceptability among family and friends	*And it's also so normalised, so I really think that if you show people the immediate consequences, that they would get very angry because it's so normal. That they think, yeah, this isn't such a big deal, it's just normal, why does it need to be on there?* (24-year-old female)
	Attitude towards existing labelling practice	*This obviously indicates nothing to consumers about the dangers* (36-year-old male)

Theme 3 – Perceived influence of AHWLs

General impact of alcohol label on purchase behaviour

When prompted to describe how product labels influence their alcohol purchases overall, most participants reported that they rarely read the label. Those who did read the label reported their attention was predominantly directed towards aesthetic elements rather than the informational content (e.g. text with factual information on beverage content and properties). A few participants stated that 'it's about what's in it after all' (25-year-old female), and refer to selection of beverage as 'purely based on taste' (46-year-old male). However, if they do read it, the majority tend to read the percentage of alcohol in the product, and to lesser extent calorie and sugar content.

Perceived influence of specific AHWLs

After the initial questions, participants were shown five different messages that could potentially be used on AHWLs: *alcohol harms your health*, *alcohol increases the risk of cancer*, *alcohol increases the risk of breast, bowel, throat, and mouth cancer*, *drinking alcohol can harm your unborn baby*, and *alcohol increases risks of violence and abuse*. After viewing these messages, the majority believed

that, if implemented as AHWLs, these messages would likely increase awareness. One respondent noted how such warnings could potentially change the 'public image of alcohol' (27-year-old male).

However, a few participants articulated doubts, suggesting these AHWLs would not have much impact in terms of informing the public or increasing awareness (e.g., 'I think, in my opinion, that's totally ineffective' – 50-year-old male). One participant specifically noted that such health warning labels (HWLs) could be perceived as 'preachy' (42-year-old male), and suggested that people might therefore stop reading the labels altogether. This scepticism was further echoed in participants' perceptions of the influence of HWLs on actual drinking behaviour. Three quarters of respondents asserted that the five presented messages would by no means alter their consumption habits. This was often accompanied by beliefs about possessing adequate knowledge about alcohol. One participant mentioned that the labels might only be effective with repeated exposure.

The question of whether participants would discuss any of these messages with family and friends revealed varying attitudes. Some participants said that they would not discuss them, whereas others indicated that they would definitely do so. Only two participants said they would discuss it with family members but not so much with friends because 'it's not a catchy topic of conversation' (46-year-old male). Others argued for discussing it 'in specific cases, if it stands out that someone is showing problematic alcohol use then it's absolutely time to discuss something like that' (27-year-old male). This participant thereby implied that AHWLs would provide support in discussing alcohol use with individuals exhibiting problematic alcohol behaviour. Several respondents also drew the comparison with the HWLs on cigarette packages, illustrating how it could potentially have an effect if it were to be done similarly.

Table 4

Theme 3: Illustrative quotes

Theme & description	Subtheme	Illustrative quotes
Perceived influence of AHWLs Participants' beliefs and opinions about the effectiveness and impact of AHWLs on knowledge, attitudes, and behaviour. It includes how respondents think these labels affect their own and others' awareness, understanding, and actions regarding health risks associated with alcohol.	***General impact of alcohol label on purchase behaviour***	*Quite a lot. I think I would be more inclined to choose it if it has a nice, cheerful label rather than a very boring one, like a black label with just white letters and a name on it* (18-year-old female) *I think, in my opinion, that's totally ineffective* (50-year-old male) *That depends on how clear the warning label is. If it's a label that's comparable to, for example, the labelling on cigarette packages, then I think it can have a significant impact* (25-year-old male)
	Perceived influence of specific AHWLs	*Yes, I think the benefit would be that maybe for a lot of people it's currently unknown what exactly all the risks are. So, I think it would mainly be about raising awareness* (31-year-old female)

Theme 4 – Content of health warning labels

Topic of message

To investigate the five different types of messages in terms of content, participants were asked what their first impression was of each message separately. *Alcohol harms your health*, was regarded as too general by majority of the respondents, using descriptors such as 'nothing new' (25-year-old female), 'meaningless' (31-year-old female), 'cliché' (25-year-old male), and 'weak' (27-year-old male).

The majority of participants found the message, *alcohol increases the risk of cancer*, more specific and 'thought-provoking' (25-year-old male). One respondent pointed out how the fact that he did not know this despite drinking alcohol for years, albeit in moderation, shows something (e.g., 'I genuinely didn't know, so I think it is worth mentioning' – 42-year-old male). Only two participants articulated that it was still too general and should be more specific, with a few pointing out how it could provoke 'irritation' (50-year-old female).

There was a general tendency of participants to be critical of the message, *alcohol increases the risk of breast, bowel, throat, and mouth cancer*. Although the majority identified this message as most effective to increase their knowledge, many participants opposed it by expressing concerns about its length and potential loss of impact, with adjectives such as 'less catchy' (46-year-old male) and quite 'in your face' (24-year-old female). Additionally, many respondents reiterated that the message was allowed to be included on a AHWL only if it was scientifically proven.

Nevertheless, a few participants stated that the more specific the message the better, thereby 'bringing it closer' and making it 'resonate more' (42-year-old male). This rationale for favouring specificity was articulated repeatedly, as this made it the most tangible and clear for the participants.

The statement *drinking alcohol can harm your unborn baby*, generated diverse opinions. Some participants stated how this is 'common knowledge' (25-year-old male) and 'not referring to everyone' (24-year-old female). Two participants suggested that the warning should be changed to 'is harmful' instead of 'can harm' your unborn baby, to increase impact. A minority was in favour because the warning directly involved an unborn child, illustrating that you are not just affecting yourself, which gives 'food for thought' (38-year-old female).

Table 5

Theme 4: Illustrative quotes

Theme & description	Subtheme	Illustrative quotes
Content of health warning labels Participants' perceptions regarding different variations on the messages presented to them, indicating with regard to the topic of message, signal words, causal language, and framing.	***Topic of message***	***'Alcohol harms your health'*** *I already know this, but okay. This is way too broad it needs to be more specific. Is it harmful to my health? I know. But when? What? How exactly? So, this is too broad, too vague. I won't change my behaviour based on this* (36-year-old male) ***'Alcohol increases the risk of cancer'*** *Yes, you know more specifically, you have a better understanding of what it's about. Health is just a general concept, but the risk of cancer is focused on something specific, and I think it makes more of an impression.* (18-year-old female) ***'Alcohol increases the risk of breast, bowel, throat, and mouth cancer'*** *No, this doesn't appeal to me at all. I find it an unpleasant message and also unpleasant that it would be on something I enjoy.* (54-year-old male) *Well, I think because that third one is the most specific and the most graphic, so to speak. You immediately see what you're risking with it.* (21-year-old male) ***'Drinking alcohol can harm your unborn baby'*** *This is common knowledge* (25-year-old male) *This is not referring to everyone* (24-year-old female) ***'Alcohol increases risks of violence and abuse'*** *If I were to read that, I would think, well, I'm just really fun when I'm drinking, and that doesn't increase the risk of violence. So, it's not that I would relate to this personally, but more to others, I think* (25-year-old female) *It wouldn't stop me from drinking, you know. Something like cancer would make me realise it more than violence and abuse* (21-year-old male)
	Signal words	*I think it unconsciously triggers a bell in the back of your mind. It's like a flag that goes up with, hey, pay attention, alcohol increases the risk of cancer instead of just a notification. So, I think the [word] "warning" does make a contribution* (27-year-old male) *Yes, good. I am much more aware that it's really a warning instead of a random slogan* (25-year-old female)
	Causal language	***'Alcohol causes cancer'*** *Alcohol causes cancer. That's just one-on-one, it happens. I don't think it causes cancer in a hundred percent of the cases. You shouldn't start telling things on a label that aren't entirely accurate* (25-year-old female) ***'Alcohol increases the risk of cancer'*** *That also kind of indicates that the more you consume of that, so to speak, the higher the risk* (38-year-old female) ***'Alcohol can cause cancer'*** *Less strong* (31-year-old female) *Milder* (42-year-old male)
	Framing	*Yes, that last one is of course nice to hear. Go ahead, but take it easy. Look, if you want to encourage people to drink less, then I think that really, well, that makes no sense at all of course* (21-year-old male)

Regarding *alcohol increases risks of violence and abuse*, some participants expressed their doubt about whether this is true since people usually tend to have more fun when drinking. Some expressed how the statement was less impactful compared to the others. A minority, nevertheless, did think the statement was very relevant, as it is often 'overlooked' (24-year-old female), and can therefore function as a 'wake-up call' (42-year-old male). ***Signal words***

Respondents were asked whether the inclusion of the word 'warning' in front of the statement would influence their perception. The majority noted that the term 'warning' triggers and alerts people to a message. Nearly all participants therefore preferred the use of the word 'warning' as opposed to nothing.

Causal language

Participants were asked for their opinions on various expressions indicating causality. The majority of respondents contested the assertion *alcohol causes cancer*, on the grounds that it cannot be stated because it is not correct that alcohol causes cancer in every case.

In contrast, *alcohol increases the risk of cancer* was favoured by the majority and the most 'pleasant to read' (36-year-old female). It also came across best in terms of communicating the risks associated with alcohol consumption However, one participant raised concerns about the scientific evidence for this, and that 'before you do something like that, you should scientifically substantiate it and also make it very clear on TV how it works' (female, 56).

Moreover, *alcohol can cause cancer* was regarded as weak, with adjectives such as 'soft' (24-year-old female), 'less strong' (31-year-old female), and 'milder' (42-year-old-male). Considering all three variants, ten respondents indicated the use of term *increases the risk of* would be preferred as it would have 'the most effect when it comes to the awareness that you can get cancer from it' (60-year-old-male), with the other six reporting the word *causes* to have the most impact.

Framing

Respondents were invited to express their views on framing of the message – positive, negative or ambiguous. The statement *drinking less reduces your risk of getting cancer* – a *positively framed* message, as it focuses on the benefits of reducing alcohol intake – was hard to read for the majority of participants. Half of them noted that the use of the double wording in Dutch is 'less appealing' (38-year-old female), 'confusing' (31-year-old female), and 'oddly worded' (25-year-old-male). Besides its phrasing, the majority noted that it did not resonate and took away the sense of danger. In the context of reducing alcohol consumption, the majority stated that *alcohol increases the risk of cancer* – a *negatively framed* message, emphasising the harm associated with alcohol – would be the best to use among all three statements. It was referred to as 'clear' (60-year-old-male), and 'raised awareness' on the harms of alcohol (36-year-old female). Regarding the statement *enjoy, but drink responsibly* – considered *ambiguous*, as it is open to interpretation and lacks a direct reference to health risks – five respondents said that this was a good statement. However, the rest of the participants were not in favour of using such language as it leaves a lot of room for interpretation, and does not focus on the harmful aspects of drinking. It is 'non-committal' (36-year-old female), and 'less offensive' (27-year-old-male).

Overall, when participants were asked about which of the three framings they preferred, four were in favour of the positive, seven of the negative, and five of the ambiguous.

Theme 5 – Format of health warning labels

Position

Upon viewing two examples of an AHWL, one on the front, and one on the back of the product, respondents unanimously agreed that front placement would have a greater impact. Many noted this aligned with how products are displayed on supermarket shelves, making warnings more noticeable. Additionally, some mentioned that people unconsciously often place their beer with the front facing towards themselves, thereby increasing visibility and impact. Consequently, all participants expressed a preference for AHWLs to be positioned on the front of the label. ***Colour***

Participants expressed diverse opinions on five AHWLs colour schemes, including combinations of red, yellow, black, and white. A few stated that the eye is immediately attracted to the label with a yellow background and red border. However, others questioned whether the most striking colours are always the best to use, referring to them as 'intense' (24-year-old female). Some participants also raised concerns about whether such colours could be approved by regulatory bodies or governmental agencies, given the potential opposition from the alcohol industry. Nevertheless, the majority indicated that red and yellow are the most attention-grabbing and are therefore perceived as most effective, although personal preferences differed.

Image

Three different messages were presented to the respondents: one without an image, one with a warning symbol, and one featuring a graphic image of an ill woman in bed. While most participants found the graphic image the most effective, opinions varied. Participants who opposed the use of graphic image described them with adjectives such as 'terrifying' (25-year-old female), 'going too far' (31-year-old female), with one finding it 'gross' to hold a beer bottle with such images (25-year-old female). In contrast, several participants expressed positive attitudes, emphasising that the messages would be more impactful by enhancing their recognition through image.

In general, the majority of participants expressed that utilising a graphic image to convey the message would be most effective to alter consumption behaviour, with a few participants stating they preferred a warning sign or no accompanying imagery.

Size

Participants were asked what size they would prefer the AHWL to be. They were shown the example in the image

(see supplementary file 2, example 4) that was approximately one-third of the image, and were asked whether the size was suitable or should be larger or smaller. Thirteen respondents indicated that the size was appropriate. It should not be too small because 'then it does not stand out' (25-year-old female), nor should it be too large as it would make people 'less likely to buy the product' (36-year-old-male).

Table 6

Theme 5: Illustrative quotes

Theme & description	Subtheme	Illustrative quotes
Format of health warning labels Participants' perceptions and judgments regarding the position, colour, use of imagery, and size of the AHWL. This encompasses how respondents assess the effectiveness, clarity, and usability of different formats.	***Position***	*Well, I always look at the front and not so much at the back. So indeed, if you want to draw attention, I would definitely put it on the front. And also because the front is where it's displayed on the shelf where you then pick up the product* (36-year-old female)
	Colour	Quotes in-text
	Image	*Yes, good. I think visuals are always more engaging than just text. And especially for people who have difficulty reading, which is a reality, an image makes more of an impact I think than just text* (46-year-old male)
	Size	*I think it is very clear this way. I would neither enlarge nor reduce it, it needs to be readable. Yes, just like this* (54-year-old female)

Discussion

This study aimed to explore the perspectives of adults living in the Netherlands, regarding communicating about alcohol-related harms through warning labels. The results indicate overall support for the implementation of AHWLs, aligning with earlier qualitative studies discovering public support for AHWLs (Thomson et al., 2012; Roderique-Davies et al., 2020; Vallance et al., 2018), but contrasting with qualitative research by Davies et al. (2023) in the UK. Notably, some studies reported mixed results regarding support for AHWLs (Kemper et al., 2024; Ma et al., 2023; Hassan et al., 2022).

Overall, participants demonstrated limited in-depth knowledge of the risks associated with alcohol use, particularly those regarding cancer and heart health. The low awareness of cancer risks aligns with findings from previous national and international studies (Kokole et al., 2023; Scheideler & Klein, 2018; Vallance et al., 2020a; Wiseman & Klein, 2019), although less is known about knowledge on heart health. This might potentially be explained by the conclusions of several studies that indicate the alcohol industry often tends to mislead the public about health risks of alcohol (Petticrew et al., 2018a, 2018b; Vallance et al., 2020b).

Another key finding is participants' perception that AHWLs could increase public awareness about alcohol-related risks. This aligns with previous research showing AHWLs effectively increase knowledge of alcohol's link to cancer (Correia et al., 2024). Additionally, population surveys in the UK (Buykx et al., 2015), and Australia (Bates et al., 2018) found that individuals aware of this link exhibited greater support for alcohol control policies. Due to this association, increasing public support can be considered an alternative role for labelling practices.

On the other hand, none of the participants indicated a willingness to change their own behaviour in response to these warnings. Previous research on impact of alcohol labels on behaviour has shown inconsistent results, with the most recent systematic review indicating that AHWLs have some impact on altering consumer behaviour, although the central question raised by these results is whether it is realistic to expect participants to accurately predict their behaviour without real-life exposure to AHWLs (Zuckermann et al., 2024). The only real-life study with repeated AHWL exposure was the Yukon experiment in Canada (Zhao et al., 2020), which demonstrated a decrease in population alcohol consumption among those who were repeatedly exposed to the AHWLs. Furthermore, participants indicated that AHWLs could stimulate discussions about alcohol with family and friends, a conclusion also reached by prior studies (Correia et al., 2024; Miller et al., 2016).

Although preferences for AHWLs content varied, the results generally supported specific rather than general content, and negatively-framed messages; a conclusion aligning with previous studies (Collymore & McDermott, 2016; Jarvis & Pettigrew, 2013; Miller et al., 2016; Pettigrew et al., 2014). Contrary to the findings of Hall et al. (2019), which indicated public support for the strongest form of causal language ('causes'), participants were not convinced that alcohol causes cancer in 100% of the cases. This aligned with the findings of May et al. (2021), and indicated they understood causality as a one-on-one relationship (alcohol always causes cancer), which they did not find believable.

Regarding placement, there was a generally strong preference for AHWLs placed on the front of the product in order to make more impact, using explicit colours such as red and yellow, and using a message that covers one-third of the label. This result aligns with a previous study where prominently displayed AHWLs were found to be most effective (Coomber et al., 2018). Consistent with prior research, images alongside the warning statement were considered an effective means to reduce consumption (Clarke et al., 2019; Jones et al., 2021; Wigg & Stafford, 2016). It could therefore be argued that despite cultural differences, populations tend to have similar views regarding the most effective format for increasing awareness through warning labels.

In light of these findings, this research contributes to the existing literature by being the first qualitative study to examine the responses of adults living in the Netherlands to AHWLs. Although AHWLs are not mandatory in the Netherlands, many products include small, voluntary symbols that warn against drinking when pregnant and drink-driving (Trimbos Instituut, 2021). This study reveals a gap between current practices and public expectations. It offers valuable insights that can inform targeted policies, and enhances understanding of cross-country differences, helping tailor labelling practices to be more culturally relevant and acceptable.

Future studies might aim to include individuals with a low socioeconomic status and evaluate their perspectives, given that they are disproportionately affected by the harms of alcohol (Collins, 2016). Additionally, labelling by itself cannot solve all the issues associated with alcohol use (Thomson et al., 2012). Hence, future studies should investigate how labelling works in real world settings and how it interacts with other alcohol control policies, as part of a comprehensive national public health approach.

Strengths and limitations

This is the first research of its kind in the Netherlands, providing insights into local perspectives using qualitative methodology, which allowed for capturing a wide variety of views and opinions (Pope & Mays, 2019). Our semi-structured interview design ensured comprehensive coverage of key topics relevant to different aspects of alcohol health warning labels while maintaining the flexibility to explore context-specific considerations and issues raised by individual interviewees. Rather than aiming for ethnographic depth, our pragmatic approach prioritised gathering information directly applicable to current policy debates and identified actionable insights for policy makers and practitioners working on the topic. However, as a result, some potentially relevant areas may not have been explored in as much depth as they might have been under a more unstructured, open-ended approach.

While qualitative research does not seek statistical generalisability, it is important to reflect on the scope and depth of the insights gained. Although equal gender distribution and a broad age range were achieved through purposive sampling, the sample consisted predominantly of heavy drinkers which may have shaped the nature of the perspectives gathered (with heavy drinking being defined as weekly consumption of at least four glasses of alcohol for women or six for men). Individuals from low socioeconomic backgrounds were also lacking, limiting the diversity of viewpoints explored. Similarly, cultural and regional differences were not explored in depth, although understanding their influence on perceptions of AHWLs is crucial for designing effective labelling interventions (Kilian et al., 2019). These limitations affect the breadth of perspectives represented and readers should consider the specific characteristics of the sample when assessing transferability of findings to other contexts. Nevertheless, the researcher mitigated this by acknowledging the importance of the cultural context in influencing perceptions.

Finally, while we conducted interviews with 16 participants, we acknowledge that full thematic saturation on all aspects of the labels may not have been achieved, particularly for exploring variation across different demographic subgroups or contexts. This constraint was partly due to the study being conducted as part of a Master's thesis with associated time and resource constraints. Additional interviews may have revealed further nuances or divergent perspectives.

Conclusion

This study revealed general support for implementing AHWLs in the Netherlands, although the perceived impact on adults' own drinking intentions remained relatively unchanged. Participants generally regarded specific, negatively-framed messages, and the inclusion of the word 'warning' as having the most impact. Additionally, participants considered placing AHWLs on the front of the container alongside an image, and using explicit colours such as yellow and red, as particularly effective. With the highest levels of alcohol consumption concentrated in the WHO European Region, the urgency to address this public health issue is evident. AHWLs can be part of a comprehensive national and European public health approach, designed for reducing alcohol-related harm.

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References

Anderson, B. O., Berdzuli, N., Ilbawi, A., Kestel, D., Kluge, H. P., Krech, R., Mikkelsen, B., Neufeld, M., Poznyak, V., Rekve, D., Slama, S., Tello, J., & Ferreira-Borges, C. (2023). Health and cancer risks associated with low levels of alcohol consumption. *Lancet Public Health*, *8*(1), e6–e7. https://doi.org/10.1016/S2468-2667(22)00317-6

ATLAS.ti Scientific Software Development GmbH. (2023). ATLAS.ti Mac (version 23.2.1) [Qualitative data analysis software]. Retrieved 18-01-2024 from https://atlasti.com

Bates, S., Holmes, J., Gavens, L., de Matos, E. G., Li, J., Ward, B., Hooper, L., Dixon, S., & Buykx, P. (2018). Awareness of alcohol as a risk factor for cancer is associated with public support for alcohol policies. *BMC Public Health*, *18*(1), 688. https://doi.org/10.1186/s12889-018-5581-8

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Buykx, P., Gilligan, C., Ward, B., Kippen, R., & Chapman, K. (2015). Public support for alcohol policies associated with knowledge of cancer risk. *International Journal of Drug Policy*, *26*(4), 371–379. https://doi.org/10.1016/j.drugpo.2014.08.006

Clarke, N., Pechey, E., Mantzari, E., Blackwell, A. K. M., De-loyde, K., Morris, R. W., Munafo, M. R., Marteau, T. M., & Hollands, G. J. (2019). Impact of health warning labels communicating the risk of cancer on alcohol selection: An online experimental study. *Addiction, 116*(1), 41–52. https://doi.org/10.1111/add.15072

Collins, S. E. (2016). Associations between socioeconomic factors and alcohol outcomes. *Alcohol Research : Current Reviews, 38(1), 83–94. https://doi.org/10.35946/arcr.v38.1.11*

Collymore, N. N., & McDermott, M. R. (2016). Evaluating the effects of six alcohol-related message frames on emotions and intentions: The neglected role of disgust. *Journal of Health Psychology*, *21*(9), 1907–1917. https://doi.org/10.1177/1359105314567910

Coomber, K., Hayley, A., & Miller, P. G. (2018). Unconvincing and ineffective: Young adult responses to current Australian alcohol product warnings. *Australian Journal of Psychology*, *70*(2), 131–138. https://doi.org/10.1111/ajpy.12177

Correia, D., Kokole, D., Rehm, J., Tran, A., Ferreira-Borges, C., Galea, G., Likki, T., Olsen, A., Neufeld, M. (2024). Effect of alcohol health warning labels on knowledge related to the ill effects of alcohol on cancer risk and their public perceptions in 14 European countries: An online survey experiment. *Lancet Public Health, 9*(7), E470–E480 https://doi.org/10.1016/S2468-2667(24)00102-6

Coste, S., Gimenez, L., Comes, A., Abdelnour, X., Dupouy, J., & Escourrou, E. (2020). Discussing alcohol use with the GP: A qualitative study. *BJGP Open*, *4*(2). https://doi.org/10.3399/bjgpopen20X101029

Davies, E. L., Cooke, R., de Visser, R. O., & Conroy, D. (2023). Calling time on responsible drinking: A qualitative study of perceptions of information on alcohol product labels. *British Journal of Health Psychology*, *28*(2), 320–337. https://doi.org/10.1111/bjhp.12627

Davies, E. L., Foxcroft, D. R., Puljevic, C., Ferris, J. A., & Winstock, A. R. (2022). Global comparisons of responses to alcohol health information labels: A cross sectional study of people who drink alcohol from 29 countries. *Addictive Behaviors*, *131*, 107330. https://doi.org/10.1016/j.addbeh.2022.107330

De Vries, H., Mesters, I., van de Steeg, H., & Honing, C. (2005). The general public's information needs and perceptions regarding hereditary cancer: An application of the Integrated Change Model. *Patient Education and Counseling,56*(2), 154–165. https://doi.org/10.1016/j.pec.2004.01.002

Giesbrecht, N., Reisdorfer, E., & Rios, I. (2022). Alcohol health warning labels: A rapid review with action recommendations. *International Journal of Environmental Research and Public Health*, *19*(18). https://doi.org/10.3390/ijerph191811676

Giesbrecht, N., Wettlaufer, A., Simpson, S., April, N., Asbridge, M., Cukier, S., Mann, R. E., McAllister, J., Murie, A., Pauley, C., Plamondon, L., Stockwell, T., Thomas, G., Thompson, K., & Vallance, K. (2016). *Strategies to reduce alcohol-related harms and costs in Canada: A comparison of provincial policies. International Journal of Alcohol and Drug Research, 5*(2), 33–45. https://doi.org/10.7895/ijadr.v5i2.221

Hall, M. G., Grummon, A. H., Maynard, O. M., Kameny, M. R., Jenson, D., & Popkin, B. M. (2019). Causal Language in Health Warning Labels and US Adults' Perception: A Randomized Experiment. *American Journal of Public Health*, *109*(10), 1429–1433. https://doi.org/10.2105/AJPH.2019.305222

Hassan, L. M., Parry, S., & Shiu, E. (2022). Exploring responses to differing message content of pictorial alcohol warning labels. *International Journal of Consumer Studies*, *46*, 2200–2219. https://doi.org/10.1111/ijcs.12779

Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code saturation versus meaning saturation: How many interviews are enough? *Qualitative Health Research*, *27*(4), 591–608. https://doi.org/10.1177/1049732316665344

Jarvis, W., & Pettigrew, S. (2013). The relative influence of alcohol warning statement type on young drinkers' stated choices. *Food Quality and Preference*, *28*(1), 244–252. https://doi.org/10.1016/j.foodqual.2012.08.011

Jones, D., Moodie, C., Purves, R. I., Fitzgerald, N., & Crockett, R. (2021). Health information, messaging and warnings on alcohol packaging: A focus group study with young adult drinkers in Scotland. *Addiction Research & Theory, 29*(6), 469–478. https://doi.org/10.1080/16066359.2021.1884229

Katsarova, I. (2025). Alcohol labelling: State of play. In *EPRS | European Parliamentary Research Service* (Report PE 772.871). Retrieved 27-01-2024 from https://www.europarl.europa.eu/RegData/etudes/BRIE/2025/772871/EPRS_BRI(2025)772871_EN.pdf

Kemper, J., Rolleston, A., Matthews, K., Garner, K., Lang, B., Jiang, Y., Mhurchu, C. N., Walker, N. (2024). Perception is reality: Qualitative insights into how consumers perceive alcohol warning labels. *Alcohol and Alcoholism, 59*(5). https://doi.org/10.1093/alcalc/agae053

Kilian, C., Manthey, J., Moskalewicz, J., Sieroslawski, J., & Rehm, J. (2019). How attitudes toward alcohol policies differ across European countries: Evidence from the

Standardized European Alcohol Survey (SEAS). *International Journal of Environmental Research and Public Health, 16*(22). https://doi.org/10.3390/ijerph16224461

Kokole, D., Anderson, P., & Jane-Llopis, E. (2021). Nature and potential impact of alcohol health warning labels: A Scoping Review. *Nutrients*, *13*(9). https://doi.org/10.3390/nu13093065

Kokole, D., Ferreira-Borges, C., Galea, G., Tran, A., Rehm, J., & Neufeld, M. (2023). Public awareness of the alcohol-cancer link in the EU and UK: A scoping review. *European Journal of Public Health*, *33*(6), 1128–1147. https://doi.org/10.1093/eurpub/ckad141

Ma, Z., Hintz, E. A., & Cassano, B. (2023). "You are telling the story yourself": Defining and developing narrative pictorial warning labels. *Health Communication, 39*(12), 2920–2930. https://doi.org/10.1080/10410236.2023.2293324

May, N J., Eliott, J., Crabb, S. (2021). 'Alcohol causes cancer': A difficult message for Australians to swallow, *Health Promotion International, 37*(1). https://doi.org/10.1093/heapro/daab024

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications, Inc.

Miller, E. R., Ramsey, I. J., Baratiny, G. Y., & Olver, I. N. (2016). Message on a bottle: Are alcohol warning labels about cancer appropriate? *BMC Public Health*, *16*(1), 139. https://doi.org/10.1186/s12889-016-2812-8

Neuendorf, K. A. (2002). *The content analysis guidebook*. Sage Publications.

Neufeld, M., Kokole, D., Correia, D., Ferreira-Borges, C., Olsen, A., Tran, A., & Rehm, J. (2024). How much do Europeans know about the link between alcohol use and cancer? Results from an online survey in 14 countries. *BMC Research Notes, 17*(1), 56. https://doi.org/10.1186/s13104-024-06707-w

O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, *19*. https://doi.org/10.1177/1609406919899220

Petticrew, M., Maani Hessari, N., Knai, C., & Weiderpass, E. (2018a). How alcohol industry organisations mislead the public about alcohol and cancer. *Drug and Alcohol Review*, *37*(3), 293–303. https://doi.org/10.1111/dar.12596

Petticrew, M., Maani Hessari, N., Knai, C., & Weiderpass, E. (2018b). The strategies of alcohol industry SAPROs: Inaccurate information, misleading language and the use of confounders to downplay and misrepresent the risk of cancer. *Drug and Alcohol Review*, *37*(3), 313–315. https://doi.org/10.1111/dar.12677

Pettigrew, S., Jongenelis, M., Chikritzhs, Tanya , Slevin, T., Pratt, I. S., Glance, D., & Liang, W. (2014). Developing cancer warning statements for alcoholic beverages. *BMC Public Health*, *14*(786). https://doi.org/10.1186/1471-2458-14-786

Pope, C., & Mays, N. (2019). *Qualitative Research in Health Care (4th Ed.)*. Wiley. https://doi.org/10.1002/9781119410867

Roderique-Davies, G., Davies, N., Stone, B., Jones, S., Leeworthy, S., & John, B. (2020). Investigating the impact of changing health messages on alcohol products. *Journal of Substance Use, 25*(6), 598–604. https://doi.org/10.1080/14659891.2020.1749948

Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B., Burroughs, H., & Jinks, C. (2018). Saturation in qualitative research: Exploring its conceptualization and operationalization. *Quality & Quantity*, *52*(4), 1893–1907. https://doi.org/10.1007/s11135-017-0574-8

Scheideler, J. K., & Klein, W. M. P. (2018). Awareness of the Link between Alcohol Consumption and Cancer across the World: A Review *Cancer Epidemiology, Biomarkers & Prevention*, *27*(4), 429–437. https://doi.org/10.1158/1055-9965.EPI-17-0645

Stockwell, T., Giesbrecht, N., Vallance, K., & Wettlaufer, A. (2021). Government options to reduce the impact of alcohol on human health: Obstacles to effective policy implementation. *Nutrients*, *13*(8), 2846. https://doi.org/10.3390/nu13082846

Thomson, L. M., Vandenberg, B., & Fitzgerald, J. L. (2012). An exploratory study of drinkers views of health information and warning labels on alcohol containers. *Drug and Alcohol Review*, *31*(2), 240–247. https://doi.org/10.1111/j.1465-3362.2011.00343.x

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

Trimbos Instituut. (2023, November 15). *11.2 Gebruik: Volwassenen* [Use: Adults]. Retrieved 25-01-2024 from https://www.nationaledrugmonitor.nl/alcohol-laatste-feiten-en-trends/

Trimbos Instituut. (2024). *Cijfers alcohol* [Alcohol figures]. Retrieved 23-01-2024 from https://www.trimbos.nl/kennis/cijfers/alcohol/

Trimbos Instituut. (2021, November 15). *Meer informatie op etiketten van alcohol wenselijk* [More information on alcohol labels desirable]. Retrieved 10-06-2025 from https://www.trimbos.nl/actueel/nieuws/meer-informatie-op-etiketten-van-alcohol-wenselijk/

Trimbos Instituut. (n.d.). *Zelfregulering alcoholetikettering in EU, VK en Nederland* [Self-regulation of alcohol labelling in the EU, UK and the Netherlands]. Retrieved 25-01-2024 from https://www.trimbos.nl/kennis/alcohol/alcoholetiketteringzelfregulering-van-alcoholetikettering-in-eu-vk-en-nederland/

Vallance, K., Romanovska, I., Stockwell, T. R., Hammond, D., Rosella, L. C., & Hobin, E. (2018). "We have a right to know": Exploring consumer opinions on content, design and acceptability of enhanced alcohol labels. *Alcohol and Alcoholism*, *53*, 20–25. https://doi.org/10.1093/alcalc/agx068

Vallance, K., Stockwell, T. R., Zhao, J., Shokar, S., Schoueri-Mychasiw, N., Hammond, D., Greenfield, T. K., McGavock, J. M., Weerasinghe, A., & Hobin, E. (2020a). Baseline assessment of alcohol-related knowledge of and support for alcohol warning labels among alcohol consumers in Northern Canada and associations with key sociodemographic characteristics.

Journal of Studies on Alcohol and Drugs, *81(2), 238–248. https://doi.org/10.15288/jsad.2020.81.238*

Vallance, K., Vincent, A., Schoueri-Mychasiw, N., Stockwell, T., Hammond, D., Greenfield, T. K., McGavock, J., & Hobin, E. (2020b). News media and the influence of the alcohol industry: An analysis of media coverage of alcohol warning labels with a cancer message in Canada and Ireland. *Journal of Studies on Alcohol and Drugs*, *81*(2), 273–283. https://doi.org/10.15288/jsad.2020.81.273

World Health Organisation. (2018). *Global status report on alcohol and health 2018*. Geneva: World Health Organization; 2018. Licence: CC BY-NC-SA 3.0 IGO. Retrieved 11-01-2024 from https://iris.who.int/server/api/core/bitstreams/9530de1c-1fd2-4c20-a167-ec6ba7cb00c3/content

World Health Organisation. (2019). *10 areas governments could work with to reduce the harmful use of alcohol*. Retrieved 23-01-2024 from https://www.who.int/news-room/feature-stories/detail/10-areas-for-national-action-on-alcohol

World Health Organisation. (2024a). *Global status report on alcohol and health and treatment of substance use disorders*. Geneva: World Health Organization; 2024. Licence: CC BY-NC-SA 3.0 IGO. Retrieved 03-02-2024 from https://iris.who.int/server/api/core/bitstreams/32b161e9-5683-40f5-a1c3-1c92a76d5cda/content

World Health Organisation. (2024b). *Health warning labels on alcoholic beverages in the WHO European Region in 2024.* Retrieved 23-10-2024 from https://www.who.int/europe/publications/m/item/health-warning-labels-on-alcoholic-beverages-2024

Wigg, S., & Stafford, L. D. (2016). Health warnings on alcoholic beverages: Perceptions of the health risks and intentions towards alcohol consumption. *Plos One*, *11*(4), e0153027. https://doi.org/10.1371/journal.pone.0153027

Wiseman, K. P., & Klein, W. M. P. (2019). Evaluating correlates of awareness of the association between drinking too much alcohol and cancer risk in the United States. *Cancer Epidemiology, Biomarkers & Prevention*, *28*(7), 1195–1201. https://doi.org/10.1158/1055-9965.EPI-18-1010

Zhao, J., Stockwell, T., Vallance, K., & Hobin, E. (2020). The effects of alcohol warning labels on population alcohol consumption: An interrupted time series analysis of alcohol sales in Yukon, Canada. *Journal of Studies on Alcohol and Drugs*, *81*(2), 225–237. https://doi.org/10.15288/jsad.2020.81.225

Zuckermann, A. M. E., Morissette, K., Boland, L., Garcia, A. J., Domingo, F. R., Stockwell, T., & Hobin, E. (2024). The effects of alcohol container labels on consumption behaviour, knowledge, and support for labelling: A systematic review. *Lancet Public Health, 9*(7), e481–e494. https://doi.org/10.1016/s2468-2667(24)00097-5