RARHA Delphi survey

"Low risk" drinking guidelines as a public health measure

RARHA

REDUCING ALCOHOL RELATED HARM

NATIONAL INSTITUTE
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RARHA Delphi survey: "Low risk" drinking guidelines as a public health measure

Background and methodology

Joint Action on Reducing Alcohol Related Harm (RARHA) brings together all EU member states as well as Iceland, Norway and Switzerland to joint work to strengthen the knowledge base for reducing alcohol related harm. RARHA is co-funded by the European Commission and by the participant countries. Most partners are expert organizations under national ministries of health.

One of Joint Action RARHA's core Work Packages – WP5 "Guidelines" – aims to clarify the science underpinnings as well as practical and policy implications concerning low risk drinking guidelines, and work towards consensus on good practice principles in the use of drinking guidelines as a public health measure to help reduce alcohol related harm. Work Package "Guidelines" is co-led by the Finnish Institute for Health and Welfare (THL) and the Italian Istituto Superiore di Sanità (ISS). The work is divided in separate tasks, with THL and ISS as well as the Irish Health Service Executive (HSE) and Health Research Board (HRB), and Eurocare as task leaders. (See Annex 1 for a list of WP5 partners.)

1. Purpose of the RARHA Delphi survey around "low risk" drinking

Guidelines on low-risk drinking – advice to alcohol consumers on how much alcohol may be relatively safe to drink – have been issued by health bodies in many countries. Drinking guidelines are used as part of brief interventions targeted at high risk drinkers or disseminated as advice to alcohol consumers more broadly, with the focus on either "high" or "low" risk of harm from alcohol. Examples of "low-risk" guidelines for the general population include the national guidelines revised in Australia in 2009 (National Health and Medical Research Council 2009) and the national guidelines launched in Canada in 2011 (Canadian Centre on Substance Abuse 2013).

Among European countries, there is a lot of variation in the levels of drinking defined as low/high risk and in the national defitinions of "standard drink" ("unit" in the UK), a measure used to quantify the amount of alcohol consumed. This may cause confusion among consumers who encounter on the internet or on alcoholic product labels standard drink information or drinking guidelines targeted to another market.

Work in RARHA aims to clarify reasons behind the variation in low risk drinking guidelines and to explore whether some degree of consensus could be achieved in this area. A Delphi survey around "low risk" drinking, carried out in two rounds in 2015, was a step towards that aim.

To inform the work in RARHA, a series of working papers were produced to update and summarize the scientific basis as well as current definitions and practices.[1] Information on definitions and practices in partner countries was obtained by contacting members of the EU Committee on National Alcohol Policy and Action, an expert group comprising representatives designated by Member States (Committee on National Alcohol Policy and Action 2008).

Background for the Delphi survey was provided in particular by:

- An update on current guidelines on the level of "low risk" alcohol consumption (daily or weekly average and maximum for single occasions) including age, gender or situation-specific guidelines (Scafato & al. 2014);
- An overview of country-based practices in defining a "standard drink", public understanding of the definition, and informant views on the usefulness of a common definition of "standard drink" as opposed to current variation country by country (Coughlan & Doyle 2015);
- A summary of research on practical aspects of the "standard drink" measure (definitions, consumers' perceptions and the size of actual drinks poured) and on uses of "standard drink" in drinking habits surveys and in alcoholic beverage labelling (Mongan & Long 2015);
- A summary of science underpinnings for identifying low-risk drinking levels, including calculations of the absolute risk of premature death (at the age of 15-75 years) from an alcohol-attributable cause for various levels of alcohol intake over the life course in Estonia, Finland, Germany, Hungary, Ireland, Italy and Poland (Rehm & al. 2015).

It is worth noting that two Delphi surveys were carried out as part of RARHA's WP5 "Guidelines", each with a distinct focus and each addressed to a different panel of experts. In parallel with the Delphi survey reported here, a separate survey was carried out by the Coordination Office for Drug-Related Issues of Landschaftsverband Westfalen-Lippe, focused specifically on guidelines regarding drinking by young people (Steffens & Sarrazin 2016). The results of both Delphi surveys were presented in a RARHA Expert Meeting in February 2016[2] and will feed into Joint Action RARHA's final products towards the end of 2016.

2. The Delphi methodology

The Delphi methodology is designed to provide material for decision making in particular regarding complex issues that do not lend themselves to precise analysis.

> *"Delphi may be characterized as a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem."* (Linstone & Turoff 2002)

The approach was initially developed for technology and business forecasting. The Delphi process consists of two or more survey rounds addressed to a panel of experts. The panelists may be asked to assess the likelihood and/or desirability for certain developments and present arguments to back up their views. The responses are analysed and circulated back to the panelists before the next round. The iterative approach enables panelists to revise their positions and arguments in light of the replies from others or present further arguments to back up their own views.

[1] RARHA working papers and publications are available at www.rarha.eu

[2] https://www.thl.fi/fi/tutkimus-ja-asiantuntijatyo/hankkeet-ja-ohjelmat/joint-action-on-reducing-alcohol-related-harm-rarha-/wp5-haittariskit/expert-meeting-2016

Delphi surveys are carried out anonymously. Anonymity enables to focus on issues and arguments while minimizing the effect of speaker status and group dynamics. Ideally, panelists would converge towards the best arguments and the process would lead to some degree of consensus. In forecasting studies agreement between experts is assumed to increase the accuracy of predictions. As a consensus-seeking method the Delphi process has also been used to help develop guidelines and standards in various fields.

In the policy Delphi approach, experts with divergent views and backgrounds are brought together to critically examine a given issue (Turoff 2002; Rayens & Hahn 2000). The experts may be asked to consider various options for action, to generate pro and con arguments and to assess the consequences and acceptability of alternative courses of action. The process enables to facilitate consensus and at the same time capture differing views and gain some insight into the reasons behind. The purpose is not to shift the responsibility for decision-making to experts but to have an informed group display the options, evidence and arguments and thereby provide direction and help formulate policy decisions.

The Delphi methodology has been used in the public health field to shed light on a range of issues, including alcohol, tobacco and other drugs (e.g. Gandin & al. 2015; Warpenius & al. 2015; Uhl & al. 2013; Heather & al. 2004). While all Delphi studies are future-oriented the balance of emphasis between forecasting and policy as well as the study design and implementation vary from one study to the next.

3. Development and implementation of the RARHA Delphi survey

The RARHA Delphi survey around "low risk" drinking was developed by the Finnish Institute for Health and Welfare (THL) in cooperation with RARHA partners. Altogether 22 partners, representing 16 partner organizations based in 15 countries, participated in the development group for the "low risk" Delphi survey. (See Annex 2 for the list of participants.) While the whole group made important contributions to the Delphi process, special credit is due to RARHA partners Pia Mäkelä and Claudia Gandin and to Katariina Warpenius, a Delphi expert with THL, for accurate and insightful inputs.

The purpose of the Delphi survey addressed to a European panel of experts was to go beyond RARHA partners' expertise to gain deeper insight on key issues in order to structure informed policy discussion (Montonen 2014). The key issues were initially defined as:

- The provision of information on "low risk" drinking levels to the population with the aim to help reduce alcohol related harm.
- The justification for complementing information on risks related to average regular consumption of alcohol with information on risks to specific subgroups or in specific situations.
- The types of health related consumer information that could be provided for example on alcoholic product labels to support broader risk communication.

A work meeting of interested RARHA partners, hosted by the Irish Health Service Executive in Dublin in January 2015, convened to discuss the scope and themes of the Delphi survey as well as the strategy for recruiting experts. Based on the results, questions for the first round of the Delphi survey were drafted and feedback was invited from work meeting participants.

The survey was implemented using the web-based eDelfoi tool.[3] Valuable advice on method and technique was provided by Hannu Linturi, a key developer of the eDelfoi concept. The eDelfoi tool was first tested by participants of the Dublin work meeting and others to get an idea of the types of questions supported by the application.

Various types of questions were used. In some cases the panelists were prompted to select arguments they agree with or invited to rank given points in order of importance or relevance. Points and arguments were derived from the background work carried out in RARHA or from published literature. The possibility to add a comment, further argument or option was offered on most items. In some cases open-ended questions were presented, for example inviting the panelists to present pro and con arguments. The desirability or usefulness of certain courses of action was measured on a scale. On a few issues related to the determination of what would constitute a "low" level of risk from alcohol consumption, a stimulus text was provided or background reading was suggested (and provided as additional document, see Annexes 3-4 for examples).

The first round of the survey was open for response for 10 weeks in April–June. The panelists were allowed to access the eDelfoi platform at their convenience, to answer the questions in any order they wish, to change previously entered answers and to skip any questions they considered outside their range of expertise. As the number of respondents per item varies, the results should be looked at with emphasis on rating or order of magnitude rather than exact numbers.

A lot of comments were provided in the first round, totalling 16 300 words, equivalent to 65 pages text (using the standard of 250 words per page).[4] The comments were subjected to qualitative analysis and used as the basis for new or re-formulated questions in the second survey round. Feedback on a first draft for second round questions was again sought from RARHA partners and others.

In the second round of the survey, results of the first round were fed back to the panelists in the form of graphs, verbal summaries and illustrative quotations from comments, accompanied by follow-up or repeat questions. The purpose of repeat questions was to capture any shifts in stances on fundamental issues, for example, should guidelines on "low risk" drinking be provided to the general population, or on directly policy-related issues, such as requiring alcoholic beverage packages and advertisements carry messages about health or safety risks.

> For example, the question whether or not "low risk" drinking guidelines should be gender-specific was introduced in the first round with a graph illustrating the current situation in RARHA partner countries whereby the level defined as "low risk" is typically lower for women than for men. As further stimulus, the approaches of the recent Canadian and Australian guidelines were described, the former specifying a different "low risk" level for women and men and the latter advising the same maximum level for both. Panelists were asked whether they thought the specification for "low risk" level should be different for women and men and invited to add their own justifications. First round responses indicated a clear majority in favour of gender-specific guidelines. In the second round, a graph illustrating the result was presented, along with a summary of the main arguments given by the panel in the first round in support of either gender-specific or a single "low risk" specification. Against this backdrop, the panelists were invited to consider again their stance on this issue and add further comments. (Annex 3)

[3] The eDelfoi environment © Futunet, Metodix & Internetix 2009. (http://www.edelphi.fi/en/)

[4] In this report, quotations from comments are mostly presented in italics. Minor changes in wording are indicated with square brackets and occasional cuts are marked with - - -.

In the first round, questions related to health related information that could be provided on alcoholic beverage packages were mainly developed based on points brought up by respondents in the RARHA background survey on "standard drink" practices. As the Delphi survey's first round responses gave a fairly clear picture of broadly shared views, only repeat questions on support for information-giving policies were presented in the second round.

Follow-up questions were used to clarify conceptual issues and to deal with methdological challenges. A further purpose was to stimulate reflection on the possibility for European public health bodies to move toward a common concept of "low risk" drinking. With this in mind, one item in the second round was designed as asynchronous online discussion, enabling the panelists to see and react to the comments entered by others. While the number of comments entered on this item was greater than average, interaction between the panelists remained minimal.

While the themes addressed in the first and second round of the survey remained the same, the structure and order of items was changed somewhat (Annex 5). A main difference was a group of items focused on "low risk" communication aspects, included in the second round only.

> In the first round, the rationale for "low risk" drinking guidelines was addressed through a question where panelists were asked to select from a list of pro and con arguments those they considered valid, and add further points. Many doubts expressed by panelists regarding the use of "low risk" drinking guidelines and many suggestions for wider aspects that should be taken into account seemed to concern the way the guidelines would be communicated to the public and professionals rather than the scientific basis for defining "low" risk. Some commentators seemed to suggest that well designed communication could help prevent counterproductive interpretations and effects among the population. Points raised in first round comments were condensed and modified to create for the second round a series of items focussed on: points to highlight in "low risk" communication to prevent unwanted effects; at-risk groups or high-risk situations that call for caution; situations in which no alcohol is advisable; particular harms to highlight in "low risk" communication; and what message should be communicated about positive health effects of alcohol. In each item, panelists were requested to select from a list based on first round comments the points they considered the most relevant, useful or important to highlight. As regards positive health effects of alcohol, the first round comments did not provide sufficient basis for creating a list, so this aspect was addressed through an open-ended question.

The second round included some totally new questions. For example, the need for age-based guidelines was addressed in the first round only from the perspective of reducing harm from alcohol among young people. The need to provide guidelines for alcohol consumption by older people too was highlighted in some comments. In the second round, an open-ended question on the need for separate guidelines for older people was added.

Another new question concerned the validity of epidemiological study of alcohol related risks. The point was raised in the first round in just a few comments in but as it was of a fundamental nature it was considered important to invite the broader panel's views. The second round started with the question "Is there adequate scientific basis for "low risk" drinking guidelines". Examples of skeptical comments from the first round were presented, along with counter-arguments derived from published literature. Panelists were invited to select the counter-arguments, if any, they agree with and to add further comments. Follow-up questions were developed to address points raised by several panelists in the first round relating to methodology and epidemiology, focusing on mortality or morbidity and taking into account benefits of alcohol use.

One of the partners participating in the preparatory phase of the Delphi survey stressed the need to recruit a diversified panel of experts, quoting Murray Turoff, an early developer of the policy Delphi approach : "*It is also a good idea to mix in a couple of lateral thinkers - - - i.e. those individuals who always manage to come up with the unexpected*." In this Delphi survey, some non-mainstream points expressed in comments did provide material for new and follow-up questions to test the wider panel's views. Some other points, however, were not taken up. One of the panelists suggested repeatedly an alternative approach whereby the definition of "low risk" would be specific to the drinker, their drinking pattern and the specific situation (Annex 6). The feasibility of this example of "lateral thinking" was not submitted to scrutiny by the panel as it is was considered too far removed from the population-based and public health policy-oriented approach of Joint Action RARHA.

The second survey round was open for response for six weeks in October–December 2015. Plenty of free-format comments were entered again, although not as much as in the first round: the second round comments totalled 11 600 words , equivalent to 46 pages text.

In February 2016, the panelists were invited to give feedback on a draft report summarising the results of the "low risk" drinking Delphi survey. Feedback was received from more than 20 panelists. While a couple of panelists repeated previously expressed positions, five panelists provided specific comments and suggestions that were helpful in finalizing the summary report.

4. The expert panel

Experts for the Delphi panel were recruited based on suggestions from Joint Action RARHA partners and from members of the EU Committee on National Alcohol Policy and Action. The aim was to recruit experts from all EU Member States as well as Iceland, Norway and Switzerland (31 countries). Ideally, the panel would have comprised two experts per country, one representing expertise in research in the public health field and one with more practically oriented expertise related to primary/secondary/tertiary prevention of alcohol related harms.

By the launch of the first survey round, suggestions were received from all but four countries and, additionally, from two collaborating partners: the Government of Catalonia, representing a regional perspective in RARHA, and EuroHealthNet, another RARHA partner, representing a range of national and regional expert organisations involved in promoting public health. From a few countries only one expert was suggested, and from a few others only one of the suggested experts agreed to participate.

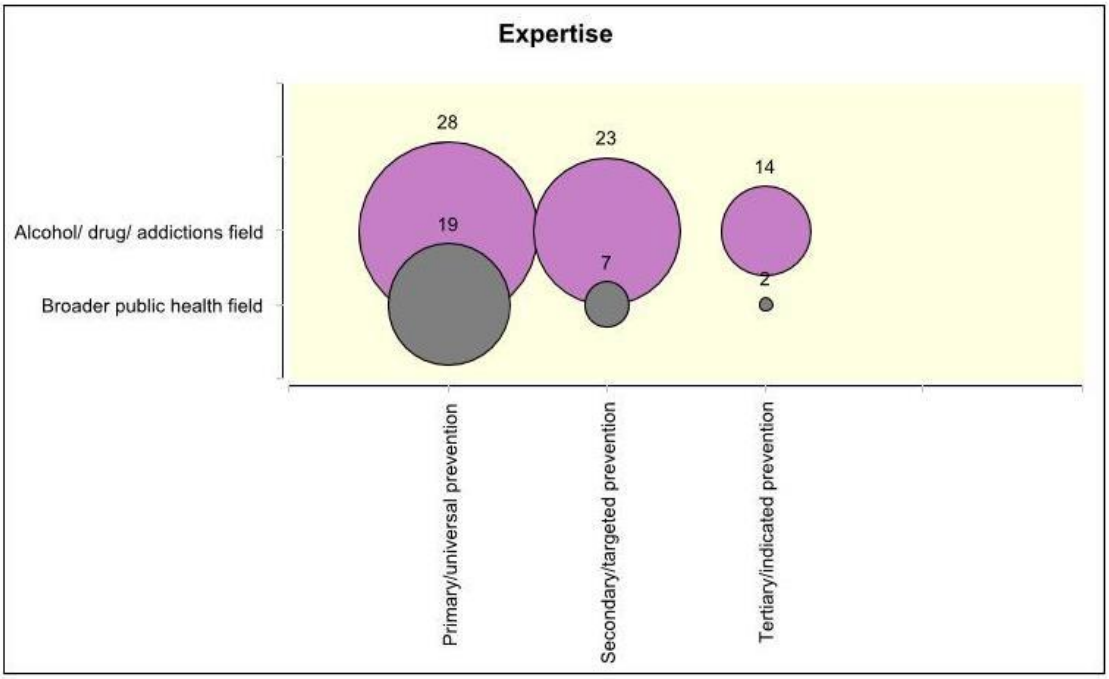
Background information was gathered from all experts who accessed the eDelfoi platform on gender, age, country and field of expertise (self-categorization into given groups). The first round panel comprised 51 experts based in 27 countries. Geographically speaking the panel was large enough to reflect the diversity of drinking cultures and policy contexts in Europe. The gender distribution was slightly unbalanced, with 30 men versus 21 women. The age distribution was skewed towards middle age, with two thirds aged over 50 years and only a couple aged 30 years or younger, which suggests it may take time to gain an expert status.

The invitation to participate in the second round of the Delphi survey was addressed to the 51 experts who accessed the eDelfoi platform for the first round. Despite reminders, one in five failed to react. The number of experts participating in the second round was 41, still a sufficiently large group to express diverse views and positions.

The panel's expertise mainly stems from the alcohol field but with considerable input from the broader public health field. The perspectives of primary, secondary and tertiary prevention are all represented, with less emphasis on the latter. Graph 1 below shows the second round

panelists' self-classification according to field of expertise, with many placing themselves in more than one category. Due to the breadth of scientific and professional backgrounds, no attempt has been made to break down responses by the panelists' field of expertise.

Graph 1. Self-categorization of the panelists' fields of expertise



The Delphi survey was carried out respecting anonymity but at the end, as the draft sumary report was circulated to panelists for feedback, agreement was sought to cite their name and affiliation as background information on the panel as a whole. This procedure was announced at the start and it was made clear panelists can choose not to have their name released. The names and affiliations of the panelists who agreed to be cited are listed in Annex 7. The experts on the panel replied to the Delphi survey as knowledgeable individuals, not as official representatives of their organization. The Delphi survey as such remains anonymous, however, and replies or comments cannot be traced back to individual panelists.

Results of the Delphi survey

5. Drinking guidelines as a public health measure

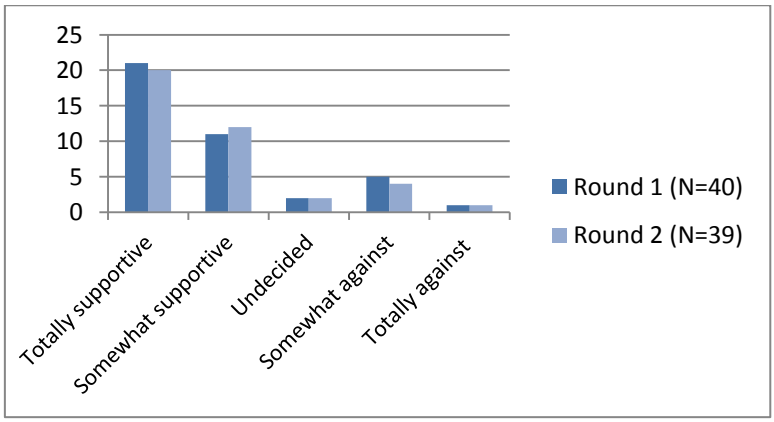
Both rounds of the Delphi survey included a direct question about the respondent's position regarding the use of drinking guidelines. In the first round, this key question was not presented until after several others focussed on what could be considered "low risk" drinking, how a threshold for "low risk" could be set and what would be the purpose of communicating "low risk" drinking guidelines. This was done in order to give the panelists food for thought and time to think before asking them to take a stand.

The first round replies indicated substantial support, with four in five of the respondents totally or somewhat in favour of providing the general population with "low risk" drinking guidelines.

Nevertheless, a range of doubts and reservations were also expressed in the comments. Questions to clarify or follow up were developed for the second round, intended to help address some of the uncertainties. In the second round, the question about the desirability of "low risk" drinking guidelines was not presented until after a range of questions relating to conceptual, methodological and communication aspects.

No shift in positions occurred between the survey rounds (Graph 2). The second round showed minimal differences that may be due to changes in opinion, changes in willingness to take a stand or to panelist drop-out.

Graph 2. Would you be supportive or against providing the general population with "low risk" drinking guidelines? (Rounds 1 & 2)



Based on the comments, the main objection to providing the general public with "low risk" drinking guidelines was that the issue is too complex to be communicated accurately through the mass media while simplified messages would be counterproductive. Reservations also related to communication aspects: the information provided to the public needs to be accurate and not give the impression that "low risk" drinking is safe.

> Round 2 [Somewhat against]
> *Providing the general population with low risk guidelines means that you must formulate a rather simple message. And that is dangerous, as simplification of the complicated message gives low risk guidelines that are not applicable to many individuals. - - -*

> Round 1 [Somewhat supportive]
> *[This] kind of guidelines are needed, but it is important that they provide accurate information and do not leave the impression that low risk drinking equals to safe drinking.*

Even among those "totally supportive" caution was expressed regarding the limited potential or "low risk" guidelines to influence drinking patterns, in particular with reference to heavy drinking. Drinking guidelines were seen as just one tool in the portfolio of measures to curb alcohol related harm.

> Round 1 [Totally supportive]
> *However, I'm not convinced that such guidelines have a strong effect on consumption and harm without changes in wider determinants of alcohol misuse. Nor do I believe that there is good evidence to suggest that people take note of the guidelines - - - .*

> Round 1 [Totally supportive]
> *Important first step in informing the population on alcohol consequences. Obviously it fits in a more integrated approach of the prevention and treatment continuum.*

Some comments suggest a divergence in views regarding the rationale behind "low risk" drinking guidelines: whether the purpose is to inform a broad range of consumers about alcohol related risks or whether the purpose is to target specifically heavy drinkers in order to reduce heavy consumption or binge drinking or to minimise harm in high-risk situations.

> Round 2 [Somewhat supportive]
> *But …Guidelines seems to fit [better] to avoid or manage risky situations in relation to alcohol use.*

> Round 2 [Somewhat supportive]
> *- - - we do need guidelines, but the challenge will be to place them in the contexts of the public's motivations and experiences - - - Definitions of 'binge drinking' vary widely and, for most people, there is little risk in their "usual" patterns; these are controlled, managed and mundane. The perception of risk, harm, and hazard lies in deviation from routines and loss of equilibrium – the drink that takes you over the tipping point is the one to watch. - - -*

> Round 2 [Totally supportive]
> *If the text impresses those who should be impressed - it is a positive tool. If it only impresses anti-alcohol missionaries it is better not to produce it, since a boomerang effect is likely.*

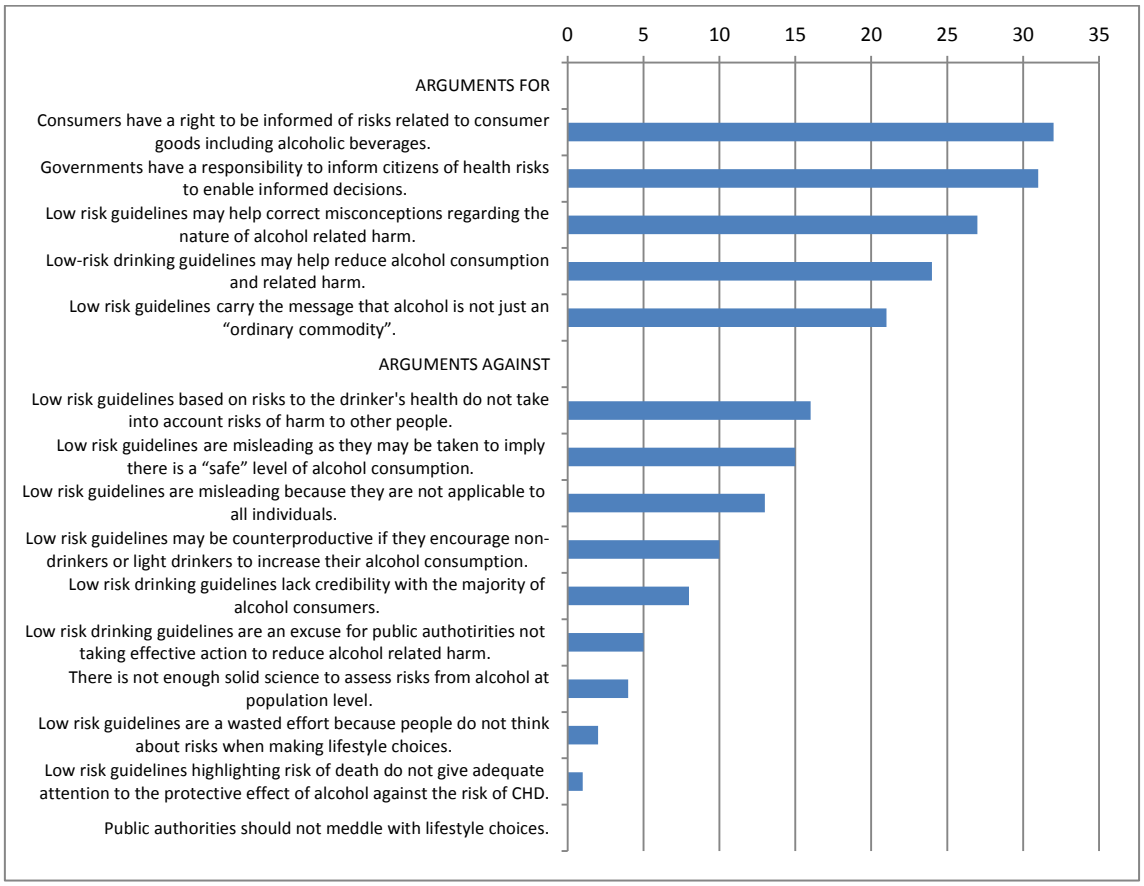
"Low risk" drinking guidelines

As illustrated in the section above, the justifications for supporting "low risk" drinking guidelines and the views of their purposes may vary. Several questions in the first and second rounds sought to clarify what is meant by "low risk" drinking and what public health benefits could be sought by providing drinking guidelines.

Round 1 included a question on the rationale for guidelines on "low risk" drinking, presented as a list of arguments for and against, among which the panelists were requested to select those they considered valid.

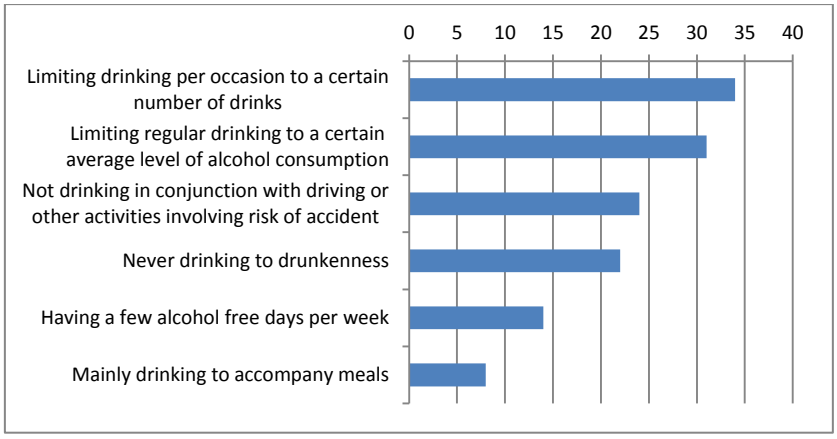
The results indicated broad agreement that the main rationale for "low risk" guidelines is to inform alcohol consumers about risks related to alcohol consumption and that it is a responsibility for governments to provide such information. While all arguments "for" were considered valid by at least 20 respondents, none of the arguments "against" were considered valid by more than 16 respondents (Graph 3).

Graph 3. Rationale for "low risk" drinking guidelines: support for arguments for and against (Round 1, N=40)



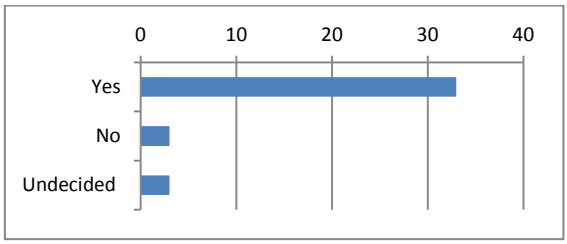
In the first round, panelists were asked to choose from a list of behaviors the ones they thought could be considered "low risk" drinking. The broadest agreement existed on the definitions: "Limiting drinking per occasion to a certain number of drinks" and "Limiting regular drinking to a certain average level of alcohol consumption" (Graph 4).

Graph 4. What could be considered "low risk" drinking (Round 1, N=41)



Replies to a direct question showed broad agreement that guidelines are needed separately regarding the average level of alcohol consumption over a longer period of time and regarding single drinking occasions (Graph 5).

Graph 5. "In your view, would it be useful to complement low risk drinking guidelines given in terms of average regular alcohol consumption with guidelines on the maximum for any single occasion in order to control the risk of accident or injury?" (Round 1, N=39)

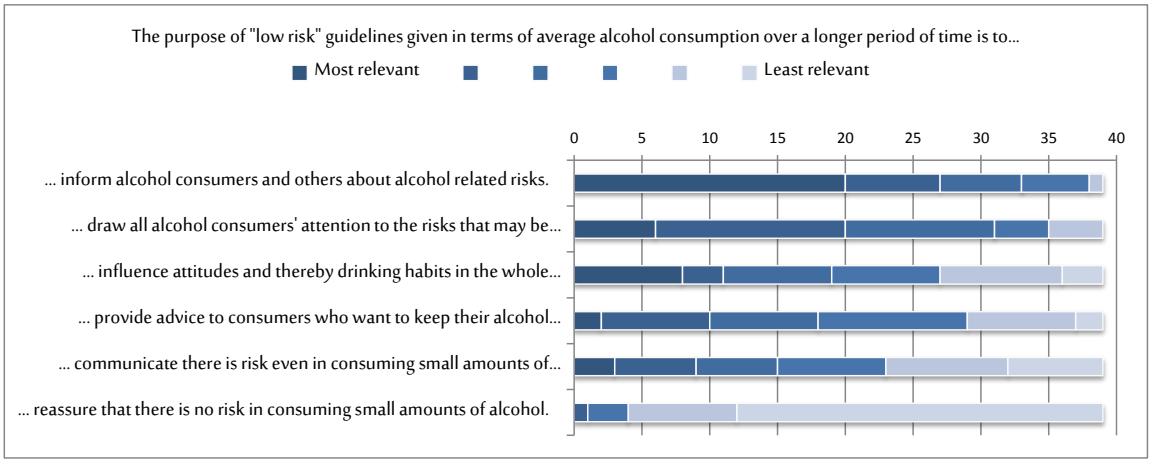


Some comments reflected different views regarding primary target groups for drinking guidelines. Some respondents seem to have been thinking primarily about communication directed to drinkers who are already "at risk". One commentator highlighted that both "low risk" and high risk" guidelines should be provided.

> Round 1
> *Whenever 'low-risk guidelines' are provided – 'high risk guidelines' are essential as complementary tool, since only the latter impress heavy drinkers. - - -*

To further clarify views, separate questions on the purposes of "low risk", "high risk" and "single-occasion" guidelines were added in the second round of the survey. For each, a set of possible purposes, developed based on first round comments, were presented and the panelists were requested to arrange them in order of relevance.

Graph 6. Purposes of "low risk" drinking guidelines (Round 2, N=39, "most/least relevant" = number of respondents placing the purpose at the top or bottom in order of relevance)



The ranking of possible purposes of **"low risk" guidelines** confirmed that the main rationale is to inform the population about the risks of alcohol, even at low levels of consumption, and to draw all alcohol consumers' attention to the risks that may be involved in their drinking habits. Such risk communication could help alcohol consumers keep their consumption at "low risk" level and could influence attitudes and thereby drinking habits in the whole population. (Graph 6) "Low risk" guidelines were not seen as a "magic wand", however, but as a measure that could contribute to positive shift in attitudes and drinking patterns in the long term.

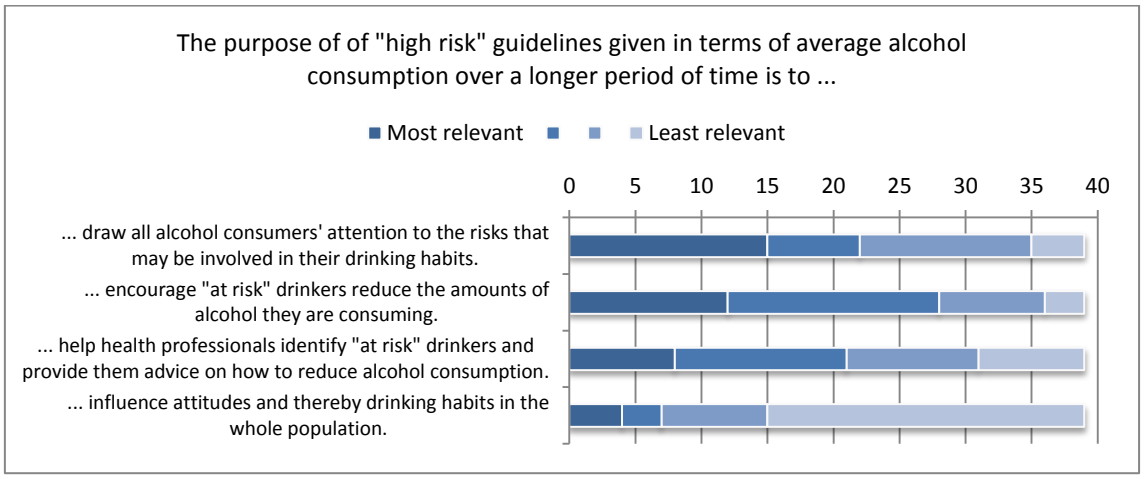
> Round 1 [Rationale for "low risk" drinking guidelines]
> *Low risk guidelines will not impact on society immediately since perceptions and behaviours in a society change slowly – but there may be long-term effects in changing the attitude towards alcohol and alcohol consumption patterns in a positive way.*

"High risk" drinking guidelines

Information about "high risk" consumption levels is included in guidance provided to health professionals to help identify hazardous or harmful drinking patterns, and has been disseminated to the wider population in some countries. The ranking of possible purposes of "high risk" guidelines in the second round of the Delphi survey shows that targeting "high risk" information to "at risk" drinkers or providing it to all alcohol consumers can both be considered potentially useful measures to reduce alcohol related harm. In fact, as regards "high risk" guidelines, drawing all alcohol consumers' attention to the risks that may be involved in their drinking patternss was ranked highest in relevance slightly more often than encouraging "at risk" drinkers reduce the amounts they are consuming. (Graph 7) This seems to reflect the view that harm from alcohol should be prevented as early as possible.

> Round 2 [Purposes of high-risk guidelines]
> *I do think it is very important to - - - explain - - - tolerance and habit formation in high risk drinking and how both build up and the inherent risks. For some people, it takes quite a few drinks to get a buzz or feel relaxed. Often they are unaware that being able to "hold your drink" isn't protection from alcohol problems, but instead a reason for caution. They tend to drink more, socialize with people who drink a lot, and develop a tolerance to alcohol. As a result, they have an increased risk for developing alcohol dependency. - - -*

Graph 7. Purposes of "high risk" drinking guidelines (Round 2, N=39, "most/least relevant" = number of respondents placing the purpose at the top or bottom in order of relevance)



Not just "low risk" but also "high risk" communication was considered by some panelists to have potential for influencing attitudes and drinking habits in the population. For most panelists, this was, however, the least relevant of the possible purposes suggested, and at least one panelist considered the population approach counterproductive.

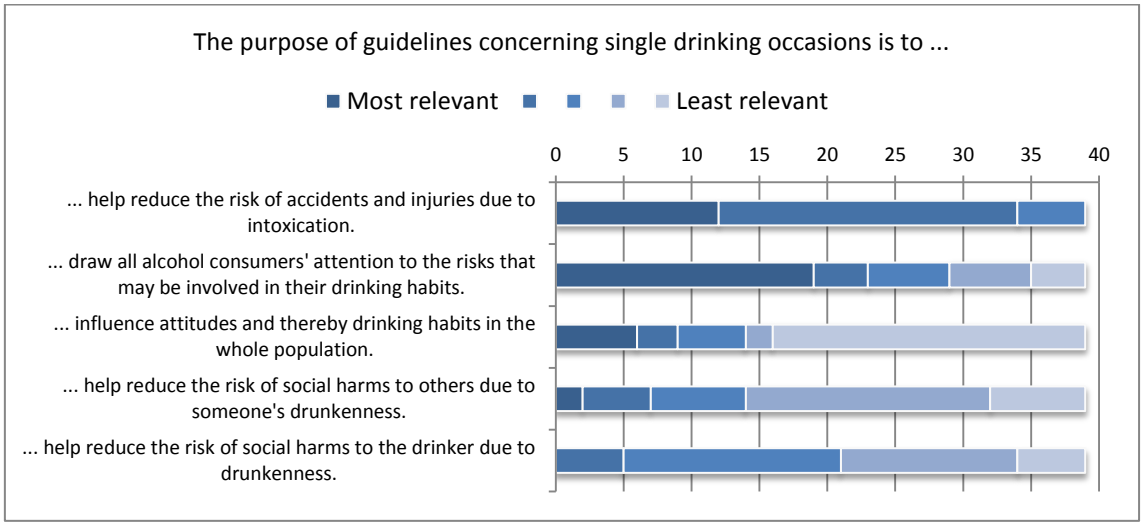
> Round 2 [Purposes of high-risk guidelines]
> *It will not be relevant to convey the high risk drinking guidelines to the population as such. It will be confusing. The high risk drinking guidelines are only relevant for professionals- - - identifying people needing brief intervention or treatment.*

Single-occasion drinking guidelines[5]

In the first round, the question about the need for a guideline concerning "risky single occasion drinking" was framed as an issue of accident and injury prevention: "The blood alcohol concentration reached in a single drinking occasion is a factor in the risk of accident or injury." An excerpt from the RARHA-related report on alcohol-attributable mortality risk (Rehm & al. 2015) was suggested as background reading. The excerpt presents data from meta-analyses that summarise the dose-response relationship between acute alcohol intake and risk of injury (Annex 8).

While it was clear in the first round that the majority of the panelists thought that guidelines regarding single drinking occasions were needed, there were differing views as to what kinds of intoxication-related harms should be prevented. The second round replies highlight the prevention of accidents and injuries as the primary purpose. Reducing the risk of social harms to the drinker and to others was considered relevant too. A clear majority saw single-occasion guidelines as being targeted to all alcohol consumers – rather than to "at-risk" consumers only – and many considered such guidelines to have relevance in influencing attitudes and thereby drinking habits in the whole population. (Graph 8)

Graph 8. Purposes of single-occasion drinking guidelines (Round 2, N=39, "most/least relevant" = number of respondents placing the purpose at the top or bottom in order of relevance)



The few comments attached to this question raise three points: to whom should single-occasion guidelines be directed, would they be helpful, and the order of importance of reducing harm for heavy drinkers or for the whole population.

Two commentators considered single-occasion guidelines to be the most relevant for young people; one emphasized the effects of alcohol on the developing brain while the other highlighted situations such as weekends or parties where young people may occasionally drink too much and cause risks for themselves or others.

Two commentators emphasised that guidelines as such would be ineffective; one stressed the need of interactive prevention programmes related to real-life settings while the other

[5] The term "heavy episodic drinking" which refers to a pattern of recurring high alcohol consumption occasions was not used in the Delphi survey as guidelines concerning single-occasion drinking are usually focused on the amount consumed rather than on how often drinking occurs. It is clear, however, that the more often intoxication occurs, the more often the drinker and those around them are subjected to risk of harm.

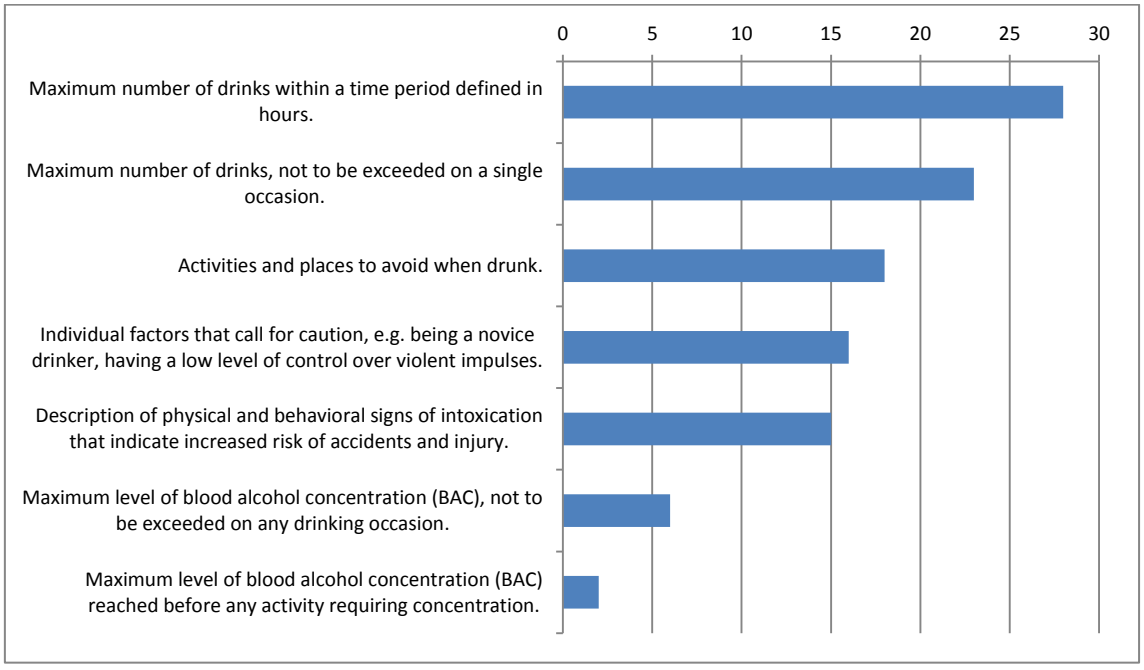
emphasised that rather than just informing people the primary aim should be to achieve behavioural change.

Two comments weighed the importance of reducing harm for heavy drinkers and reducing harm for the whole population, both suggesting that these purposes are interlinked rather than mutually exclusive.

> Round 2 [Purposes of single-occasion drinking guidelines]
> *The main [purpose] is to advise heavy drinkers to moderate their drinking behaviour as direct effect. All other purposes referred to here are (equally important] indirect effects.*
>
> Round 2 [Purposes of single-occasion drinking guidelines]
> *Actually influencing the attitudes and thereby the drinking habits in the whole population will allways be the most relevant goal. But it is not as legitimate as giving the single individual knowledge that can make him make the relevant choices. But these individual goals will serve the same purpose as the population directed goal.*

Guidelines concerning single drinking occasions typically give a number of "standard drinks" (or "units") not to be exceeded. In the first round, alternative ways for formulating single occasion guidelines were suggested by a few commentators. Based on these suggestions, a list of potential elements of single occasion guidelines was presented in the second round and panelists were requested to select those they considered the most useful.

Graph 9. How to formulate single-occasion drinking guidelines (Round 2, N=39)



The replies suggest that when giving a maximum number of (standard) drinks not to be exceeded on a single occasion it would be useful to specify a time window, for example the duration in hours. Additionally, it might be useful to draw attention to activities or places to avoid when drunk or to individual factors that call for caution and, as suggested by a few commentators, to ways of reducing risk of harm in the drinking situation. (Graph 9)

Giving a blood alcohol concentration (BAC) level not to be exceeded, although suggested by some in the first round, did not find support among the majority of respondents. The objections were that the same amount of alcohol results in varying BAC levels depending on gender, physical attributes and other factors, and that drinkers usually lack the means to determine their BAC level. Roughly half considered it useful to describe physical and

behavioural signs of intoxication that indicate increased risk of accidents and injury. These were not considered ideal either as in some cases they may be lacking despite high BAC.

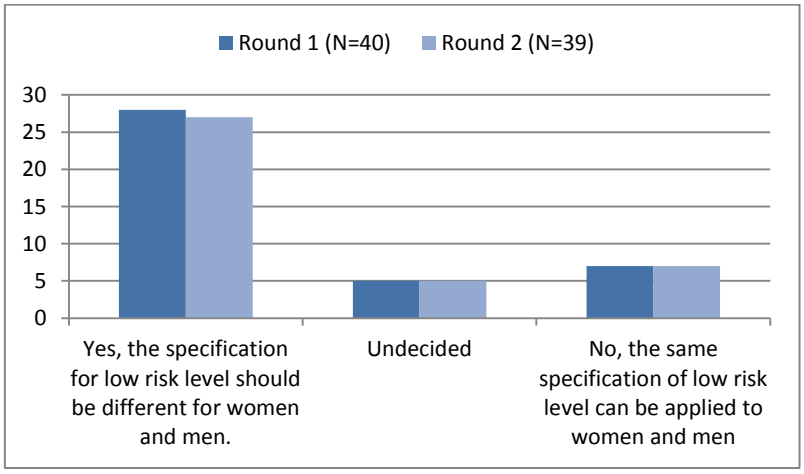
> Round 2 [Purposes of high-risk guidelines]
> *All drinkers need to be aware that even moderate amounts of alcohol can significantly impair driving performance, even when they don't feel a buzz from drinking.*

Need for gender-specific "low-risk" guidelines

The question whether or not "low risk" drinking guidelines should be gender-specific was introduced in the first survey round with a graph illustrating the current situation in RARHA partner countries whereby the level defined as "low risk" is typically lower for women than for men. As further stimulus, the approaches of the recent Canadian and Australian guidelines were described, the former specifying a different "low risk" level for women and men and the latter advising the same maximum level for both. In Australia, the approach of giving the same "low risk" guideline for women and men is based on men's generally higher risk of premature death due to injury or disease; even if the risk of harm for women rises faster with increased drinking, women can still drink more before reaching the higher overall level of risk for men. (Annex 3)

Against this background, panelists were asked whether they thought the specification for "low risk" level should be different for women and men and invited to add their own justifications. In the second round, a graph illustrating the results was presented, along with a summary of the panelists' main arguments in support of a gender-specific or of a single "low risk" specification. The panelists were invited to consider again their stance and add further comments.

Graph 10. Should the guideline on what consitutes a "low risk" level of drinking be different for women and for men (Rounds 1 & 2)



The first and second round results are almost identical. A clear majority thought that "low risk" drinking guidelines should be specified separately for women and men while a few found the same "low risk" consumption could be applied irrespective of gender. (Graph 10)

The arguments presented in the first round to justify gender-specific guidelines were based on:

- Physical differences: at the same level of alcohol intake, women reach higher BAC levels than men.
- Biological differences: different risk of adverse health outcomes, different risk curves, different mortality structures.

- Specific risks incurred by women: for example risk of breast cancer or risk of sexual aggression.
- Risk of harm to the foetus due to alcohol exposure during pregnancy.
- The broad acceptance of a gender difference in this area – it would be difficult to argue otherwise.

The arguments presented in the second round did not add to those above but expanded a bit the argumentation in favour of communicating a single "low risk" guideline:

- Alcohol is harmful for humans regardless of gender.
- It would be easier to communicate a single guideline to the population.
- Women are less prone to risky behaviour than men.
- People adjust their drinking according to the effects of alcohol they experience; therefore most women tend to drink less than males.

Round 2
- - the risk calculation should be calculated for women and applied to men, considering their [generally] bigger likelihood to find themselves in a social situation where could emerge violence and accidents. Besides, they also have a bigger [propensity] to break the rules. Let them break with a lower treshold.

Round 2
Differences in risk between men and women at the relevant consumption levels seem small or absent, therefore there appears little immediate basis for separate guidelines. There is also greater ease in communicating a single guideline. One note of caution is [that] a unified guideline may send the message that women are no more susceptible to the effects of drinking than men at any level of consumption. However, one could expect common sense and lived experience to tell people that this is not the case.

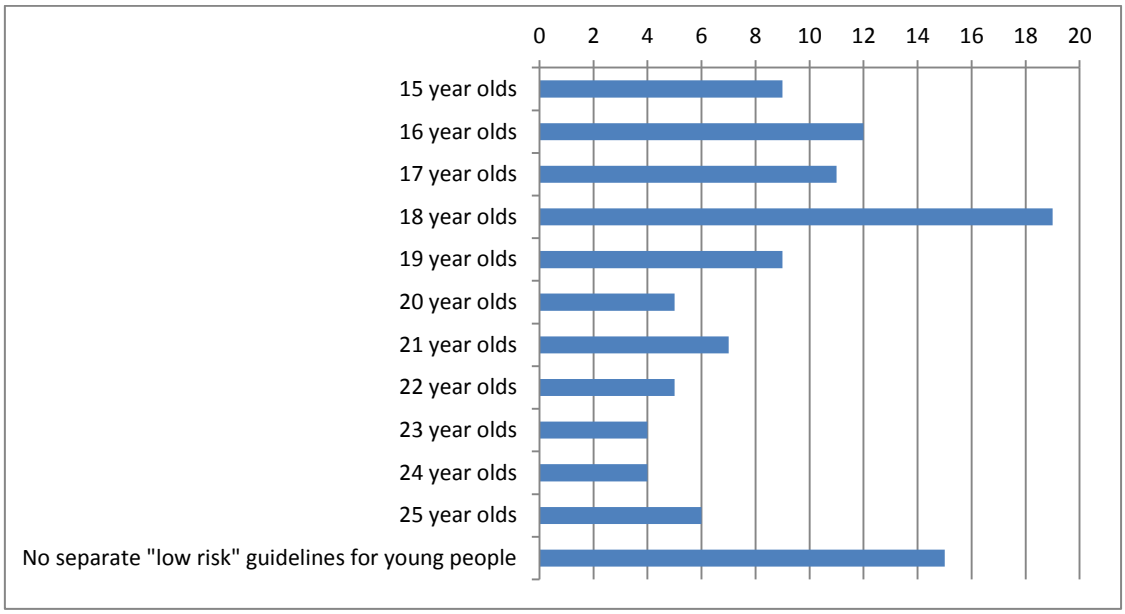
Need for age-specific "low-risk" guidelines: younger people

Within Joint Action RARHA, the issue of prodiving guidance to parents and others on how to reduce harm from drinking for young people was addressed in a separate Delphi survey with a panel of experts on youth and alcohol. To complement that work, the "low risk" Delphi survey reported here included questions to gauge this panel's views on whether it would be appropriate to specify a "low risk" amount of alcohol for young people separately.

In the first round, background information was presented on youth-specific "low risk" drinking guidelines in Europe and Canada (Annex 9), along with an age-range from which panelists were requested to indicate which age group/s, if any, should be covered by separate guidelines.

The results showed markedly divided views, with a majority of respondents against giving "low risk" drinking guidelines separately for young people and/or considering such guidelines appropriate for 18-year olds. When there was support for separate guidelines for young people, they were considered more relevant for 15–17-year olds than for young adults over 18 years. (Graph 11)

Graph 11. Age groups to be covered by separate guidelines (Round 1, N=39)



This question inspired more comments than any other in the first survey round. The comments presented were used to develop for the second round a set of arguments for and against specifying "low risk" drinking guidelines separately for young people. Panelists were requested to select the arguments they agree with.

The results (Graph 12) confirm there is among this panel of experts generally a lack of support for specifying "low risk" drinking guidelines for young people under 18 years. A majority agreed that "for young people any consumption of alcohol entails risk and the message should be that under-18s should not drink at all". There was wide agreement that guidelines for under-18s would be "counterproductive as they give the impression that "low risk" drinking is safe for young people, send mixed messages to parents and could undermine the minimum drinking age regulations" and that they could "legitimize under-age alcohol consumption".

In addition, the replies suggest support on the one hand for what could be called a cautious stance, that is, providing guidelines also for young adults above 18 years and, on the other, almost equally strong support for what could be called a harm reduction approach as regards under-18s.

A considerable number agreed that "guidelines could be provided for young adults from 18 to around 24 as their brain is still developing and vulnerable and because their drinking habits tend to entail risk, including risk of accidents and addiction" and/or that "general guidelines should include the recommendation to postpone the start of alcohol consumption even above the legal minimum age". Guidelines for young adults specifically to avoid intoxication received clearly less support.

The cautious stance is illustrated by the comment below.

> *I would ensure a strong message on harm to self and others due to intoxication and impact on the developing brain, risk of unplanned pregnancy, [sexually transmitted infections], risk of starting to drink prior to 15 =4 times more likely to become alcohol dependent.*

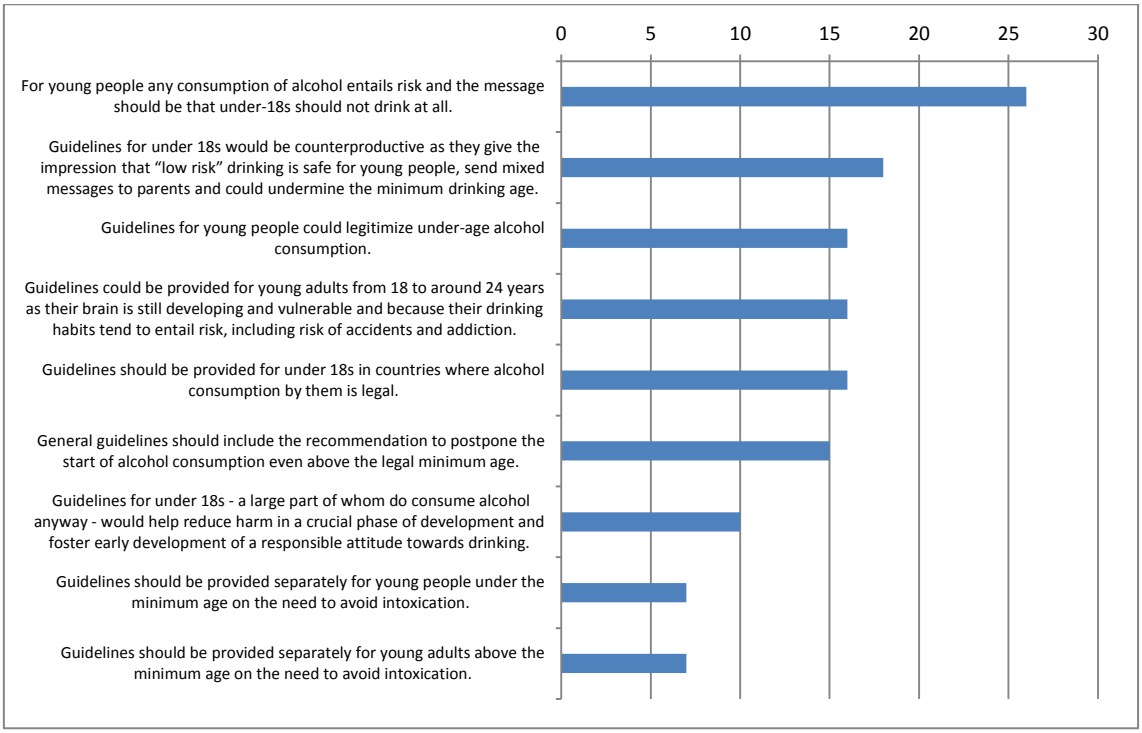
A considredable number agreed that "guidelines "should be provided for under-18s in countries where alcohol consumption by them is legal" and/or that "guidelines for under 18s – a large part of whom do consume alcohol anyway – would help reduce harm in a crucial phase of

development and foster early development of a responsible attitude towards drinking". Providing guidelines for under-age alcohol consumers specifically on the need to avoid intoxication was supported by clearly fewer respondents.

The harm reduction approach is illustrated by the comment below.

> *As long as guidelines are properly adjusted in language, instructions, patients / young people's preferences I see [such guidelines] as potentially useful*

Graph 12. Agreement with arguments for and against specifying "low risk" drinking guidelines separately for young people (Round 2, N=39)



Some respondents skipped the question for one reason or another. One commentator explained that the reason for not expressing support for any of the arguments offered was that information about the legal age limit intended to protect young people should suffice.

> Round 2
> *It makes little sense to formulate specific rules for young people. It makes sense to inform them about the legal drinking age regulations in the country/region, though. That underage persons should not drink before this age is implicit to such regulations- - -*

Another commentator held an opposite view and argued that guidance for young people, rather than stressing the legal aspects, should highlight specific topics relevant to age groups from early start of drinking to early adulthood.

> Round 2
> *Guidelines - - - should'nt focus too much on the legal aspect - - - But if the focus is on special topics, they could reach the group of the 13 year old (where some start to drink already) up to 24 year old (even older). But you have to adress the messages close to the environment of the age groups.*

Need for age-specific "low-risk" guidelines: older people

The first round of the Delphi survey did not include questions on the need for age-specific guidelines for older people. Epidemiological data on alcohol consumption by older age groups

is limited and only few countries have guidelines regarding "low risk" alcohol intake by older people. The issue was, however, raised by some commentators. An open-ended item was therefore added in the second round: In your view, is there a need for specific drinking guidelines for older people? For which age group? What would you consider the most important content in such guidelines? As background and inspiration, the guideline issued by the Swiss Federal Commission for Alcohol-related Issues in early 2015 was presented:

> "With increasing age it is advisable to adapt alcohol consumption to one's health status and to exercise caution. Ageing leads to dehydration of the body. Alcohol is diluted less and reaches higher concentration in the blood which explains why older people are more sensitive to its effects. Alcohol can also cause physical damage more quickly, as well as accidents, and have a negative effect on certain diseases. Older people use more medications which also calls for specific caution." [Translated from: Commission fédérale pour les problèmes liés à l'alcool 2015.]

Free-format answers were provided by 28 panelists. The majority were in favour of guidelines regarding alcohol consumption by older people, at least as a dedicated section within general population guidelines. While the age group "65 and over" was mentioned the most often, the lowest lower age limit suggested was 60 years and the highest upper age limit was 85 years. One panelist highlighted the need to focus on the retirement age where increase in physical vulnerabilities is accompanied by dramatic change in social factors.

Roughly one in five did not see a need for older-age specific guidelines or were undediced. The reasons mentioned were, on the one hand, lack of scientific basis for formulating guidelines and specifying the targeted age group and, on the other, the complexity of the health aspects involved which was seen to call for intervention by health professionals to assess risks and comorbidities and advise accordingly. Providing many different guidelines for different sub-sections of the population was also seen likely to complicate communication.

While there was broad agreement that some sort of guidance to limit harm from alcohol among older people is needed, there were different views as to the form and content. Groups of almost equal size (roughly one in five) called for clear guidelines regarding alcohol intake or, in contrast, preferred a general statement about potentially increased risks, possibly highlighting specific risks like in the Swiss approach.

The most often mentioned specific risks concerned use of medications, comorbidities and risk of accidents.

- Interference or interaction of alcohol with medication, in particular with central nervous system depressants.
- Comorbidities with alcohol use disorders or diseases that may increase the risk of alcohol related harm.
- Risk of injuries and accidents, including when driving.

Further risks mentioned concerned mental health and functional status.

- Risks due to depression, isolation, loneliness, lack of social contacts.
- Risks in terms of functional limitations relating to mobility and autonomy.

Specific alcohol intake levels were suggested by two panelists, referring to either increased or reduced risks as the basis for recommendations.

> *No more than 1 unit (10-12 grams/day) according to the evidence of the ADH [sic] reduction to level of metabolism similar to underaged.*
>
> *65+, <=1 according to the relationship between alcohol consumption and mortality (the typical U shape), with the level of lower mortality corresponding to 24 to 30 grams per week for women and 64 to 80 grams for men (about 1 UA [sic] on alternate days for females and 1 AU [sic] per day for males); lower incidence of cardiovascular disease, stroke, bone mineral density and fracture of the femur; - - -*

"Low risk" drinking guidelines and health inequities

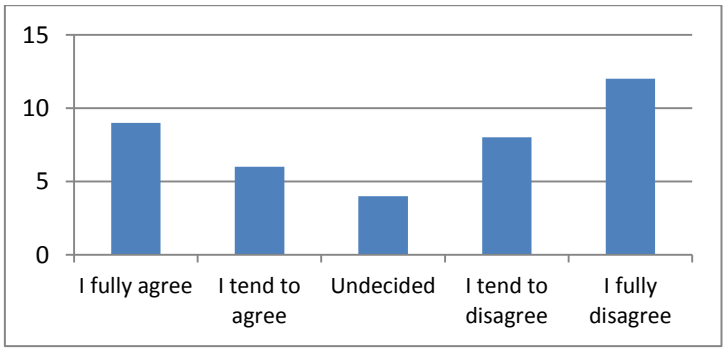
The role of alcohol in health inequities was not addressed in the first round of the Delphi survey but, as the issue is receiving increased attention in the EU commission's work (European Commission 2013a & 2013b) an item was added to the second survey round. Key points from WHO's guidance for addressing alcohol related inequities (WHO 2014a) were presented as background information:

- Within European countries, a range of alcohol related inequities have been observed, including based on socioeconomic status, education level, sex, ethnicity, and place of residence.
- Social inequities in alcohol-related harm in Europe do not follow a consistent pattern, and vary from country to country.
- In general, lower socioeconomic groups consume less alcohol and are more likely to be abstainers, but they experience higher levels of alcohol-related harm than wealthier groups with the same level of consumption.
- A social gradient exists, whereby each lower socioeconomic group suffers more alcohol-related harm than the group above them in the social spectrum.
- Experiencing multiple aspects of socioeconomic disadvantage amplifies inequities in alcohol related harm.
- Addressing gaps between socioeconomic groups and the social gradient requires universal policies together with additional measures to address health consequences for the most disadvantaged.

The additional item was focused on socioeconomic differences. Panelists were requested to indicate whether or not they thought socioeconomic factors should be taken into account when issuing "low risk" drinking guidelines. Comments were invited and the following questions were presented for inspiration: Should socioeconomic differences be taken into account when assessing what level of risk could be considered "low" or "acceptable"? How could that be done? Should "low risk" drinking guidelines be accompanied by advice tailored to different socioeconomic groups? Or, should "low risk" drinking guidelines be considered an "universal policy"?

Panelists' views were divided, with roughly half of the respondents reluctant to take into account socioeconomic factors, less than half in favour and a few undecided. (Graph 13)

Graph 13. Agreement with: "socioeconomic factors should be taken into account when issuing "low risk" drinking guidelines" (Round 2, N=39)



The points made by those undecided or against socioeconomically differentiated guidelines fell into three groups of equal size as measured by the number of mentions:

- The scientific basis is insufficient to formulate differentiated guidelines and the factors behind socioeconomic inequities are too complex.

If we make many very detailed recommendations to different age groups and social groups we pretend to know things in more detail than we do.

Inequalities in alcohol-related harm are complex and arise from multiple causes related to wider sociopolitical determinants of health. To amend risk guidelines simply based on social patterning of alcohol-related harms as an outcome seems a simplistic approach.

- Socioeconomically differentiated guidelines would be discriminatory, stigmatizing and counterproductive.

To tell people with lower income that they should drink less – provided this is what is actually meant here – is absolutely unacceptable.

Messages and communication by socioeconomic status --- introduces excessive complexity and is likely to be poorly received by the public.

- Risk from alcohol is universal and guidelines to reduce risk should be a universal policy.

For the public "low risk" drinking guidelines should be considered an "universal policy".

It was pointed out that differential risks by socioeconomic status could be accounted for when using epidemiological evidence to inform the setting of guidelines, and that selective prevention measures would be a more appropriate approach than differentiated drinking guidelines.

The few comments in support of taking into account socioeconomic factors did not call for differentiated alcohol intake levels but highlighted communication aspects.

Even the simple idea that there is more drinking in higher SES but more harm in lower SES can be an essential piece of information to add to change drinking cultures.

This is more question about communicating guidelines and social harm to others.

One commentator strongly in favour of giving attention to socioeconomic factors listed aspects of the genesis or perseverence of alcohol related health inequities: "wet culture" cascading down to "wet families", intergenerational transmission of alcohol problems, risks of domestic violence and mental health problems, impact of trauma and post-traumatic stress disorder as a driver of high-risk drinking patterns, and lack of protective factors.

6. Methodological issues

A minority of panelists in the first round of the Delphi survey expressed reservations, lack of support or even objections to the use of "low risk" drinking guidelines as a public health measure. The main reasons were doubts as to the scientific basis for such guidelines and doubts as to their effectiveness. In the second round, issues of effectiveness were addressed, on the one hand, by clarifying the purposes of drinking guidelines (Chapter 5) and, on the other, by looking at aspects of risk communication (Chapter 7). Issues relating to the science underpinning drinking guidelines were addressed in the second round by a question about the adequacy of the scientific basis and by a series of questions related to methodology.

Scientific basis for "low risk" drinking guidelines

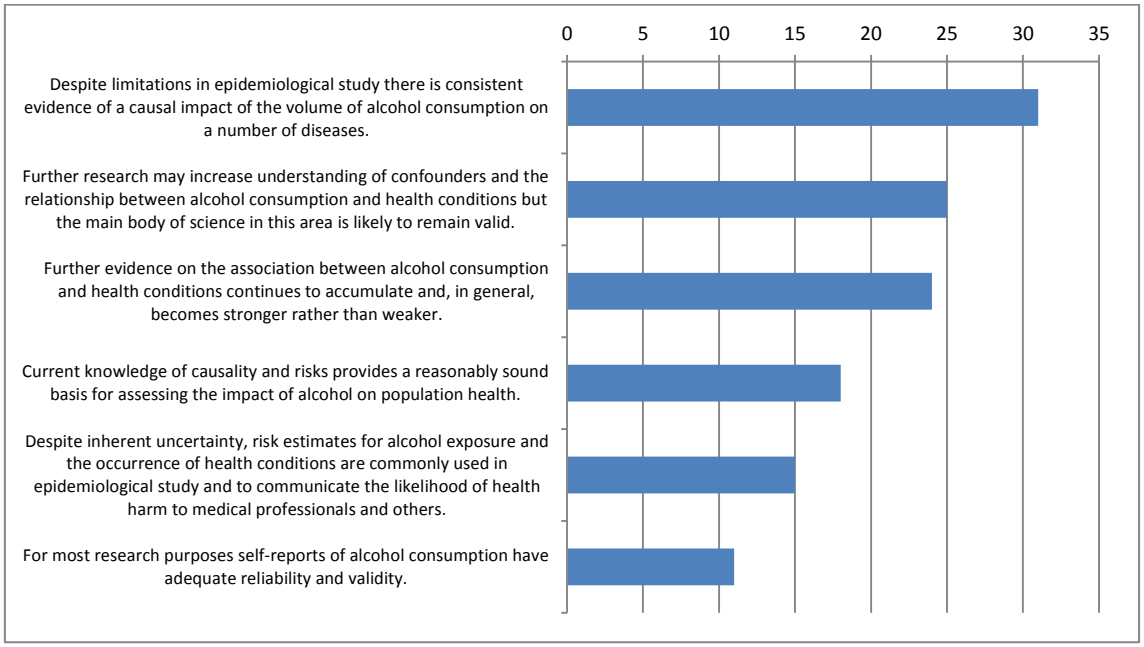
In the 1st round of the Delphi survey, some few comments cast doubt on the validity of epidemiological study of alcohol related risks. It was argued for example that:

- Self reported alcohol consumption leads to underestimation.
- Alcohol consumption is correlated with potential confounders that are not accounted for in epidemiological cohort studies.
- Populations are heterogeneous in many ways.

- Pathological factors causing high alcohol consumption are implicitly interpreted as consequences of alcohol use.
- Defining risks in causal terms based on observational data, registry data, survey data or small longitudinal studies – rather than on long-term randomized controlled trials – is a crude endeavour.

In the second round, a set of counter-arguments were developed based on published literature, and panelists were requested to indicate the ones they agree with. While a couple of panelists pointed out that all the arguments presented were true – including those listed above – the replies suggest that some of the arguments have broader backing than others (Graph 14).

Graph 14. Agreement with arguments concerning the adequacy of the scientific basis for "low risk" drinking guidelines (Round 2, N=39)



The three statements below were backed by more than half of the respondents.

- Despite limitations in epidemiological study there is consistent evidence of a causal impact of the volume of alcohol consumption on a number of diseases.
- Further research may increase understanding of confounders and the relationship between alcohol consumption and health conditions but the main body of science in this area is likely to remain valid.
- Further evidence on the association between alcohol consumption and health conditions continues to accumulate and, in general, becomes stronger rather than weaker.

Nevertheless, the replies presented in Graph 14 indicate that views were divided on whether or not the current knowledge of causality and risks is adequate for assessing the impact of alcohol on population health. The reliability and validity of self-reports of alcohol consumption comes out as a weak point that may deserve further attention.

The comments entered under this item seem relevant, not just to the science underpinnings, but also to the way low-risk drinking guidelines are communicated. A couple of comments highlight – as was done also under several other items in the survey – that a single set of drinking guidelines would not apply across subsets of the population, and that drinking guidelines may give an impression of exactness which is not justified by the science behind.

> *But the fundamental problem with guidelines is when an impression is given that the guideline threshold is itself robust with reference to a standard (e.g. the point where the j-curve crosses the x-axis) rather than an indicative figure corresponding to a level of consumption that can broadly be described as low risk.*

Another commentator cited recent research in support of "low risk" guidelines, noting it would be important to add that no alcohol use is risk free, a statement which can be based on the evidence of alcohol's carcinogenic effects.

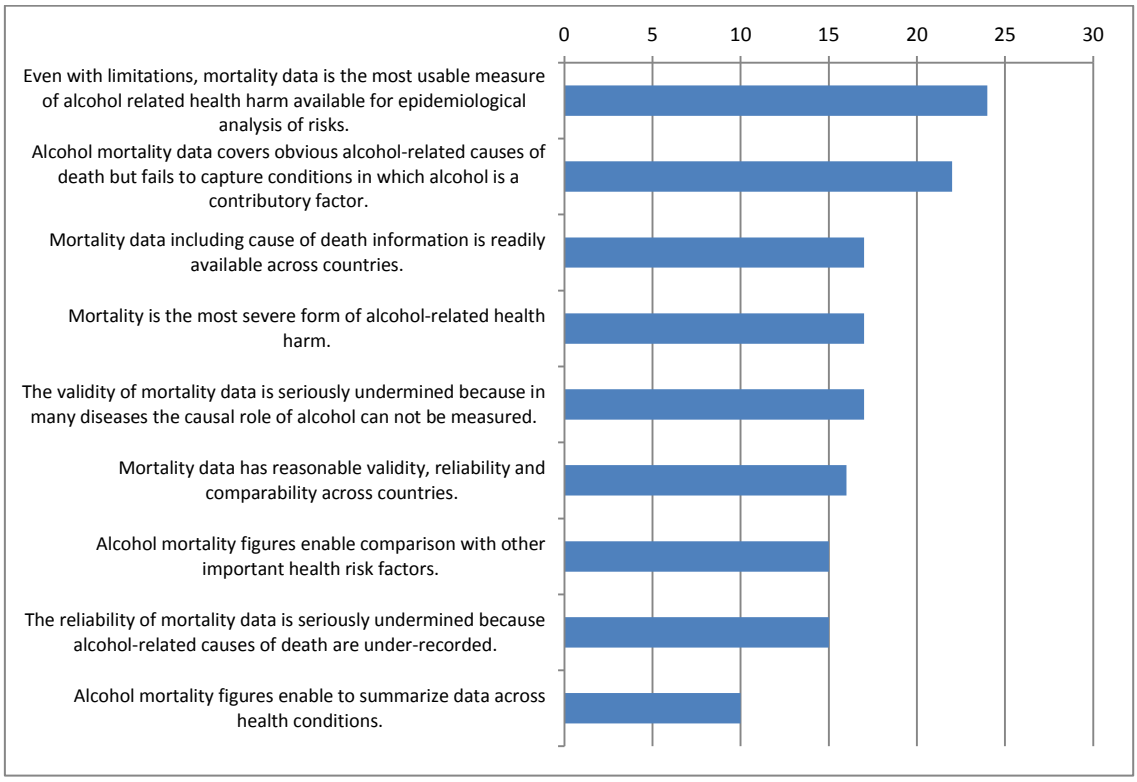
> *It has been said that the raise of HDL cholesterol when you drink alcohol was the plausible biological mechanism behind alcohol's positive effect on heart disease. Now this is questioned. Moreover [a] mendelian randomized study points to the fact that even the people who drink less than 7 units a day have a positive effect out of reducing their alcohol consumption. Therefore it would be most relevant to inform the citizens about the low risk drinking guideline and at the same time say: no alcohol use is risk free. This statement can be based on the knowledge that alcohol is an carcinogen alone.*

Use of mortality data

In the first round of the Delphi survey, panelists were invited to present arguments for or against the use of premature mortality rates – death due to alcohol in working age – as the main health outcome indicator when formulating guidelines on "low risk" drinking. Based on the results, a set of arguments was formulated for the second round and panelists were invited to select the ones they agree with.

The results indicate wide agreement that "even with limitations, mortality data is the most usable measure of alcohol related health harm available for epidemiological analysis of risks". According to the replies, an important limitation is that "alcohol mortality data covers obvious alcohol-related causes of death but fails to capture conditions in which alcohol is a contributory factor". (Graph 15)

Graph 15. Agreement with arguments concerning the use of mortality data (Round 2, N=40)



Among the arguments presented, the following six received almost equal support. While the first four statements are in favour of the use of mortality data, the two last suggest that a weakness of mortality data is that it does not capture the full spectrum of alcohol related health outcomes.

- Mortality is the most severe form of alcohol-related health harm.
- Mortality data including cause of death information is readily available across countries.
- Mortality data has reasonable validity, reliability and comparability across countries.
- Alcohol mortality figures enable comparison with other important health risk factors.
- The validity of mortality data is seriously undermined because in many diseases the causal role of alcohol can not be measured.
- The reliability of mortality data is seriously undermined because alcohol-related causes of death are under-recorded.

The few comments relating to this item expressed a preference for the use of morbidity data, discussed in the section below, or highlighted communication aspects, namely the remoteness of mortality risk from risk perceptions among the population.

Only one comment raised further doubts regarding methodology.

> *There is no problem in referring to alcohol induced illnesses and premature death in relation to alcohol consumption, this relationship is undoubtedly valid and relevant, but the specific figures commonly produced partly do not consider that causality is not unidirectional, rely on very questionable data from routine statistics and wild speculations – and particularly in relation to the Global Burden of Disease Study are systematically biased due to methodological errors.*

Taking into account morbidity

Comments presented in the first round of the Delphi survey highlighted a desire to take into account also morbidity when considering what would be "low risk" drinking. Arguments presented by panelists in the first round included the following:

- From a public health perspective, the burden of disease is more important than mortality.
- Alcohol related morbidity is a significant burden for public health services.
- Mortality data does not reflect disability and deteriorated quality of life.
- Mortality data does not enable a full economic assessment of alcohol related harms.
- Morbidity risks may differ significantly from mortality risks and may also affect different populations to different degrees.
- In countries where alcohol-attributable mortality is driven by chronic patterns of heavy drinking mortality data fails to capture the harm caused by acute intoxication.

The main metrics suggested by the commentators for taking into account alcohol related morbidity were alcohol-attributable DALYs and alcohol-related hospitalizations (admission or discharge rates with a principal alcohol related diagnosis). In the second round, the text below was presented as a prompt and panelists were invited to comment.

> DALY as a metric makes use of mortality data to calculate the sum of the Years of Life Lost (YLL) in a population due to a given health condition – where a young person's death contributes more than an older person's death – and combines that with the Years Lost due to Disability (YLD) for people who continue living with the health condition – where YLD is calculated based on the incidence or prevalence of cases multiplied with average duration and a "severity" factor. DALYs are typically used for comparing the burden from different health conditions or for comparing the health harm caused by different risk

factors, such as alcohol or tobacco. DALY was developed as metric for cross-national comparison in the framework of WHO's global burden of disease study.

Hospitalizations are also used to measure the disease burden attributable to a given health condition and can be used for comparison across different diseases or be broken down for example by by gender or age. Hospitalizations are influenced by the organization and accessibility of treatment and care services in a country and are therefore not well suited for cross-national comparison.

While both DALYs and hospitalizations can be used to assess the magnitude of health harm attributable to alcohol, neither allows – either in principle or due to lack of sufficiently robust data – to calculate **dose-response curves** that could inform the definition of "low risk" alcohol consumption levels.

The few comments presented in response did not add new insights, with one commentator stressing the usefulness of DALYs for assessing the burden from conditions such as disability caused by alcohol related brain injuries or foetal alcohol specturm disorders, and another one calling for caution when using DALYs because they "overestimate the true magnitude of causal alcohol effects enormously for a variety of reasons".

Yet another commentator summarized as follows:

> *While it would be desirable to incorporate data on morbidity when setting drinking guidelines, in reality, evidence is often lacking (e.g. on morbidity-specific risk estimates, robust attributable fractions, adequate incidence/prevalence data) and estimation more challenging and subject to resource implications. Focusing on mortality is cruder but also more feasible in many cases.*

Harms to others

In the first round of the Delphi survey, panelists were asked what other factors, besides epidemiological analysis of health outcomes, should be taken into account when formulating guidelines on "low risk" drinking. They were also invited to suggest how harms to others than the drinker could be quantified for taking into account when assessing what would constitute "low risk" drinking.

The results indicated that alongside mortality and morbidity, also social harms to the drinker and harms to others should be taken into account. Some commentators noted that research is available that links the level or pattern of alcohol consumption to a range of social consequences for the drinker, for example divorce, absenteeism or academic performance.

Examples of harms to others mentioned by commentators ranged from negative influence on children and young people to domestic violence, to lost productivity in the workplace and to alcohol-related crime. A need to develop both quantitative and qualitative indicators was highlighted.

Some approaches for gathering data that could be linked with alcohol consumption levels were suggested. Based on the suggestions, four options for quantifying harms to others were presented in the second round and panelists were invited to comment on their feasibility or usefulness.

- Systematic recording/monitoring of cases – for example, alcohol related cases of child maltreatment or BAC levels in persons arrested for violent crime.
- Identifying people harmed due to someone's drinking by means of screening or surveys and gathering information on the level of the drinker's alcohol consumption currently or at the time a specific problem started.

- Population surveys to assess the prevalence of various harms experienced due to someone else's drinking. While the respondent's own level or pattern of alcohol consumption has been included as a variable in some studies of this type (Hope 2014), examples of ways to assess the level of drinking by others are scarce or non-existent.
- Population surveys about the risks or consequences of one's own alcohol consumption for others – for example, driving a car under the influence of alcohol or causing physical injury to someone while drunk. Information could be gathered also on the number of people affected.

While several commentators considered all four approaches important for estimating the full spectrum of alcohol related harm, population surveys of harms experienced and recording BAC levels in cases of accidents or violence were considered the most feasible.

> *But if your are going to have a relevant picture of harm done by alcohol in a society you have to ask the whole population about which sort of harm they have experienced because of someone else's drinking.*

Difficulties of measurement, reliability and cross-country comparability were noted by several commentators.

> *Harm to others is responsible for a lot of negative consequences and ideally should be measured. However, I don't know if this is feasible. At least with mortality and morbidity there are robust forms of measurement that have been used across countries and are comparable but these do not exist for harms to others.*

Measurement of alcohol consumption and of harms in a way that would enable to incorporate them into calculations of "low risk" levels was seen as a key challenge. In the meantime the magnitude of harms to others would be relevant as a backdrop in the process of formulating guidelines.

> *For all, being able to use the evidence to inform guidelines will be challenged by the subjective nature of "consumption level" (either by those whose consumption caused the harm or those affected by someone else's consumption) and being able to robustly link it to alcohol-related outcomes.*
>
> *However, the evidence is not yet in a form which can easily be incorporated into analyses underpinning the setting of guidelines. This suggests those setting guidelines should adopt broader methods to incorporate wider forms of evidence than simply epidemiological risk functions.*

Further comments raised potential pitfalls in some of the approaches.

> *The mentioned data resources might help to estimate and describe harm cases. But they shouldn't be personalized or be a step to stigmatizing alcohol drinkers.*
>
> *To refer to these adverse alcohol effects is justified and sensible – but on a realistic base. What is unacceptable is to demonise moderate alcohol consumption by constructing fake indices based on minor problems over the lifespan - - - To ask "Have you ever been woken up during the night by somebody who has been drinking alcohol" without considering "Have you ever been woken up during the night by somebody who has not been drinking alcohol" is scientifically unsound – and to directly attribute existing effects causally on alcohol consumption as well.*

In addition, the drinking behaviour of women who already have children with FAS was highlighted as a topic for research, although the research questions were not elaborated on.

Pointers for further reasearch

In the first round of the Delphi survey it became clear that further reseach and method development are needed on many topics related to risks from alcohol consumption. Building on first round comments, an item was added in the second round to gauge respondent' views of priorities for further research. Panelists were requested to arrange in order of importance five topics that might deserve attention in future research and invited to suggest some other topic that would advance policy discussion on "low risk" or "acceptable" level of harm from alcohol.

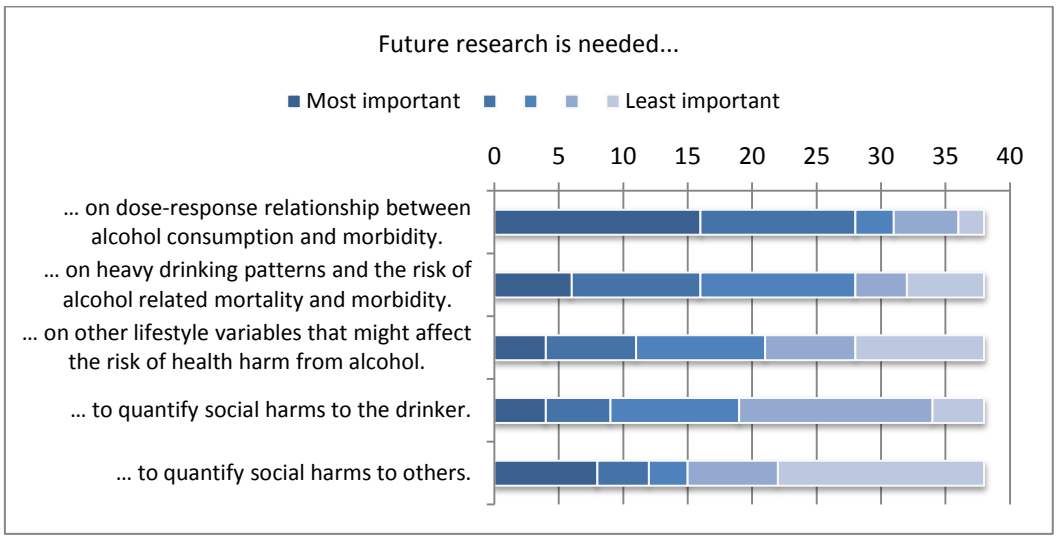
Based on the results, two topics would be of particular relevance:

- Further research on dose-response relationship between alcohol consumption and morbidity.
- Further reserch on heavy drinking patterns and the risk of alcohol related mortality and morbidity.

Research on other lifestyle variables that might affect the risk of health harm from alcohol was also considered important, with reseach on social harms ranking almost equally high.

Views were divided, however, on whether further research should focus on social harms to the drinker or on social harms to others. Harms caused to other people were more often ranked as the most important but they were also more often ranked to the bottom of the list.

Graph 16. Pointers for further research (Round 2, N=38, "most/least relevant" = number of respondents placing the topic at the top or bottom in order of importance)



Two respondents stated they did not rank the suggested research areas as they did not feel able to prioritize – *"All these may be equally important in the process to better understand this complex system".*

One respondent pointed out that establishing dose-response relaltionships might be a challenge and another one feared that "--- *the process of developing guidelines could become very convoluted if all these types of evidence are used to define low/high risk levels*".

The only suggestion for an additional research area related to communication aspects.

> *I believe we need research mainly on the best communication methods of conveying the important messages about harm to others and really trying to convey meaningful messages. I do think we have so much excellent research and it is the communication of that research in our respective countries which is the real challenge.*

7. Communication aspects

In the first round of the Delphi survey, many doubts concerning the use of "low risk" drinking guidelines and many suggestions for wider aspects to take into account seemed to have more to do with communication to the public and professionals than with the scientific basis. For example:

> *I am in favor of low risk guidelines but against communication to the general public. There are too many exceptions - - - so that communication to the general public is impossible and the risk for adverse effects is too high.*
>
> *The consequences of drinking can best be told in a therapeutic setting or at information meetings. - - - [It may be] possible to give this information in printed materials - - - but only if there is enough space to give more detailed information - - - the message is too complicated to be summarized in one slogan.*

On the other hand, some commentators thought that well designed communication could help prevent counterproductive interpretations and effects.

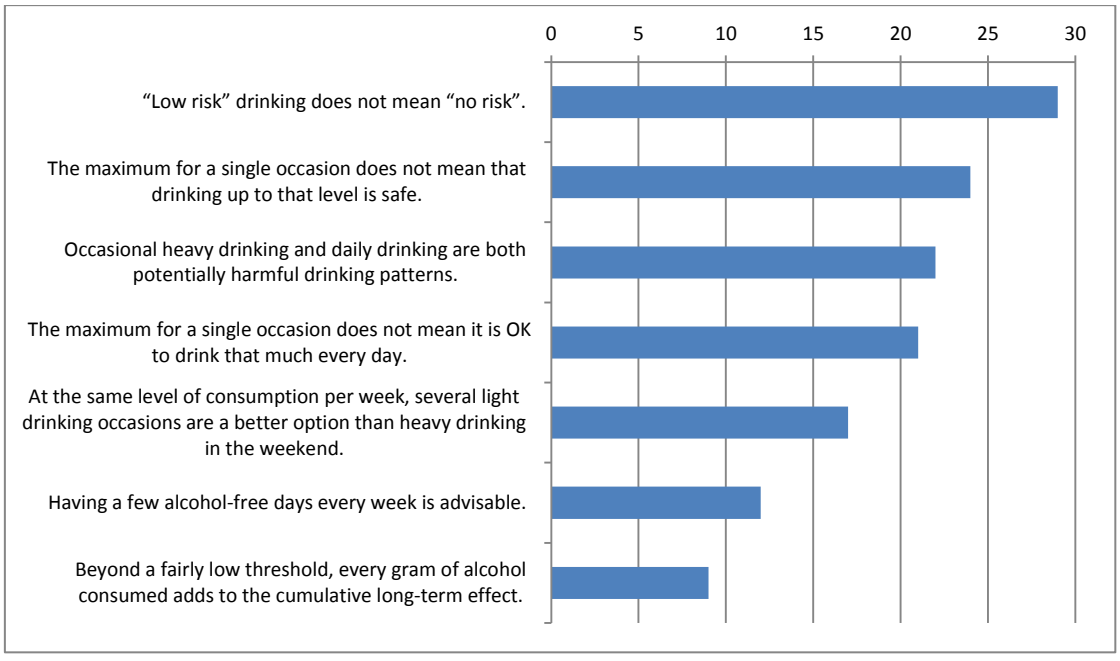
> *It depends how the "low risk" guidelines are done and promoted. If they are done and promoted well, many problems that could occur should not occur.*

In the second round, panelists were presented with sets of points that could or should be taken into account when designing "low risk" communications. The sets were created by condensing and modifying comments entered in the first round. Panelists were requested to select the points they considered the most useful or relevant to highlight in risk communication.

Points to highlight to prevent unwanted effects

Based on the replies, the most important point to highlight in order to prevent unwanted effects is that "low risk" drinking does not mean "no risk'". A straightforward statement was preferred over attempts at explanation such as "beyond a fairly low threshold, every gram of alcohol consumed adds to the cumulative long-term effect". (Graph 17)

Graph 17. Points to highlight to prevent unwanted effects (Round 2, N=38)



The next most important points concerned single drinking occasions:

- The maximum for a single occasion does not mean it is OK to drink that much every day.
- The maximum for a single occasion does not mean that drinking up to that level is safe.

An equally important point is to highlight that both binge drinking and regular drinking may involve risk. Most respondents preferred a message that highlights the riskiness of both drinking patterns, without giving the impression that one is favoured over the other.

- Occasional heavy drinking and daily drinking are both potentially harmful drinking patterns.

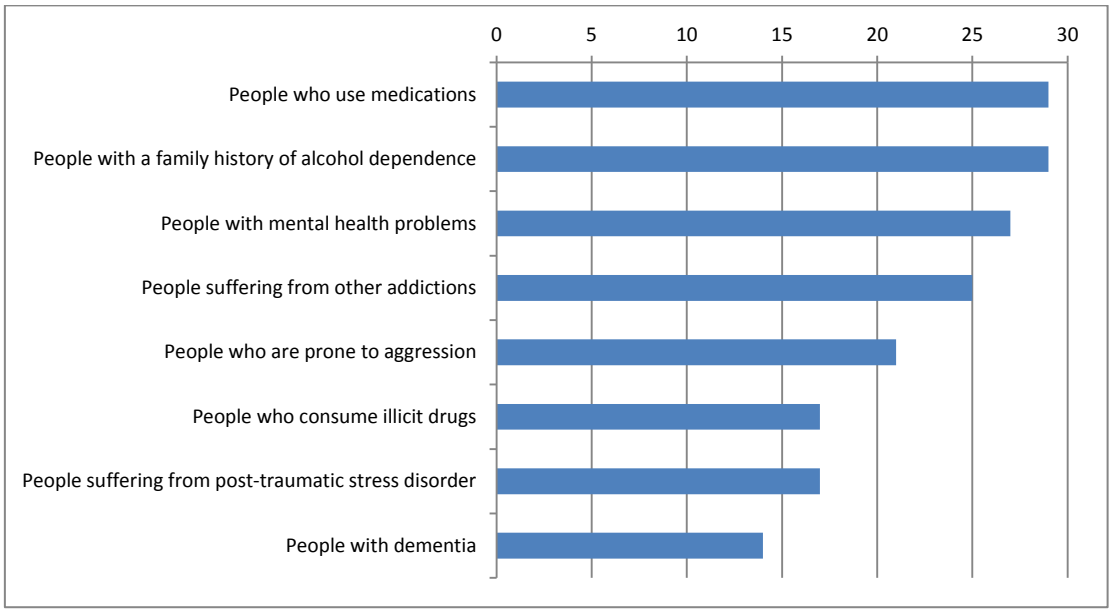
Only a minority of respondents considered it important to recommend having a few alcohol-free days every week.

At-risk groups or high-risk situations that call for caution

In the first round comments, many at-risk groups or high-risk situations were highlighted for which general "low risk" guidelines do not apply. According to the second round replies (Graph 18) the most important "high-risk" groups (besides age-based groups) include people with risk of adverse interaction of alcohol with medications and people at increased risk of dependence or aggravation of existing problems:

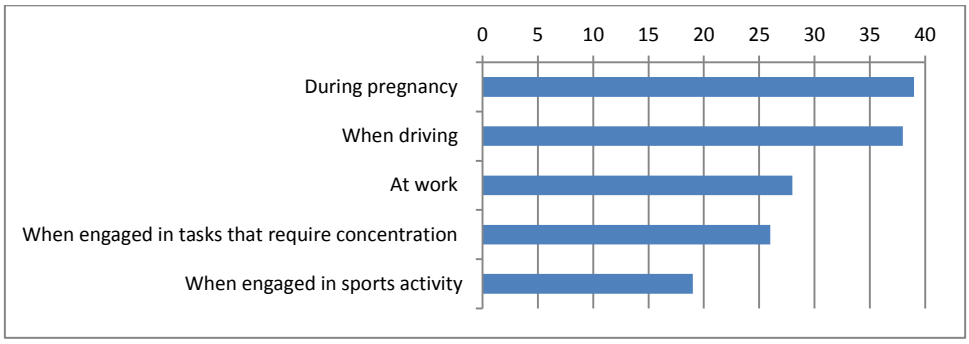
- People who use medications
- People with a family history of alcohol dependence
- People with mental health problems
- People suffering from other addictions

Graph 18. At-risk groups or high-risk situations that call for caution (Round 2, N=36)



As regards specific high-risk situations where the safest option is not to drink at all, the most important to highlight were "during pregnancy" and "when driving", followed by "at work" and "when engaged in tasks that require concentration". (Graph 19)

Graph 19. Situations in which no alcohol is advisable (Round 2, N=40)

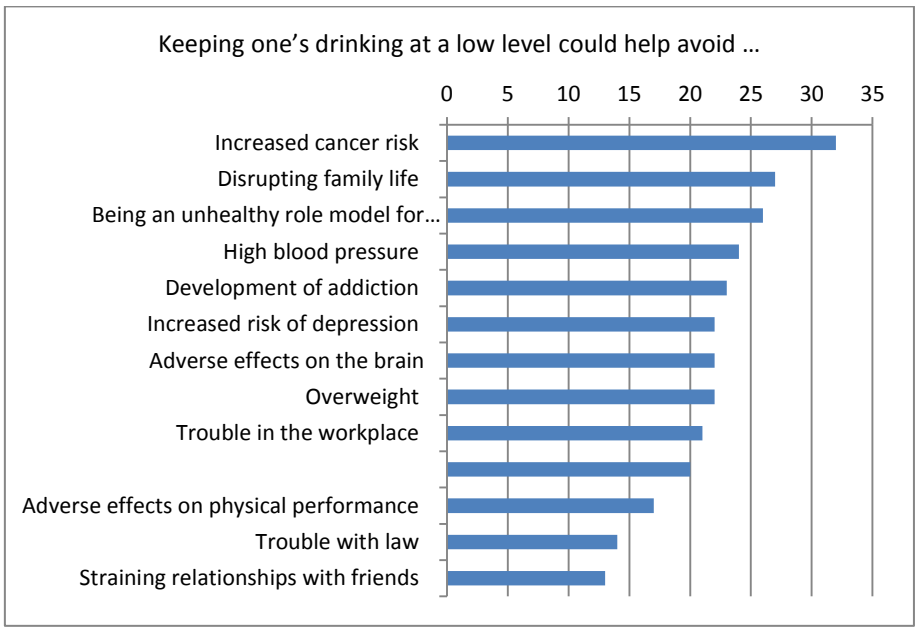


Particular harms to highlight in "low risk" communication

In the first survey round, several commentators gave examples of health or social harms that should be taken into account in "low risk" communication. Based on the comments, a set of points that could be highlighted as motives for staying on the "safe side" was presented in the second round and panelists were requested to select the ones they consider the most useful or relevant. It was pointed out that the focus was on drinking over a longer term, not on risky single occasion drinking.

Increased risk of cancer and risk of adverse effects on the family ("Disrupting family life"; "Being an unhealthy role model for children") were at the top, considered among the most relevant by two thirds of the respondents. (Graph 20)

Graph 20. Particular harms to highlight in "low risk" communication (Round 2, N=39)



The next most relevant points to highlight concerned, on the one hand, physical effects linked with increased risk of non-communicable diseases – high blood pressure, overweight – and on the other, alcohol's effects on the central nervous system: development of addiction, increased risk of depression, adverse effects on the brain.

Positive health effects of alcohol

Positive experiences of alcohol consumption or expectations thereof were mentioned by a few commentators in the first round of the Delphi survey. In the second round, views were sought on positive health effects as a challenge for risk communication: misconceptions about positive effects may undermine the credibility of advice concerning "low risk" drinking. The panelists were asked what would be the message – if any – about positive health effects of alcohol they would suggest to be included in "low risk" communication?

Answers were provided by 29 respondents. Three out of four were either against including any messages about positive health effects or stressed the need to balance information about positive effects with cautions about limitations.

The largest group of commentators were against highlighting any positive health effects.

> *As long as we do not know for sure that alcohol consumption in itself has any beneficial effects on health, there are few positive effects to communicate.*
>
> *Too complicated and potentially misleading, [cardiovascular disease risk] is lower but many other risks are higher even if consuming low levels of alcohol.*
>
> *The negatives of alcohol far outweigh the positives. - - - the positive health effects only exist for some - - - therefore if universal guidelines are being provided then people may take these on board even if the benefits don't apply to them.*
>
> *[A] message meaning that human being could be "needing" to consume a psychoactive substance in order to reach a better state of health is impossible.*

The next largest group was formed by those who favoured messages to counteract misconceptions regarding positive effects.

> *Any positive health effects of drinking are likely to be small, associated with very low levels of alcohol consumption and limited to particular populations such as middle-aged. Moderate drinking is not a reliable strategy for improving cardiovascular health and other strategies are likely to be more effective.*
>
> *Alcohol in low doses reduces the risk in coronary heart disease - - - With at-risk or heavy drinking, however, any potential benefits are outweighed by greater risks.*
>
> *Positive effects can not be a reason to drink, as drinking, even at lower levels, brings many other health risks (for instance cancer).*
>
> *The risk of harm to self and others overweigh the possible positive health effects.*
>
> *More as a myth buster: the +55, half standard glass max per day and possible positive effects disappear with a single heavier drinking session. 'Alcohol is no medicine'*

Three commentators were in favour of including in risk communication messages about positive cardiovascular effects but with qualifications.

> *Low risk drinking has positive effects on some cardiovascular diseases. These effects depend on the age and sex of drinkers.*
>
> *The positive small health effect related to small amounts of alcohol e.g. on coronary health effects and possibly other health states need to be mentioned but with a big question mark.*

Besides cardiovascular effects, the role of alcohol as a social lubricant or otherwise contributing to quality of life was mentioned by a few commentators – either from the perspective of correcting misconceptions or as acknowledgement of facts.

> *Alcohol in small doses helps people relax and overcome inhibitions. - - - This does not make low dose alcohol any safer.*

Low risk drinking increases quality of life and better self-reported health not only through mechanisms related to the beneficial effect on cardiovascular diseases.

There are undoubtedly positive effects for most people consuming alcohol – otherwise they would not consume alcohol – and these are a more relaxed social situation, euphoric mood and good taste – and it makes sense to mention this, to create a balanced non-demonising impression.

Suggestions on how to convey meaningful messages

Challenges involved in risk communication more broadly were raised by a few commentators with reference to health effects or to other issues addressed in the Delphi survey. All were basically about how to take into account pre-existing perceptions of risk or harm when designing communications.

Round 2 [Positive health effects of alcohol]
It makes no sense to explain truisms that everybody knows and it is counterproductive to exaggerate since this induces reactance in those that do drink too much. - - - The text should not only be welcomed by teetotallers but impress those persons where the influence is likely reduce alcohol related problems.

Round 2 [Purposes of high-risk guidelines]
I do think it is very important to - - -explain the issue of tolerance and habit formation in high risk drinking and how both build up and the inherent risks. For some people, it takes quite a few drinks to get a buzz or feel relaxed. Often they are unaware that being able to "hold your drink" isn't protection from alcohol problems, but instead a reason for caution. They tend to drink more, socialize with people who drink a lot, and develop a tolerance to alcohol. As a result, they have an increased risk for developing alcohol dependency. The higher alcohol levels can also cause liver, heart, and brain damage that can go unnoticed until it's too late. - - -

Round 2 [Use of mortality data]
Another fascinating difference between the harm from alcohol and smoking which emerged [in a study on public perceptions of harms] was that the harmful effects of smoking are indiscriminate, and can affect any smoker. With alcohol however, the 'harm' was deemed to really only affect the very heavy drinkers (ie alcoholics) or the incredibly unlucky/unfortunate in the guise of a tragic or freak accident - - -

Round 2 [Use of mortality data]
Especially young people tend to feel unbreakable. Mortality data has no impact on them whereas we have a better chance with social, sexual and physical well being.

One commentator, referring to a piece of research on perceptions of drinking guidelines highlighted that popular discourse around alcohol is marked by tensions which "*provide an opportunity for campaign communications to exploit potential inconsistencies, for example, between desires and fears or between expected and existing behaviour outcomes"*.

Round 2 [How to formulate single-occasion guidelines]
- - - discourse around alcohol and drinking is marked by conflict and tensions at various levels: between the perceived risk of harmful drinking and the routinisation of harmful drinking behaviour; between perceptions of the harm excessive alcohol consumption can cause and the benefits alcohol consumption is believed to bring; between abstract health promotion messages around harmful drinking and actual, everyday descriptions of harmful drinking; between personal motivations to drink (or stop) and social motivations to drink (or stop).

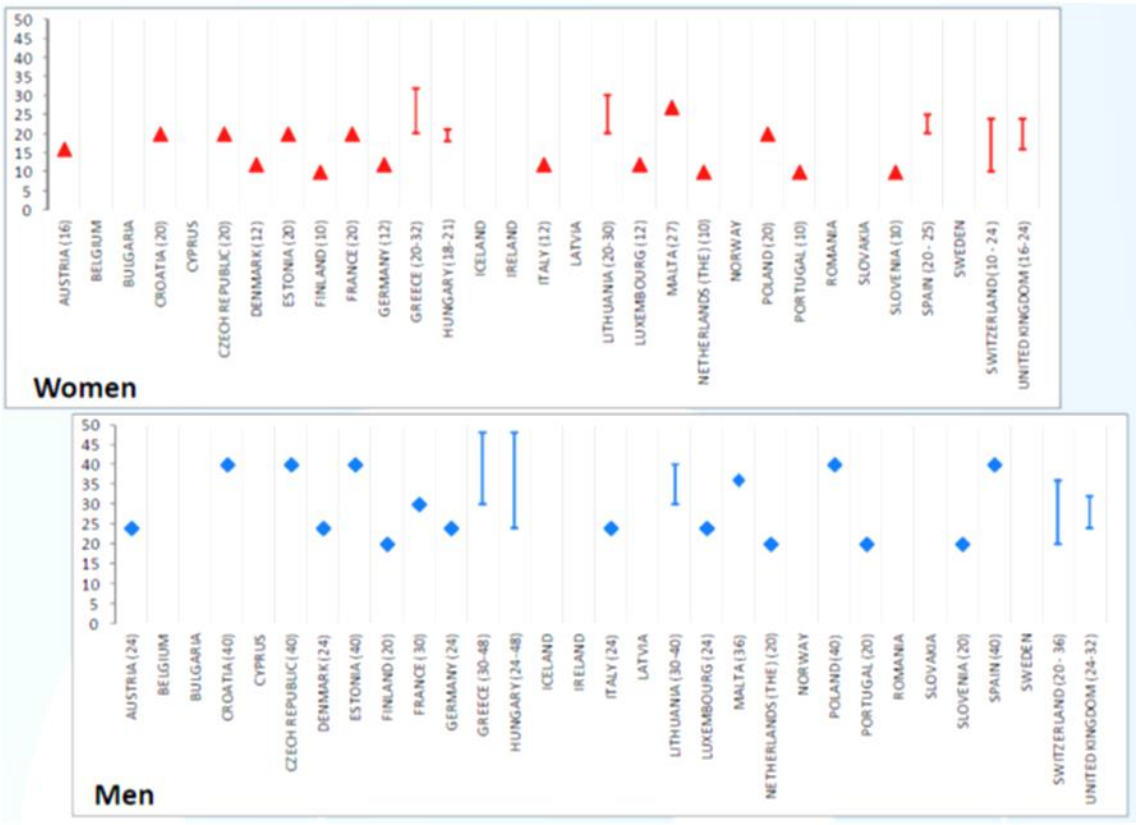
8. Moving towards common guidelines

Current variation in Europe in the levels of drinking defined as "low risk" was the starting point for work in Joint Action RARHA's work package "Guidelines". The aim is to work towards consensus on good practice principles in the use of drinking guidelines as a public health measure. The results of the Delphi survey reported above concerning the purposes of drinking guidelines and points to be taken into account in risk communication will contribute to formulating good practice principles. The questions reported in the present chapter explore whether a move towards less variation would be useful from a public health perspective as well as the steps that could be taken.

Desirability of a common definition of "low risk" drinking

In the first round of the Delphi survey, panelists were presented information collected for RARHA by the Italian Istituto Superiore di Sanità, illustrating current variation in average alcohol consumption considered "low risk" for women or men (Table 1). Another piece of information provided was a summary of the main features of the calculations done for RARHA by the Canadian Centre for Addiction and Mental Health (Rehm & al. 2015) showing that when a common methodology is used to calculate lifetime risk of premature death due to alcohol in different countries, taking into account their different underlying cause-of-death structures, and a common criterion on "low risk" is applied, cross-country differences in the resulting "low risk" intake levels are relatively small (Annex 4). This prompt was intended to elicit opinions and arguments on the desirability and feasibility of a common definition of "low risk" drinking.

Table 1. Summary table of average daily alcohol intake (grams pure alcohol) defined as "low risk" for men or women in RARHA partner countries in 2014. (Drawn from: Scafato & al. 2014)



The main arguments against a common EU definition of "low risk" drinking presented in the first round of the Delphi survey highlighted the lack of justification for a single definition.

- The risk of drinking depends on the sociocultural context of drinking, reasons for drinking and the setting. A common concept might be too rigid to account for these cultural differences which in certain cases play a protective role.
- Just one measure for many situations is absurd and misleading.
- Low risk is a subjective concept.

The main arguments for a common definition highlighted the following:

- The differences in current guidelines are confusing, for example when people travel and meet family and friends from other countries.
- Drinking patterns in Europe are converging.
- Health is universal, human biology is the same, the effects of alcohol are physiological phenomena.
- Exposure to risk factors cannot be considered in different ways across Europe, low-risk drinking levels are not dependent of local customs.
- A common concept would have more authority and credibility, the message to communicate would be clearer and stronger.
- A co-ordinated effort by European countries to promote low risk guidelines using the same definition would have a better chance of being accepted by the population.
- A common concept or risk would be helpful for public health bodies in European countries.
- A common concept would help countries to justify public health measures as differences between national guidelines could no longer be used to argue against national action.

In the comments relating to the country-specific figures calculated by CAMH and presented in the full report (Rehm & al. 2015) differences between countries were – in most cases – not considered to preclude a common approach.

> *Because the differences across countries in the suggested low-risk levels are relatively small a common message and common limits (with intervals, for example: 20 to 24 grams) would be preferable.*
>
> *A low risk consumption range could be agreed upon. Similarly, a consumption range could be agreed which constitutes high risk.*
>
> *The differences between the countries are significant and it would be complicated to make common guidelines.*

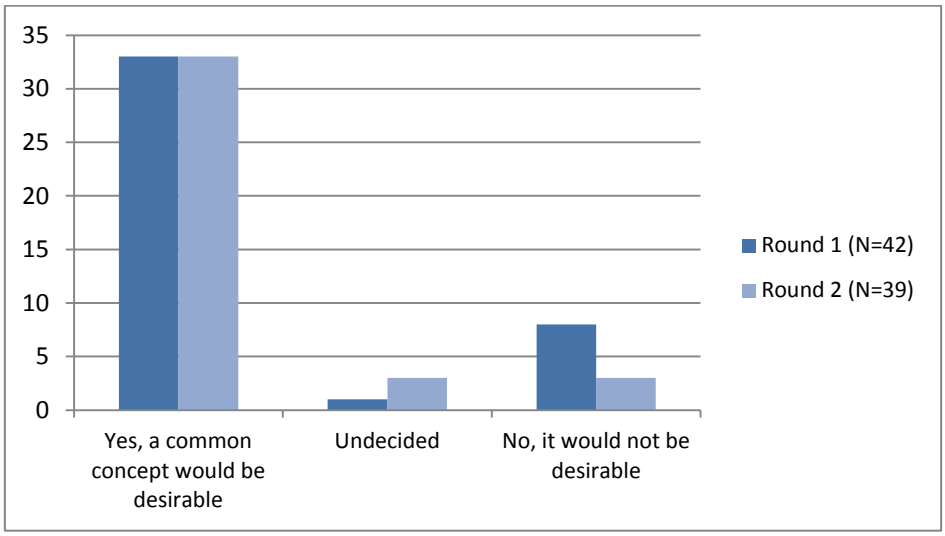
Further points raised by the commentators concerned policy aspects.

> *A change in national guidelines would not be acceptable politically or among the population.*
>
> *Agreeing on a common definition would be a long-term process*
>
> *An initiative to agree on a common definition would in any case stimulate scientific discussion about the nature of alcohol related harm.*

To clarify views on issues at the centre of the Joint Action, two questions were repeated in both rounds of the survey: a direct question on the desirability of a common definition of "low risk" drinking and a question on the preferred approach for setting the threshold for low risk from alcohol.

Already in the first round the majority of respondents were in favour of European public health bodies agreeing on a common concept of "low risk" drinking. The second round replies show a slight shift, with fewer not finding a common concept desirable. (Graph 21)

Graph 21. Would you consider it desirable for European public health bodies to agree on a common concept of "low risk" drinking? (Rounds 1 & 2)



How to assess the science regarding health risks from alcohol

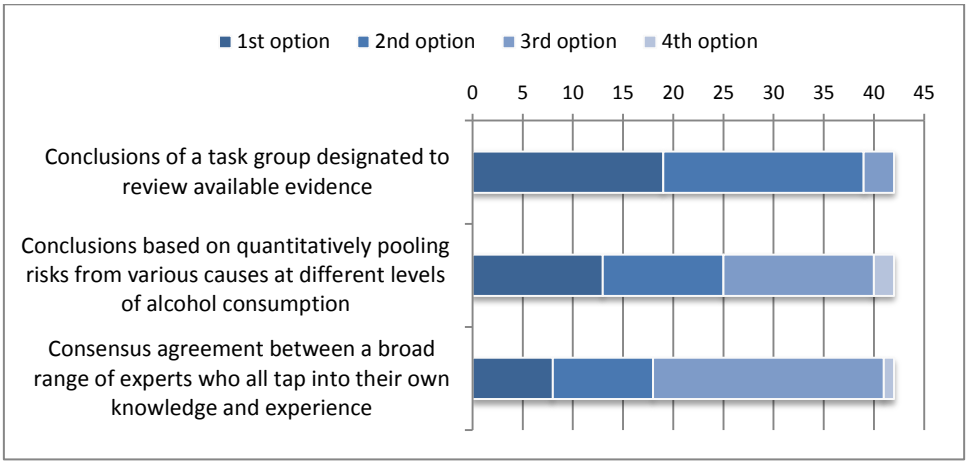
To get an idea how it would be possible to move towards a common concept, the panelists were presented a set of approaches for assessing the science regarding health risks from alcohol and requested to indicate their order of preference, or suggest an alternative approach. For additional background reading, panelists were directed to an article discussing the move in Australia from an approach involving deliberation and consensus-building by an expert group to selecting a treshold of absolute risk and formulating "low risk" drinking guidelines accordingly (Room & Rehm 2012).

In the first round of the Delphi survey, "conclusions of a task group designated to review available evidence" and "conclusions based on quantitatively pooling risks from various causes at different levels of alcohol consumption" came out as the top approaches, followed by "consensus agreement between a broad range of experts who all tap into their own knowledge and expertise." (Graph 22) More than half of the respondents were in favour of backing up the assessment with quantitative risk analysis. Only a minority would mainly rely on informed expert opinions.

The 1st round results suggest a combination of the top approaches could be the most productive. As one commentator put it:

> *Clearly these approaches can, and usually are, combined. For example, a consensus agreement may be reached after considering the results of risk modelling and or reviewing the available evidence. - - - My personal recommendation would be that an expert group is established with a remit to review a broad range of evidence, including but not limited to, epidemiological studies. Evidence gaps should be identified and, where feasible, research should be commissioned to address those gaps. Crucially, there should be a clear understanding of what the purpose of the guidelines and the evidence considered should be able to speak to - - -*

Graph 22. To determine what would consitute a low risk level of alcohol consumption – a level beyond which potential risks are likely to overweigh potential health benefits – what in your view would be the most appropriate way to assess public health risks? (Round 1, N=42, number of respondents who considered the approach as 1st, 2nd etc. option)



How to set the threshold for "low risk" drinking

In the first round of the Delphi survey, to inspire panelists to consider the feasibility of the Australian approach in the European context, a table was presented based on the calculations done by CAMH (Rehm & al. 2015), showing the results of lifetime risk of death due to alcohol at different levels of alcohol consumption in three un-named countries (Table 2). The calculation combines the risks from alcohol across various health outcomes, as obtained from meta-analyses.

Table 2. Overall lifetime (15-65 years) risk of death due to alcohol at different average consumption levels for women and men in three European countries.

Average drinking	Country A		Country B		Country C	
	M	W	M	W	M	W
10g	0.0027	0.0051	-0.0015	0.0037	-0.0004	0.0024
20g	0.0138	0.0380	0.0030	0.0185	0.0041	0.0148
30g	0.0296	0.0842	0.0102	0.0402	0.0110	0.0327
40g	0.0504	0.1371	0.0197	0.0655	0.0197	0.0543
50g	0.0792	0.2175	0.0344	0.1054	0.0322	0.0866
60g	0.1097	0.2868	0.0522	0.1429	0.0477	0.1179
70g	0.1625	0.4173	0.0800	0.2141	0.0694	0.1712
80g	0.2055	0.4955	0.1078	0.2651	0.0928	0.2140
90g	0.2583	0.5769	0.1447	0.3240	0.1229	0.2641
100g	0.3255	0.6596	0.1959	0.3920	0.1647	0.3230

Green: Overall protective effect
Light red: Overall lifestime risk smaller than 1 in 100, but larger than 1 in 1,000.
Dark red: Overall lifetime risk equal to or larger than 1 in 100.

The following text was presented to elicit reflection:

> Let's assume health authorities in one of the countries A-C want to formulate population guidelines for low risk alcohol consumption, based on data such as that shown in the table above. They would need to choose a level or mortality risk that could be considered "acceptable".
>
> One point of comparison for "acceptable" risk level comes from studies which suggest that while the threshold for "acceptable" involuntary risk – for example, mortality due to environmental toxins – may be 1 in a million, for risks related to voluntary behaviors people may be willing to accept a much higher risk of 1 in 1000.
>
> Another approach could be to follow the Australian example where the responsible body decided to take the lifetime risk of dying from alcohol-caused disease or injury of 1 in 100 as the basis for guidance for reducing risks.

Panelists were requested to choose from a set of approaches the one they would recommend for setting the threshold for low risk from alcohol: using a pre-selected threshold of 1/100 or 1/1000 lifetime risk of premature death due to alcohol, using some other threshold, finding political agreement on what would be an "acceptable" level of risk, or calling on an international body to set the standard for "acceptable" level of risk of death due to alcohol. The approach receiving the most support was "Using the same standard as Australia, i.e. deciding that 1 in 100 lifetime risk of death due to alcohol is considered as the threshold for "acceptable" level or risk."

While no alternative approaches were suggested, some comments raised other potentially relevant considerations such as acceptability among the public and positive aspects of drinking that could justify acceptance of higher risk.

> *Acceptable levels of risk will be country specific, both politically and among the public. The definition of risk must taken into account these factors - - -*
>
> *Alcohol use has not only a negative but also a positive aspect (social functions, pleasure, etc. - - - if positive aspects play a relevant role, higher risks need to be accepted.*
>
> *The evidential basis for any particular definition of acceptable risk - - - is not strong and gives little explicit consideration to benefits.*

To spur further reflection and interaction, another table based on risk calculations by CAMH was presented in the second round of the Delphi survey, displaying for selected EU countries the current national guideline on "low risk" alcohol consumption (average consumption per day in grams pure alcohol) and for each country the level of average alcohol intake per day at the population level where the lifetime risk for working age people dying of alcohol-related causes would be either 1 in 100 or 1 in 1000. (Table 3)

The following text was presented to elicit reflection:

> When you look at the table and consider the benefits and obstacles that may be involved, as well as the situation in your own country, what do you think about the possibility to move towards a common guideline on "low risk" drinking? Which of the two "target levels" to limit the risk of harm from alcohol at population level do you think would be more likely to be acceptable among public health decision-makers in EU countries? Or should a higher level of protection of public health be aimed at?

In order to facilitate interactive reflection, this question was designed as asynchronous online discussion: the comments were visible to all panelists, enabling them to react to each others' views and arguments if they wished. There was, however, either no interest or no time for interaction: the comments remained a series of expressions of opinion, without forming interactive threads.

Table 3. Current "low-risk" drinking guidelines (pure alcohol, grams/day) in selected EU countries and average alcohol consumption levels based on lifetime risk of alcohol attributable death of 1 in 100 people and 1 in 1000 people in the age range 15-74 years.

Gender	Country	Current guideline: average daily consumption not to exceed, g/day	Level of alcohol consumption, g/day, where lifetime risk of death due to alcohol equals 1 in 100	Level of alcohol consumption, g/day, where lifetime risk of death due to alcohol equals 1 in 1000
Men	Estonia	40	17	7
	Hungary	24	26	17
	Poland	40	30	20
	Finland	20	31	16
Women	Estonia	20	11	7
	Hungary	18	14	10
	Poland	20	18	13
	Finland	10	15	7

The risk calculation method used is the same as in Rehm J & al. (2015). The table is based on ongoing work.

The comments included a minority opinion refuting the overall approach – *"This overall criterion is flawed!"* – and repeating arguments already presented under other items, namely that risk arises from activities accompanying drinking or from individual propensities rather than from alcohol consumption per se, and that *"the calculations behind the causal risk as suggested are at the best very crude estimations due to a magnitude of methodological factors".*

A clear majority (11 of the 15 commentators) considered the risk level of 1/100 working age deaths due to alcohol likely to gain acceptance among public health decision-makers.

Few additional comments were entered. The table was found puzzling by one commentator: why does the calculation indicate that the countries concerned have a different risk profile?

> *To me it is very strange that the amount of alcohol a day which will result in one dead person out of 100 is so different in different countries. The research behind [probably involves] methodological problems.*

While the choice between coutry-specific and common guidelines was not at issue in this item, two commentators favoured setting a single guideline for the EU or Europe.

> *The best would be that researchers calculate guidelines based on risk of death due to alcohol 1/100 for the whole EU (or Europe). The differences [shown in the table] are too great: for instance 17 grams alcohol per day for men in Estonia, 31 in Italy.*

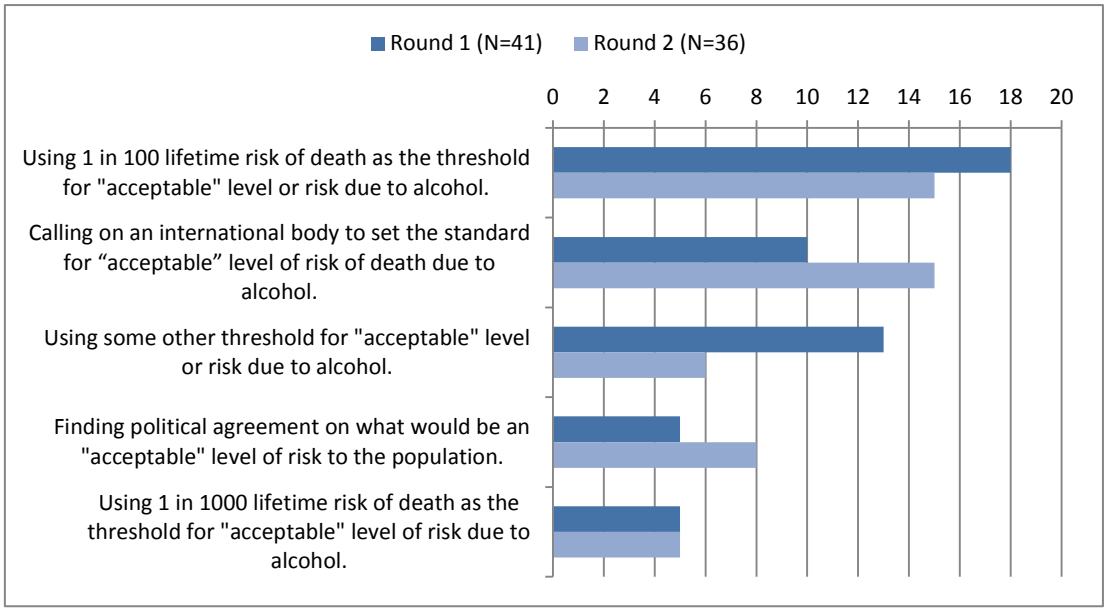
One commentator argued that guidelines with cross-country validity should not be based on epidemiology alone but should take into account other factors such as social harm, public attitudes and politics. The need to take into account non-epidemiology aspects is further discussed at the end of this section.

> *I am not convinced that introducing a common methodology for deriving the guideline solves the problem at hand. To my mind, confusion arises because different countries issue different guidelines and this would still be the case. - - - Given humans are pretty similar irrespective of which country they live in, the differences here are a function of things other than the biological response of the body to alcohol and the systematic variation in prevalence of those things across nations. - - - The individual should receive the message that there is a level of consumption which, irrespective of where you live or what you do, can be considered low risk. That consumption level should not simply be the answer to an epidemiological equation with varying parameters by country but*

something broader and more accommodating of non-epidemiological perspectives (e.g. politics, public attitudes, public response, social as well as health harm and so on).

To further clarify views on this issue, the question about the approach the panelists would recommend for setting the threshold for low risk from alcohol, already presented in the first round of the survey was repeated in the second round. In both rounds a clear majority favoured the 1/100 risk level to 1/1000. The second round replies indicate, however, more support for placing the issue in the hands of an international body or for finding a political agreement on what is considered a "low" level of risk, suggesting increased importance given by panelists to deliberation rather than simply following the Australian example. (Graph 23)

Graph 23. Approach recommended for setting the threshold for low risk from alcohol (Rounds 1 & 2)

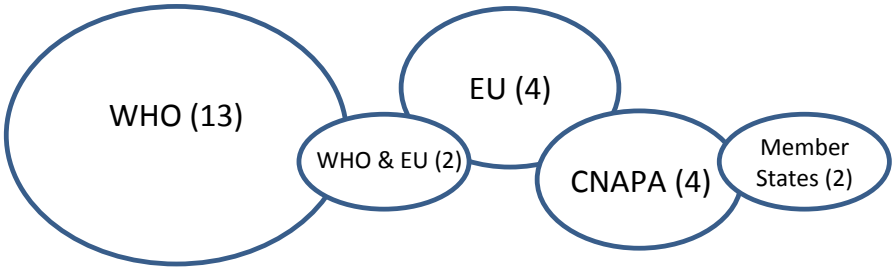


Way forward towards a potential common definition of "low risk" drinking

Follow-up questions presented in the second round of the survey sought views on which body or bodies could take the lead towards a potential common definition of "low risk" drinking and on aspects that should be taken into account when agreeing on a common criterion for "low risk" from alcohol consumption.

The WHO was mentioned the most often in replies to the open-ended question: Which body or bodies in Europe could have or give a mandate to set up a task group of public health experts to review scientific evidence relating to alcohol related risks with the aim to agree on a common definition of "low risk" drinking? (Graph 24)

Graph 24. European bodies that could have or give a mandate to set up an expert group (Round 2, N=29, number of time suggested by panelists)



The next most often mentioned body was the EU, either jointly with the WHO or as a single actor represented by the Health Commissioner, the Directorate General for Health and Food Safety, the ECDC, the EMCDDA or the Committee on National Alcohol Policy and Action (CNAPA). Two respondents thought the lead should clearly be with Member States, either at country level or at regional level.

> *Could potentially be covered by CNAPA's priorities as indicated in the mandate to develop efficient common approaches throughout the Community to provide adequate consumer information*
>
> *A country (and/or regional) coalition for the management of hazardous and harmful alcohol [consumption] - - -*
>
> *A network of national institutes of health or research appointed by [the] Ministry of Health - - -*

Rather than appointment by ministry of health, one respondent favoured a call for interest targeted to scientists and expert institutions. Some commentators highlighted the task group should be multidisciplinary and incorporate the perspective of different stakeholders in public health, such as:

- psychologists and addiction specialists, not just doctors and nurses;
- scientists, practical doctors, public health specialists;
- general practitioners; scientists in epidemiology and public health; clinicians from specialist alcohol units; experts from scientific societies on alcohol issues; government-appointed technical experts and advisors on policy, research, prevention and health promotion on alcohol and alcohol dependence; non-profit social organisations; self-help and mutual assiatance groups; policy makers.

The need for independence of the experts and the expert group from commercial interests was stressed by two commentators, one highlighting also independence from political interests:

- independent expertise not involving policy makers but only experts not involved in any activity that could arise a conflict of interest;
- any body should be wholly and visibly independent from the alcohol industry in any of its forms.

Two commentators discussed the way forward, one suggesting the present Delphi survey could be a starting point for a comprehensive discussion process, and the other one arguing against any further delay in coming to conclusions.

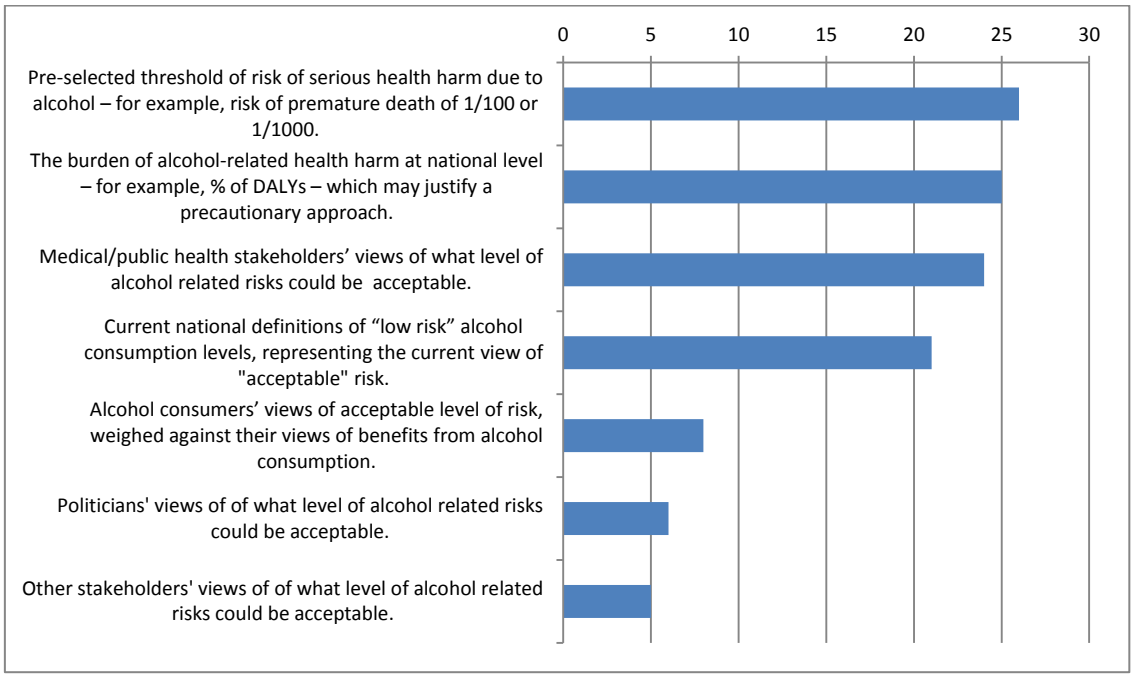
> *A wide range of alcohol experts from different countries should engage in a comprehensive discussion and at the end of this process end up with a compromise accepted by a large majority. This Delphi study could be a starting point. After all*

arguments are introduced and discussed, the aim should be to find a suitable compromise. If a compromise cannot be found, guidelines should confront the audience with a range of relevant positions, whereby minority positions of small subgroups need not be documented in detail.

I am really concerned by waiting to set up such a body that time will be wasted. Countries are undertaking a significant investment in alcohol awareness campaigns and it would mean that they would have to await the deliberations of such a group. Do we not have enough agreement already on essential elements?

A further follow-up question requested the panelists to indicate which aspects should be taken into account when seeking to agree on a common definition of "low risk" drinking. The list of possible aspects was derived from comments presented in the first round and from literature.

Graph 25 Relevant aspects to take into account when seeking to agree on a common definition of "low risk" drinking (Round 2, N=36)



The most relevant aspects would be the use of a pre-selected threshold of risk (presented here without requesting respondents to choose between risk levels) and consideration of the overall burden of alcohol-related harm at national level (measured for example as % of DALYs). Medical/public health stakeholders' views would be the next most relevant aspect, followed by current national definitions of "low risk" alcohol consumption levels. Alcohol consumers', policiticians' or other stakeholders' views came out as far less relevant. (Graph 25)

While there exists a fairly widely shared view of the most relevant aspects, the half-dozen comments entered under this item indicate there are at the same time also markedly divergent views among a minority: one rejecting the idea of defining "low risk" from alcohol, one noting the arbitrariness of such definitions, one relying on expert agreement in the absence of sufficiently strong methodology, one considering risk of death and burden of disease the only relevant aspects, and another one excluding these two, and yet another excluding only current definitions of "low risk" and the views of other stakeholders.

[Relevant aspects: None]
We do not accept the aspects listed and definition. - - - Permitted "safe dose" cannot exist, many consumers understand the information incorrectly.

[Relevant aspects: All]
Is the acceptable level of risk not a very arbitary level ? If all of these varied groups were to be asked how well informed would they be of the science?

[Relevant aspects: Current national definitions; medical/public health stakeholders' views]
I think we do not have consistent methods to estimate with enough accuracy the risk of premature death due to low risk drinking yet.

[Relevant aspects: Risk of death; burden of disease]
We have to speak clearly and loudly to express our views as experts, not as politicians fearing that they could be misunderstood or disliked.

[Relevant aspects: Current national definitions; medical/public health stakeholders', alcohol consumers', politicians' and other stakeholders' views]
[The] boxes ticked must play a certain role - - - the final conclusion, if one can be reached, is a compromise involving different stakeholders and perspectives.

[Relevant aspects: Risk of death; burden of disease; medical/public health stakeholders', alcohol consumers' and politicians' views]
Public views on acceptability of risk are essential. - - - Acceptability of risk is immensely complex and a large literature on risk perception would need to be consulted to capture all relevant dimensions - - -

9. Practical aspects related to the labelling of alcoholic beverages

The final questions in the Delphi survey concerned practical aspects related to the labelling of alcoholic beverages. Discussion on the definition of "standard drink" was included because in some countries information on the alcohol content in bottles or cans in "standard drinks" is provided on the label on a voluntary basis by producers. Such information may help consumers assess the amounts of alcohol they are consuming in the light of "low risk" drinking guidelines.

If drinking guidelines are communicated in terms of "standard drinks" – as they are in many countries – consumers' understanding of the concept and their ability to apply it in practice are crucial for the drinking guidelines to make a difference. As one commentator put it in the first round of the survey:

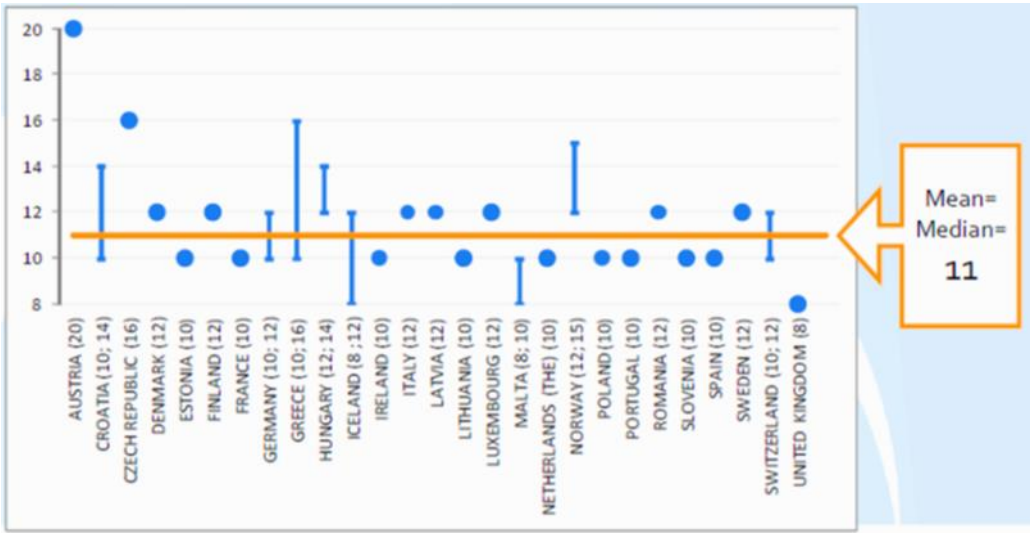
Round 1 [Desirability of "low risk" drinking guidelines]
I believe the public should be provided with low risk drinking guidelines - - - people's perceptions of their alcohol consumption is very distorted and they tend to greatly underestimate how much alcohol they consume. However, I feel the population needs to be educated more on what standard drinks actually mean - - - without a greater understanding of what a standard drink actually is there may be little value in providing guidelines.

Definition of "standard drink"

Variation in country-based definitions of "standard drink" was another starting point for work in the "Guidelines" work package, and one purpose of the Delphi survey was to explore whether a move towards a common definition might be useful and feasible. In the first round, panelists were presented the current situation by means of the text and table below, based on background work done in RARHA (Scafato & al. 2014; Coughlan & Doyle 2015; Mongan & Long 2015).

> A "standard drink" (or "unit" of alcohol in the UK) is a notional drink that contains a specified amount of pure alcohol (ethanol). It is usually expressed as a certain measure of beer, wine, or spirits. One standard drink always contains the same amount of alcohol regardless of the beverage type, but does not necessarily correspond to the typical serving size or the size of the typical bottle or can. The concept of standard drink was introduced as a means of providing information to drinkers to help them measure their own alcohol consumption and it is often used in alcohol awareness or education campaigns as a way of communicating guidelines regarding low-risk drinking. Standard drinks are also commonly used in drinking surveys for calculating respondents' drinking levels.
>
> Variation in national standard drink definitions may lead to confusion among consumers when, for example, information on low-risk drinking levels originating from one country is spread across borders through the internet or on the labels of alcoholic beverages meant for another market.

Table 4. Definitions of "standard drink" in grams pure alcohol in RARHA partner countries in 2014. (Drawn from: Scafato & al. 2014)



Panelists were shown in the first round a list of arguments for and against moving towards a common definition of "standard drink" and requested to select those they agree with. The arguments were derived from RARHA's background work. (Graph 26)

Overall, the arguments in favour of moving towards a common definition of standard drink received more support than the arguments that were skeptical or outright against. The two most widely supported arguments highlighted consumer information:

- Agreeing on a common definition would widen the reach of consumer information campaigns while decreasing the possibility of misunderstanding.
- Agreeing on a common definition would bring added value by drawing attention to the amount of pure alcohol contained in various types of beverages.

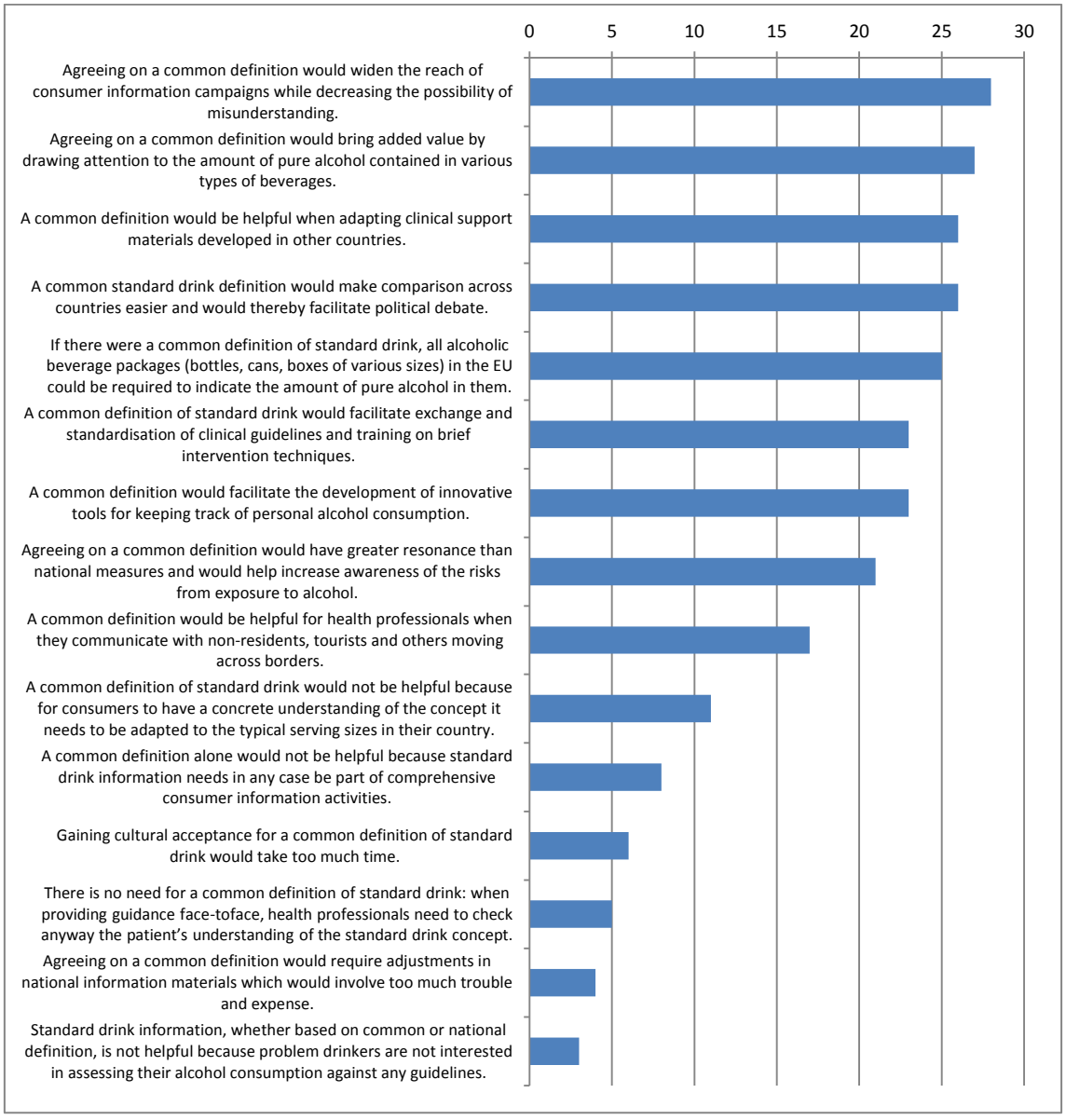
Further widely supported arguments related to consumer information were:

- If there were a common definition of standard drink, all alcoholic beverage packages (bottles, cans, boxes of various sizes) in the EU could be required to indicate the amount of pure alcohol in them.
- Agreeing on a common definition would have greater resonance than national measures and would help increase awareness of the risks from exposure to alcohol.

A common definition of standard drink was also considered potentially helpful for clinical practice and self-help to reduce potentially harmful alcohol consumption:

- when adapting clinical support materials developed in other countries;
- for facilitating exchange and standardisation of clinical guielines and training on brief intervention techniques;
- for the development of innovative tools for keeping track of personal alcohol consumption.

Graph 26. Agreement with arguments for and against agreeing on a common definition of "standard drink" (Round 1, N=37)



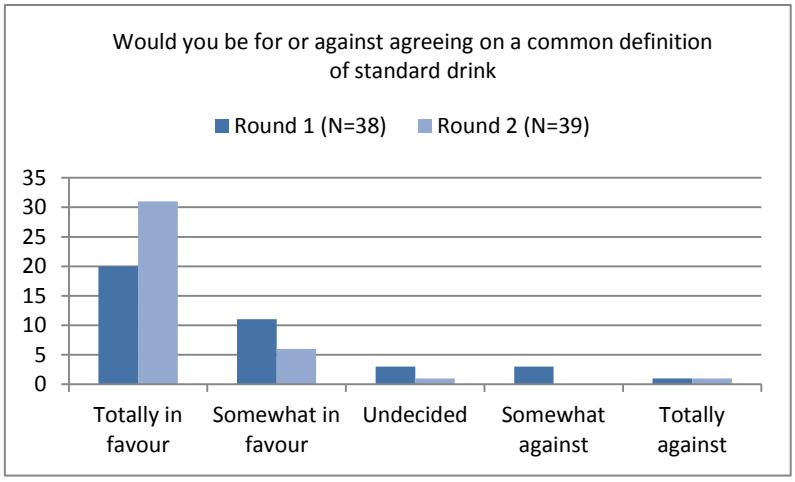
Further widely supported arguments in support of a common definition of standard drink concerned uses in research and monitoring of alcohol consumption: a common definition would make comparison across countries easier and thereby facilitate political debate.

The two main arguments against, supported by fewer than one out of three respondents, both highlighted that agreeing on a common definition alone would not be enough. A common definition would not be helpful because:

- for consumers to have a concrete understanding of the concept it needs to be adapted to the typical serving sizes in their country;
- standard drink information needs in any case be part of comprehensive consumer information activities.

Both rounds of the survey included a direct question on support for or opposition to a common definition of standard drink. The replies showed substantial support in the first round and the support strengthened in the second. (Graph 27)

Graph 27. Support for agreeing on a common definition of "standard drink" (Round 1 & 2)



The two comments below, entered in the second round, illustrate diametrically opposed points of view, one stressing individual variation in response to alcohol, which renders the "standard drink" misleading, and the other one seeing a common "standard drink" as a helpful concept to accompany common "low risk" drinking guidelines.

> Round 2 [Totally against]
> *Each user is different, the difference in the degree of tolerance of alcohol. Specifying standard drink units may mislead consumers.*
>
> Round 2 [Totally in favour]
> *Yes, if we are to have universal low risk guidelines then it makes sense to have a common definition of a standard drink*

Views in the middle ground are illustrated by two comments entered in the first round. One of the commentators does not see a need for a common definition as the variation can easily be taken into account case by case. The other commentator would prefer a common definition but does not consider it feasible as national definitions are firmly established.

> Round 1
> *The idea of standard drink is much more important than the actual content of the standard unit. This can be easily calculated by health experts [country by country]. Also for beverage industries it does not matter so much since they design the labels for specific countries.*

Round 1
A common definition would be clearly the most desirable approach. However, we are not starting afresh. Countries have made significant investments in educating the public on standard drinks/units and there is justifiable resistance to overhauling that education. Any attempt would like take many years and possibly decades to be successful - - -

Rather than trying to agree on a common definition of "standard drink", two alternative approaches were suggested: communicating guidelines to the public simply in terms of "drinks" without defining the exact size, or dropping the "standard drink" concept and simply using grams pure alcohol when communicating guidelines and when indicating the alcohol content in a bottle, can or glass.

Round 1
Given the generally mediocre public understanding of standard drinks/units, an alternative question might be: "Should we abandon these concepts altogether and instead just talk about drinks"? Although challenging and presenting problems for researchers, a simple message communicated as 'X drinks a day' may be a much more effective health promotion message. - - -

Round 1
I cannot imagine that standard drinks will ever turn into everyday knowledge – particularly since this requires to somehow calculate with fractions. The simplest and easiest approach is to use "grams of pure alcohol" and to document this information on every bottle and glass in the restaurant menu.

Indicating grams pure alcohol in a package

The possibility of indicating on alcoholic beverage packages the amount of alcohol contained in them in grams pure alcohol was raised in the survey of "standard drink" practices in partner countries carried out as background work in RARHA: "as standard drink measurement is currently understood differently across Europe it could cause confusion, however the amount of pure alcohol listed in grams on the labels of products could be linked to EU or national guidelines based on weekly total consumption of grams." (Coughlan & Doyle 2015)

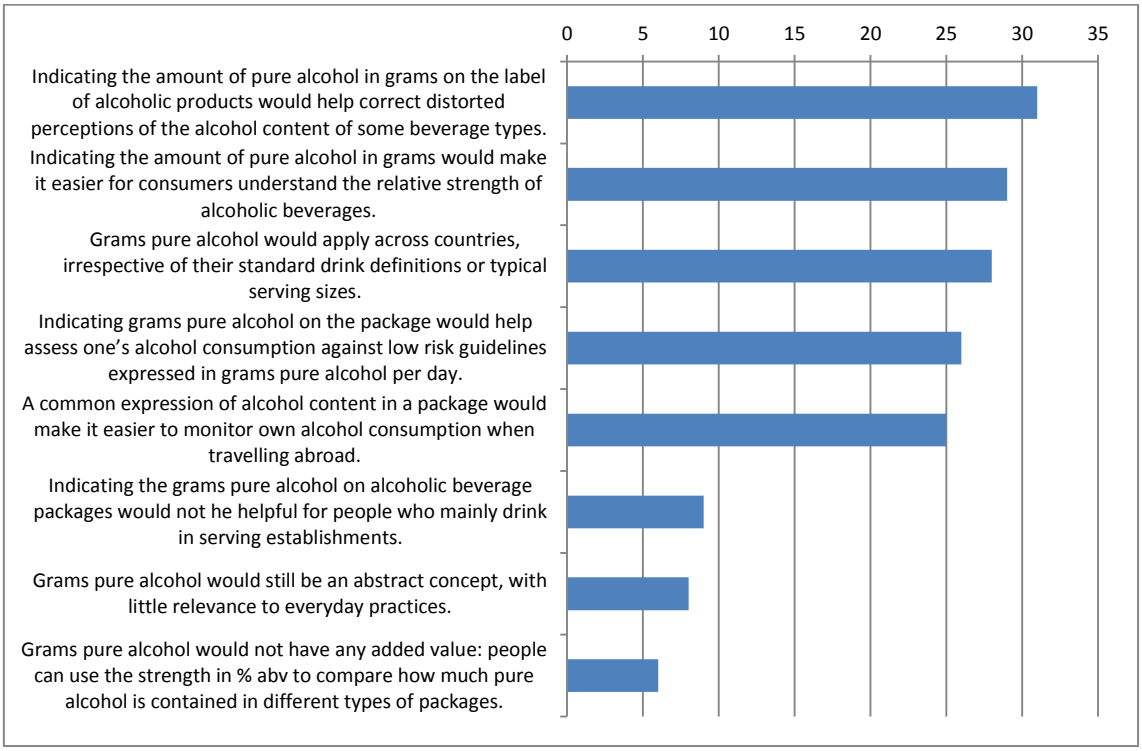
At the moment, EU law requires the alcoholic strength of alcoholic beverages to be given on the package in percentage of pure alcohol by volume (% abv). In the first round of the Delphi survey, panelist were presented a list of arguments for and against using grams to indicate the amount of pure alcohol in a package (in addition to the % abv) and requested to select the ones they agree with. The arguments were developed based on comments presented in the background survey.

The most widely supported arguments were that indicating the amount of pure alcohol in grams on the label of alcoholic products would:

- help correct distorted perceptions of the alcohol content of some beverage types, and
- make it easier for consumers to understand the relative strength of alcoholic beverages.

A further widely supported point was that grams pure alcohol would apply across countries, irrespective of their standard drink definitions or typical serving sizes. (Graph 28)

Graph 28. Agreement with arguments for and against using grams to indicate the amount of pure alcohol in a package (in addition to the % abv) (Round 1, N=37)



A few more arguments against the grams-in-the-package approach were presented by commentators:

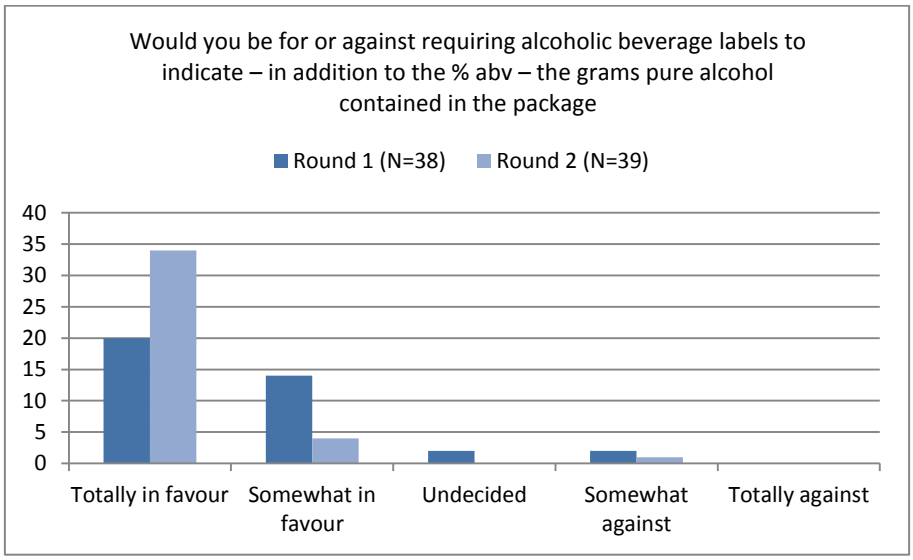
- The current indication of % pure alcohol by volume expresses the strength fairly well.
- Standard units are a more useful tool for prevention.
- Alcohol is shared, so nobody knows how much you personally consume.

Further arguments were presented also for the grams-in-the-package approach, some highlighting possible ways to enhance their usefulness:

- You have to explain what is a "unit", whereas a "gram" and "pure alcohol" do not require explanation.
- Indicating both grams and "standard drinks" (or "units") on packaging would help increase consumer understanding.
- Although grams in the package would be a perfectly standard metric for the off-trade, a parallel approach would need to be develop for the on-trade.
- Information on garms of alcohol in beverages should be provided also in schools and through popular media.
- Information alone is not sufficient but should be part of a broader policy mix including for example training for alcohol servers.

In both rounds, panelists were invited to take a stand for or against a requirement to indicate on the package the number of pure grams alcohol it contains. The policy received wide support in the first round and the support increased in the second. (Graph 29)

Graph 29. Support for requiring alcoholic beverage labels to indicate the grams pure alcohol contained in the package (Rounds 1 & 2)



The remaining opposition in the second round was based on the fear that giving "standard drinks" or grams pure alcohol on the label might downplay the amount of alcohol contained and thereby contribute to increased consumption.

Health related information on alcoholic beverage packages

According to EU law, nutrition information shall be provided on all foodstuffs as of 13 December 2016. Alcoholic beverages are provisionally exempted from the obligation to provide nutrition information, such as the amount of sugar or calories. Alcoholic beverages are required to provide information on certain allergens but not to present a full list of ingredients. The European Commission is expected to produce a report concerning the application of rules on ingredient listing and nutrition declaration to alcoholic beverages and to accompany the report by a legislative proposal, if appropriate.[6]

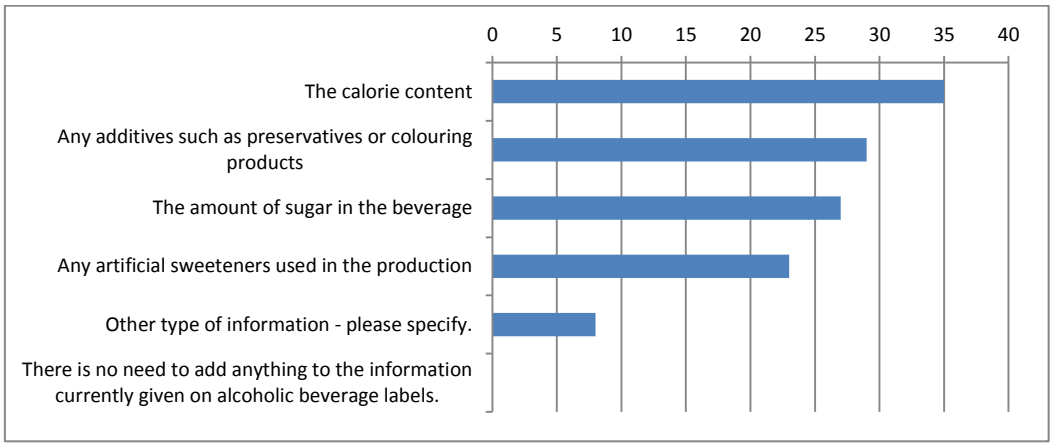
In the first round of the Delphi survey, panelists were shown types of health related information that could be given on alcoholic beverage packages and asked to indicate the information they consider the most useful for consumers. The calorie content was considered by far the most important. Indication of any additives – such as preservatives or colouring products – as well as the amount of sugar or sweeteners used in the production were also considered important. (Graph 30)

Other types of information suggested by panelists included:

- all ingredients – as required for other foodstuffs
- allergens – already required on alcoholic beverages but with some exceptions
- nutrients – mineral, vitamin or salt content
- percentage of recommended daily calorie intake.

[6] Regulation (EU) No 1169/2011 of the European Parliament and of the Council of of 25 October 2011 on the provision of food information to consumers. OJ L 304, 22.11.2011, p. 18–63.

Graph 30. Health related information to be conveyed to consumers on alcoholic beverge packages (Round 1, N=38)



It was also suggested to accompany the alcohol content in the package with "safer use" information such as drinking water or non alcoholic drinks in between.

Furthermore, there were suggestions regarding messages to alert to specific risks concerning:

- alcohol consumption during pregnancy
- drink driving
- mixing alcohol with medications
- vulnerability of minors
- effects on the brain
- loss of self-control
- violence
- decreased perception of risk
- addictive nature of alcohol

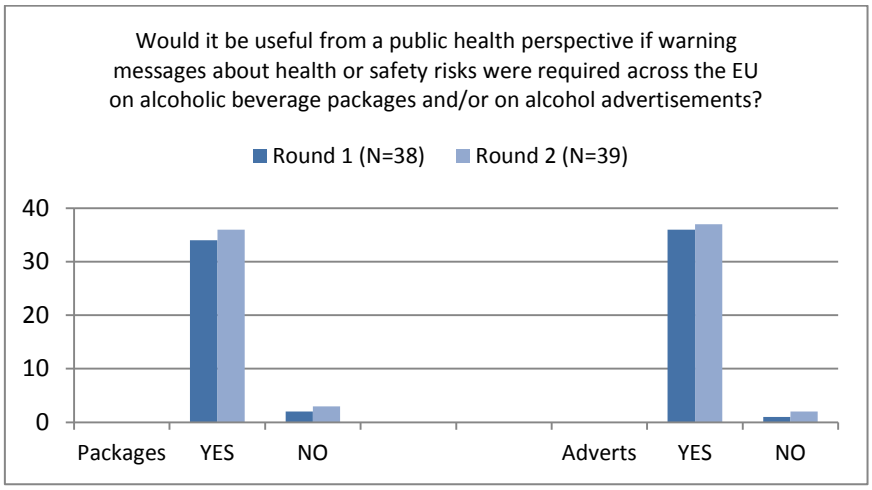
One commentator highlighted warning messages on cigarette packs as an example to follow while another one warned against: "see the problem on cigarette packaging, with so many warnings [sic] that it's impossible to read them".

Warning messages about health and safety risks

In both rounds of the survey, panelists were presented a direct question regarding their views on mandatory messages about health or safety risks on alcoholic beverage packages and/or on alcohol advertisements. As background they were informed that according to the WHO's Global status report on alcohol and health (WHO 2014) in one EU country all alcoholic beverage packages are required by law to carry a message about risk to health and in eight EU countries alcohol advertisements are required by law to carry a message about health or safety risk.

The replies indicated wide support – nine in ten respondents – for requiring by law across EU countries messages about health or safety risks on alcoholic beverage packages and on alcohol advertisements, with slight increase in the second round. (Graph 31)

Graph 31. Support for mandatory messages about health or safety risks on alcoholic beverage packages and on alcohol advertisements (Rounds 1 & 2)



The arguments presented in the two survey rounds against risk related messages were that:

- Health hazards of alcohol are generally known.
- There is already too much information on alcoholic beverage packages.
- Plenty of information presented in small print does not get read.
- Specific campaigns targeting certain information would be more useful.

It was furthermore argued that information should be provided on spirit drinks but not on beer and wines, and that the warnings should not be disproportionately large.

One commentator argued specifically against providing information about liver diseases.

> *I do not agree with calls for diseased livers to be included on labels. This seems disproportionate and fails to recognise that the individual-level risks from moderate drinking are small and that the vast majority of drinkers are consuming within the guidelines.*

Arguments in favour of providing information about health or safety risks were that:

- Obtaining information is the consumer's right.
- Providing information about the risks of alcohol would make for coherent public health policy (cf. smoking, sugar…).
- Providing information makes sense if it fills in gaps in information.
- Information should be provided also regarding risks for other people.

Moreover it was suggested that the term "information" would be more appropriate than "warning" and highlighted that the information should have a firm scientific basis.

Concluding remarks

Joint Action RARHA's work package "Guidelines" is intended to clarify the science underpinnings as well as practical and policy implications concerning "low risk" drinking guidelines. Taking as the starting point the current variation in national drinking guidelines, the Delphi survey reported here was designed to help explore whether some degree of consensus could be achieved in this area. The aim is to work towards consensus on good practice principles in the use of drinking guidelines as a public health measure. To that end the Delphi survey around "low risk" drinking gives grounds at least to the following observations.

Drinking guidelines as a public health measure

Among the expert panel, there is at least fairly broad consensus that:

- Providing the general population with guidelines on "low risk" drinking is justified. (Graph 2)
- The main rationale for "low risk" guidelines is that consumers have the right to be informed about risks related to alcohol consumption and that it is a responsibility for governments to provide such information. (Graph 3)
- "Low risk" drinking guidelines may help correct misconceptions regarding the nature of alcohol related harm but should be seen as just one tool in the portfolio of measures to curb alcohol related harm. (Graph 3; page 9)
- The purpose of "low risk" drinking guidelines is to inform alcohol consumers and others about alcohol related risks and to draw all alcohol consumers' attention to the risks that may be involved in their drinking habits. (Graph 6)
- The core message in "low risk" drinking guidelines is about risk rather than safety. (Graph 6)
- The purpose of "high risk" drinking guidelines is to draw all alcohol consumers' attention to the risks of their drinking habits and to encourage "at risk" drinkers reduce the amounts they are consuming. (Graph 7)
- Guidelines are needed separately concerning drinking over longer periods of time and concerning drinking on a single occasion. (Graph 5)
- The purpose of guidelines concerning drinking on single occasions is to help reduce the risk of accidents and injuries due to intoxication but also to alert to the risk of social harms to the drinker and to harms caused to other people. (Graph 8)
- Single occasion drinking guidelines are intended to draw all alcohol consumers' attention to the risks that may be involved in their drinking habits. (Graph 8)
- When giving a maximum number of (standard) drinks not to be exceeded on a single occasion it would be useful to specify a duration in hours. (Graph 9)
- Communications about "low risk", "high risk" and single occasion drinking guidelines may all contribute to influencing attitudes and drinking habits in the whole population. (Graphs 6-8; page 14)
- "Low risk" drinking guidelines should be specified separately for women and men. (Graph 10)
- For young people any consumption of alcohol entails risk and the message should be that under-18s should not drink at all. (Graph 12)
- Providing "low risk" guidelines for under-18s would be counterproductive. (Graph 12)
- Guidelines regarding drinking by older people are needed, at least to alert to risks concerning medications, co-morbidities and accidents. (Page 19)

- Drinking guidelines are not an appropriate way to address socioeconomic inequalities in health. (Pages 20-21)

Panelists' views differ on:

- Whether or not drinking guidelines can be presented in a way that contributes to reductions in alcohol related harm. Skepticism and uncertainty is mainly related to the complexity of the issue which presents a challenge for communication. (Pages 8-9; page 28)
- The usefulness of a harm reduction approach regarding drinking by young people, whereby "low risk" guidance would be provided to under-age drinkers, and the usefulness of a cautious approach whereby "low risk" guidance would be targeted to young adults over 18 years. (Graph 11; page 17)

Methodological issues

Among the expert panel, there is at least fairly broad consensus that:

- The available science is solid enough for assessing risks of alcohol at polulation level. (Graph 3; page 22)
- Despite limitations in epidemiological study there is consistent evidence of a causal impact of the volume of alcohol consumption on a number of diseases. (Graph 14)
- Further research may increase understanding of confounders and the relationship between alcohol consumption and health conditions but the main body of science in this area is likely to remain valid. (Graph 14)
- Further evidence on the association between alcohol consumption and health conditions continues to accumulate and, in general, becomes stronger rather than weaker. (Graph 14)
- A weakness of mortality data is that it does not capture the full spectrum of alcohol related health outcomes. (Page 24)
- Even with limitations, mortality data is the most usable measure of alcohol related health harm available for epidemiological analysis of risks. (Graph 15)
- Although it would be desirable in alcohol risk analysis to complement mortality data with information on morbidity, the available data and methodology do not allow robust estimation of morbidity-specific risk curves.(Pages 24-25)
- It would be useful to quantify and take into account also harms experienced by people other than the drinker but to frame and inform "low risk" guidelines rather than as a factor in risk analysis. (Pages 25-26)
- Topics for further research include dose-response relationships between alcohol consumption and morbidity and the role of heavy drinking patterns in the risk of alcohol related mortality and morbidity. (Graph 16)

Panelists' views differ on:

- The adequacy of self-reports in capturing alcohol consumption and the adequacy of current knowledge of causality and risks for assessing the impact of alcohol on population health. (Graph 14)
- Whether further research should focus on social harms to the drinker or on social harms to others. (Graph 16)

Communication aspects

Among the expert panel, there is at least fairly broad consensus that:

- The most important point to highlight in "low risk" communication in order to prevent unwanted effects is that "low risk" drinking does not mean "no risk'". (Graph 17)
- It is important to communicate that occasional heavy drinking and daily drinking are both potentially harmful drinking patterns. (Graph 17)
- There are at-risk groups and high-risk situations that call for special attention in risk communication. Important at-risk groups include people with risk of adverse interaction of alcohol with medications and people at increased risk of dependence or aggravation of existing problems, in particular related to mental health and substance use. (Graph 18)
- The most important high-risk situations where the safest option is not to drink at all involve pregnancy, driving, work, or tasks that require concentration. (Graph 19)
- Particular harms that should be highlighted in alcohol risk communication include increased risk of cancer and risk of adverse effects on the family. (Graph 20)
- "Low risk" communication should not highlight potential positive health effects of alcohol. (Page 31)
- Pre-existing perceptions of risk or harm should be taken into account when designing alcohol risk communications. Page 31)

Panelists' views differ on:

- Whether positive health effects should be just excluded from "low risk" communication or whether messages to counteract misconceptions regarding positive effects should be included. (Page 31)

Possibility to move towards common guidelines

Among the expert panel, there is at least fairly broad consensus that:

- A common definition of "low risk" drinking, agreed among European public health bodies, would be desirable. (Graph 21)
- The preferred approach towards a common view of what would consitute a low risk level of alcohol consumption – a level beyond which potential risks are likely to overweigh potential health benefits – would be to designate a task group to review available evidence, including results of quantitative risk modelling, and to seek consensus on conclusions and recommendations. (Graph 22)
- Such a task group should comprise public health stakeholders and incorporate a broad range of expertise and experience. (Page 40)
- The most relevant aspects to be taken into account by a task group would include a clear criterion for defining a "low" level of risk, the overall burden of alcohol-related harm at national level and medical/public health stakeholders' views. (Graph 25)
- If a common criterion for a "low" level of risk in terms of alcohol-attributable deaths in working-age population was to be adopted, the order of 1/100 would be preferred over 1/1000. (Graph 23; Page 38)

Panelists' views differ on:

- The feasibility of implementing common "low risk" guidelines. Skepticism is mainly based on cross-country differences in drinking cultures and the existence of established national drinking guidelines. (Page 34)

- Whether the threshold of "low" risk of working-age death due to alcohol could be simply set at 1/100, following the example of Australia, or whether the issue should be placed in the hands of an international body. (Graph 23)

Practical aspects related to the labelling of alcoholic beverages

Among the expert panel, there is at least fairly broad consensus that:

- Agreeing on a common definition of "standard drink" would be desirable. (Graph 27)
- A common definition would widen the reach of information campaigns and bring added value by drawing attention to the amount of pure alcohol contained in various types of beverages. (Graph 26)
- The amount of pure alcohol in grams contained in a bottle (or other package) could be given on the label to help consumers understand the relative strength of beverages and to assess the amounts of alcohol they are consuming. (Graphs 28-29)
- Health-related information should be provided on alcoholic beverages like on foodstuffs in general. Information on the calorie content would be crucial, along with full information on additives, preservatives and allergens. (Graph 30; page 30)
- Alcoholic beverage packages should carry (alternating) information messages on a variety of health and safety risks. (Page 49)
- Information on health and safety risks related to alcohol consumption should be required by law on both alcoholic beverage packages and on alcohol advertisements. (Graph 31)

Panelists' views differ on:

- While a common definition of "standard drink" would be desirable, doubts existed regarding feasibility: the existence of established national definitions was considered a challenge by some panelists. Rather than trying to agree on a common definition, two alternative approaches were suggested: using grams pure alcohol when communicating guidelines to the public and when indicating the alcohol content in a bottle, for example, or just giving guidelines in terms of "drinks" without defining the exact size. (Page 46)

Application of the Delphi method

The Delphi method enables panelists to revise their positions and arguments in light of the replies from others or present further arguments to back up their own views. The process normally increases consensus at least to some degree and at least on some of the topics addressed.

The Delphi survey reported here comprised both closed and open-ended questions and invited respondents to enter comments and suggestions. Plenty of comments expressing a wide range of views were provided. Nevertheless, few shifts in opinions were observed between the first and second round of the survey, in particular regarding the key question about the desirability of "low risk" drinking guidelines. A clear majority of the panelists were supportive of providing the general population with "low risk" drinking guidelines already at start, and the minority views opposed to "low risk" guidelines, while based on different premises, remained constant through the two survey rounds. Non-mainstream views expressed in comments in the first round were brought to the attention of the full panel in the second round but in many cases failed to find broader acceptance.

The examples above of topics on which panelists' views differed concern points on which further deliberation might be useful. Further infrequent non-mainstream comments have been reported in the preceding chapters.

A wider alcohol policy framework

Two comments from the second round of the Delphi survey serve to highlight that "low risk" drinking guidelines, whether supported by experts in the field or not, are not a key instrument for reducing alcohol related harm.

> *We disapprove of "low risk" drinking guidelines. Information - - - is being disseminated [by] doctors, employers, educational institutions, health institutions, public health institutions, municipalities and governmental institutions, non-governmental organizations and others. There is enough information about the damages of alcohol, but the public still consumes a lot of alcohol. Beverage guidelines will not solve the problems. Further actions are needed.*
>
> *In guidelines, it is important to acknowledge other elements related to patterns of drinking such as: - - - Moderate drinkers may drink excessively or inappropriately on occasion. Drinking patterns are not fixed for life. Heavy drinking is closely related to drinking in general. Social environments in which alcohol is cheap and easily accessible and in which cultural norms tolerate heavy consumption have higher levels of alcohol problems.*

Information alone cannot do much more than inform consumers on the risks of their alcohol consumption and correct misconceptions that may contribute to ill-advised choices. While consumers have a right to be informed, in the broader alcohol policy framework consumer information is but one component in the policy mix.

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Annexes

Annex 1: Work Package 5 "Guidelines" partners 2014–2016

The following Joint Action RARHA partners contributed in 2014–2016 to Work Package 5: "Good practice principles in the use of drinking guidelines to reduce alcohol related harm"

	Partner Organization	Participants
AT	Gesundheit Österreich GmbH (GÖG)	Alfred Uhl
BE	Service public fédéral Santé publique (SPF)	Mathieu Capouet
HR	Croatian Institute of Public Health (CIPH)	Iva Pejnović Franelić
HR	Institute of Public Health A Stampar (IPHAS)	Marina Kuzman
CY	Ministry of Health	Lampros Samartzis
CY	Cyprus Anti-Drugs Council (CAC)	Leda Christodoulou
DK	Health and Medicines Authority (SST)	Kit Broholm
EE	National Institute for Health Development (TAI)	Maris Jesse Mariliis Tael-Öeren
FI	National Institute for Health and Welfare (THL)	Pia Mäkelä Marjatta Montonen
FR	National Association on Addictology (ANPAA)	Claude Rivière
DE	Coordination office for drug-related issues, Landschaftsverband Westfalen-Lippe (LWL)	Doris Sarrazin Rebekka Steffens
DE	Federal Centre for Health Education (BzGA)	Axel Budde
IS	Directorate of Health (EL)	Rafn M Jónsson
IE	Health Research Board (HRB)	Deirde Mongan Jean Long
IE	Health Service Executive (HSE)	Sandra Coughlan Joseph Doyle Andy Walker
IT	Istituto Superiore di Sanità	Emanuele Scafato Claudia Gandin Silvia Ghirini Sonia Martire Lucia Galluzzo
MT	Foundation for Social Welfare Services (FSWS)	Manuel Mangani
NO	Institute of Public Health (FHI)	Vigdis Vindenes Gudrun Høiseth Stig Tore Bogstrand
PL	State Agency for the Prevention of Alcohol-Related Problems (PARPA)	Katarzyna Okulicz-Kozaryn Krzysztov Brzozka
PT	Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências (SICAD)	Graça Vilar Natacha Torres da Silva

SI	National Institute of Public Health (NIJZ)	Sandra Radoš Krnel
ES	Ministry of Health, Social Services and Equality	María V. Librada Tomás Hernández Pilar Campos
ES	Public Health Agency of Catalonia, Generalitat de Catalunya (GENCAT)	Joan Colom
CH	Federal Commission for Alcohol Issues (FCAL)	Michel Graf Jann Schumacher
UK	Liverpool John Moores University (LJMU)	Lisa Jones Geoff Bates
(BE)	European Alcohol Policy Alliance (Eurocare)	Mariann Skar Sandra Tricas-Sauras Aleksandra Kaczmarek Nils Garnes

Annex 2: Work Package 5 development group for the Delphi survey around "low risk" drinking

The following Joint Action RARHA partners contributed to the development of the "low risk" drinking Delphi survey

	Partner Organization	Participants
HR	Croatian Institute of Public Health (CIPH)	Iva Pejnović Franelić
CY	Cyprus Anti-Drugs Council (CAC)	Leda Christodoulou
EE	National Institute for Health Development (TAI)	Mariliis Tael-Öeren
FI	National Institute for Health and Welfare (THL)	Marjatta Montonen Pia Mäkelä
FR	National Association on Addictology (ANPAA)	Claude Rivière
DE	Landschaftsverband Westfalen-Lippe (LWL)	Doris Sarrazin Rebekka Steffens
	Federal Centre for Health Education (BzGA)	Axel Budde
IE	Health Service Executive (HSE)	Sandra Coughlan
IT	Istituto Superiore di Sanità	Claudia Gandin Emanuele Scafato
NO	Institute of Public Health (FHI)	Gudrun Høiseth
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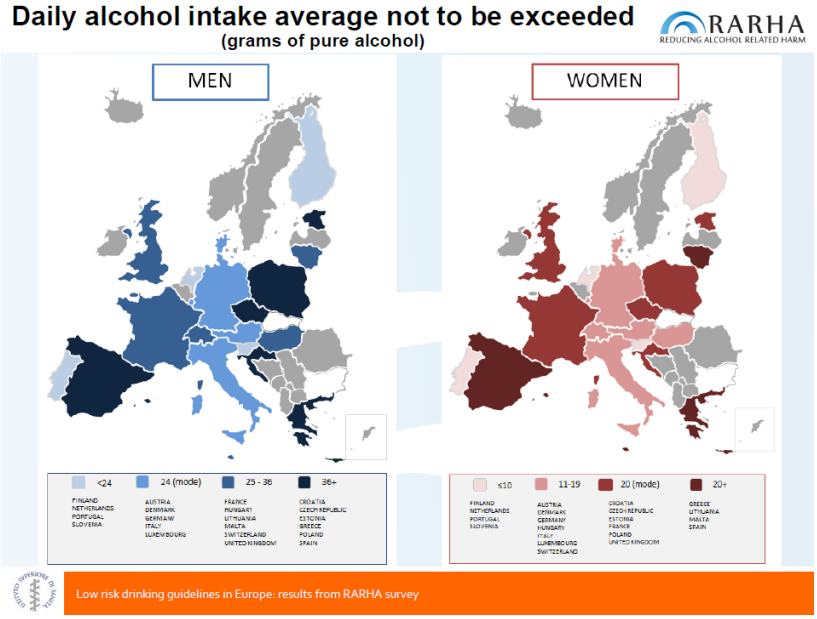
PT	Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências (SICAD)	Madalena Cruchinho Graça Vilar
SI	National Institute of Public Health (NIJZ)	Sandra Rados-Krnel
ES	Ministry of Health, Social Services and Equality	Tomás Hernández María V. Librada
CH	Federal Commission for Alcohol Issues (FCAL)	Michel Graf
(BE)	European Alcohol Policy Alliance (Eurocare)	Aleksandra Kaczmarek Sandra Tricas-Sauras

Annex 3: Background information and feedback provided and in the Delphi survey for questions relating to the need of gender-specific guidelines

Round 1: Need for gender specific low risk guidelines

According to information collected by the Italian Istituto Superiore di Sanità for RARHA, in all partner countries where guidelines on low risk drinking have been formulated, the level defined as "low risk" is lower for women than for men.



The typical justification is that women are generally more vulnerable to the effects of alcohol, mainly because they reach a given blood alcohol concentration with a smaller amount of alcohol than men.

The recent **Canadian** low risk guidelines specify a different level of average alcohol intake for women and for men whereas the recent Australian guidelines on average low risk intake are the same for women and men.

The **Canadian** guidelines are based on estimates of relative risk of death at different levels of alcohol consumption, examined separately for conditions where the risk estimates are similar for women and men, and separately for conditions where they differ, so that they imply for certain conditions (hemorrhagic and ischemic stroke, diabetes) greater benefits for women at lower levels of alcohol consumption but more rapidly escalating risk with increased consumption.

The rationale in **Canada** for specifying a different "low risk" level for women an men is that the increase or decrease in the risk of adverse health outcomes is probably of more interest to alcohol consumers than the background level or the general risk associated with their gender.

The **Australian** guidelines are based on an approach where relative risk estimates for alcohol related disease and injury – basically the same best estimates that were used in **Canada** – were combined with data on the absolute lifetime risk of death for different age and gender groups.

In **Australia** it was found that while there is little difference between men and women in risk at low levels of alcohol consumption, at higher levels of drinking the lifetime risk of alcohol-related disease increases more quickly for women and the lifetime risk of alcohol-related injury increases more quickly for men.

The rationale in **Australia** for specifying the same "low risk" level for women and men is that the generally higher relative risk for women for adverse health outcomes due to alcohol is balanced out by the higher general risk for men for most causes (the risk being higher even for non-drinking men).

In your view, should the guideline on what consitutes a low risk level of drinking be different for women and for men? Please justify in the "comment" box.

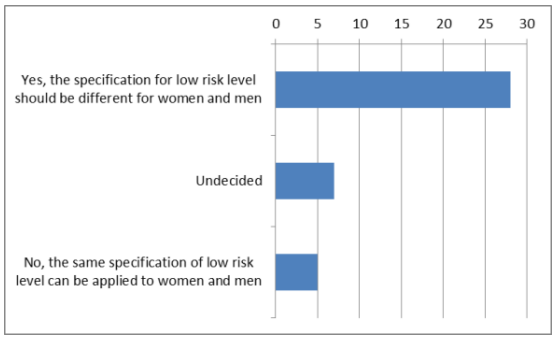
- Yes, the specification for low risk level should be different for women and men
- No, the same specification of low risk level can be applied to women and men
- Undecided

Round 2: Gender-specific low-risk guidelines

RESULTS FROM ROUND 1

Some respondents in the 1st round thought that giving the same "low risk" consumption level for women and men might be justified. A clear majority thought, however, that "low risk" drinking guidelines should be specified separately for women and men.

The graph below shows the replies to the question "In your view, should the guideline on what constitutes a low risk level of drinking be different for women and for men?"



The arguments presented to justify gender-specific guidelines were based on:

- Physical differences: at the same level of alcohol intake, women reach higher BAC levels than men.
- Biological differences: different risk of adverse health outcomes, different risk curves, different mortality structures.
- Specific risks incurred by women: for example risk of breast cancer or risk of sexual aggression.
- Risk of harm to the foetus due to alcohol exposure during pregnancy.
- The broad acceptance of a gender difference in this area – it would be difficult to argue otherwise.

Arguments that might support a single "low risk" specification included that:

- It would be easier to communicate a single guideline to the population.
- Women are less prone to risky behaviour than men.
- People adjust their drinking according to the effects of alcohol they experience; therefore most women tend to drink less than males.

In Australia, the approach of giving the same "low risk" guideline for women and men is based on the higher overall risk of death due to injury and disease; even if the risk of harm for women rises faster with increased drinking, women can still drink more before reaching the higher overall level of risk for men.

The next question invites you to consider the same issue again.

In your view, should the guideline on what consitutes a "low risk" level of drinking be different for women and for men?

- Yes, the specification for low risk level should be different for women and men
- No, the same specification of low risk level can be applied to women and men
- Undecided

Annex 4: Background information provided in the Delphi survey relating to lifetime risk of death due to alcohol in selected European countries

When deciding on guidelines for low-risk drinking – no matter what the methodology followed – one central task is to review and summarize the scientific literature on the health impacts of alcohol and how that impact varies with increasing amount of consumption. In Joint Action RARHA, the approach for this task was to use existing meta-analyses to assess the impact of alcohol, and to calculate the combined impact across various outcomes at given levels of consumption, taking into account that in different European countries some outcomes are more common than in others. This task of pooling and combining the information from the various meta-analyses and applying it to European countries was given to Dr Jürgen Rehm and colleagues with the Centre for Addiction and Mental Health in Ontario, Canada. Here we summarize the central methodology and results from that endeavor.

The method for risk calculation used by the CAMH research team is comparable to the methods recently used in Canada and Australia to provide basis for formulating national guidelines for limiting alcohol consumption in order to reduce risks of harm. The major difference between the Canadian and Australian approaches is that while both take as the starting point the relative risks of dying from alcohol attributable conditions at different consumption levels, based on comparisons between alcohol consumers and lifetime non-drinkers, the Australian approach goes on to examine how relative risks translate into absolute risk of death over the lifetime, assuming the individual's average level of alcohol consumption stays the same. ***In the study carried out for RARHA, the Australian approach was used, with some methodological refinements.***

The approach allows to combine the risk of different outcomes and present the results – the lifetime mortality risk – on a scale that is comparable to other risk factors. Lifetime mortality risk is a standard for evaluating risks to public health in many contexts.

The study carried out for RARHA took as benchmark the level of risk of death of 1 in 1000, commonly considered "acceptable" for voluntary risks affected by people's own behavior choices, as opposed to involuntary risks beyond the individual's control, such as environmental risks, where the threshold of acceptable risk of lifetime mortality may be 1 in a million.

The focus in the work done for RARHA was specifically on the EU, with seven countries selected to represent variation across countries in drinking patterns, cause-of-death structure and life expectancy: Estonia, Finland, Germany, Hungary, Ireland, Italy and Poland.

Population data and mortality data for these countries were obtained from the WHO. The diseases and injuries causally impacted by alcohol that were taken into account were largely the same as in the Global Burden of Disease and Injury 2010 Study. The proportions of alcohol attributable mortality by country, age, sex and cause of death were derived from the WHO's Global Status Report on Alcohol and Health 2014. The relative risk functions (with lifetime non-drinkers as the reference category) were derived from available meta-analyses.

The study assessed the risk of alcohol-attributable death at different levels of average daily alcohol consumption in the range of 10, 20, …, 100 g pure alcohol per day, when the risks of various individual causes of death were combined by weighted summation. Combining disease-specific risks was considered to lead to more accurate estimates than using the overall risk function between alcohol use and mortality because the cohorts used in all-cause mortality studies tend to have a more favorable health profile than general populations.

Death due to alcohol related injury was included in the calculation of lifetime risks in relation to daily average alcohol consumption. (Acute risks of alcohol related fatal and non-fatal injury associated with different levels of alcohol intake were examined separately based on available meta-analyses.)

All calculations were performed separately for men and women and separately for the countries investigated. In the calculation, the same absolute country and age specific mortality risk was assumed for non-drinker men and non-drinker women. This is because with sex-specific risk estimates, women's lower lifetime mortality risk would conceal their generally higher relative risk of alcohol attributable mortality. A sensitivity analysis was carried out using sex-specific mortality risk which did not alter the key findings of the main analysis.

The findings indicated that:

- An average level of alcohol use of 10 g pure alcohol per day over a lifetime (up to the age of 75 years) is associated with more protective than detrimental effects for both women and men in most countries investigated.
- Assuming the same risk for non-drinking men and women, for any levels above 10 g per day the same amount of drinking leads to higher absolute mortality risks for women than for men across the countries investigated.
- Drinking 20 g pure alcohol per day puts both men and women above the threshold for lifetime mortality risk of 1 in 1000 in all countries investigated, except for men in one country.
- In many of the countries, drinking 20 g pure alcohol per day exceeds even the much less conservative threshold of alcohol related lifetime mortality risk of 1 in 100.
- If low risk drinking guidelines were to be based on the lifetime mortality risk of 1 in 1000 – a generelly accepted level of risk from voluntary behaviors – the maximum level of alcohol consumption across EU countries would be one drink a day.

Rehm, J. et al. Lifetime-risk of alcohol-attributable mortality based on different levels of alcohol consumption in seven European countries. Implications for lowrisk drinking guidelines. Centre for Addiction and Mental Health, Toronto, Ontario, Canada, 2014.

5 Thematic structure of the Delphi survey

The table below shows the thematic structure of the Delphi survey as well as the questions presented in the first and second round respectively. Repeat questions are marked with a dark background and examples of actual question texts are highlighted in italics. The numbering excludes questions relating to the expert's background.

Drinking guidelines as a public health measure	
ROUND 1 questions	**ROUND 2 questions**
Conceptual clarification	
1 What could be considered "low risk" drinking	1 Is there adequate scientific basis for "low risk" drinking guidelines
6 Rationale for guidelines on "low risk" drinking	2 Purposes of "low risk" drinking guidelines 3 Purposes of "high risk" drinking guidelines
11 Need for guideline concerning risky single occasion drinking	4 Purposes of guidelines concerning single drinking occasions 5 How to formulate guidelines concerning single drinking occasions
9 Need for gender specific low risk guidelines	6 Need for gender-specific low-risk guidelines
10 What would be "low risk" drinking for young people	7 "Low risk" guidelines for young people – arguments for and against
	8 Need for drinking guidelines for older people
	9 "Low risk" drinking guidelines and health inequities
Methodological issues	
4 Pros and cons of relying on mortality data	10 Use of mortality data
5 Other factors to take into account	11 Taking into account morbidity 12 Harms to others
	13 Pointers for further reasearch
Communication aspects	
	14 Points to highlight to prevent unwanted effects 15 At-risk groups or high-risk situations that call for caution 16 Situations in which no alcohol is advisable 17 Particular harms to highlight in "low risk" communication 18 Positive health effects of alcohol
Support for "low risk" drinking guidelines as a public health measure	
7 Desirability of "low risk" drinking guidelines Would you be supportive or against providing the general population with "low risk" drinking guidelines?	19 Desirability of "low risk" drinking guidelines In sum, taking into account the views expressed by the experts participating in this Delphi survey, would you now be supportive or against providing the general population with "low risk" drinking guidelines?

Possibility to move towards common guidelines	
	20 Possibility of a common definition of "low risk" drinking? [Discussion-style question] When you look at the table [provided as prompt] and consider the benefits and obstacles that may be involved, as well as the situation in your own country, what do you think about the possibility to move towards a common guideline on "low risk" drinking? Which of the two "target levels" to limit the risk of harm from alcohol at population level do you think would be more likely to be acceptable among public health decision-makers in EU countries? Or should a higher level of protection of public health be aimed at?
8 Desirability of a common EU definition of low risk drinking	21 Desirability of a common definition of "low risk" drinking
3 How to set the threshold for low risk from alcohol	22 How to set the threshold for low risk from alcohol
2 How to assess the science regarding health risks from alcohol	23 Who could set up a task group 24 Aspects to take into account
Practical aspects related to the labelling or alcoholic beverages	
12 Arguments for and against a common definition of "standard drink"	
13 Usefulness of a common definition of "standard drink"	25 Usefulness of a common definition of "standard drink"
14 Pros and cons of indicating grams pure alcohol in a package	
15 Requiring alcoholic beverage labels to indicate the grams pure alcohol in the package.	26 Requiring alcoholic beverage labels to indicate the grams pure alcohol in the package
16 Health related information on alcoholic beverage packages	
17 Warning messages on alcoholic beverage packages and advertisements	27 Warning messages on alcoholic beverage packages and advertisements

6 Example of "lateral thinking" bracketed out from the Delphi survey

Comment provided by a panelist in response to a question on how to set the threshold for low risk from alcohol:

> *Thermometer model that indicates WHAT the SPECIFIC risks are at each level and style of alcohol consumption, as such empowering drinkers to think about their own genetic frailties, personal preferences, and so on to determine their own acceptable level of drinking. Each time new evidence on disease and mortality caused by alcohol is published, this should be added to the empowering low risk drinking model.*
>
> *For prevention purposes on individual level, this model could be combined with a questionnaire assessing the different parameters that are important to evaluate the style/ level of risky drinking: average (per week/ month/ year); binge drinking; alcohol free days, combined with personal information (age, weight, gender, comorbidity, etc.). After the respondent finds his score and the risks he exposes himself to, the test could ask what for him a sensible drinking guideline would be.*
>
> *Finally on population level, this pooled information from all European respondents doing the test could serve as basis for social norms reinforcement in the form of campaigns etc.*

The feasibility of this example of "lateral thinking" was not submitted to scrutiny by the panel as it is was considered too far removed from the population-based and public health policy-oriented approach of Joint Action RARHA.

Annex 7: Experts on the panel for RARHA Delphi survey on "low risk" drinking

The experts below agreed to be cited as members of the "low risk" Delphi survey panel. The panelists replied to the survey as knowledgeable individuals, not as official representatives of their organization.

Alexandra Almeida, Unidade de Alcoologia de Coimbra, Central Region Health Administration, Portugal
Kit Broholm, Health and Medicines Authority, Denmark
Anina Chileva, National Centre of Public Health and Analyses, Bulgaria
Leda Christodoulou, Anti-drugs Council, Cyprus
Joan Colom, Public Health Agency of Catalonia, Department of Health, Government of Catalonia
Michel Craplet, National Association on Addictology ANPAA, France
Plamen Dimitrov, National Centre of Public Health and Analyses, Bulgaria
Geert Dom, Antwerp University, Belgium
Iñaki Galán Labaca, Institute of Health Carlos III, Spain
Claudia Gandin, Istituto Superiore di Sanità, Italy
Sandra B. van Ginneken, Institute for Alcohol Policy STAP, the Netherlands
Michel Graf, Federal Commission for Alcohol-related Issues, Switzerland
Antoni Gual, Hospital Clinic of Barcelona, Spain
John Holmes, University of Sheffield, United Kingdom
Johan Jongbloet, Flemish centre of expertise alcohol and other drugs, Belgium
Rafn M. Jónsson, Directorate of Health, Iceland
Eileen Kaner, Newcastle University, United Kingdom
Serge Karsenty, University of Nantes, France
Anna Kokkevi, Athens University, Greece
Tamás Koós, National Institute for Health Development, Hungary
Sveinbjörn Kristjánsson, Directorate of Health, Iceland
Juan A. López-Rodríguez, Rey Juan Carlos University, Spain
Julian Mamo, University of Malta, Malta
Deirdre Mongan, Health Research Board, Ireland
Jørg Mørland, Institute of Public Health, Norway
Tiia Pertel, National Institute for Health Development, Estonia
Irene Prestøy Lie, Directorate of Health, Norway
Marion Rackard, Health Service Executive, Ireland
Sandra Radoš Krnel, National Institute of Public Health, Slovenia
Silviu Radulescu, National Institute of Public Health, Romania
Mark Robinson, NHS Health Scotland, United Kingdom
Danica Romac, Institute of Public Health A. Stampar, Croatia
Ingeborg Rossow, Institute of Public Health, Norway
Hans-Jürgen Rumpf, University of Lübeck, Germany
Emanuele Scafato, Istituto Superiore di Sanità, Italy
Artur Schroers, Sucht- und Drogenkoordination Wien, Austria
Emilis Subata, Vilnius Center for Addictive Disorders, Lithuania
Mariliis Tael-Öeren, National Institute for Health Development, Estonia
Alfred Uhl, Gesundheit Österreich GmbH, Austria
Françoise Vogel, Social Servives of the City of Winterthur, Switzerland
Marcin Wojnar, Medical University of Warsaw, Poland

Annex 8: Background information provided in the Delphi survey relating to acute risk as a result of drinking per occasion

The report by Rehm & al (2015) presents data from meta-analyses that summarise the relationship between acute alcohol intake and risk of injury, for fatal and non-fatal outcomes (1,2). The risk curves in the figures below are relative risk relationships. The reported odds ratios indicate the factor by which the odds of an injury increase under different levels of consumption/intoxication compared to the odds of injury when being sober.

Figure 6: Dose-response curve for the amount of alcohol consumed 3 hours prior and the odds of injury other than motor vehicle accident injury (from Taylor et al., 2010)

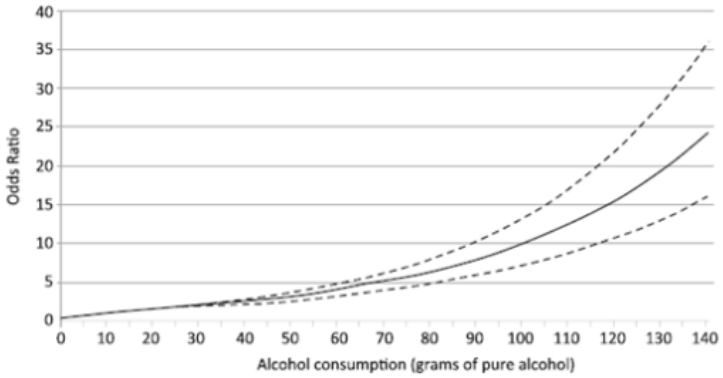


Figure 7: Dose-response curve for the amount of alcohol consumed 3 hours prior and the odds of motor vehicle accident injury (from Taylor et al., 2010).

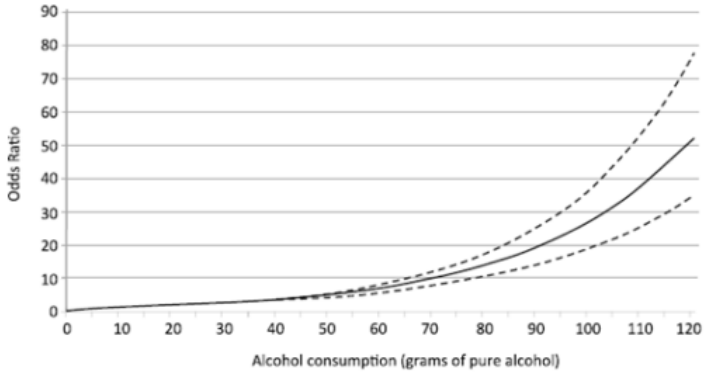
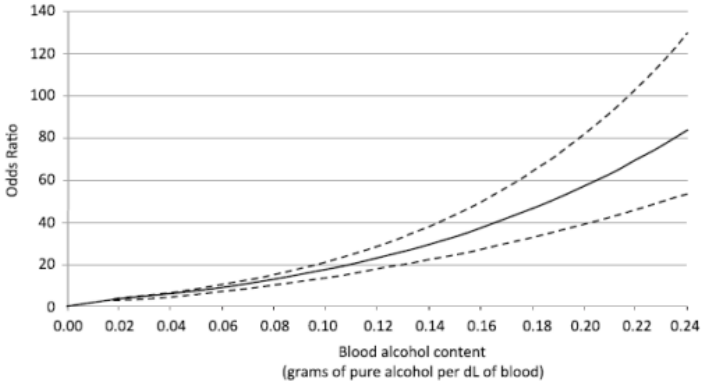


Figure 8: Dose-response curve for the blood alcohol concentration (BAC) levels and the odds of fatal motor vehicle Injury for BAC levels from 0 to 0.24% (from Taylor et al., 2012)



Summary:

- The relationship between alcohol use before injury and the risk of injury is exponential, with considerably elevated risk at higher levels.
- However, even at lower levels of consumption, there is significantly elevated risk, and no indication of protective effect.
- These results are in line with biological research on the effects of low dose consumption on psychomotor skills and othe behavioural effects of the central nervous system (3). The general result of a causal impact of prior alcohol use on injuries has also been corroborated by other reviews and meta-analyses (4-8).

1. Taylor B, Rehm J. (2012) The relationship between alcohol consumption and fatal motor vehicle injury: high risk at low alcohol levels. Alcoholism: Clinical and Experimental Research. 36(10):1827-34.

2. Taylor B, Irving HM, Kanteres F, Room R, Borges G, Cherpitel C, et al. (2010) The more you drink, the harder you fall: a systematic review and meta-analysis of how acute alcohol consumption and injury or collision risk increase together. Drug and Alcohol Dependence. 110(1-2):108-16.

3. Eckardt M, File S, Gessa G, Grant K, Guerri C, Hoffman P, et al. (1998) Effects of moderate alcohol consumption on the central nervous system. Alcoholism: Clinical and Experimental Research. 22:998-1040.

4. Cherpitel CJ. (2013) Focus On: The Burden of Alcohol Use—Trauma and Emergency Outcomes. Alcohol Research: Current Reviews. 35(2):150-4.

5. Cherpitel C. (2007) Alcohol and injuries: a review of international emergency room studies since 1995. Drug and Alcohol Review. 26(2):201-14.

6. Gmel G, Rehm J. (2003) Harmful alcohol use. Alcohol Research & Health. 27(1):52-62.

7. Zeisser C, Stockwell TR, Chikritzhs T, Cherpitel C, Ye Y, Gardner C. (2013) A systematic review and meta-analysis of alcohol consumption and injury risk as a function of study design and recall period. Alcoholism: Clinical & Experimental Research. 37 Suppl 1:E1-8.

8. Cherpitel C, Bond J, Yu Y, Borges G, Macdonald S. (2003) Alcohol-related injury in the ER: A cross national meta-analysis from the emergency room collaborative alcohol analysis. Journal of Studies on Alcohol. 64(5):641-9.

Rehm, J., Gmel, G., Probst, C., & Shield, K.D. (2015). Lifetime-risk of alcohol-attributable mortality based on different levels of alcohol consumption in seven European countries. Implications for low-risk drinking guidelines. Toronto, On, Canada: Centre for Addiction and Mental Health.

Annex 9: Background information provided in the Delphi survey relating to guidelines on "low risk" drinking for young people

According to information collected by the Italian Istituto Superiore di Sanità for RARHA, a health authority guideline on how much alcohol could be consumed by a young person has been issued in only few partner countries. The examples given in the ISS survey were:

- 15-17 year olds should not drink on more than one day a week and never exceed the level defined as "low risk" for adults
- 16-18 year olds should not drink more than one drink (equivalent to 12 g pure alcohol) per week
- 16-18 year olds should never have more than five drinks (equivalent to 12 g pure alcohol).

In most countries the guideline is for young people not to drink at all, or there is no other official guideline than the legal minimum age, typically 18 years.

Apparently, In Europe guidelines have not been addressed to young adults. In Canada low risk guidelines have been formulated separately for young people up to the legal minimum age, and for those from the minimum age to 24 years. The Canadian low risk advice for young adults is:

- for women: never more than two drinks [equivalent to 13,6 g pure alcohol] and never more than 10 drinks a week
- for men: never more than three drinks [equivalent to 13,6 g pure alcohol] and never more than 15 drinks a week.

There is a separate line of work underway in RARHA that looks at guidance provided to parents, professionals or young people themselves, and a separate Delphi survey to identify the degree of agreement on recommendations for reducing alcohol-related harm for young people.

In the present survey, we would only like to ask whether you would find it appropriate to specify a "low risk" amount of alcohol for young people separately. Please reply by indicating which age group/s, if any, should be covered by separate guideline/s. Please justify in the "comment" box.

RARHA
REDUCING ALCOHOL RELATED HARM