# RARHA

## REDUCING ALCOHOL RELATED HARM

# Good practice principles for low risk drinking guidelines

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# Executive summary

The present publication synthesizes work done in the EU co-funded Joint Action on Reducing Alcohol related Harm (RARHA) to identify good practice principles for the use of low risk drinking guidelines as a public health tool. The current guidelines in European countries show considerable variation in the quantity of alcohol consumption considered low-risk. Work was carried out in RARHA to shed light on the factors behind the divergence and explore whether some degree of consensus could be achieved. It is hoped that the principles and conclusions arising from this work are found helpful to inform future action and policy development.

Low risk drinking guidelines and other kinds of consumer information on the health aspects of alcoholic beverages do not provide a magic wand for reducing alcohol related harm. There is compelling evidence that measures to control the availability, affordability and promotion of alcoholic beverages are the most effective policies to reduce harm for alcohol consumers, for people around them and for the wider society. Nevertheless, information about the risks related to alcohol consumption and about ways to avoid risks contributes to higher awareness about the need for individual action and public policy – and failing to provide accurate and reliable information would be highly unethical.

## Towards a common criterion for defining low risk from alcohol consumption

Low risk drinking guidelines have been introduced in European countries individually, without coordination. Although the national health bodies issuing them have drawn upon the internationally shared knowledge on the risks and effects of alcohol, they have come to somewhat different conclusions when formulating national guidelines. The main reason is that there is no straightforward method for deriving low risk alcohol consumption levels from the scientific evidence; expert judgment is always required. To inform recent reviews of drinking guidelines in Australia, Canada and in the UK, quantitative pooling of risks from various causes of death at different levels of alcohol consumption was used to help identify criteria for weighing risk of health harm. Such summarizing of quantitative data does not replace expert judgment but provides a transparent approach for justifying experts' choices around alcohol intake levels to be included in national guidelines.

In Joint Action RARHA, the lifetime-risk of alcohol attributable mortality was calculated for seven countries, following the approach adopted in Australia. Lifetime risk of mortality is a common standard for assessing risk from external factors, such as toxins in food or environment. Expressing risk as the number of deaths per persons exposed illustrates its magnitude and enables different types of risks to be put into perspective alongside one another. The calculations were done for the countries separately in order to explore the extent to which variation in drinking cultures and mortality structures is reflected in the risk levels. The results show that, despite differences between countries, the lifetime risk of alcohol attributable death would remain below 1 in 100 in all countries at an average lifetime level of consumption of 10 grams of pure alcohol per day. In some of the countries current guidelines for low risk drinking are consistent with or slightly below that level, while in others the risk level associated with current guidelines is above 1 in 100.

This exercise demonstrated that the cumulative lifetime risk of death from alcohol-related disease or injury can be used as a common metric for assessing the risks from alcohol at country level and that the results can inform discussion about the level of public health protection associated with drinking guidelines. Research carried out in the past decade has unequivocally ascertained alcohol as a risk factor for some types of cancer and increased understanding of the cardioprotective effects of alcohol. In accordance with new evidence, recent reviews of national drinking guidelines have reduced the amounts not to be exceeded in order to reduce risk of harm. In light of the results of the calculations done in RARHA, the risk level of 1 in 100 alcohol attributable deaths could be considered a maximum for "low" risk, which would require a downward revision of low risk drinking guidelines in some European countries. Alternatively, national bodies formulating guidelines could adopt a more cautious stance and choose a level where the number of alcohol attributable deaths would be lower. Choosing a level of 1

alcohol-attributable death per 1000, for example, would require a downward revision to the current guidelines in most European countries.

## Good practice principles for the use of drinking guidelines as a public health tool

In Joint Action RARHA, a Delphi survey with some 50 public health and addiction experts identified by members of the EU Committee on National Alcohol Policy and Action (CNAPA) was carried out to explore potential for consensus in order to formulate good practice principles for the use of drinking guidelines as a public health tool.  The survey indicated wide support among the expert panel for the dissemination of low risk drinking guidelines to the general population. The main justification is that consumers have the right to be informed about risks related to their alcohol consumption in order to reduce and avoid risks. The responsibility to provide reliable evidence-based information about risks and ways to reduce risks rests with governments and their public health bodies.

An exploration of experts' views of the purposes of "low risk", "high risk" and "single occasion" guidelines suggests that the three types of drinking guidelines can at the same time serve several purposes to different degrees: they can encourage high risk drinkers to reduce the amounts they are consuming, they can draw all alcohol consumers' attention to the risks that may be involved in their drinking habits, and they can influence attitudes and drinking habits in the population. The specific intent of guidelines regarding the maximum alcohol intake for any single occasion is to reduce risks of harm from drunkenness to the drinker and to others. A widely shared view was that low risk drinking guidelines should incorporate advice for reducing risk from average alcohol consumption over a longer term and for limiting drinking in single occasions to reduce risk of immediate harm.

There was among the experts substantial consensus on a range of points related to the principles, components and key messages of low risk drinking guidelines. To benefit public health, drinking guidelines should convey evidence-based information on risks at different levels of alcohol consumption, contribute to correcting misconceptions about the likelihood of positive or negative health effects of alcohol, and help alcohol consumers to keep the risk of adverse outcomes low. The core message in drinking guidelines should be about risk, not safety.

There was a widely shared view that it would be desirable for European public health bodies or institutes to agree on a common concept of low risk drinking. A coordinated effort by European countries to promote low risk drinking guidelines might improve the chance of being accepted by the population. Adopting a single common low risk guideline across European countries does not seem an option, however. While low risk guidelines have a fairly long history in some countries, in others public health bodies have chosen not to disseminate such advice. More relevant and effective risk communication will be achieved by formulating drinking guidelines to take into account particular national challenges in alcohol related harms as well as pre-existing perceptions of risk and harm among the population. Nevertheless, moving towards a more aligned approach is possible by applying the good practice principles, components and key messages identified in RARHA. To support individual countries in their public health action and to amplify the overall message to alcohol consumers and society at large, the example of the European Code Against Cancer could be followed. A set of key messages on alcohol related harm and ways to reduce harm could be issued through cooperation between the World Health Organization (WHO) and the European Commission. The work done in Joint Action RARHA could provide starting points towards a "European code on alcohol". In accordance with the line of the WHO, a core message should be that the ideal solution for health is not to drink at all.

While awareness of risk is necessary to avoid ill-advised choices, low risk drinking guidelines alone cannot be expected to achieve a marked change in behaviours at the population level. Measures to enhance the potential of drinking guidelines, supported by a majority of the experts consulted in and participating in Joint Action RARHA include the following:

- Applying and enforcing an age limit of minimum 18 years for the sale and serving of any alcoholic beverages.
- Supporting in particular primary health services to identify at-risk drinkers and offer advice to reduce high-risk drinking as part of clinical practice and to provide the requisite professional training.
- Requiring health relevant information on alcoholic beverage labels, in particular their calorie content and a statement on the number of grams of pure alcohol contained in a bottle, can or other package.
- Requiring that alcoholic beverages and alcohol advertisements carry information on health and safety risks associated with alcohol consumption.

## The Standard Drink concept and consumer information on alcoholic beverages

The concept of Standard Drink or unit of alcohol is used as a means of providing information to drinkers to help them measure their own alcohol consumption. It is often used to describe alcohol intake levels when communicating public authorities' guidelines regarding low risk drinking. The SD or unit is defined as an amount of any alcoholic drink that contains a given number of grams of pure alcohol. In European countries the most common value is 10g, followed by 12g of pure alcohol. Despite a seemingly simple definition and a fair level of awareness of the SD/unit concept, evidence from various countries indicates that drinkers' understanding of what these terms actually mean and their ability to apply these measures are limited. Cross-country variation in the sizes of national SD drinks adds to the complexity. As information is increasingly accessible across country and language borders, discrepancies in SD information and low risk drinking guidelines expressed in SDs may lead to miscommunication of research findings and health advice.

According to information gathered in Joint Action RARHA, there is wide support among public health, addiction and policy experts for agreeing on a common EU definition of Standard Drink. Given the current variation in the national definitions, it is unclear whether adopting a single definition would be feasible. In addition, there are grounds to argue that the SD size for any given country should reflect the most common container or serving size in that country. In the Single EU Market the lack of a common SD definition may also be an obstacle to requiring on alcoholic beverage containers a statement on the number of SDs contained in it, although such information might help drinkers calculate and monitor their consumption. A feasible alternative is to indicate the alcohol content in a bottle, can or box of drink in grams of pure alcohol. This information could easily be linked with a national SD definition and low risk drinking guidelines specified in grams of pure alcohol.

At the moment, only minimal health relevant information is provided on alcoholic beverage packages in the EU. There is a wide call among experts and the general public for further information on health related aspects of alcoholic beverages, in particular their calorie content, and also for mandatory messages about health or safety risks to be included on both alcoholic beverage packages and on alcohol advertisements. Obtaining information on the health implications of consuming alcoholic beverages is the consumer's right, and on-pack information is a potentially effective approach for filling in gaps in information, in particular when used as part of comprehensive communication and public health activities.

## Guidance to reduce alcohol-related harm for young people

As young people are particularly vulnerable to harm from alcohol, guidelines for reducing alcohol-related harm among young people were addressed in a separate study within RARHA. Information about current advice provided to young people, parents or professionals in European countries was gathered and used to develop a Delphi survey with a panel of close to 60 European experts identified by members of the EU Committee on National Alcohol Policy and Action (CNAPA). The experts were engaged in research or practical prevention relating to alcohol consumption and young people. The aim was to explore potential for consensus on priority areas of action and good practice measures for reducing harm from alcohol for young people.

Alcohol consumption by young people is common across European countries, including drinking to intoxication, despite a legal framework which does not allow consumption by people under a minimum age. Currently, the legal age limits are not the same for all EU member states. The majority of youth experts in the Delphi panel were in favour of aligning the age limits to a minimum of 18 years in all EU member states.

The majority agreed that guidelines for young people should focus on short-term consequences as they are more relevant for the young and have a higher impact on their behaviour. As young people have the right to be fully informed of the risks involved in alcohol consumption, long-term consequences should also be highlighted. Guidelines addressed to young people aged from 18 to 25 years should focus on reducing harm from binge drinking/heavy episodic drinking. Points of disagreement among the Delphi panel mostly originated from differences in positions regarding drinking by under-18s. While some experts strictly promoted zero tolerance for under-18s, others supported a risk-minimizing approach for those who do drink.

Compliance with legal age limits in European countries in general is not satisfactory. Organized and regular enforcement is known to be effective for increasing compliance. A widely shared view among the experts was that for promoting awareness and enforcement of age limits, an integrated alcohol policy with a combination of structural and individual prevention measures is needed rather

than isolated actions. An integrated approach would be particularly important at the local level as well as a strong focus on parent's key role in reducing alcohol-related harm for their youngsters.

## Guidelines to support early identification and brief intervention for alcohol use disorders

Guidelines on alcohol consumption levels and patterns associated with a high risk of harm are used to assist health professionals to identify at-risk drinkers and motivate them towards reducing consumption and risk of harm. Hazardous drinkers in particular are often unaware of being at risk of health and social harm. Hazardous and harmful drinkers are the prime target group for Early Identification and Brief Intervention (EIBI) to prevent the onset of serious alcohol use disorders. Once an addiction has developed, change in alcohol consumption habits becomes more difficult and may require specialist treatment.

There is substantial evidence on the effectiveness of EIBI implemented in primary health care in preventing alcohol related diseases. The WHO encourages in the global alcohol strategy the integration of EIBI into the routine practice of primary health care professionals.

In Joint Action RARHA a survey was carried out on the availability of national guidance and support for EIBI in European countries. Comparison with previously gathered data shows that the number of organizations formally appointed to develop clinical guidelines for managing hazardous and harmful drinking has increased over time, as has the number of countries where multidisciplinary guidelines are in place. Although this is a clear indication that the activities of the last 30 years supported by the WHO and European projects to enhance the implementation of EIBI are giving positive results, there is still need to actively support the integration of EIBI into routine clinical practice.

Drawing on work done in previous European projects, a summary of guidelines for supporting EIBI in primary health care and expanding to other settings are presented. According to the ODHIN project, to support EIBI at national level, a dedicated coalition/partnership is needed, along with a communication/information strategy, national funding for training of professionals and activities to disseminate knowledge and tools to fill in gaps. Including the provision and evaluation of EIBI in national alcohol monitoring systems is also necessary and a national plan or policy for the prevention of alcohol-related disorders and of alcohol dependence is helpful. Guidance for the delivery of EIBI in primary health care and emergency services, in workplace settings and in social services is provided based on available research evidence and on expert views identified in the BISTAIRS project. Training for professionals, availability of screening tools and materials and brief intervention techniques tailored to the job are crucial in all of these settings.

An expected outcome in the European action plan for the years 2012-2020 to reduce the harmful use of alcohol is a progressive reduction in the gap between the number of people who would benefit from brief intervention or from engagement in treatment or rehabilitation programs, and the number who actually receive advice or treatment. Achieving the goals of the global alcohol strategy and of the European action plan calls for a shift of emphasis from the treatment of severe alcohol-related problems to the prevention, early identification and brief intervention for hazardous alcohol consumption.

## Joint Action on Reducing Alcohol Related Harm (RARHA)

Joint Action RARHA was carried out in 2014-2016 with co-funding from the EU Health Programme. The initiative brought together all EU member states as well as Iceland, Norway and Switzerland in work to strengthen the knowledge base for reducing alcohol related harm. The main partners were national expert organizations designated by the respective ministries of health. European partners and collaborators included NGOs such as Eurocare and EuroHealthNet, as well as expert organizations such as the EMCDDA, the WHO Regional Office and the OECD Health Division. The EU Committee on National Alcohol Policy and Action (CNAPA) acted as the Advisory Group for the Joint Action. The Work Package entitled "Good practice principles in the use of drinking guidelines to reduce alcohol related harm" was co-lead by the Finnish National Institute for Health and Welfare (THL) and the Italian Istituto Superiore di Sanità (ISS) with active involvement of 26 partner organizations based in 20 countries.

# Foreword

A recent flagship report by the OECD on economic aspects of alcohol related harm and policies to curb harm (Tackling Harmful Alcohol Use: Economics and Public Health Policy, OECD Publishing 2015) highlighted that in order to make rational and efficient choices, consumers have to be fully informed about the characteristics of what they consume, about the actual benefits of consumption as well as the risks and costs they will be exposed to as a consequence of consumption. The report noted that, beyond a generic perception that drinking large quantities of alcohol is bad for one's health, consumers have a very imprecise knowledge of the ways alcohol presents a risk of harm. The report considered this situation a market failure. The virtual absence of health related information on alcoholic beverage labels is a case in point.

The work referred to in this publication is based on the view that people have the right to be informed about risks related to alcohol consumption and that it is a task for governments and the public health community to address the knowledge gaps to help avoid ill-advised choices and avoidable risks.

The work was carried out in the Joint Action on Reducing Alcohol Related Harm (RARHA), co-financed by the EU Health programme and by the goverments of the participating countries. The results and conclusions synthesized in this publication arise from a work package that involved 26 partner organisations based in 20 countries and benefited from input from some 50 experts within the partnership. Some 100 further experts in alcohol and public health issues contributed to the two separate Delphi surveys carried out. Gratitude and recognition is due to all, whether known by name or anonymous.

Based on the general sentiment among the experts consulted in one way ore another we are confident in arguing that population guidelines on low risk alcohol consumption are best formulated at national level, taking account of national circumstances including prevailing patterns of alcohol consumption and harm, as well as public perceptions and information needs. At the same time, we propose the adoption of a common criterion for "low" risk as an additional tool to inform decision-making. Using lifetime risk from exposure to alcohol as the common criterion would contribute to transparency in the defintion of low risk and could contribute towards a common minimum level of protection of public health.

We are convinced that the potential of nationally tailored guidelines and messages to inform and raise awareness can be amplified by integrating similar components and by sharing key messages. We hope the good practice principles identified in Joint Action RARHA will help towards that end.

Whereas healthy choice by individuals can be supported through national policy and action, public health policy at national level can be supported through policy and action at European level. There is urgent need for the European Commission to propose how to apply the EU food information requirements to alcoholic beverages to ensure that basic health-relevant information is provided on pack across the EU, and to suggest a common framework for on-pack information that allows Member States to highlight alcohol related risks and ways to reduce risks according to national needs and priorities.

Another line of action where we hope Joint Action RARHA can provide starting points for European action concerns the formulation through cooperation between the World Health Organization and the European Commission of an European "code against alcohol related harm", a set of key messages to alcohol consumers, to the general public and to health professionals. Work carried out in RARHA indicates wide agreement among experts in the field regarding basic statements such as "daily drinking and occasional heavy drinking are both potentially harmful drinking patterns". A set of key messages from an authoritative source would provide a common reference and support for national information initiatives and benefit public health across borders.

Consumer information on the health aspects of alcoholic beverages and low risk drinking guidelines do not provide a magic wand for reducing alcohol related harm. Research in this area provides us compelling evidence that the most effective policies to reduce harm for alcohol consumers, for people around them and for the wider society are measures to control the availability, affordability and promotion of alcoholic beverages. These are the key parameters influencing consumer behaviour.

Nevertheless, information about the risks related to alcohol consumption and about ways to avoid risks contributes to higher awareness about the need for both individual action and public policy – and failing to provide accurate and reliable information would be highly unethical.

*Pia Mäkelä*

Head of the Alcohol and Drug Research Unit
National Institute for Health and Welfare (THL)
Finland
Leader of Work Package "Guidelines"

*Emanuele Scafato*

Director, National Observatory on Alcohol
Istituto Superiore di Sanità (ISS)
Italy
Co-leader of Work Package "Guidelines"

# Introduction

The present publication synthesizes work done in the EU co-funded Joint Action on Reducing Alcohol Related Harm (RARHA) to identify good practice principles for formulating and communicating low risk drinking guidelines to help reduce risk of harm. Such guidelines show considerable variation between European countries in the quantity of alcohol consumption considered low-risk. As information on alcohol risk levels is increasingly accessible across country and language borders, discrepancies may lead to miscommunication of research findings and health advice.

Low risk drinking guidelines have been introduced by countries individually, without coordination. National experts have drawn upon the internationally shared knowledge on the risks and effects of alcohol, yet come to somewhat different conclusions when formulating national guidelines. One of Joint Action RARHA's work packages focussed on providing insight into the current practices and the science underpinnings, and to explore whether some degree of consensus could be achieved.

The discussion in this synthesis publication draws on published literature and on work done in RARHA. While each chapter is credited to named authors, the findings and conclusions presented arise fom a collective endeavour of the partnership (Annex 1). Views of an even wider range of experts and stakeholders were sought through two separate Delphi surveys, by means of an open online survey, and in expert meetings in which preliminary findings were presented and discussed. A range of working papers and background reports were produced to present and summarize the work done (Annex 2). References to individual RARHA papers and reports providing detailed information are included in the various chapters of this publication.

**Chapter 1** describes briefly Joint Action RARHA and how the work around drinking guidelines was carried out. The next chapters summarize key points from the work.

**Chapter 2** begins by describing current variation in national low risk drinking guidelines and moves on to discuss methodological choices in defining low risk from alcohol. The results of a calculation of the lifetime risk of alcohol-attributable mortality in seven European countries are then briefly presented. The components, key messages, purposes and public health relevance of low risk drinking guidelines are examined in light of published literature and in light of the views of the Delphi expert panel. Adoption of the cumulative lifetime risk of alcohol related mortality is suggested as a common metric for assessing the risks from alcohol to inform the setting of guidelines on low risk drinking. Good practice principles for the use and formulation of low risk drinking guidelines are presented to foster a common concept and approach.

Five country snapshots describing how national drinking guidelines have evolved over time are presented as an annex (Annex 4).

**Chapter 3** presents and overview of the uses of the Standard Drink (SD) and summarizes research findings regarding people's understanding of SDs. The usefulness of an agreed EU definition of SD – as opposed to the current variation in the size of SD from one country to another – is then discussed as well as the usefulness of indicating on alcoholic beverage labels the number of SDs in the container. Given the lack of a common EU SD definition, a statement of the alcohol content in a bottle or can in grams of pure alcohol is suggested as a feasible alternative. Finally, consumers' and experts' views of useful health relevant on-pack information on alcoholic beverages are presented.

**Chapter 4** is focussed on guidance to reduce alcohol related harm for young people and draws on published literature, information gathered from European countries on current guidelines regarding drinking by young people, and on expert views identified by means of a Delphi survey. Based on expert agreement, the chapter lays out main lines regarding guidance to be provided to young people, parents and professionals and regarding effective interventions and policies to protect young people.

**Chapter 5** provides guidance for supporting wide and systematic implementation of Early Identification and Brief Interventions (EIBI) for hazardous and harmful alcohol consumption in primary health care and emergency services, in workplace settings and in social services. Identifying in generalist services at-risk drinkers who have not yet developed an alcohol dependence and motivating them to reduce alcohol consumption is of crucial importance for preventing the onset of serious disorders that require specialist treatment.

Each chapter ends by summarising the main conclusions and guidance that arise from that particular piece of work. On two key issues – good practice principles in the use of drinking guidelines as a public health tool and the provision of health relevant information on alcoholic beverage labels – separate quick-to-read policy briefs have been produced.

The work synthesized in this publication results from the collective contribution of Joint Action RARHA's Work Package 5 working group as listed below. Special thanks in the last phase of the work are due to Mariliis Tael-Öeren and Stig Tore Bogstrand who have read and commented part of the draft texts.

## Work-package leaders

| | |
|---|---|
| National Institute for Health and Welfare | Pia Mäkelä, Marjatta Montonen |
| Istituto Superiore di Sanità | Emanuele Scafato, Claudia Gandin, Lucia Galluzzo, Silvia Ghirini, Sonia Martire |

## Task leaders

| | |
|---|---|
| Landschaftsverband Westfalen-Lippe | Doris Sarrazin, Rebekka Steffens |
| Health Research Board, Ireland | Deirde Mongan, Jean Long |
| Health Service Executive, Ireland | Sandra Coughlan, Joseph Doyle, Andy Walker |
| European Alcohol Policy Alliance | Mariann Skar, Sandra Tricas-Sauras, Aleksandra Kaczmarek, Nils Garnes |

## Partners

Geoff Bates, Stig Tore Bogstrand, Kit Broholm, Krzysztov Brzozka, Axel Budde, Pilar Campos, Mathieu Capouet, Leda Christodoulou, Joan Colom, Iva Pejnović Franelić, Michel Graf, Tomás Hernández, Gudrun Høiseth, Maris Jesse, Lisa Jones, Rafn M Jónsson, Marina Kuzman, María V. Librada, Manuel Mangani, Katarzyna Okulicz-Kozaryn, Sandra Radoš Krnel, Claude Rivière, Lampros Samartzis, Jann Schumacher, Mariliis Tael-Öeren, Natacha Torres da Silva, Alfred Uhl, Graça Vilar, Vigdis Vindenes

Chapter 1

# Joint Action on Reducing Alcohol Related Harm (RARHA)

Joint Action on Reducing Alcohol Related Harm (RARHA), carried out in 2014-2016 with co-funding from the EU Health Programme and national governments, brought together all EU member states as well as Iceland, Norway and Switzerland to strengthen the knowledge base for reducing alcohol related harm. The core partnership formed by national expert organisations designated by the respective ministries of health was complemented by further national and European partners and collaborators, including Eurocare and EuroHealthNet, as well as the EMCDDA, the WHO Regional Office and the OECD Health Division. The EU Committee on National Alcohol Policy and Action (CNAPA) acted as the Advisory Group for the Joint Action.

RARHA combined three strands of work. In Work Package "Monitoring" comparable data on alcohol epidemiology were generated across partner countries by means of two complementary approaches: by using a common instrument and methodology to carry out in 2015 a survey of drinking levels and patterns and related harms, and by pooling and re-coding data from surveys carried out in 2008-2012. The work provided up-to-date information for comparative assessment as well as a baseline and tools for continued monitoring of trends in European countries.

Work Package "Tool-kit" developed a tool-kit for evidence-based good practices in action to prevent alcohol related harm, focussed on early interventions, school-based interventions and public awareness activities. The resulting Tool-kit provides examples of successful initiatives as well as a set of criteria for assessing the quality of interventions.[1]

Work Package "Guidelines" focussed on low risk drinking guidelines as a public health measure. Building on complementary sources of insight – update information on current practices in partner countries, overviews of the science underpinnings, calculation of alcohol-attributable mortality risks for selected countries, and Delphi surveys to explore expert views – good practice principles were identified to inform discussion, decision making and practice. The focus was on widening the common ground in the definition of low risk from alcohol and on contributing towards more aligned messages to the population and health professionals.

Monitoring trends in alcohol consumption and related harms is essential for the formulation of public health policies, and comparable data enables to assess national trends an developments against a wider backdrop. Equipping consumers with information about the harms related to alcohol consumption enables rational choice, and raising awareness of the impact of alcohol on individuals and the society contributes to public support for measures to control the availability, affordability and promotion of alcoholic beverages. Awareness-raising, school-based interventions and early interventions are all important components of community-based initatives to protect children and young people and to prevent harms for alcohol consumers and others around them.

The wide participation in Joint Action RARHA reflects the importance accorded by European countries to a solid knowledge base for public health policies to reduce alcohol related harm. The three strands of work are all such that intergovernmental cooperation makes a difference and the investment in joint work yields returns that a single country can hardly hope to achieve alone. A key benefit of the Joint Action is a faster link between research and implementation, making new information and science more directly accessible to expert organisations and decision-makers.

## Work Package "Guidelines"

The Work Package entitled "Good practice principles in the use of drinking guidelines to reduce alcohol relared harm" was co-lead by the Finnish National Institute for Health and Welfare (THL) and the Italian Istituto Superiore di Sanità (ISS), with active involvement of 26 partner organisations based in 20 countries. (Annex 1) The work was divided in complementary and interlinked tasks with one partner in lead of each.

Many of the tasks involved updating and summarising information and resulted in background papers and reports which provided material for further work in the Joint Action and serve to inform wider interested parties. (Annex 2) The topics addressed included current specifications of low risk alcohol consumption across the partner countries, guidelines relating to drinking by young people, brief intervention practices, as well as definitions, uses and public understanding of the "standard drink" concept and consumer views regarding alcohol risk communication. An important piece of work consisted in a report that summarises current knowledge on the risk of negative health outcomes at different levels of alcohol consumption and presents calculations for lifetime-risk of alcohol-attributable mortality in seven European countries, representative of various European drinking patterns and mortality patterns.[2]

The idea from the start was to tap into a range of expertise that goes beyond the partnership to gain deeper insight on key issues. Two Delphi surveys were carried out with two separate expert panels, each with more than 50 participants. Experts for the panels were nominated by members of the EU Committee on National Alcohol Policy and Action and by RARHA partners. A Delphi survey led by the German LWL-Koordinationsstelle Sucht was directed to prevention experts and researchers specialising in alcohol consumption and young people. Taking as starting point current national guidelines and relevant literature the two-round Delphi survey sought to foster shared understanding on what kind of guidance to young people, parents and professionals would help prevent and reduce alcohol related harm at a young age.[3]

Another Delphi survey, led by the Finnish Institute for Health and Welfare, turned to experts in public health and addictions to gain deeper understanding of key issues in the use of low risk guidelines as a public health measure. The survey addressed questions concerning the provision of information on low risk drinking levels to the population, key components and key messages, the standard drink concept and the types of health relevant consumer information that should be provided on alcoholic beverage labels. The science base and methodology were also considered as well as the possibility to move towards a common approach for defining low risk from alcohol.[4]

The present publication summarises key points from the various background papers and reports and presents good practice principles based on current knowledge and relatively wide consensus among the experts consulted, and reflecting views broadly shared among the partners.

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Good practice principles for low risk drinking guidelines

# Towards a common approach in the use of drinking guidelines to reduce alcohol related harm

*Marjatta Montonen[a], Pia Mäkelä[a], Emanuele Scafato[b], Lucia Galluzzo[b], Silvia Ghirini[b], Claudia Gandin[b] and Lisa Jones[c]*

Guidelines on low risk drinking – advice to alcohol consumers on drinking levels and consumption patterns that can be considered at lower risk for health – have been issued over the past decades by health bodies and other organizations in Europe and beyond. [1,2] More recent epidemiological studies strongly suggest that there is no safe level for drinking alcohol and the ideal situation for health is not to drink at all. This is why the WHO does not set limits for lower risk drinking but gives the single advice that "less is better".[d]

Nevertheless, guidelines for moderating alcohol consumption are provided at national level, and the levels of consumption considered to entail low risk differ greatly among countries. There is also a wide disparity in the way in which low-risk drinking is defined. For example, some guidelines set average consumption limits per day, others per week. Some provide recommendations on the maximum intake per drinking occasion (binge drinking) and in some cases the limit is not a fixed number but a range. Most guidelines set different limits for a single occasion for men and women, while in others the limit is the same for both genders. Some guidelines take into consideration also the particular vulnerability of certain age groups (young or older people) or specific situations (such as pregnancy and breastfeeding, drink driving, workplace).

Work in Joint Action RARHA aimed to clarify reasons behind the divergence in national drinking guidelines and to explore whether some degree of consensus could be achieved. As a first step, the Italian Istituto Superiore di Sanità (ISS) conducted a survey addressed to the members of the EU Committee on National Alcohol Policy and Action (CNAPA) with the purpose to validate data on national drinking guidelines previously collected by the World Health Organization, the Organization for Economic Co-operation and Development (OECD) and others. [3]

While in epidemiological studies levels of consumption are usually expressed in grams of pure alcohol, in drinking guidelines communicated to the public, grams are often translated into "standard drinks" (SDs) or "units", presumed to be more practicable for quantifying alcohol consumption. According to the RARHA survey on low risk guidelines conducted by the ISS in 2014, the size of this notional measure varies from 8 to 20 grams of pure alcohol among EU countries, with a mode value of 10 grams and a convergence towards an average of 11 grams (mean and median=11 grams). (Graph 1) The lack of consistency in the SD definition is a further complexity in a set of complex messages on reducing risk from alcohol. As information on low risk levels is increasingly accessible across country and language borders, discrepancies may lead to miscommunication of research findings and health advice. (For further discussion on SDs, see Chapter 3.)

Good practice principles for low risk drinking guidelines

**Graph 1.** RARHA survey on low risk drinking guidelines in European countries: Standard Drinks in grams of pure alcohol, 2014. [3]
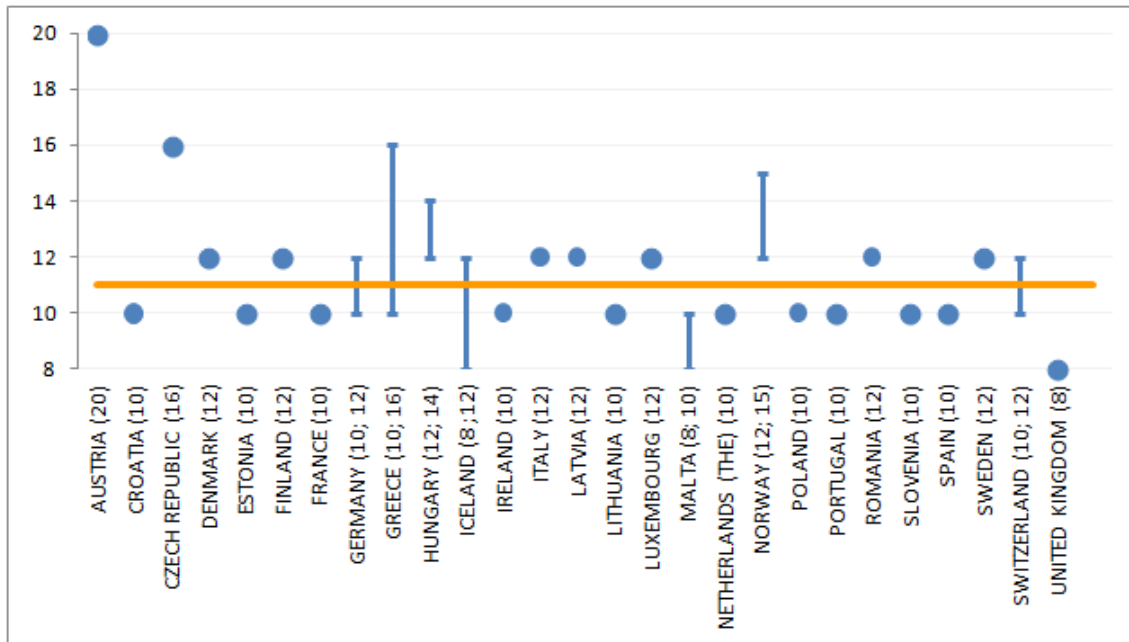


Low risk drinking guidelines have been introduced in countries individually, without coordination. Although national health bodies and expert committees have drawn upon the internationally shared knowledge on the risks and effects of alcohol, they have come to somewhat different conclusions when formulating national guidelines. Our aim in Joint Action RARHA was to shed light on the factors behind the divergence and identify points of convergence. The discussion in this chapter draws on published literature and on work done in RARHA, including a Delphi survey with some 50 European experts in public health and addiction, invited to the panel based on suggestions from CNAPA members and RARHA partners.[4]

## RARHA survey on low risk drinking guidelines in Europe

The information gathered by the ISS in 2014 indicates that national guidelines or recommendations for lower risk drinking have been issued in two out of three (21/31) of the surveyed countries (EU member states, Iceland, Norway and Switzerland), typically by governmental or public health organizations.[3]

Most of the guidelines are expressed in terms of average grams of pure alcohol per day not to be exceeded, specified separately for women and men. The average consumption per day not to be exceeded varied from 20 to 48 grams of pure alcohol for men, and from 10 to 32 grams for women. (Graph 2)

**Graph 2.** RARHA survey on low risk drinking guidelines in European countries: Average alcohol intake per day not to be exceeded, in grams of pure alcohol, by gender, 2014. [3]
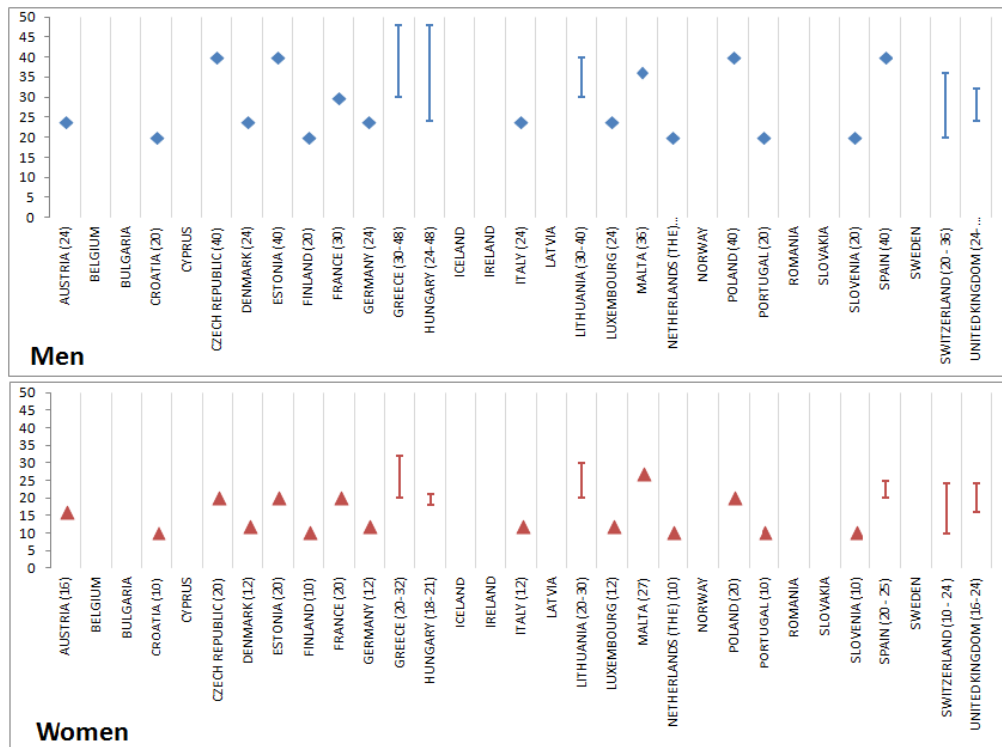


In the 20 countries where guidelines or recommendations to avoid binge drinking were issued the maximum intake not to be exceeded varied considerably from 30 to 84 grams of pure alcohol. In half of the countries, women where given a lower limit than men, whereas in half the limit was the same for both genders. (Graph 3)

**Graph 3.** RARHA survey on low risk drinking guidelines in European countries: Maximum intake per drinking occasion (binge drinking), in grams of pure alcohol, 2014. [3]

Good practice principles for low risk drinking guidelines
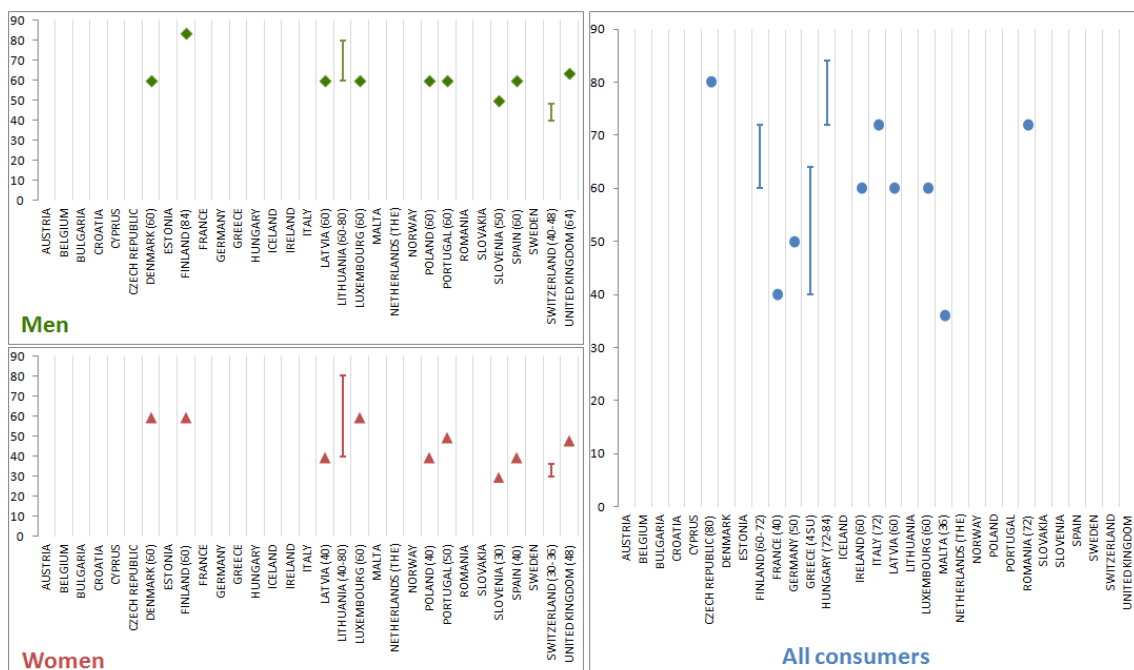
As regards specific age groups, the RARHA survey showed that guidelines or recommendations to reduce the risk of harm for young people under the age of 18 years were available in 15 out of the 31 surveyed countries. (For further discussion on guidance regarding drinking by young people, see Chapter 4) Guidelines specific for older people were reported only for 7 countries.

Pregnancy and breastfeeding were the most commonly highlighted situations, showing a rapid increase over the last decade in the number of countries addressing them. In 25 of the 31 countries there were guidelines or recommendations advising women to limit alcohol consumption, and in the majority of cases, to abstain completely from alcohol during pregnancy and breastfeeding.

More than half of the surveyed countries (17/31) reported that alcohol was addressed as risk factor in national nutrition guidelines. Alcohol was addressed in guidelines regarding physical activity in only two countries. Almost half of the countries (14/31) had separate drinking guidelines for workplaces, showing an increase over time.

Legal BAC limits for drink-driving, that is, the maximum Blood Alcohol Concentration levels permitted for drivers, are the most commonly used measure to reduce risk of alcohol-related harm in Europe. In line with the Commission's recommendation for uniform BAC limits,[e] the BAC limit reported for all drivers was 0,5 g/l, or lower (mode=0.5 g/l), in all countries surveyed in 2014, except for two EU member states where the limit was 0,8 g/l. Similarly in line with the Commission's recommendation, a lower limit was commonly specified for young or novice drivers (mode=0.2 g/l) as well as for professional or commercial drivers (mode=0.2 g/l).

## Guidelines on low risk drinking evolve with evidence

Low risk drinking guidelines have been introduced by public health bodies in Europe since the 1980s, with the "safe limits" published in the UK in 1984 among the first.[5] National low risk drinking guidelines are updated as new evidence becomes available. Since 2010, guidelines have been revised in roughly half of the countries surveyed. The most recent reviews took place in the Netherlands in 2015 and in the UK in 2016.

The previous guidelines issued in the Netherlands in 2006 advised women not to drink more than one "standard glass" (equal to 10g of pure alcohol) per day and men to limit their consumption to two glasses. The new guideline for both women and men is "don´t drink alcohol, or no more than one glass daily", with the justification that drinking more does not deliver any additional health gains and is undesirable because of increased risk of stroke and certain cancers.[6]

The new drinking guidelines proposed by the UK Chief Medical Officers also depart from the custom to specify a different low risk level of alcohol consumption for women and men. The level of alcohol consumption not to be exceeded was revised downwards and is given in terms of units per week rather than in units per day like in the previous guidelines. While the "sensible drinking" guidelines of 1995 advised men not to drink regularly more than 3-4 units a day and women no more than 2-3 units a day (one unit being equal to 8g of pure alcohol), the new advice is that, to keep health risks from drinking alcohol to a low level, it is safest not to drink more than 14 units a week on a regular basis.[7]

Over the past decades, scientific understanding of the effects of alcohol on health has advanced due to the development of research designs and methods and the accumulation of data for meta-analysis. It is only recently that alcohol consumption has been unequivocally ascertained as a risk factor for some types of cancer.[8] In light of new and more careful research, the potential for cardioprotective effects of alcohol may have been overestimated and it has been suggested that even light drinkers would likely benefit from reducing alcohol consumption.[9,10,11] Recent studies suggest that continued alcohol consumption even at low levels and repeated episodes of intoxication are both drinking patterns causally associated with earlier mortality.[12] (For a brief discussion on findings relating to positive health effects of alcohol, see Annex 3.)

Recent reviews of drinking guidelines have reduced the amounts not to be exceeded in order to reduce risk of harm. Terms such as "safe", "sensible" or "moderate" have been replaced by "low risk."[13] The evolution of drinking guidelines in some partner countries is briefly described in Annex 4. In Italy a total shift in perspective has occurred from recommending wine as a high energy component of diet to warning about the toxic effects of any alcoholic beverages. In the UK, weekly guidelines were

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[e]  Commission Recommendation of 17 January 2001 to Member States on the maximum permitted
blood alcohol content (BAC) for drivers of motorised vehicles, 2001/116/EC (OJ L43, 14.2.2001).

replaced by daily guidelines in 1995 to take into account evidence suggesting health benefit from regular drinking; the recent review moved back to weekly guidelines.

In Denmark, drinking guidelines have been used for a quarter of a century as a health promotion tool. In the first decades, information was disseminated to alcohol consumers and health professionals on levels of consumption where the risk of health harm is high. In 2010 the emphasis was shifted from high to low risk consumption while stressing that there is no level of alcohol consumption totally free of risk. The shift was motivated by research confirming the carcinogenicity of alcohol and, on the other hand, by a desire to prevent high risk communication being interpreted as advice on safe consumption levels. The high risk levels still stand as a reference for health personnel to identify clients who might benefit from brief intervention. (For a discussion on screening and brief intervention, see Chapter 5.)

In Finland, information provided to health professionals and alcohol consumers has similarly been focused on high risk consumption, although the national dietary guidelines have included a recommendation for moderate or reduced alcohol consumption since 1987. In 2015, the Current Care Guideline on alcohol use disorders, which provides a common national basis for clinical practice, integrated the existing definitions of low and high risk consumption levels into a three-level classification that highlights the risk from alcohol as a continuum.

In Switzerland, guidance was provided in 2015 for the first time by the Federal Commission for Alcohol-Related Issues (CFAL), an official expert group on alcohol. Rather than firm guidelines on alcohol consumption levels, points of reference for various population groups and situations are provided, the main message being that the consumption of alcohol involves health risks but the risks vary by person and by circumstances.

## Methodological choices in defining low risk from alcohol consumption

The main reason for cross-country differences in national drinking guidelines is that there is no straightforward method for deriving low risk alcohol consumption levels from the scientific evidence; a considerable degree of expert judgment is always required.[14] Starting points are provided by systematic reviews and meta-analyses of epidemiological evidence on the health consequences of drinking different amounts of alcohol and by the quantification of risks across diseases and conditions. Reviewing and summarising the evidence, defining what is considered low risk and formulating guidelines for alcohol consumption involves a range of methodological, technical and practical choices that may have a bearing on the outcome. The national situation, including drinking patterns and public sensitivities, may also play a role. While the processes used to formulate drinking guidelines may have lacked in transparency in the past,[13, 15] with recent reviews of national low risk guidelines, the evidence base and justifications have been laid out in more detail.

The most extensive work to date to inform the formulation of low risk drinking guidelines has been in Australia (2009), in Canada (2011) and in the UK (2016). In these countries, extensive evidence of the risks of drinking alcohol was considered and quantitative pooling of risks from various causes at different levels of alcohol consumption was used to help identify criteria for weighing risk of health harm from alcohol. This summarizing of quantitative data does not replace expert judgment but can inform debates about what is considered low risk and provides a transparent approach for justifying experts' choices around corresponding alcohol intake levels.

Alcohol attributable mortality is the most severe health outcome for which data for robust analysis is available. So, in common with meta-analyses of the risks of alcohol at different levels of consumption, this has been the main focus in quantitative analyses carried out during the development of low-risk drinking guidelines.[16]

*Findings from the RARHA Delphi survey indicated a desire among experts to also incorporate data on morbidity and to take into account adverse social consequences for the drinker as well as harms to others, including family, workplace and the living environment. It was pointed out that risks of alcohol-attributable mortality and morbidity may differ, that mortality is only a part of the public health burden and that based on mortality rates only, a full assessment of alcohol-related harms is not possible. Further research was called for on the dose-response relationship between alcohol consumption and morbidity and to quantify social harms to the drinker and to others.*

In the epidemiological evidence, which provides the basis for assessing risks from alcohol, the results are typically given as relative risks at different levels of consumption compared to abstainers, often depicted as risk curves. There are at least 60 categories of illnesses and injuries to which alcohol contributes causally, of which half are by definition caused by alcohol, and over 200 further conditions for which alcohol is a component cause.[17] The risk curve for a disease can be J-shaped or U-shaped, showing lower risk for light drinkers compared with abstainers and increased risk at higher levels of consumption. Or the curve can show risk that increases linearly or exponentially with increased alcohol consumption. The same level of alcohol consumption may thus be associated with an increase in the risk of one disease and a decrease in the risk of another. To inform low risk drinking guidelines, the disease-specific risk curves can be examined separately, or risks across diseases can be combined for assessing overall risk. The risk of all-cause mortality – early death from any cause – and the disease-specific risks can incorporate the harmful as well as the beneficial effects of alcohol consumption. Especially for all-cause mortality, a J-shaped curve is often derived, suggesting that a low average level of alcohol consumption is associated with reduced risk of death compared with not drinking at all.

Examination of the relative risk of all-cause mortality has been used to inform guidelines for low risk alcohol consumption, for example in Canada. A risk curve as such rarely suggests a particular cutoff point for low and high risk. In the low risk drinking guidelines formulated in Ontario in 1997, the lowest point of a J-shaped curve was chosen to specify a level of average alcohol consumption that would allow protection against heart disease.[18] For the new national low risk guidelines for Canada, the cutoff was chosen so that the risk of death due to alcohol consumption would be the same as the risk of death for a lifetime abstainer.[19] At the cutoff point, the effects of alcohol that increase risks and those that decrease risks would thus counterbalance each other equally so that the net mortality risk would be the same as for non-drinkers.

The review of drinking guidelines in Australia in 2009 introduced an alternative approach focused on absolute mortality risk. The Australian approach started by considering the various relative risk curves for dying from alcohol attributable conditions at different consumption levels, compared with non-drinkers. However, it went on to examine how these relative risks translated into cumulative risk of alcohol-attributable death over the lifetime, assuming the average level of alcohol consumption stayed the same over the lifecourse.[20] Lifetime risk is the standard approach for assessing the effects on mortality from exposure to external factors, such as additives in food or chemicals in the environment, expressed as a risk factor of, for example, 1 in 100, 1 in 1000 or 1 in 100 000, or as a probability of of 0.01, 0.001 or 0.00001 respectively. In Australia the maximum risk level of 1 death for every 100 people was chosen as the reference point for assessing risk from alcohol consumption. A modelled analysis was used to calculate the lifetime risk of death (up to the age of 70 years) from alcohol-related disease or injury for a range of alcohol consumption levels. The modeling incorporated diseases for which the causal effect of alcohol is the most firmly established, excluding potential health benefits due to the uncertainty of the evidence.[21]

In the Australian population, regular drinking of two standard drinks per day (1 standard drink being equivalent to 10 grams of pure alcohol) was associated with the lifetime risk of death from alcohol-related disease of 0.4 in 100 people exposed to that amount of alcohol. At the level of three drinks per day, the risk was above 1 in 100. With a maximum of two drinks per episode, the lifetime risk of death from injury remained below 1 in 100. The guideline formulated was: "For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury".

The work to inform the review of drinking guidelines in the UK tested both the Canadian and the Australian approach. The Canadian and the Australian approach gave roughly similar results.[22] The proposed new guidelines were formulated so as to balance potential harms and benefits but also so that the low risk level defined is consistent with a 1 in 100 lifetime risk of alcohol-attributable mortality.[7]

While both the Canadian relative risk approach and the Australian absolute lifetime risk approach enable transparency in determining what is considered low risk, the latter has certain advantages. The absolute lifetime risk approach enables alcohol related risks to be set within a broader perspective by comparing them with risks from other sources and to consider thresholds for other risks when choosing a criterion for low risk from alcohol.[13,20]

Additionally, for assessing the combined effect of drinking across various causes of death, the use of absolute lifetime risk as derived from disease-specific relative risks has been recommended over the use of all-cause mortality.[16] Such a disease-specific approach was adopted in the analyses that

informed the UK 2016 review of drinking guidelines. Cohorts in prospective studies of all-cause mortality tend to be chosen for ease of follow-up and may differ from general populations, for example in terms of demographics and health status. While this may be irrelevant when the focus is on causality between exposure and effect for a given disease, it matters when the focus is on the overall risk from a given alcohol consumption level. For example, any cardioprotective effect from alcohol would not be visible in a cohort of young people. Correspondingly, a cardioprotective effect would be more relevant in a country with high life expectancy and increased risk of heart disease. Also, estimates based on all-cause mortality are more easily affected by confounders. As cause-specific estimates are combined only for cases where causality is established, spurious relationships are better avoided. Countries also differ with respect of their drinking cultures, including beverage preferences, drinking patterns or social tolerance of intoxication, which may all have a bearing on alcohol-related harm. A country-based approach which incorporates the underlying cause of death structure and looks at disease-specific risks is therefore called for.

## Lifetime risk of alcohol-attributable mortality in selected European countries

In Joint Action RARHA the lifetime-risk of alcohol attributable mortality was calculated for seven EU countries in order to explore the extent to which variation in drinking cultures and mortality structures is reflected in the risk levels. The countries were chosen so that the three prototypical drinking cultures are included as well as EU extremes in alcohol consumption levels, prevalence of alcohol use disorders and life expectancy. The calculations were done by the Canadian Centre for Addiction and Mental Health (CAMH).[23]

The absolute risk of alcohol-attributable death at the age of 15-75 years was calculated combining disease-specific mortality risks at various levels of alcohol consumption, as obtained from meta-analyses. The causes of death causally impacted by alcohol, including potential protective effects, were – with slight modifications – the same as in the Global Burden of Disease Study 2010.[24]

Table 1 shows the key results of the calculations for the selected countries. The results show that lifetime risk of alcohol attributable death would remain below 1 in 100 in all countries at an average lifetime level of consumption of 10 grams of pure alcohol per day. This is despite the differences shown across the countries and for both genders. At the average level of consumption of 30 grams per day, lifetime risk of alcohol attributable death would be equal to or larger than 1 in 100 for men in all countries and for women in all but one.

**Table 1.** Lifetime risk of alcohol-attributable death for different levels of average daily consumption, grams of pure alcohol, in 2012 for men (M) and women (W). [23]

| Average drinking | Estonia | | Finland | | Germany | | Hungary | | Ireland | | Italy | | Poland | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | W | M | W | M | W | M | W | M | W | M | W | M | W |
| 10g | 0.0027 | 0.0051 | -0.0015 | 0.0037 | -0.0004 | 0.0024 | -0.0061 | -0.0022 | -0.0014 | 0.0014 | 0.0002 | 0.0022 | -0.0068 | -0.0062 |
| 20g | 0.0138 | 0.0380 | 0.0030 | 0.0185 | 0.0041 | 0.0148 | 0.0028 | 0.0274 | 0.0025 | 0.0126 | 0.0045 | 0.0131 | -0.0004 | 0.0148 |
| 30g | 0.0296 | 0.0842 | 0.0102 | 0.0402 | 0.0110 | 0.0327 | 0.0171 | 0.0695 | 0.0084 | 0.0287 | 0.0104 | 0.0279 | 0.0102 | 0.0466 |
| 40g | 0.0504 | 0.1371 | 0.0197 | 0.0655 | 0.0197 | 0.0543 | 0.0373 | 0.1221 | 0.0169 | 0.0492 | 0.0182 | 0.0467 | 0.0259 | 0.0877 |
| 50g | 0.0792 | 0.2175 | 0.0344 | 0.1054 | 0.0322 | 0.0866 | 0.0635 | 0.1888 | 0.0277 | 0.0762 | 0.0278 | 0.0706 | 0.0458 | 0.1418 |
| 60g | 0.1097 | 0.2868 | 0.0522 | 0.1429 | 0.0477 | 0.1179 | 0.0993 | 0.2594 | 0.0425 | 0.1055 | 0.0404 | 0.0964 | 0.0730 | 0.1990 |

Green: overall protective effect

Lightest blue: overall lifetime risk smaller than 1 in 1,000

Light blue: overall lifetime risk smaller than 1 in 100, but larger than 1 in 1,000

Dark blue: overall lifetime risk equal to or larger than 1 in 100

*In the RARHA Delphi survey, in which results from the calculations done by CAMH were used as prompts, public health and addiction experts supported the use of quantitative risk analysis to inform the definition of low risk from drinking. For the absolute lifetime risk approach, the maximum risk level of 1 in 100 was considered by the experts more likely to gain acceptance among public health decision-makers than the more cautious level of 1 in 1000, although there was considerable support for placing the issue in the hands of an international body.*

## Guidelines on drinking patterns

In addition to the average volume of alcohol consumption, patterns of drinking have also been addressed in low risk drinking guidelines. In many countries separate advice on the maximum amount of alcohol consumption on any single occasion has been provided, primarily intended to curb the risk of injury. It has been suggested that a limit per occasion is an essential component of low risk drinking guidelines.[13,16] Estimates of the relative risk of harm from single drinking occasions have mainly been based on emergency department studies. Meta-analyses of the relationship of acute alcohol intake – typically measured by the level of blood alcohol content (BAC) – and the risk of injury indicate that the risk increases with the amounts consumed, particularly above 40-60 grams of pure alcohol.[23] Other types of harm associated with high BAC on a single episode or with heavy episodic drinking (HED) include violence and other forms of victimization, social and legal problems, quality of life, and impaired judgment and risk taking, for which risks may be significantly increased already at relatively low frequencies of HED.[25] f

*In the RARHA Delphi survey, complementing guidelines on average alcohol consumption with advice regarding single drinking occasions was considered important. When giving advice on amounts not to be exceeded on any single occasion, the duration of the occasion was considered an important factor to be taken into account. While prevention of accidents and injuries was highlighted as the primary purpose, reducing the risk of social harms to the drinker and to others was considered relevant too.*

In the recent review of drinking guidelines in the UK, rather than giving an amount of alcohol not to be exceeded on any occasion, advice was provided on ways to reduce short term risks, for example by limiting the total amount drunk on any occasion, drinking more slowly or avoiding risky places and activities. The justification for the approach was individual and situational variation in short-term risk.[26] Given that a guideline expressed as a simple number may be easier to follow than more general advice, preferences on this were sought in the public consultation on the proposed new guidelines, however the findings were inconclusive. Additionally, the guideline development group felt there was limited evidence to support recommending a particular single limit and the UK Chief Medical Officers were advised not to include a number for the single occasion guideline . [27]

Advice to have a few alcohol-free days each week is another way in which the pattern of alcohol consumption has been addressed in drinking guidelines. Scientific evidence to support alcohol-free days is limited but daily drinking is considered a risk for alcohol use disorders and for heavier drinkers, alcohol-free days result in a lower risk of mortality.[23] The new drinking guidelines in the UK provide advice on avoiding heavy drinking episodes by spreading the weekly amount of alcohol consumption over several days, and recommend several drink-free days to help cut down on drink.[7]

*In the RARHA Delphi survey, further research on the role of heavy drinking patterns in the risk of alcohol related mortality and morbidity was called for, as well as research on other lifestyle variables that might affect the risk of health harm from alcohol.*

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f The World Health Organization uses the prevalence of heavy episodic drinking (HED), defined as drinking at least 60 grams or more of pure alcohol on at least one occasion in the past 30 days, as an indicator for acute consequences of alcohol use in a population. In epidemiological research, the term risky single occasion drinking (RSOD) is used synonymously with HED. In the research context there is no common definition for HED or RSOD.[25]

## Variability across population groups

A major challenge in developing low risk drinking guidelines concerns balancing universal advice with individual and situational variability. Low risk drinking guidelines based on averages across populations do not apply equally to all individuals. However, taking into account a range of relevant factors, such as weight, metabolism, existing health conditions or susceptibility to cancer, heart disease, dependence or other health outcomes is impossible in population guidelines.

The common approach to differentiation is to specify alcohol consumption levels separately for women and men, although it has been argued that gender-specific guidelines are no longer fully supported by current evidence.[25] The low risk level has generally been set lower for women than for men because women generally reach a given BAC with a smaller amount of alcohol than men.

The low risk drinking guidelines revised in Australia in 2009 gave up this distinction and advised both men and women to drink no more than two standard drinks per day (no more than 20 grams of pure alcohol).[20] This was based on an analysis which indicated little difference in lifetime risk between men and women at low levels of drinking. At higher levels the lifetime risk of alcohol-related disease increased more quickly with an increasing level of consumption for women. In contrast, the lifetime risk of death from alcohol-related injury increased more quickly for men. The BAC difference between women and men was overwhelmed by men's higher risk of injury mortality per se, linked with higher propensity to risk-taking.[21]

In Europe, the new guidelines in the Netherlands in 2015 [6] and in the UK in 2016 switched over to a single low risk level of alcohol consumption applicable to both women and men. The rationale in the UK was similar to that in Australia: despite evidence of a greater biological susceptibility to alcohol-related harm in women, acute harms in women are much less than in men at the same level of consumption.[25]

> *In the RARHA Delphi survey, the move to a single low-risk guideline for women and men in Australia was presented to the experts as stimulus for considering whether or not gender-based differentiation is needed. A clear majority favoured gender-specific guidelines, with physiological differences and the broad acceptance of the gender difference given as justification. Arguments in support of a single guideline highlighted the basically harmful nature of alcohol, irrespective of gender, differences in behaviour between women and men, and the ease of communicating the guideline to the population.*

Age is another important factor in risk of alcohol-related harm. Children and young people are in many ways susceptible to harm from alcohol throughout the developmental stage, not least because the ability for complex thinking and decision making takes time to evolve. Specific advice on low risk alcohol consumption by young people is scarce but the notion that the best way to minimize risk is to avoid alcohol is implicit in legal minimum age requirements. Among older people alcohol consumption may increase the risk of chronic disease and injury. Age-specific guidelines have been called for that take into account increased sensitivity to alcohol due to physiological and metabolic changes.[28] On the other hand, balancing potentially reduced risk of coronary heart disease with increased risk of other chronic diseases, injury and adverse interactions of alcohol with medications contributes to such complexity that it has been argued that advice for older people would be better provided individually in clinical settings.[29] As the epidemiological evidence on alcohol consumption and harms among older people so far is sparse and inconsistent, guidelines for older people tend to take the form of general recommendations for caution rather than exact advice on alcohol intake levels.

> *In the RARHA Delphi survey, the predominant view was that providing low-risk drinking guidelines for under-18s would be counterproductive and the main message should be to avoid alcohol. Guidelines on alcohol consumption by older people were called for, in particular regarding risks concerning medications, co-morbidities and injuries.*

While there is evidence that people of lower socioeconomic status show a greater susceptibility to the harmful effects of alcohol, the precise interaction between patterns of alcohol use, socioeconomic status, and health outcomes remains uncertain due to limited research.[30]

Good practice principles for low risk drinking guidelines

*In the RARHA Delphi survey, views regarding the usefulness of taking into account socioeconomic factors when formulating low risk drinking guidelines were divided, with a slight majority reluctant to do so. Socioeconomic factors were not considered unimportant, but socioeconomically differentiated guidelines were deemed discriminatory, stigmatizing and counterproductive. Selective prevention measures were considered a more appropriate approach. Awareness of differential vulnerability to alcohol in socioeconomic groups was, however, considered important.*

## Variability across situations

National drinking guidelines differ regarding their focus on risks in particular situations. Population guidelines on low risk drinking – like nutrition guidelines – are meant to apply to healthy adults, a limitation sometimes considered self-evident and not even mentioned. Besides the age-related conditions, pregnancy and, by extension trying to conceive and breastfeeding, is the specific high-risk situation that has been most often singled out in drinking guidelines. Whether the focus is on risk of developmental harm (FASD) due to heavy drinking or on the risk of low birth weight and miscarriage at lower levels of drinking, the advice given is usually to abstain from alcohol. The main reason for a precautionary approach is that the available research does not allow to specify a level of alcohol exposure that would involve no risk to the unborn child.[14,25]

Driving under the influence of alcohol is another high risk situation addressed, if not in drinking guidelines, in the legal provisions concerning the blood alcohol levels permitted for drivers in general or for various categories of drivers. The practice in some countries of defining the seriousness of the offence by the driver's blood alcohol level reflects a certain tolerance of risk whereas lower blood alcohol limits or zero tolerance applied for young drivers or commercial drivers represent a more cautious approach.[9]

*In the RARHA Delphi survey, concern was raised by the experts about a range of at-risk groups or high-risk situations where general low risk drinking guidelines do not apply. Besides age-based groups, the most important at risk groups highlighted included people with risk of adverse interaction of alcohol with medications and people at increased risk due to a family history of alcohol dependence, mental health problems, or other addictions. As regards specific high-risk situations where the safest option is not to drink at all, the most important were during pregnancy, when driving, at work and when engaged in tasks that require concentration.*

## Public health relevance of low risk drinking guidelines

Any effects of low risk drinking guidelines towards reducing harm from alcohol depend on how widely the guidelines are known and how they are understood: are they taken as advice to drink for health benefits, as a socially accepted level of moderate consumption, as relatively safe levels or as relatively risky levels of drinking. A related factor concerns consumers' ability to translate low risk consumption levels, often given as units, SDs or grams of pure alcohol, into actual drinks consumed in varying strengths and servings. (For further discussion, see Chapter 3.) While some research is available on awareness and comprehension of low risk drinking guidelines in different countries, there are few studies on their impact on risk perceptions, attitudes or drinking behaviour, and they suggest limited potential for effect.[14,31] The possibility of counterproductive effects has been raised – for example, if low risk drinking guidelines encourage abstainers to start drinking or moderate drinkers to increase consumption. An overall assessment is that, in the wider frame of alcohol policy, the dissemination of drinking guidelines alone – or indeed any type of information and education activities – cannot be expected to deliver large or sustained benefits if carried out in isolation, but they can bring added value as part of a broader policy mix.[32]

Potential explanations for a poor reach of drinking guidelines include a lack of perceived relevance to real-life drinking practices and motivations for drinking. It has been suggested, based on research on

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[9] European Transport Safety Council: Blood Alcohol Content (BAC) Drink Driving Limits across Europe
http://etsc.eu/blood-alcohol-content-bac-drink-driving-limits-across-europe/

the interpretation of low risk drinking guidelines in the UK, that advice on consumption levels should be accompanied by messages that show the impact drinking can have in the short or long term, for example, on family and work life.[33] In the UK, a certain lack of credibility and practicability of previous drinking guidelines has been associated with a tendency among lay people and the media to confuse recommendations concerning average regular consumption with upper limits for drinking on a single occasion.[34] The new low risk drinking guidelines in the UK have done away with the earlier limits for daily consumption and returned to specifying a low risk level of weekly alcohol consumption, accompanied by qualitative advice on how to reduce risk of harm on single drinking occasions.[7] The justification was that a guideline for weekly consumption would be an easier benchmark for the largest part of the population who do not drink daily but primarily on weekends and special occasions.

It has been argued that limits for average volume of alcohol consumption, geared towards reducing long-term risk of chronic disease, and limits for drinking on a single occasion, geared towards reducing risk of injury and acute disease, are both essential components of low risk drinking guidelines.[16] The survey of current guidelines in RARHA partner countries, found that both a guideline for average consumption and a guideline for single occasions was given in only a minority of cases.[3] The choice between emphasizing daily, weekly or per occasion advice seems best informed by the predominant drinking patterns among the target populations.

Dissemination of low risk drinking guidelines is one approach to providing information necessary for consumers to make choices about their drinking. Rational choices require that consumers are fully informed about the characteristics and quality of what they consume, about the benefits offered and about the costs and risks they will be exposed to as a consequence of consumption.[35] There is a strong argument that it is the consumer's right to know the epidemiological evidence on the risks of different levels of alcohol consumption and the implications of this for their personal behaviour.[34]

Drinking guidelines may also have public health relevance at the level of collective perceptions and norms. Low risk drinking guidelines and the public discourses generated by the process of formulating or reviewing them contribute to the public debate on attitudes and norms regarding alcohol consumption[14]. – "By their very existence as public advice, such guidelines acknowledge that there is something special about alcohol, that it is not an ordinary commodity."[13]

## RARHA Delphi panel's views on the purposes of low risk drinking guidelines

In the RARHA Delphi survey, there was fairly broad consensus that providing the general population with guidelines on low risk drinking is justified, and that the main rationale for low risk drinking guidelines is that consumers have the right to be informed about risks related to alcohol consumption. Rather than as a powerful influence on drinking patterns, low risk drinking guidelines were seen as just one tool in the portfolio of measures to curb alcohol related harm.

Skepticism and uncertainty was related to the complexity of the issue which presents a challenge for communication through mass media. It was considered important to accompany advice on low risk drinking levels with messages to prevent counterproductive interpretations. The most important points to highlight were that low risk drinking does not mean 'no risk' and that occasional heavy drinking and daily drinking both involve risk of harm, without giving the impression that one is favoured over the other. While there was 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, it was considered important to make clear that a maximum for a single occasion does not mean that drinking up to that level is safe.

When communicating drinking guidelines, the risk of particular harms could be highlighted as motives for staying on the "safe side". Based on the experts' views, increased risk of cancer and risk of adverse effects on the family would be the most important, followed by risk of high blood pressure, addiction, depression, adverse effects on the brain and overweight.

The experts differed somewhat regarding the intended public for drinking guidelines, with some considering drinkers who are already at high risk as the primary target group and others seeing information on alcohol related risks being targeted to all alcohol consumers or to the population at large. The results of further exploration of experts' views of the purposes of "low risk", "high risk" and "single occasion" guidelines suggest that encouraging high risk drinkers to reduce the amounts they are

consuming, drawing all alcohol consumers' attention to the risks that may be involved in their drinking habits and influencing attitudes and drinking habits in the population are not mutually exclusive purposes or results of drinking guidelines: the three types of drinking guidelines can at the same time serve several purposes to different degrees. Assisting health professionals to identify at-risk drinkers is obviously a specific function of high risk guidelines, and the specific intent of guidelines for a single occasion is to reduce risks of harm from drunkenness to the drinker or to others. (Table 2)

**Table 2.** Schematic summary of expert views of the most relevant purposes of "low risk", "high risk" and "single occasion" drinking guidelines as identified in the RARHA Delphi survey.[4] The relative relevance is indicated by the number of √ signs.[h]

| Purposes \ Focus of guidelines | Low risk from consumption over time | Risk from heavy drinking on a single occasion | High risk from consumption over time |
|---|---|---|---|
| To influence attitudes and thereby drinking habits in the whole population. | √ | √ | √ |
| To inform alcohol consumers and others about alcohol related risks. | √√√ | NA | NA |
| To draw all alcohol consumers' attention to the risks that may be involved in their drinking habits. | √√ | √√ | √√√ |
| To provide advice to consumers who want to keep their alcohol consumption at a level where the risks remain small. | √ | NA | NA |
| To help reduce the risk of accidents and injuries due to intoxication. | NA | √√√ | NA |
| To help reduce the risk of social harms to the drinker due to drunkenness. | NA | √ | NA |
| To help reduce the risk of social harms to others due to someone's drunkenness. | NA | √ | NA |
| To encourage "at risk" drinkers reduce the amounts of alcohol they are consuming. | NA | NA | √√√ |
| To help health professionals identify "at risk" drinkers and provide them advice on how to reduce alcohol consumption. | NA | NA | √√ |

The predominant view regarding potential health-protective effects from a low level of alcohol consumption was that low risk drinking guidelines should not include messages about beneficial effects of alcohol, except to correct misconceptions. A widely shared sentiment among the experts was that the core message in low risk drinking guidelines is about risk of harm. When requested to indicate what other aspects besides epidemiology should be taken into account when seeking to agree on a common definition of low risk drinking, the experts considered medical/public health stakeholders' views and current national low risk drinking guidelines as the most relevant. The views of alcohol consumers, politicians or other stakeholders came out as far less relevant.

## Towards a common concept of low risk drinking

Drinking guidelines are in place in many countries and there is an interest among the general public to be provided with such advice.[36] The RARHA Delphi survey indicated wide support among public health and addiction experts for the dissemination of low risk drinking guidelines to the general population. The main justification is that consumers have the right to be informed about risks related to their alcohol consumption in order to reduce and avoid risks. As the issue is about the protection of the

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[h] In the second round of the Delphi survey, experts were requested to rank in order of relevance sets of possible purposes of "low risk", "high risk" and "single occasion" drinking guidelines, developed based on verbal comments received in the first round. "NA" in some cells means that a particular purpose was not offered for ranking; this does not exclude the possibility of some degree of relevance.

individual and public health, the responsibility to provide reliable evidence-based information about alcohol related risks and ways to reduce risks rests with governments and their public health bodies.

Drawing on scientific literature and broadly shared views among the experts consulted and participating in Joint Action RARHA, this final subchapter presents conclusions and good practice principles for the use of low risk drinking guidelines as a public health measure. One of the aims in RARHA was to explore whether some degree of consensus could be achieved to help reduce the variation in national guidelines. There is, indeed, substantial consensus on many points, including that it would be desirable for European public health bodies to agree on a common concept of low risk drinking.(Graph 3) Arguments presented by experts in the Delphi panel in favour of a common concept included that a co-ordinated effort by European countries to promote low risk drinking guidelines would improve the chance of being accepted by the population.

**Graph 3.** Replies given in the RARHA Delphi survey, rounds 1 & 2, to the question: Would you consider it desirable for European public health bodies to agree on a common concept of "low risk" drinking?[4]
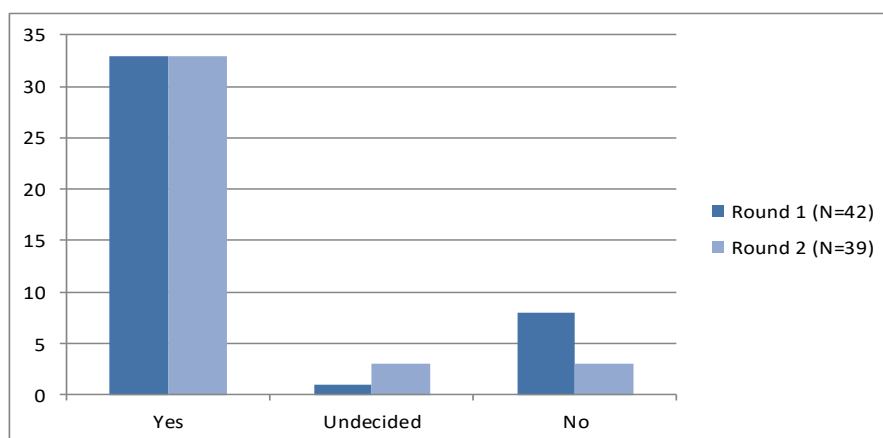


Although there is some inclination among experts to rely on an international body to set the standard, primarily the World Health Organization (WHO), it seems low risk drinking guidelines will continue to evolve without such top-down coordination. The WHO does not set particular limits for alcohol consumption "because the evidence shows that the ideal solution for health is not to drink at all".[i] For example, the European Code Against Cancer, developed through cooperation between WHO's International Agency for Research on Cancer and the European Commission, advises to limit alcohol intake and states that, for cancer prevention, not drinking alcohol is better.[j] Such European cooperation to formulate a set of evidence-based core messages applicable across diverse populations could be considered also for providing concrete advice for reducing the risk of other kinds of harm from alcohol. The work done in Joint Action RARHA could provide starting points towards a "European code on alcohol" to amplify the overall message to alcohol consumers and society at large, and to support individual countries in their public health action.

Adopting a single common low risk guideline across European countries does not seem an option. While low risk guidelines have a fairly long history in some countries (see examples in Annex 4), in others public health bodies have chosen not to disseminate such advice. More relevant and effective risk communication will be achieved by formulating drinking guidelines to take into account particular national challenges in alcohol related harms as well as pre-existing perceptions of risk and harm among the population. Nevertheless, moving towards a more aligned approach is possible by applying good practice principles such as those identified in RARHA.

The work done in RARHA suggests that a common concept of low risk drinking could be found by adopting the cumulative lifetime risk of death from alcohol-related disease or injury as a common metric for assessing the risks from alcohol. Calculation of the lifetime risks of alcohol attributable

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[i] http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle

[j] http://cancer-code-europe.iarc.fr/index.php/en/

Good practice principles for low risk drinking guidelines

mortality at different levels of consumption in selected European countries demonstrates that the methodology is available and the results can inform discussion about the level of public health protection associated with drinking guidelines.[23] Lifetime risk of mortality is a common standard for assessing risk from external factors, such as toxins in food or environment. Expressing risk as the number of deaths per persons exposed illustrates its magnitude and enables different types of risks to be put into perspective alongside one another. The lifetime risk approach enables the low risk drinking guidelines to be developed in light of a clear criterion of low risk and to take into account the current level of cause-specific mortality in the working-age population.

The risk level of 1 in 100 alcohol attributable deaths could be considered a maximum for "low" risk. In some European countries, the current guidelines for low risk drinking are consistent with or slightly below that level, while in others the risk level associated with current guidelines is above 1 in 100. Alternatively, a more cautious maximum could be adopted, as suggested in recent discussion.[37, 38] Adopting a stricter criterion for low risk, such as no more than 1 death per 1000, would contribute towards a healthier population, but would require a downward revision to the current low risk drinking guidelines in most European countries. Whether the public health targets set in different countries would converge towards a common minimum level of protection of public health or not, adopting a common metric would contribute to a more transparent process for specifying guidelines for low risk alcohol consumption.

A main purpose of drinking guidelines is to draw all alcohol consumers' attention to the risks that may be involved in their drinking habits. Awareness of risk is necessary to avoid ill-advised choices but it does not equal action, and drinking guidelines alone cannot be expected to change behaviours in the population. Measures to support and enhance the potential of drinking guidelines could include the following, discussed in detail in the next chapters:

- Applying and enforcing effectively an age limit of minimum 18 years for the sale and serving of any alcoholic beverages.
- Supporting in particular primary health services to identify at-risk drinkers and provide brief advice to reduce high-risk drinking.
- Requiring that the amount of pure alcohol contained in a bottle, can or other package is given in grams on the label.
- Requiring that alcoholic beverages and alcohol advertisements carry clear and factual information on health and safety risks associated with alcohol consumption.

## Good practice principles for low risk drinking guidelines

### Principles

- Drinking guidelines are not normative but informative.
- The core message in drinking guidelines is about risk, not safety.
- Drinking guidelines should convey evidence-based information on risks at different levels of alcohol consumption, contribute to correcting misconceptions about the likelihood of positive or negative health effects of alcohol, and help alcohol consumers to keep the risk of adverse outcomes low.

### Components

- Low risk drinking guidelines should highlight that daily drinking and occasional heavy drinking are both potentially harmful drinking patterns. Advice should be provided both regarding the average level of alcohol consumption over a longer period of time and regarding the maximum amount drunk on any single occasion. It should be made clear that a limit for a single occasion does not mean that drinking up to that level is safe.
- The possibility of advising equally low consumption levels for men and women, while highlighting gender-specific factors in verbal communication, should be considered.
- Guidance for healthy adults should be accompanied by guidance for various age groups, in particular for older people.

- Low risk drinking guidelines should be accompanied by advice concerning alcohol consumption in high-risk situations and at-risk groups.
- Although mainly based on epidemiological evidence of the health risks of alcohol, low risk drinking guidelines should also communicate that keeping average alcohol consumption at a low level and avoiding drunkenness reduces the risk of social harms to the drinker and to others.

## Key messages for reducing risk in particular situations

- Not drinking at all should be promoted as the safest option in pregnancy, childhood and adolescence, and when driving, at work or engaged in tasks that require concentration.
- To reduce risks from alcohol consumption by older people advice should be given in relation to adverse interactions with medications, co-morbidities and injuries.
- High-risk situations include taking a medication that may interact with alcohol, and at-risk groups include people with other addictions, mental health problems or family history of alcohol dependence.
- To address the public's information needs and to motivate risk reduction, particular harms should be highlighted, such as increased risk of cancer, high blood pressure, addiction, depression, adverse effects on the brain, overweight as well as adverse effects on the family.
- The risk estimates underpinning low risk drinking guidelines are based on averages across populations whereas at an individual level there is considerable variation in vulnerability to alcohol due to biological and social factors. Any individual considering whether to drink or how much to drink will therefore also need to take into account their own characteristics and particular situation.

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Chapter 3

# The Standard Drink concept and consumer information on alcoholic beverages

*Deirdre Mongan[a]*

A "standard drink" (or "unit" 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 (SD) always contains the same amount of alcohol regardless of the container size or the type of alcoholic beverage, but does not necessarily correspond to the typical serving size in the country in question. The concept of Standard Drink was introduced as a means of providing information to drinkers to help them measure their own alcohol consumption. It is often used in alcohol awareness or education campaigns as a way of communicating public authorities' guidelines regarding low risk drinking. Standard Drinks are also commonly used in drinking surveys for enquiring about respondents' drinking levels and patterns.

When guidelines on alcohol consumption levels associated with low risk of health harm are expressed in Standard Drinks, consumers' awareness and understanding of what a Standard Drink actually is becomes crucial. Calculating one's alcohol intake in numbers of SDs is not an easy task if drinks of various sizes and varying alcoholic strengths are consumed. When communicating drinking guidelines to the public, examples of the number of SDs in drinks are often provided illustrated with pictures of glasses, cans and bottles.[b] Another way to inform and assist consumers is to include on the alcoholic beverage package a statement on the number of Standard Drinks contained in it. Such statements are required by law in Australia[1], included on alcoholic beverage labels based on an agreement between the Government and alcohol industry in the United Kingdom [2], and used on a voluntary basis by some alcohol manufacturers in some countries; for example in Denmark, members of the Brewers' Association have since the 1990s indicated the alcohol content of beer bottles and cans in SDs.[c]

The present Chapter provides brief overviews of the uses of the Standard Drink concept in different contexts, and in European countries in particular, and summarizes research findings regarding people's understanding of SDs. While variation in the national definitions of a Standard Drink is looked at in Chapter 2, the present Chapter focuses on the usefulness of an agreed EU definition of Standard Drink based on views expressed by national informants, and on support among public health and addiction experts for a move towards a common definition.

Finally, with reference to the current absence of EU regulation regarding the information to be given on alcoholic beverage labels on the health relevant aspects of the drinks, consumers' and experts views of useful on-pack information are discussed, including support for mandatory warnings about health or safety risks of alcoholic beverages.

The present Chapter draws on information gathered and compiled in various Tasks carried out by partners in Joint Action RARHA's Work Package "Guidelines":

- An update on the national definitions of the size of a Standard Drink, performed by the Istituto Superiore di Sanità (ISS) by means of a survey addressed to national informants[3];
- An overview of country-based practices in defining a Standard Drink, public understanding of the concept, and views on the usefulness of an agreed EU definition of Standard Drink, based on information gathered from national informants by the Health Service Executive (HSE) [4];

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[a] Health Research Board, Ireland
[b] http://www.nhs.uk/change4life/Pages/alcohol-lower-risk-guidelines-units.aspx
[c] http://www.food-supply.dk/article/view/34365/bryggerierne_lancerer_genstandsmaerkning#

- A literature review into practical aspects of the Standard Drink (consumers' perceptions and the size of actual drinks poured) and into uses of SDs in surveys of drinking patterns and in alcoholic beverage labelling undertaken by the Health Research Board in Ireland (HRB) [5];
- An online survey of consumer views relating to alcohol risk communication implemented by Eurocare in 21 European countries [6];
- A Delphi survey with European experts in public health and addiction, focused on questions related to low risk drinking guidelines and carried out by the National Institute for Health and Welfare (THL) in collaboration with RARHA partners [7].

## Uses of Standard Drink definitions

The Standard Drink concept is mainly used in three different contexts: in surveys of drinking habits to help people report on their alcohol consumption; in drinking guidelines to describe alcohol intake levels associated with low or high risk; on alcoholic beverage bottles or cans to indicate the amount of pure alcohol contained in the package.

### Surveys

When surveys of alcohol consumption are conducted, respondents are generally provided with the definition of a Standard Drink used in that country and then asked about their alcohol consumption with that definition in mind. Alcoholic drinks are often defined for the respondents in terms of the typical container sizes of beer, wine or spirits to illustrate what constitutes a Standard Drink. Terms such as ounces, millilitres, or grams of ethanol are generally not used as they are not easily understood by consumers.[8]

However, research clearly demonstrates that there are considerable differences between respondents' perceptions of what a Standard Drink constitutes and the definition of a Standard Drink, especially in relation to spirits and wine. Regardless of the SD definition provided, some respondents may report the number of drinks they actually consume. Confusion over Standard Drinks can affect the precision and reliability of the results of the survey.

It has long been recognised that population surveys of self-reported alcohol consumption result in estimates of per capita consumption well below the level estimated from alcohol sales data. The usual range of coverage from surveys is in the region of 40-60%.[9] The literature indicates that there are three reasons why self-reported alcohol consumption does not accurately reflect per capita alcohol sales: the confusion regarding what constitutes a Standard Drink, variations in drinking vessels and variations in alcoholic beverages' percentage ABV (pure alcohol by volume).[10, 11, 12] When conducting surveys it is critical that researchers and respondents define a Standard Drink in a comparable way.[13] Discrepancies can have implications when self-reported alcohol consumption levels are used to determine thresholds for risky single occasion drinking and harmful drinking patterns. For example, if respondents underreport their true levels of consumption, which is feasible given the published literature on consumers' understanding of standard drinks, then the thresholds used in surveys for risky and harmful drinking may be unsuitable.

> In Joint Action RARHA's Work Package "Monitoring", the Standardized European Alcohol Survey (SEAS) was developed to provide cross country comparable data on levels and patterns of alcohol consumption and alcohol-related harm. The concept of a Standard Drink was used in the questions relating to the quantity of alcohol consumed per occasion, to risky single occasion drinking (RSOD), and to drunkenness. For the RSOD question, partner countries were free to use national Standard Drinks or to describe otherwise the relevant amount of alcohol that corresponds to the intake 40 grams or 60 grams of pure alcohol, respectively for women and men. In a number of countries a Standard Drink was an obvious option as a majority of drinkers are aware of what it is. The national SD definitions used varied from 8 to 15 grams of pure alcohol. In other countries it would have been quite artificial to teach respondents what a Standard Drink is all about. [d]

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[d] Information provided by Jacek Moskalewicz, June 2016.

*Drinking guidelines*

Many of the differences across countries in the numbers of drinks used in drinking guidelines to express limits for daily or weekly alcohol consumption reflect variation in the Standard Drink size used. According to Dawson[13], many drinkers will interpret drinking guidelines in terms of numbers of drinks that correspond to levels of intake that are smaller or larger than those intended by the SD definitions included in the guidelines. In light of this, it might be argued that SD sizes for any given country should reflect the most common container or serving sizes in that country.

Research addressing how guidelines are understood by drinkers who typically pour non-standard drinks might help to improve the delivery of drinking guidelines to alcohol consumers. It has been argued that if risks attributed to drinking five or more drinks, for example, are based on scientific evidence relying on actual as opposed to standard drink sizes, coupled with other sources of consumption underreporting, then drinking less than five drinks, irrespective of how closely they correspond to standard drink size, will reduce harm in the aggregate. That is, if one assumes that relative risks associated with various consumption levels are overstated because of underreporting of consumption, then adherence to low-risk drinking limits should prove effective even for individuals whose actual drink sizes are larger than standard. Hence, publicizing low-risk drinking limits should play an important role in any activities aimed at preventing alcohol-related harm.[14]

*Standard drink labelling*

It can be difficult for drinkers to estimate what exactly constitutes a Standard Drink, the size of which is defined in grams of pure alcohol. For example, to calculate the grams of pure alcohol in a beverage requires multiplying the volume of the container or the serving size in millilitres by the percentage ABV of the drink and dividing by 1.25 (1ml=1.25g).[15] The %ABV and the volume of the container in centilitres or millilitres may not be enough information for many people to calculate the number of SDs, especially since studies have found poor knowledge of drink sizes. One of the most obvious solutions would be for alcoholic beverage containers to explicitly state how many SDs they contain. Standard Drink labelling has been shown to improve drinker's performance on intake related tasks.[16] While mandatory in Australia, Standard Drink labelling is not required by law in any European country.[17]

The effectiveness of SDn labelling versus %ABV labelling has been examined in a few studies. An Australian study reported that beer and wine drinkers were significantly more accurate in estimating alcohol consumption when provided with SD labelling compared with %ABV labels.[18] Another Australian study measured participants' ability to accurately pour a Standard Drink from a 750 ml bottle of either wine or beer. Beer drinkers achieved greater accuracy when the bottles had SD labels, even when the glass size and beverage strength were varied. Wine drinkers had equal difficulty with this task whether SD or %ABV labels were used. The authors concluded that the addition of a "ladder" up the side of a wine bottle with gradations in SD drinks could help wine drinkers achieve higher accuracy.[19] A Canadian study found that drinkers' estimates of their personal consumption were more accurate with SD labels than %ABV labels.[20]

## The Standard Drink concept in European countries

There is considerable variation between European countries in the number of grams of pure alcohol (ethanol) in the nationally defined Standard Drinks (SDs), with the lowest number found in the UK where a "unit" is equivalent to 8g of pure alcohol, and the highest in Austria where a Standard Drink is equivalent to 20g pure alcohol.[3] (For an overview of Standard Drink definitions in Europe, see Chapter 2).

Findings from the RARHA survey carried out by the HSE indicated that in the majority of the 27 countries from which information was obtained, the SD definition arose from the health sector. The SD had come into use during several decades starting from the 1950s. In almost half of the countries the concept had been introduced after the turn of the millenium. In eight countries the definition had been revised since it was first established.[4]

According to the RARHA survey conducted by the ISS, the most common uses of the SD concept were in brief advice to control drinking provided by health professionals to alcohol consumers and in public education messages.[3] (Graph 1.)

**Graph 1.** Uses of the Standard Drink concept in European countries. The graph is based on data gathered by the ISS [3].
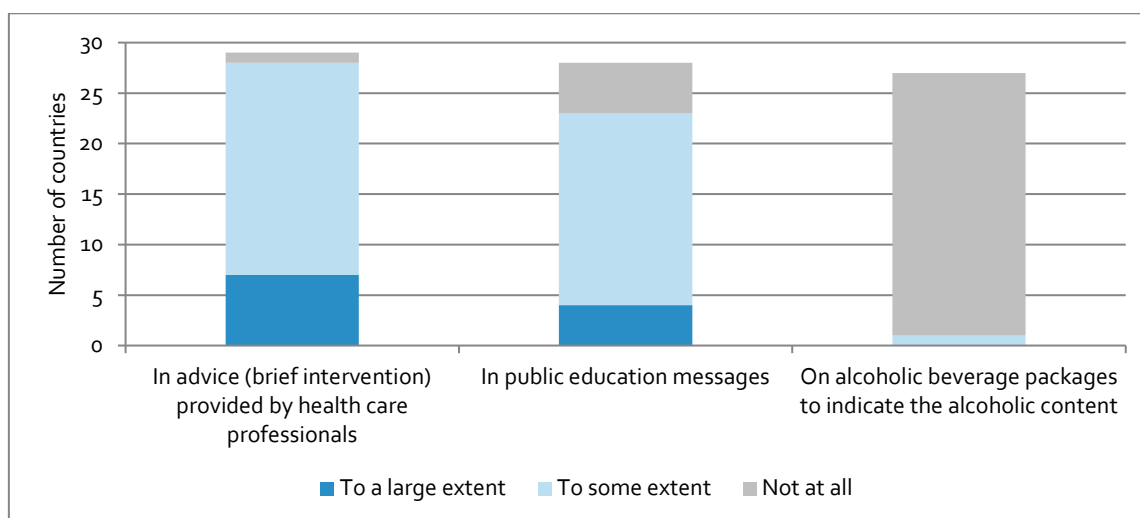


## People's understanding of Standard Drinks

Findings from the RARHA survey carried out by the HSE  indicated that public understanding of the national Standard Drink definition had been evaluated in only five countries. In three countries, understanding of  the SD among alcohol consumers was deemed very good (with more than 60% of survey respondents understanding the definition). In one country the understanding was neither good nor bad while in another one it was rated as very poor (less than 30% understanding the definition). Understanding among the general public was rated very good in two countries, neither good nor bad in one country and very poor in one country.[4]

Findings from an online survey conducted by Eurocare in the framework of Joint Action RARHA with 7950 respondents from 21 European countries indicated that half of the responents (49%) were not familiar with the Standard Drink concept.[e] Those who said they were aware of the concept provided an array of irregular descriptions. The definition provided by a Spanish respondent illustrates the challenge: "una unidad, pero no sé cuánto es la medida exactamente", that is, "one unit, but I am not sure about the exact measure".[6]

Several studies have examined drinkers' knowledge of what a Standard Drink is. Recent findings from Europe are summarized below:

- An Irish survey reported that 58% had heard of the standard drinks; 24% knew the number of standard drinks in a 200 ml glass of wine, 51% were aware that a half pint of Guinness contains one standard drink, 39% knew how many standard drinks are in a pint of lager and 33% knew how many standard drinks are in a single measure of spirits.[21]
- An English survey found that 90% had heard of the term 'unit'; 63% of beer drinkers knew that one unit of beer is half a pint, 27% of wine drinkers correctly said that one unit is less than a small glass of wine and 69% of spirits drinkers were aware that a single measure was one unit.[22]
- In a Scottish study, approximately half of 1497 adults were able to correctly identify the number of units in a pint of beer, measure of spirits or a glass of wine (47-51%). Public awareness of unit content had changed little since 2007.[23]

Numerous studies have examined how the size of drinks actually poured by people corresponds to Standard Drinks or units of alcohol. Findings from studies in European countries are summarized below:

- In the UK, 309 secondary school and 125 university students were asked to estimate the alcohol unit content of three types of alcoholic drinks in different serving sizes. Knowledge of units was poor. They were also asked to pour their usual drink. The usual drinks were

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[e] The number of respondents per country varied from less than one hundred to more than two thousand.

substantially larger than one unit, and bigger drinks where poured when participants were given bigger glasses.[24]

- In a Dutch study 863 subjects were asked to pour their usual drink (using water) into a typical beverage glass. The self-poured spirits contained 26% more alcohol than the standard drink and the self-poured wine contained 4% more.[25]
- In a Scottish study, 238 drinkers were asked to pour "the drink of red wine you would pour at home" and this was repeated using whisky. The mean amount of alcohol in a drink of self-poured wine corresponded to 1.9 UK units. For whisky, the corresponding figure was 2.3 UK units.[26]
- A UK study asked 283 participants to pour their "usual glass", and then to estimate the number of units poured.  The mean number of units poured of wine was 1.9 and of spirits was 1.9.[27]
- In Spain 1600 people at a supermarket who had purchased alcohol were asked to choose the glass they would use at home and to fill the glass in the same way as at home.  A drink of beer contained a mean of 9.6 grams of pure alcohol, wine contained 10.9 grams and spirits contained 20 grams.[28]

While there seems to be awareness of the terms "Standard Drink" and "unit", understanding of what these terms actually mean is limited and drinkers are not able to define these measures accurately. They tend to overstate the appropriate volumes, leading them to overpour drinks and underreport levels of consumption.  This is especially pertinent when alcohol is consumed at home rather than in licensed premises.  Pouring practices appear to vary widely depending on the type of beverage and/or the type of container.  Beverages with a higher %ABV such as spirits are more likely to be over-poured than beverages with a lower %ABV, for example, beer. This may be explained by the fact that beer is usually sold and consumed in set volumes, while the volume of spirit and wine poured is usually in the control of the drinker, and therefore likely to deviate from a standard measure.

Some findings indicate that the shape of the glass is also relevant. In a US study, 198 college students and 86 bartenders were asked to pour a Standard Drink measure of spirits (44.3 ml) into short, wide glasses and tall, slender glasses. They all poured more into short, wide glasses. Despite an average of six years of experience, even bartenders poured 21% more into short, wide glasses than tall, slender ones.[29] To avoid overpouring at home or in licensed premises, tall, narrow glasses should be used rather than short, wide ones. In surveys using self-report of Standard Drinks it may be useful to ask about the shape of the glass used by the respondent.

## Practical usefulness of an agreed EU Standard Drink definition

The HSE RARHA survey sought national informants' views on the usefulness of an agreed EU Standard Drink definition for three purposes, inviting them to provide reasons or arguments for their positions.[4]

### Supporting health and social care practitioners to assess patient/client alcohol consumption

Fifteen national informants thought a common SD definition would be helpful to health and social care practitioners. The reasons given were that it would have more standing than a national measure and would allow the exchange and standardization between countries of clinical guidelines, assessment tools and training. It would also facilitate comparison of drinking patterns between countries and increase public understanding of alcohol content in drinks across Europe. Eight informants thought a common SD definition would not be helpful as there are established national definitions and comprehensive national information packages in place. Due to the variation in SD definitions across countries it would be difficult to agree on a standardized European measure.

### Informing consumers of the alcoholic content of drinks

The majority of respondents believed that an EU agreed SD definition would help standardize information on alcohol content in drinks. It was felt a common definition would increase consumers' awareness of the amount of pure ethanol in alcoholic drinks. On the other hand, four respondents were not in favour of a common definition as measures of alcohol differ across and within countries. There was also concern about confusing health professionals and drinkers. As an alternative, one respondent suggested the alcohol content in drinks could be given in grams rather than SDs which would enable to

link health messages to EU or national drinking guidelines based on consumption measured in grams of pure alcohol.

*Measuring personal alcohol consumption*

The majority of respondents believed that the adoption of an EU agreed SD definition would help consumers measure personal alcohol consumption which would contribute to lower risk consumption. Five respondents did not consider an agreed SD definition helpful for measuring personal consumption. The reasons included a lack of uniformity of a SD measure and a variety of classic beverage sizes across countries and regions which could render an agreed definition ineffective. It could take a long time for cultural acceptance of a common definition.

## Support for a common concept among the RARHA Delphi expert panel

Questions about the usefulness of a common definition of Standard Drink were also put to the panel of public health and addiction experts participating in the RARHA Delphi survey.[7] The replies showed substantial support for agreeing on a common definition. (Graph 2)

**Graph 2.** Support among public health and addiction experts for agreeing on a common definition of Standard Drink [7]
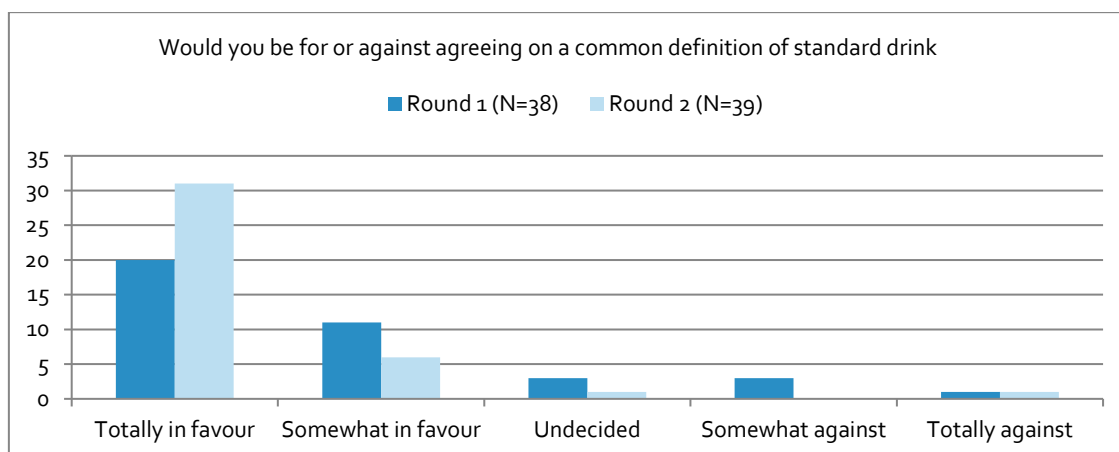


The two most widely supported arguments in favour of moving towards a common definition highlighted consumer information: agreeing on a common definition would widen the reach of consumer information campaigns while decreasing the possibility of misunderstanding, and it would bring added value by drawing attention to the amount of pure alcohol contained in various types of beverages.

The main arguments against a common definition, supported by fewer than one third of respondents, highlighted challenges in putting the common definition into practice: for consumers to have a concrete understanding of the Standard Drink it needs to be adapted to the typical serving sizes in their country, and SD information needs be part of comprehensive consumer information activities.

It was also suggested that rather than trying to agree on a common definition of Standard Drink, the alcohol content in a container and drinking guidelines could be communicated to the public in terms of "drinks" without defining the exact size, or by simply using the number of grams of pure alcohol.

A requirement to indicate on the alcoholic beverage package the number of pure grams alcohol it contains received among the expert panel wide support which increased from the first to the second round of the survey. (Graph 3)

Good practice principles for low risk drinking guidelines

**Graph 3.** Support among public health and addiction experts for requiring alcoholic beverage labels to indicate the grams pure alcohol contained in the package [7]



Would you be for or against requiring alcoholic beverage labels to indicate – in addition to the % abv – the grams pure alcohol contained in the package
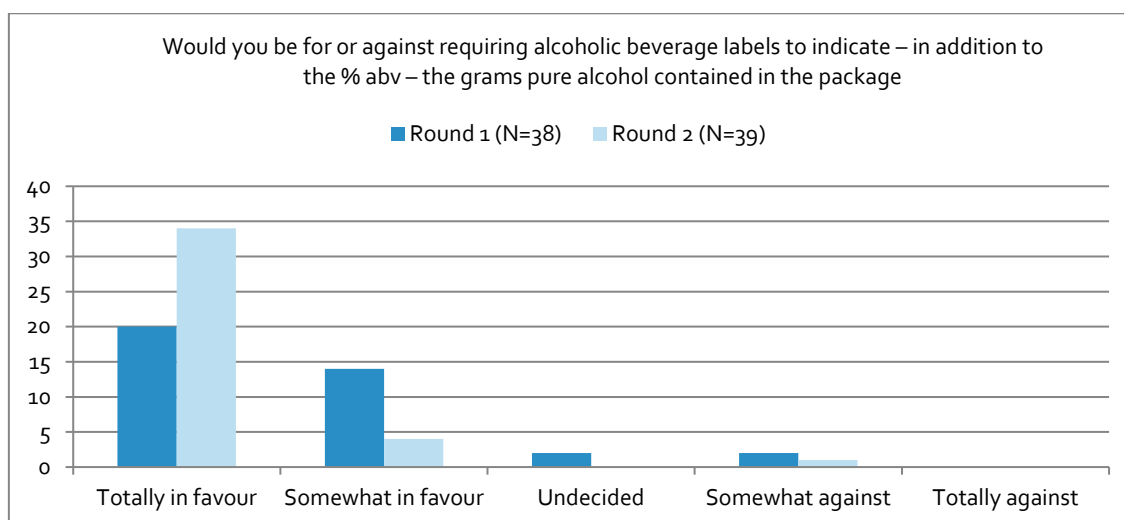
The most widely supported arguments in favour of the approach were that giving the amount of pure alcohol in grams on the label would help correct distorted perceptions of the alcohol content of some beverage types, and make it easier for consumers to understand the relative strength of alcoholic beverages. A further widely supported point was that grams pure alcohol would apply across countries, irrespective of the national Standard Drink definitions or typical serving sizes.

Various ways to enhance the usefulness of the grams-in-the-package approach arose from the experts' comments:

- Indicating both grams and SDs/units on packaging to increase consumer understanding.
- Developing a parallel approach for the on-trade to indicate the alcohol content in servings.
- Providing information in terms of grams in schools and through popular media.
- Integrating information provision in a policy mix including also training for alcohol servers.

## Health-related information on alcoholic beverage labels

Product labels serve a number of purposes, including the provision of basic information about the product, marketing of the product, and provision of warnings about the dangers and health risks from the product.[30] An audit study carried out for the European Commission in 2013 found that only one in five of more than 25 000 alcoholic beverages offered for sale in 15 Member States carried a health-related message on the label. [31] A warning against drinking alcohol during pregnancy was the most common message.[f]

EU legislation on labelling provides a temporary exemption for alcoholic drinks from having to include nutritional information on the packaging.[g] EU law only requires that labels display alcoholic strength in %ABV and the presence of any common allergens, such as sulphites in wine. There is no EU legislation on the use of health warnings on alcoholic beverages. France has enacted a law requiring that all alcoholic beverages carry a warning about the risk of damage to the foetus from alcohol during pregnancy. The warning may be presented as a pictogram or as text.[h] In Lithuania, a pictorial warning about the risks of alcohol during pregnancy on alcoholic beverage containers is required starting from November 2016.[i] Ireland has published legislation to provide for alcoholic beverage labels to contain the number of grams of alcohol per container, calorific content, a general health warning, a health

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[f] The presence of five types of health related messages was audited: alcoholic strength in SD/units or grams; drinking during pregnancy; drinking and driving; legal age limits for purchasing alcohol; drinking in moderation.

[g] Regulation (EU) No 1169/2011 on the provision of food information to consumers. OJ L 304, 22.11.2011, p. 18–63.

[h] http://inpes.santepubliquefrance.fr/70000/cp/07/cp070926.asp

[i] Law of the Republic of Lithuania amending Article 9 of Law No. I-857 on alcohol control. Notification to the European Commission, Number: 2015/242/LT.

warning in relation to consuming alcohol in pregnancy, and details of a website that will provide public health information in relation to alcohol consumption.[j] This legislation is currently awaiting enactment.

In the United States, health warnings have been required on alcoholic beverage containers since 1989. The US Government warning highlights the risks of drinking and driving, operating machinery and drinking while pregnant and other general health risks.[32] Evaluations of mandatory health warnings on alcoholic beverages have found some evidence of a shift in knowledge, awareness and attitudes, but minimal impact in reducing alcohol consumption [32,33,34] However, most of the studies of effectiveness are based on the US warning label, which is fixed rather than rotating, text-based and in small print. It has been pointed out that the design, which has not changed since 1989, is not fit for purpose [32,33]

It is likely that providing health related information on alcoholic beverage labels as a standalone policy measure, even with a warning about health or safety risks, would be of limited use in reducing alcohol consumption. There is considerable agreement, however, that health labelling policy has the potential to change behaviour if carried out as part of a comprehensive range of public health measures and if health or safety warnings are rotating, graphic, highly visible, of sufficient size, and placed on the front of containers.[30,32,33,35 ]

## Call for adequate consumer information on alcoholic beverage packages

There is wide support for providing health related information, including warnings about health and safety risks on alcoholic beverage containers. According to a Eurobarometer study in 2007, 77% of EU citizens favoured the introduction of warnings aimed at pregnant women and drivers on both alcohol bottles and alcohol advertisements.[36]. The online consumer survey conducted by Eurocare in 2015 indicated that the majority of consumers in all age groups would welcome more health related information on alcoholic beverage packages. [6] (Graph 4)

**Graph 4.** Consumer views on the adequacy of health related information on alcoholic beverage packages, by age group. [6]
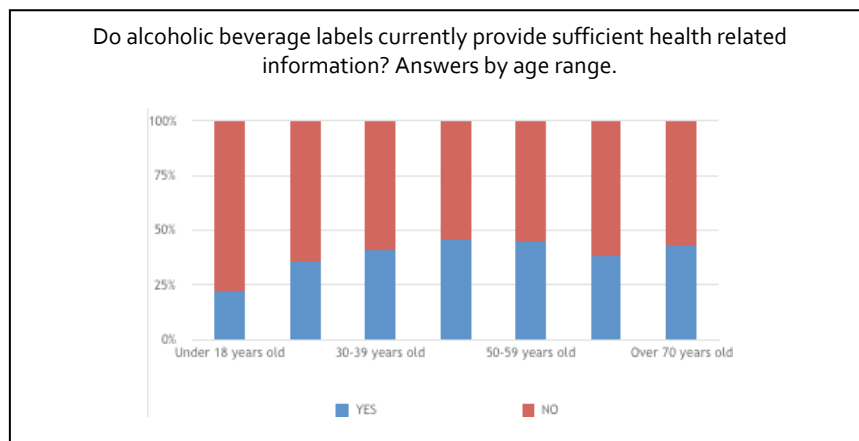


In the RARHA Delphi survey, public health and addiction experts considered the calorie content as the most useful type of information to be provided to consumers on alcoholic beverage packages, followed by information on any additives – such as preservatives or colouring products – as well as the amount of sugar in the beverage or the use of artificial sweeteners. There was wide support among the Delphi expert panel for requiring by law across EU countries messages about health or safety risks on both alcoholic beverage packages and on alcohol advertisements.[7] (Graph 5)

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[j] The Public Health (Alcohol) Bill 2015.

**Graph 5.** Support among public health and addiction experts for mandatory health and safety messages on alcoholic beverage packages and on alcohol advertisements [7]

Would it be useful from a public health perspective if warning messages about health or safety risks were required across the EU on alcoholic beverage packages and/or on alcohol advertisements?

■ Round 1 (N=38) ■ Round 2 (N=39)

| | Packages | YES | NO | | Adverts | YES | NO |
|---|---|---|---|---|---|---|---|
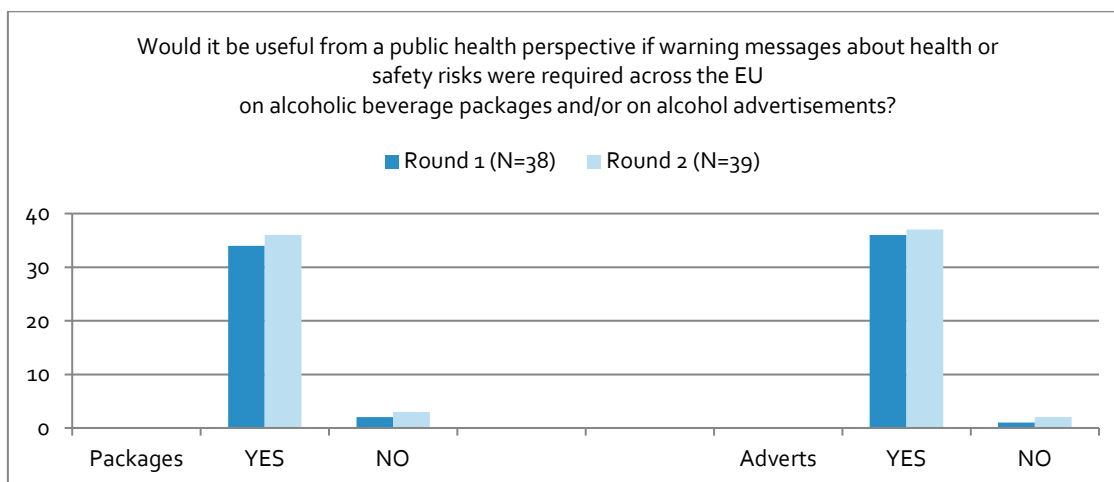
Experts' arguments in favour of providing information about health or safety risks highlighted that obtaining information is the consumer's right, that providing information about the risks of alcohol would make for coherent public health policy (cf. tobacco), and that such messages would make sense to fill in gaps in information. A range of specific risks to be highlighted were suggested by members of the Delphi panel: 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 and the addictive nature of alcohol. [7]

When asked to rate a closed list of topics for health warnings on alcoholic beverage labels, the respondents of Eurocare's online survey considered the risk of harm to the unborn baby as the most important to highlight, followed by the risks of driving under the influence of alcohol, of underage drinking, of combining alcohol with medication, and the risk of developing liver disease or cancer.[6]

## Conclusions

The concept of Standard Drink or unit of alcohol was introduced as a means of providing information to drinkers to help them measure their own alcohol consumption. It is often used to describe alcohol intake levels when communicating public authorities' guidelines regarding low risk drinking. In European countries advice to drinkers provided by health professionals and public education messaging are the main contexts where SDs are used.

The SD or unit is defined as an amount of any alcoholic drink that contains a given number of grams of pure alcohol. In European countries the most common value is 10g, followed by 12g of pure alcohol. Despite a seemingly simple definition it can be difficult for drinkers to estimate what exactly constitutes a Standard Drink and calculate their alcohol intake in SDs, especially if they consume different types of drinks in different servings. A review of the evidence indicates that while there seems to be awareness of the term "Standard Drink", drinkers are not able to define SDs accurately. They tend to overstate the appropriate volumes, leading them to overpour drinks and underreport levels of consumption.

According to information gathered in Joint Action RARHA, there is wide support among national informants and experts in the public health and addiction fields for agreeing on a common EU definition of Standard Drink. Given the current variation in the amount of alcohol in the national SDs, it is unclear whether adopting a single definition woud be feasible. For consumers to have a concrete understanding of the SD, the typical serving sizes in a country need in any case to be taken into account in information provision, and there are grounds to argue that the SD size for any given country should reflect the most common container or serving size in that country.

One potential way to deal with drinkers' inability to accurately calculate their consumption in Standard Drinks is to place on alcoholic beverage containers information on the number of SDs contained in them. While SD labelling would better equip all drinkers to follow advice to limit drinking

in order to rduce risk of harm, the lack of a common SD definition might present an obstacle to the enactment of national legislation to require such information within the Single EU market. A feasible alternative, widely supported among public health and addiction experts, is to indicate the alcohol content in an alcoholic beverage package in grams of pure alcohol. Grams in a bottle, can or box of drink can easily be linked with a national SD definition in grams and with low risk drinking guidelines specified in grams of pure alcohol.

At the moment, the minimal health relevant information provided on alcoholic beverage packages in the EU is found inadequate by both consumers and experts. The public health and addiction experts consulted in the RARHA Delphi survey considered the calorie content in alcoholic beverages as the most useful type of on-pack information, followed by information on additives, sugar and other sweeteners in the product. In addition, there was a call among the experts for mandatory messages about health or safety risks on both alcoholic beverage packages and on alcohol advertisements. Such messages are also widely supported by EU citizens. Obtaining information on the health implications of consuming alcoholic beverages is the consumer's right, and on-pack information is a potentially effective approach for filling in gaps in information, in particular when used as part of comprehensive communication and public health activities.

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Good practice principles for low risk drinking guidelines

Chapter 4

# Guidance to reduce alcohol-related harm for young people

*Rebekka Steffens[a] and Doris Sarrazin[a]*

Young people are particulalry vulnerable to harm from alcohol. Providing them protection is highlighted as a priority theme in the EU Alcohol Strategy of 2006[b] and in the Action Plan on Youth Drinking and Heavy Episodic Drinking for the years 2014-2016.[c] In Joint Action RARHA, guidance to reduce alcohol-related harm for young people was addressed as a specific topic in a task led by the Coordination office for drug-related issues of the Landschaftsverband Westfalen-Lippe. In accordance with the Action Plan, and bearing in mind that 18 to 25-year-olds are a group with generally high alcohol consumption, the target group was defined as young people up to the age of 25 years.

## Snapshot of drinking by young people in Europe

Alcohol consumption by young people is common across European countries, including drinking to intoxication, despite a legal framework which does not allow consumption by people under a minimum age which is most commonly set at 18 years.

In the ESPAD study of 2015, in all participating countries except Iceland, over half of the 15-16-year-old students responding to the survey had drunk alcohol at least once during their lifetime.[d] Nearly half reported alcohol use at the age of 13 years or younger. Averages across the countries were 80% for lifetime use and 48% for consumption during the 30 days prior to the survey. An average of 13% had been intoxicated at least once during the last 30 days. There were significant differences between the countries, with many Nordic countries and many Balkan countries among those with the lowest prevalence rates. An analysis of trends across 25 countries for which data was available since 1995 showed a slight decline over the last decade in the prevalence rates for lifetime alcohol use as well as for drinking and heavy episodic drinking within the past month.[1]

The legal framework for reducing underage access to alcohol varies widely between and even within EU member states [2]. The minimum age limits differ for purchasing, consumption and possession, and according to the location where alcoholic beverages are purchased or consumed, i.e. between on-premise and off-premise, or public and private areas. In most EU member states the age limit is 18 years for alcoholic drinks with both lower and higher alcohol content, and for both on-premise and off-premise outlets. However, the range is from 16 to 20 years of age, depending on the alcoholic strength and outlet. In several EU countries 16 is the lowest age for being sold or served alcoholic beverages.

Despite the legal age limits, alcoholic beverages are perceived to be easily available by young people in Europe. In the ESPAD study of 2015, 78% of the students across the participating countries stated that alcoholic beverages would be easy to obtain if they wanted to[1]. This suggests a lack of compliance with the legal age limits and an overall low level of enforcement of the existing regulations. Lack of compliance with age limits has been linked with differences between EU countries in legal measures to support enforcement, such as methods and tools for age verification, prohibition of the

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[a] Coordination office for drug-related issues, Landschaftsverband Westfalen-Lippe (LWL)
[b] Communication from the Commission on an EU strategy to support Member States in reducing alcohol related harm (COM(2006) 625 final). http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52006DC0625
[c] Action Plan on Youth Drinking and on Heavy Episodic Drinking (Binge Drinking) (2014-2016). http://ec.europa.eu/health/alcohol/docs/2014_2016_actionplan_youthdrinking_en.pdf
[d] The ESPAD study covers most of the European continent, with 35 participating countries in 2015, 24 of them being member states of the European Union.

sale of alcohol over the internet and mandatory age-check policies in alcohol outlets[2]. In some cases in-country variation in age limits is a further factor undermining enforcement.

## Harmful effects of alcohol for young people

Alcohol consumption in adolescence can have numerous negative short-term and long-term effects, including social, physical, psychological and neurological consequences reaching into adult life.

Drinking to intoxication (binge drinking, heavy episodic drinking) is a common phenomenon in youth cultures which poses severe health risks and can multiply negative short and long-term risks especially for children and adolescents[3]. In connection with comorbid conditions like depression, anxiety disorders or phobias, and traumatic events of life, heavy episodic drinking increases the risk of suicide attempts and completed suicides[4]

In the ESPAD survey, a number of adverse short-term consequences of drinking have been reported by the students, including individual problems (poor performance in school or academic failure, accidents, injuries and hospital admittance), relationship problems, sexual problems (e.g. unprotected sexual intercourse) and delinquency problems (fights, victimization by robbery and theft, and trouble with the police).[5]

Traffic accidents are a major risk and a main cause of death for young people; a considerable share of adolescents' traffic accidents are connected to alcohol consumption[4]. Regular alcohol consumption by young people often occurs together with other risk behaviours, such as use of tobacco or illicit drugs and risky sexual behaviour. Early initiators, excessive drinkers and those engaging in multiple risk behaviours are especially likely to experience adverse health outcomes[5].

Long-term consequences of alcohol consumption include harm to organs and nerve cells, brain damage, liver cirrhosis and several types of cancer[6]. Young people are especially at risk for disruptions of the brain development [7, 8] particularly in the cortical region which influences cognitive, emotional and social development [9]. Young people with alcohol use disorders may display structural and functional deficits in brain development compared with non-alcohol-using peers. In addition, heavy drinking during adolescence may affect normal brain functioning during adulthood[10].

## Methodology

In Joint Action RARHA, work was carried out to form an overview of the existing guidelines for reducing alcohol-related harm among young people in European countries, of the scientific background on the long-term and short-term consequences of young people's alcohol consumption, and of the attitudes and opinions around this issue among European experts.

The first steps consisted in a review of relevant research literature and in a survey addressed to members of the EU Committee on National Alcohol Policy and Action (CNAPA) and to experts identified by them. The main purpose was to gather information on existing guidelines regarding young people's alcohol consumption in EU member states, Iceland, Norway and Switzerland. Information was obtained from 27 countries.

To explore the extent of consensus in this area, a two-round Delphi survey was carried out with a panel of close to 60 European experts on alcohol consumption and young people, engaged in research or practical prevention, and identified by members of the CNAPA. The focus was on qualitative advice for young people themselves, for parents and professionals and on strategies to minimize risk, rather than on alcohol intake guidelines given in terms of standard drinks or units. Further topics addressed in the Delphi survey concerned the experts' views of priority areas of action and good practice measures for reducing harm from alcohol for young people. Some positions or recommendations gained a fairly broad consensus among the experts while views concerning other topics differed. A detailed account on points of convergence and disagreement is presented in a comprehensive background paper[11].

## Guidance on alcohol and young people in European countries

According to the survey carried out for RARHA, in 16 countries guidance regarding youth drinking have been published independently, whereas in ten countries guidance has been issued as part of broader national action plans or strategies. In most cases guidance was issued by governmental bodies, scientific societies or medical associations. Less formal guidance provided by prevention centres or

available in websites were mentioned for five countries. Guidance is addressed directly to young people in 18 countries, to parents in 17 countries and to professionals, primarily in the education and health sectors, also in 17 countries.

Guidelines on alcohol and young people include general statements and recommendations as well as specific guidance for different age groups and genders. Generally, young people are advised not to drink at all if they are underage, to keep drinking to a minimum and to avoid binge drinking.

## Expert consensus

The European experts on alcohol and youth issues who participated in the Delphi survey agreed on several key positions and general recommendations concerning alcohol consumption by young people.

The majority of experts supported the development of guidelines on alcohol consumption by young people jointly by governmental bodies, scientific societies and medical associations, with participation from the target group. There was a widely shared view on the risks and consequences of alcohol for young people. The majority agreed that guidelines for young people should focus on short-term consequences as they are more relevant for the young and have a higher impact on their behaviour. Nevertheless, it was also considered important to include information on long-term consequences as young people have the right to be fully informed of the risks involved in alcohol consumption.

### Guidance for young people

The vast majority of experts agreed that children under the age of 16 should not drink at all. While young people aged 16 and 17 years still ideally should not drink, the majority agreed that risk-minimizing advice and comprehensive information should be provided for this particular age group in order to take into account their actual reality and environment. In several countries, guidelines for young people include risk-minimizing advice, such as young people should not drink if underage, but if they do, to keep in mind safety advice such as not to drink alcohol to quench thirst, to alternate between alcoholic and non-alcoholic beverages, to drink slowly and keep to beverages with lower alcoholic content and refrain from drinking in particular situations (e.g. school, work, when driving, when sick or under medication, during pregnancy or lactating, if feeling depressed, miserable or suicidal).

For the group of 18 to 25-year-olds most of the respondents agreed that guidelines should focus on reducing harm from binge drinking/heavy episodic drinking.

### Guidance for parents

While a large share of the information in existing guidelines is directed to parents, the importance of their role in reducing alcohol-related harm for their children needs to be better communicated to both caregivers and professionals. Parents need to receive advice on how to react to their children's alcohol consumption and its problematic aspects. Parents have an educational responsibility and are role models in terms of their own alcohol consumption behaviour. Communication between parents and their children plays a vital part in reducing alcohol-related harm for young people, delaying the onset of alcohol consumption and keeping it to a minimum once started. Parents should receive information about first aid, about the effects of alcohol, about brain development and the impact of addictive substances as well as practical advice on how to set rules about alcohol together with their children, how to monitor them and how to deal with parties and transport.

### Guidance for professionals

Existing guidelines also provide some extent of guidance for professionals working with young people or their parents. Support services need to be available for children and young people who have alcohol-related problems as well as for their parents. Parents should be provided guidance on ways to communicate with professionals in the school or health sector. Individual and collective skills of professionals need to be strengthened to enable them to contribute to delaying experimentation and the transition from occasional drinking to regular consumption, and to preventing risky consumption, harmful consumption, and dependence.

## Convergence and divergence

Guidance in the countries covered includes positions and recommendations concerning different age groups, i.e. children under the age of 16 years, 16 to 17-year-olds, and young people aged 18 years and above. Recommendations for young people underage are specifically sensitive as legal regulations differ concerning the minimum age for alcohol purchase and consumption. The guidance collected from European countries partly contains contradictory statements which suggests differences between countries in the underlying opinions, attitudes and ideologies.

The results of the information gathering survey and the Delphi survey portray a mix of attitudes and opinions on young people's alcohol consumption which poses a challenge for aligning the guidance provided for parents, professionals and young people themselves. Points of disagreement in the Delphi survey mostly originate from differences in basic attitudes among the respondents. While some experts strictly promote zero tolerance for all under the age of 18, others support a risk-minimizing approach for those who do drink, placing emphasis on the reality of young people's alcohol consumption.

In the first round of the Delphi survey, respondents were invited to name factors that can support young people in developing healthy handling of and attitude towards alcohol consumption in their living environment. In the second round these were presented to the panel for ranking. The experts assessed as the most important the delay of the onset of drinking, role models and well-informed parents, communication of preventive messages which are close to young people's reality and the avoidance of binge drinking.

## Challenges for reducing alcohol-related harm for young people

In the EU Action Plan on Youth Drinking and on Heavy Episodic Drinking for the years 2014-2016 six areas for action are highlighted: reducing heavy episodic drinking; reducing accessibility and availability of alcoholic beverages for youth; reducing the exposure of youth to alcohol marketing and advertising; reducing harm from alcohol during pregnancy; ensuring a healthy and safe environment for youth; and supporting monitoring and research. While all of these areas for action were considered relevant by the youth experts participating in the Delphi survey, the two with the highest priority were reducing heavy episodic drinking and reducing exposure of youth to alcohol marketing and advertising.

In the first round of the Delphi survey, the experts were invited to indicate good practice measures for reducing alcohol-related harm for young people. Those measures were fed back to the panel in the second round for ranking according to importance. The results, shown below, give the highest priority to reducing the accessibility of alcohol for young people.

1. Reducing the accessibility of alcohol for young people.
2. Developing an integrated policy with the aim to reduce alcohol-related harm for young people.
3. Reducing the affordability of alcohol for young people, e.g. by introducing a minimum pricing policy and/or by increasing taxes.
4. Regulating alcohol marketing.
5. Adjusting, enforcing and controlling legal regulations.
6. Promoting prevention measures in relevant settings in young people's lives, e.g. online or in nightlife scenes.
7. Raising awareness about alcohol-related harm for young people, e.g. by improving relevant information and education for the general public.

When invited to provide examples of concrete measures by which reduction in the accessibility of alcohol for young people could be achieved, the following approaches were mentioned by one or several experts:

**Reducing affordability**
- Increase of taxes and prices

**Regulating physical availability**
- Higher legal drinking age, in combination with stepped-up enforcement
- Strengthening law enforcement
- Legal regulations for young people below the legal age limit for purchasing alcohol

**Restricting hours of sale and density of alcohol outlets**
- Limited opening hours for sales points
- Prohibition of selling alcohol after a certain hour
- Alcohol retail monopoly

**Managing the drinking environment**
- Increasing controls and ID checks at events and locations where alcohol is sold
- Penalties for shops selling alcohol to young people under the legal age
- Automatic warnings at checkout in supermarkets
- Awareness raising and training for sales staff concerning rules on alcohol purchasing
- Mystery shopping
- Prohibition of selling alcohol to intoxicated people
- Community-based prevention

## Measures and Good Practices

Besides regulatory and structural measures such as those highlighted above, two lines of action were given specific attention in the surveys: early identification and brief interventions targeted to young people and integrated alcohol policies at the local level. For both, examples of good practices were identified with help from European experts.

### Brief intervention

The purpose of early identification and brief intervention is to assess if a person consumes alcohol on a risky level, to intervene if that is the case and to monitor for improvement. (For further discussion, see Chapter 5.) Various tools can be used for screening and identifying individuals with risky alcohol consumption. Most studies evaluating identification tools and brief interventions with young people have been taken place in schools, emergency services and on college campuses. Early identification and brief intervention are potentially powerful in primary care because professionals in this setting see a high number of patients and mostly know them for a long time.[12] Screening for risky alcohol consumption in primary care can provide an opportunity to educate and raise awareness about alcohol-related harm and how to reduce it, and to take preventative measures which have been proven to be effective in reducing alcohol-related risks.[e]

In the information gathering survey, early identification approaches with young people were reported for 16 countries. In most cases the AUDIT test (Alcohol Disorder Identification Test)[13] or a variant was used for screening. Other tools mentioned were the CRAFFT test [14] in the Czech Republic, the CAGE questionnaire [15] in the UK and Croatia, the SEM-J screening instrument [16] in Belgium and the online self-evaluation tool "Kenn dein Limit" [f] in Germany.

Overall, not many brief intervention approaches developed specifically for young people were mentioned. Based on the information gathered, especially school and primary care settings seem to carry the best potential for successful interventions.

- In Germany, the project HaLT, a brief intervention for young people brought to hospital due to alcohol intoxication has been established and found effective.[17] The HaLT programme also targets parents and other responsible persons like sales staff, teachers, members of associations and event promoters.[g]
- "Fred goes to school" is a programme used in Cyprus for early intervention and prevention of smoking and alcohol abuse by students aged from 12 to 15 years. The programme follows the model of "FreD goes net", adapted to the Cyprus school setting based on the German pilot project "FreD - Early Intervention for Young Drug Users".[h]

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[e] WHO: Screening and brief intervention for alcohol problems in primary health care. http://www.who.int/substance_abuse/activities/sbi/en/
[f] "Kenn dein Limit" youth campaign - http://www.kenn-dein-limit.info/
[g] "Hart am Limit" programme - http://www.aaaprevent.eu/strategies/countries/germany/halt-hart-am-limit-alcohol-prevention-for-children-and-adolescents-
[h] "FreD goes net" programme - http://www.euronetprev.org/projects/fred-goes-net/

Good practice principles for low risk drinking guidelines

*Integrated alcohol policy*

The importance of the local community's role in preventing alcohol-related harm for young people was emphasized repeatedly in the Delphi survey. For realizing the community's potential, an integrated alcohol policy under the leadership of the municipality is needed. According to the Delphi expert panel, an integrated alcohol policy on the a local level should include a prohibition of drinking in public areas (e.g. parks, streets, squares), limited hours for selling alcohol in shops, bars and restaurants, and measures targeted to festivals and the nightlife scene (e.g. providing free transport). Such an integrated alcohol policy aims at changing the behaviour of adults as well as young people. The cooperation of relevant actors in the field is necessary. According to the experts, actors whose involvement in an integrated alcohol policy would be essential are the city or municipality council, local health authorities, schools, youth centres, leisure services, sports and music clubs, alcohol retailers (e.g. liquor stores, supermarkets, kiosks, petrol stations), bar owners/hospitality associations, social welfare and youth welfare offices, festival organizers and the media.

Examples of successful local alcohol policy initiatives included:

- GigA (Gemeinsam initiativ gegen Alkoholmissbrauch bei Jugendlichen) in Germany is an approach that builds on existing local level prevention activities and fosters exchange and cooperation between the various actors in order to strengthen municipalities' capacity to prevent alcohol-related harm among young people.[i]
- "Stadt, Land, Alkohol" is an approach to support the adaptation of international good practice examples for the development of local alcohol policies for German municipalities.[j]
- The approaches of the the cities of Whinterthur[k], Zurich[l] and St.Gallen[m] in Switzerland to engage local actors in the protection of youth against alcohol-related harm (Jugendschutzkonzept).
- The RADIX Gesunde Gemeinden is an approach widely used in Switzerland and Germany for community-based health promotion and prevention, also addressing alcohol and other substance use. The aim is overall improvement of the quality of life in the community as well as protection of children and young people.[n]
- Action in the city of Coimbra, Portugal, involving the municipal government, the university, health services and other sectors in work to promote prevention and reduce risk of harm in particular in nightlife settings and student festivals.[o]
- "Beveu menys" [p] in Catalonia and "Argos"[q] in Murcia, Spain, are population-wide early identification and brief intervention programmes linked with wider prevention activities in the community.

## Conclusions and recommendations

In order to face the challenge of reducing alcohol-related harm for young people, the enforcement of legal age regulations is a key factor. Currently, the legal age limits are not the same for all EU member states and enforcement of the legal age regulations is weak. Four out of every five youth experts in the Delphi panel were in favour of aligning the age limits to a minimum of 18 years in all EU member states. Organized and regular enforcement is one of the most effective instruments for increasing compliance with minimum age requirements.[2] When used in combination, enhanced enforcement, training for servers and retailers and efforts to enhance public awareness and support can lead to a much higher

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[i] GigA - http://www.gemeinsaminitiativ.de/

[j] Stadt, Land, Alkohol - Leitfaden für eine Lokale Alkoholpolitik - http://www.lwl.org/LWL/Jugend/lwl_ks/Praxis-Projekte/lokale_alkoholpolitik

[k] http://soziales.winterthur.ch/fileadmin/user_upload/DepartementSoziales/Dateien/SoDi/Berichte/Jugendschutzk onzept_20Alkohol.pdf

[l] https://www.stadt-zuerich.ch/ssd/de/index/gesundheit_und_praevention/suchtpraevention/jugendschutz.html

[m] https://www.stadt.sg.ch/home/gesellschaft-sicherheit/jugendliche/drogen-alkohol-suchtmittel/_jcr_content/Par/downloadlist/DownloadListPar/download_0.ocFile/Alkoholkonzept%20Feb%202014.pdf

[n] http://www.radix.ch/Gesunde-Gemeinden/PucLk/

[o] http://irefrea.org/wp-content/uploads/Poster_NOITE-SAUDAVEL.pdf

[p] http://www.beveumenys.cat/Nosaltres.aspx

[q] http://www.e-drogas.es/documents/10156/9d5f6c41-6fe3-4239-90fb-09eeb23b9b59

level of compliance with age limits. Effective use of sanctions for underage customers, outlet owners and staff, which can include fines, suspension of alcohol license or closure orders is an essential component[18].

Reducing alcohol-related harm is a task for the whole society. Besides negative consequences for alcohol consuming youngsters themselves, harmful consumption also affects their surroundings and the whole society. Despite alcohol consumption being a long-standing part of most European cultures, and although the majority consumes alcohol in a moderate way, the negative effects of young people's alcohol consumption and of heavy episodic drinking are felt widely, whether through anti-social behaviour, reduced work efficiency, costs to the health care system and unemployment, absenteeism and low productivity in the workplace as well as disorder, property damages, violence in public places and domestic violence.[r]

Besides measures to reduce the accessibility of alcoholic beverages for young people, such as those highlighted above, a crucial task for alcohol prevention concerns raising awareness among the general public and especially among sales and serving personnel about the importance of verifying the customer's age. A widely shared view is that for promoting awareness and enforcement, an integrated alcohol policy with a combination of structural and individual prevention measures is needed rather than isolated actions. An integrated approach would be particularly important at the local level to reduce the availability of alcohol for young people, to raise the awareness of the general population and to support young people to develop healthy handling of and attitude towards alcohol consumption. A strong focus should be on parent's key role in reducing alcohol-related harm for their youngsters.

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Chapter 5

# Guidelines to support early identification and brief intervention for alcohol use disorders in Europe

*Emanuele Scafato[a], Claudia Gandin[a], Silvia Ghirini[a], Lucia Galluzzo[a] and Sonia Martire[a]*

Nearly 74% of Europeans aged ≥15 years drink alcoholic beverages. It has been estimated that 58 million Europeans (15%) are hazardous drinkers, and 23 million are alcohol dependent (5% of men, 1% of women) [1]. Hazardous drinkers in particular are often unaware of being at risk of health and social harm. They are the prime target group for an intervention termed "brief", defined by the World Health Organization (WHO) as a practice aimed at early identification of hazardous alcohol consumption habits and alcohol-related problems and at motivating the individual towards change [2].

> **Brief interventions** *are short educational sessions and counselling (varying from 5 to 30/40 minutes and from a single session to multiple sessions). While inspired by the principles of motivational interviewing, "brief intervention" is actually a general term for a wide range of interventions, which have basically two common characteristics: they are interventions at the community level, 1. provided by non-specialist professionals (general practitioners and other primary health care professionals such as hospital doctors, nurses, social workers, criminal justice officers and others); and 2. targeted to persons with hazardous or harmful alcohol consumption, who nevertheless do not seek treatment for alcohol use disorders. Brief intervention aims to motivate the person to change their behavior, exploring with the health professional the underlying reasons for alcohol consumption and identifying concrete reasons for change. The intervention is a way to make the patient aware of possible conflicts and ambiguity, and to facilitate a clearer view, enabling them to decide autonomously that it is time to solve the dilemma.*

There is substantial evidence that Early Identification and Brief Interventions (EIBI) for Hazardous and Harmful Alcohol Consumption (HHAC) by health professionals in Primary Health Care (PHC) are effective in preventing future alcohol related diseases. The WHO encourages in the global alcohol strategy the widespread implementation of EIBI for HHAC and their integration in the routine practice of primary health care professionals [3].

It is extremely important that the individuals who have not yet developed an alcohol dependence can reduce or stop drinking receive adequate care and suitable support to prevent the onset of serious alcohol use disorders. Once the addiction has been established, change in alcohol consumption habits is more difficult and may require specialist treatment [2].

> *The term* **Alcohol Use Disorders (AUDs)** *refers to the varying consequences and complications caused by and related to episodic or prolonged alcohol consumption, being a broader concept than alcohol dependence. The conceptual model of AUDs has evolved over the years, passing from the dichotomy normality-alcoholism to a spectrum of alcohol-related problems ranging from low-risk consumption, to hazardous and harmful consumption and finally to alcohol dependence. The three main categories relevant for response in health services are hazardous drinking, harmful drinking and alcohol dependence. Hazardous drinking is an important concept for EIBI, although not included in WHO's International Classification of Diseases (ICD-10). [4]*

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[a] Istituto Superiore di Sanità (ISS), Rome, Italy

*Hazardous drinking*
*Level of consumption or pattern of drinking that, in the case of persistence of these habits, can cause damage to health, physical or mental.*

*Harmful drinking*
*Pattern of consumption that causes damage to health, either physical (e.g. liver cirrhosis) or mental (e.g. depression) and may be a factor in other health problems.*

*Alcohol dependence*
*A set of physiological, behavioral and cognitive phenomena, in which the consumption of alcohol has for the individual a growing priority over habits that previously had a greater value and that are progressively abandoned. Central features include a strong desire to drink, difficulty to control the level of alcohol intake despite awareness of harmful consequences, increased tolerance and physical withdrawal symptoms after stopping or reducing drinking.*

Various tools are available to help identify patients who might benefit from brief intervention.

Standardized screening tests for the identification of hazardous or harmful alcohol consumption and alcohol dependence include AUDIT, AUDIT-C, CAGE and FAST. These can be used for patient interview or as self-completion questionnaires, in print or electronically, with a limited number of questions that can be answered in a few minutes.

The Alcohol Use Disorders Identification Test (AUDIT), developed by the WHO, is the most widely used screening instrument. It includes, in its integral form, 10 questions on alcohol consumption and various indications of harm, linked with a scoring which ranges from low risk from alcohol consumption, through hazardous high risk consumption to harmful consumption and, at highest points, to likely presence of alcohol dependence.

*AUDIT-C is a quick test made up of the first three questions of the Alcohol Use Disorders Identification Test (AUDIT) which takes into account both the quantity of alcohol consumption and the frequency of drinking episodes.*

1. *How often do you have a drink containing alcohol?*
     *Never (0 points)*
     *Monthly or less than monthly (1 point)*
     *2 - 4 times/month (2 points)*
     *2 - 3 times/week (3 points)*
     *4 or more times a week (4 points)*

2. *How many (standard) drinks containing alcohol do you have on a typical day drinking?*
     *1 o 2 (0 points)*
     *3 o 4 (1 point)*
     *5 o 6 (2 points)*
     *7 o 9 (3 points)*
     *10 or more (4 points)*

3. *How often do you have six or more (standard) drinks on one occasion?*
     *Never (0 points)*
     *Less than monthly (1 point)*
     *Monthly (2 points)*
     *Weekly (3 points)*
     *Daily or almost daily (4 points)*

*Score <=5 for men and <= 4 for women: alcohol consumption at lower risk level.*
*Score ≥ 5 for men and ≥ 4 for women: high risk alcohol consumption.*

There is convincing evidence across various PHC settings [5,6,7] that EIBI significantly reduces the consumption of alcohol, even taking into account the variability of efficacy depending on variables such as the following:

- Study population (gender, age, the amount of alcohol consumed, the inclusion or not of subjects with heavy episodic drinking (binge drinking) and alcohol dependence, the characteristics of the controls, etc.);
- Settings (general medicine, inpatient care, first aid and emergency services, occupational medicine);
- Duration and type of intervention;
- Profession and training of health operators carrying out EIBI (doctors, other professionals);
- Outcome indicators (the amount of alcohol consumed, frequency, intensity, blood chemistry markers, quality of life, economic measures such as the use of health services, etc.);
- Theoretical basis of the brief intervention, the use (or not) of brochure or other printed information on alcohol and alcohol-related problems.
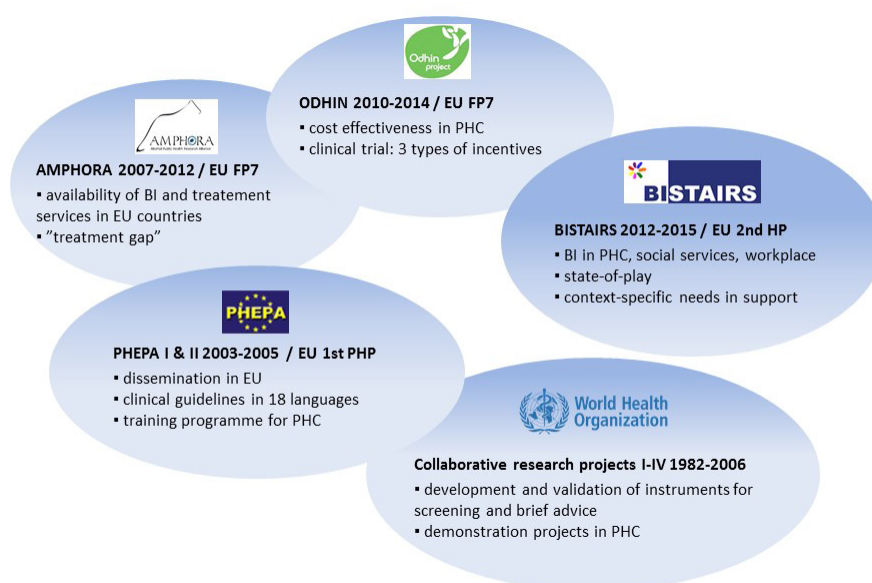
Despite the proven effectiveness of EIBI on HHAC in PHC, it has not yet been adopted as part of routine practice across services. Further efforts are needed to reduce the gap between patients at risk who need advice and motivation to reduce drinking and those who receive brief interventions.

## WHO and EU projects to develop methodology and enhance implementation

EIBI for HHAC was introduced in PHC by the WHO Collaborative research project on identification and management of alcohol-related problems in 1982, focussed on developing a scientific basis and methods for screening and brief intervention in primary care settings. This initiative concluded with a Phase IV international project focussed on implementation and involving several European countries. Work to support implementation continued in the early 2000s under the EU Health programme in the Primary Health Care European Project on Alcohol (PHEPA).[8,9].

Further EU projects have taken forward the development of EIBI methodology and implementation, such as AMPHORA (Alcohol Ppublic Health Research Alliance), ODHIN (Optimizing Delivery of Health Care Interventions) and BISTAIRS (Brief Interventions in the Treatment of Alcohol use disorders In Relevant Settings) (Graph 1).[10,11,12].

**Graph 1.** WHO and EU projects to develop EIBI methodology and implementation



ODHIN 2010-2014 / EU FP7
- cost effectiveness in PHC
- clinical trial: 3 types of incentives

AMPHORA 2007-2012 / EU FP7
- availability of BI and treatement services in EU countries
- "treatment gap"

BISTAIRS 2012-2015 / EU 2nd HP
- BI in PHC, social services, workplace
- state-of-play
- context-specific needs in support

PHEPA I & II 2003-2005 / EU 1st PHP
- dissemination in EU
- clinical guidelines in 18 languages
- training programme for PHC

Collaborative research projects I-IV 1982-2006
- development and validation of instruments for screening and brief advice
- demonstration projects in PHC

Identification of barriers and facilitators is the first step towards developing optimal methods for implementation. Project AMPHORA explored knowledge, attitudes and perceptions of general practitioners on EIBI and AUDs, and identified time constraints and lack of training as the main barriers for screening and brief alcohol interventions in PHC. Project ODHIN provided an assessment tool (adapted from a tool developed in 2004 in the PHEPA project) as an instrument for mapping the services and infrastructure available for the management of HHAC and for identifying areas that need further development and strengthening [13].

Based on work done in ODHIN, the following components are among priorities for national and regional systems for the management of HHAC:

- A coalition/partnership to reach a shared vision and to support activities for the prevention, diagnosis, treatment and rehabilitation of AUDs.
- A communication/information strategy on the health and social impact of alcohol, including continuous mandatory training of professionals in health and social settings aimed at integrating EIBI into routine daily practice, ensuring that treatment is offered to all those in need.
- The existence (or strengthening) of a National Health Plan on alcohol and of written policies for the prevention of alcohol-related disorders and of alcohol dependence.
- A mechanism for monitoring and evaluation of the provision of EIBI, including research projects (cost-effectiveness, fidelity, quality of advice, evaluation surveys, performance records, etc.), availability of guidelines and protocols.
- Specific activities to disseminate available sources of knowledge, research results and information to health care providers, along with the provision of materials and tools and the use of incentive measures aimed at ensuring that prevention and EIBI are implemented in PHC and supported by specialist services, capitalizing on the networking of available servicers and competencies.

Project BISTAIRS aimed to enhance the implementation of EIBI and promote it in medical and non-medical settings beyond PHC. The BISTAIRS guidelines summarized below are based on scientific literature reviews and on the opinions of a wide range of European experts on the implementation of EIBI in different settings [6-7, 14].

## Primary health care

The scientific literature reviewed by BISTAIRS project suggests that EIBI should be made available to all adults at the time of a new patient registration in PHC, as well as to adults with high blood pressure, and to males aged between 45 and 64 years. PHC providers, in particular general practitioners should be involved in all EIBI components (screening, brief intervention, support, referral) as well as other health care professionals, especially nurses and alcohol specialists.

## Emergency services

In the emergency services and first aid, the scientific literature suggests (albeit the evidence is not always consistent or conclusive) to provide EIBI to all adults (> 18 years) attending emergency services due to injury at least a leaflet/brochure informing on hazardous and harmful alcohol consumption according to national guidelines. Emergency physicians and health care providers of specialist alcohol services should be involved in all components of EIBI (screening, brief intervention, support, referral), while nurses may be involved in screening and brief advice/intervention provided in the emergency setting.

## Workplace settings

For workplaces, the scientific literature suggests (although the evidence is not always consistent or conclusive) that occupational physicians should provide EIBI to all adult workers as part of voluntary health checks using the AUDIT-C and brief intervention materials based on national guidelines. Specific attention should be given to adults with high blood pressure and to males aged 45-64 years. To avoid stigma, it is recommended to integrate EIBI into a wider health promotion and wellness programme in the workplace which includes other lifestyle factors, and to include screening of alcohol consumption in

standard routine health assessments. Further components for successful implementation include fostering a climate of trust which is non-judgmental and supportive, ensuring anonymity and confidentiality (providing anonymous service or referring employees to third parties), minimizing negative impact of treatment on career and promoting workplace policies that deal with alcohol-related problems like any other medical condition.

## Social services

As regards social services, the evidence is too scarce for drawing a conclusion on whether EIBI programs are effective in people with hazardous and harmful alcohol consumption in these settings. For some, the EIBI approach could serve as a "door opener" leading to referral to specialized services. Adults (> 18 years) in contact with social services because of criminal offense, because of injuries and crimes linked with drink driving, or because of domestic violence should receive at least an information leaflet on HHAC based on national guidelines. Recommendations for implementation include: using a non-judgmental and emphatic attitude with the customer; ensuring confidentiality of the collected information; carrying out routine assessments so that customers know that everybody are asked about their alcohol consumption; assessing alcohol consumption as part of a broader risk evaluation, for example, talking about lifestyles in general; assuring customers their primary role in deciding about any future actions based on screening results; ensuring that social services staff are aware of the available service network; ensuring that for high-risk situations (e.g. alcohol consumption by parents or vulnerability of relatives involved) EIBI implementation does not compromise the professional/client relationship (possibly resulting in further damage).

There is evidence that success in the implementation of EIBI is related to practitioners' attitudes, and that these attitudes can be influenced by appropriate training and support [5, 10-12]. Needs for training and support in various settings, as identified in the BISTAIRS project, are summarized below.

## Primary health care and emergency services

- Improving training and knowledge.
- Availability of screening tools and brief intervention techniques.
- A national strategy on alcohol sending clear, consistent and relevant messages about alcohol-related risks and about the need to reformulate alcohol issues closer to the concept of "hazardous consumption" than to "alcoholism" only.
- The development of different messages for different groups at risk, identifying and communicating the risks of alcohol consumption at various levels.
- Stressing the importance of EIBI and ensuring that specialized services and resources are sufficient to enable direct links between them and primary care facilities.

## Workplace settings

- Training for employees, managers and supervisors on the prevention of AUDs including EIBI.
- Highlighting the benefits of alcohol consumption at lower risk for employees and employers.
- Providing evidence of effectiveness and cost-effectiveness of EIBI in this setting focusing on a positive return of investment for EIBI implementation.
- Structured and validated screening tools and brief intervention techniques adapted to the specific needs of the various working contexts and guidelines.
- Occupational and safety policies at work that include alcohol.
- Specific challenges arise from variation across Europe in the training of occupational physicians and from the lack of a clear definition of the role of the occupational physician in some countries both regarding health surveillance and regarding prevention. There is a need to promote continuing medical education programmes for occupational physicians.

## Social services

- Appropriate training to improve the skills, experience and sense of role appropriateness on AUDs, and how to identify situations in which actions can be taken.

- Availability of EIBI tools and materials in these contexts, with flexible implementation in order to adapt to the needs of professionals and of the job.
- Official recognition of the role and responsibilities of social services operators for EIBI by the relevant ministries, agencies and professional organizations.
- Implementation of a national strategy on alcohol prevention activities in this setting.

## RARHA survey on national guidance and support for Early Identification and Brief Intervention in health services in Europe

As part of Joint Action RARHA, information has been collected on the state of play regarding national guidance and support for the implementation of EIBI for HHAC in health services in EU Member States and RARHA partner countries. The information has been gathered by the Istituto Superiore di Sanità (ISS) in 2014 through an email questionnaire submitted to the members of the Committee on National Alcohol Policy and Action – CNAPA, as official representatives of 31 European countries [13]. The replies received from 30 countries[b] were compared with information previously gathered by the WHO and by various EIBI projects [14, 15, 16, 17].

The results show widening availability of centralised support for the implementation of EIBI, with increase in recent years and in particular in comparison with the PHEPA survey in 2008. [17] (Figures 2-4). In 2014, an organization formally responsible for the development of clinical guidelines for managing HHAC existed in 20 of the 30 countries from which information was obtained. A large majority, 22, of the surveyed countries had multidisciplinary guidelines for managing HHAC. In 2008, such guidelines were in place in only 9 of the 14 countries surveyed in the PHEPA project. Guidelines or recommendations specific for brief intervention/ treatment were available in 22 countries in 2014, compared with 10 countries in 2008.

**Graph 2.** Presence of formal governmental organization (or similar) responsible for clinical guidelines for managing HHAC in Europe by country in 2014

*Good practice principles for low risk drinking guidelines*

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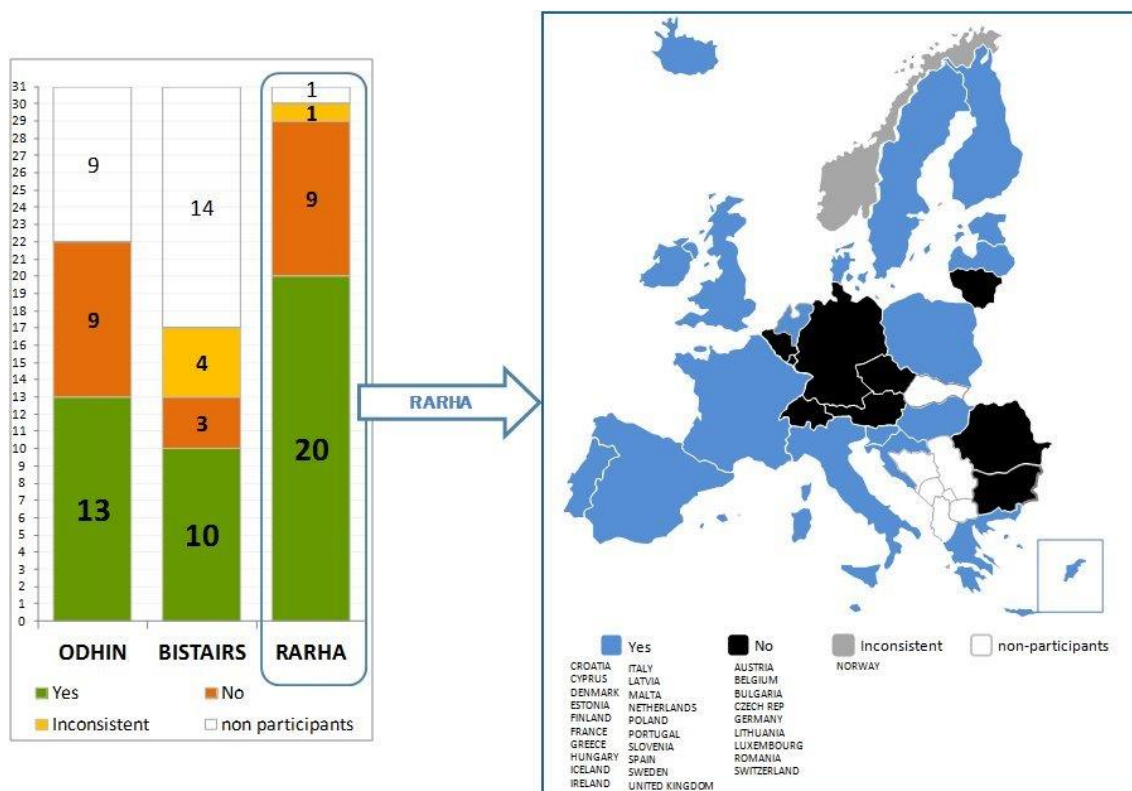
[b] Slovakia being the only country on which no information was obtained.

**Graph 3.** Presence of multidisciplinary guidelines for managing HHAC in Europe by country in 2014
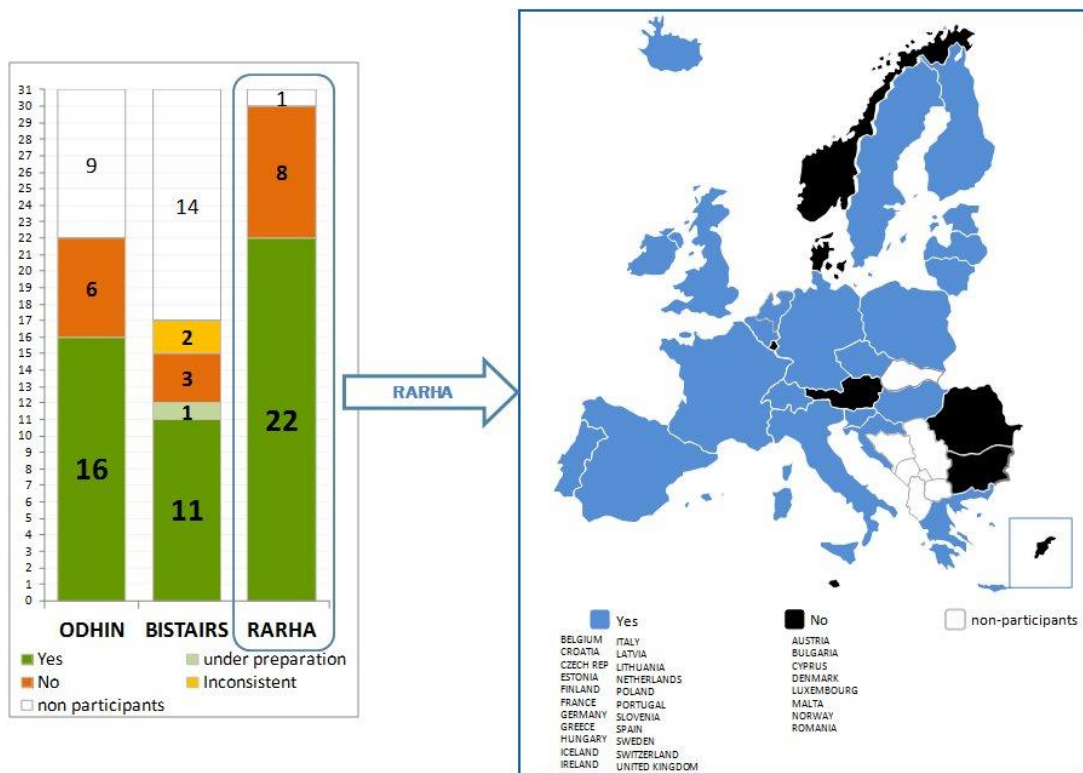


**Graph 4.** Presence of guidelines or recommendations for brief intervention/treatment in Europe by country in 2014
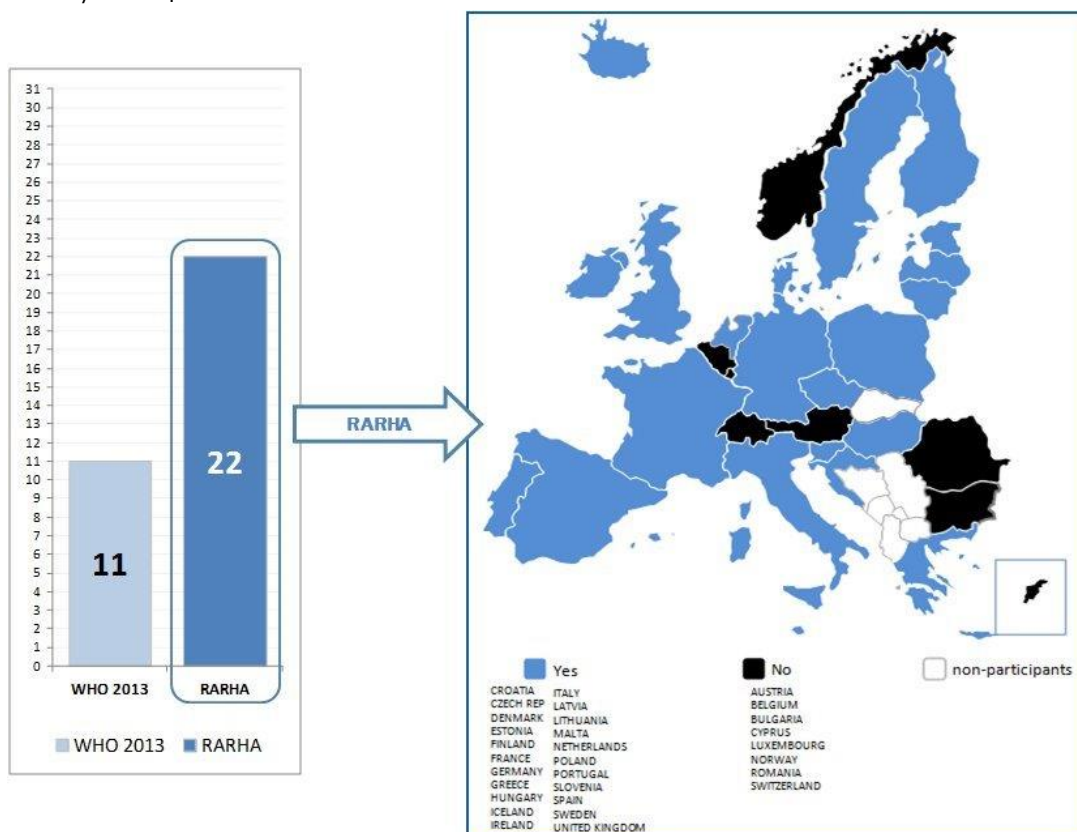
Good practice principles for low risk drinking guidelines

## Conclusions

Based on work already implemented by different European projects (particularly ODHIN and BISTAIRS) a RARHA survey was carried out on the availability of national guidance and support for early identification and brief intervention in EU countries [13]. This survey shows that in Europe the number of organizations formally appointed to develop clinical guidelines for managing HHAC has increased over time as well as the number of countries with multidisciplinary guidelines for managing HHAC. Thus, it is clear that the activities of the last 30 years supported by the WHO and European projects to enhance the implementation of EIBI have started to give positive results. Nevertheless, the integration of EIBI into routine clinical practice still needs to be actively supported. The present chapter summarizes background knowledge and instruments that can be used to activate national policies as well as national and international funding programmes for this purpose. Concrete examples of initiatives to implement and support EIBI are also provided by a tool kit of evidence-based good practices compiled in Joint Action RARHA [19].

An expected outcome in the action plan to reduce HHAC in the WHO's European Region in the years 2012–2020 is a progressive reduction in the gap between the number of people who would benefit from alcohol consumption advice to reduce or prevent harm and from engagement in social rehabilitation programs or treatment for AUDs, and the number who actually receive such advice or treatment [18].

The health sector and, through its support, the social welfare, education and workplace sectors have real opportunities to reap both health gains and financial savings through the widespread implementation of EIBI programmes, which have been shown to reduce ill health and premature death due to HHAC, and through the implementation of evidence-based treatment programmes for AUDs.

To achieve the goals of the WHO's global alcohol strategy and of the European action plan it will be crucial to shift the emphasis from the treatment of severe alcohol-related problems including alcohol dependence to the prevention, early identification and brief intervention for hazardous alcohol consumption [3,18]. Currently, work supported by the European Commission and others is ongoing under the leadership of the WHO to develop a training-for-trainers and brief interventions tool kit. The aim is to equip EIBI trainers and practitioners with key tools to develop training and delivery systems within PHC networks and to support European countries to develop and expand their capacity to deliver EIBI in PHC settings. [c]

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# 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<br>Mariliis Tael-Öeren |
| FI | National Institute for Health and Welfare (THL) | Pia Mäkelä<br>Marjatta Montonen |
| FR | National Association on Addictology (ANPAA) | Claude Rivière |
| DE | Coordination office for drug-related issues, Landschaftsverband Westfalen-Lippe (LWL) | Doris Sarrazin<br>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<br>Jean Long |
| IE | Health Service Executive (HSE) | Sandra Coughlan<br>Joseph Doyle<br>Andy Walker |
| IT | Istituto Superiore di Sanità | Emanuele Scafato<br>Claudia Gandin<br>Silvia Ghirini<br>Sonia Martire<br>Lucia Galluzzo |
| MT | Foundation for Social Welfare Services (FSWS) | Manuel Mangani |
| NO | Institute of Public Health (FHI) | Vigdis Vindenes<br>Gudrun Høiseth<br>Stig Tore Bogstrand |
| PL | State Agency for the Prevention of Alcohol-Related Problems (PARPA) | Katarzyna Okulicz-Kozaryn<br>Krzysztov Brzozka |
| PT | Serviço de Intervenção nos Comportamentos Aditivos e nas Dependências (SICAD) | Graça Vilar<br>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

# RARHA Work Package 5: background papers and reports

A range of working papers and background reports were produced to present and a summarize findings at various stages of Joint Action RARHA's Work Package 5. Most of these are available in the RARHA website at www.rarha.eu. The most important papers providing detailed information on the topics addressed in this synthesis publication are listed below.

Coughlan S & Doyle J (2015) Standard Drink definitions, communication approaches and public understanding. Dublin: Health Service Executive.

Mongan D & Long J (2015) Standard drink measures in Europe: Peoples' understanding of standard drinks and their use in drinking guidelines, alcohol surveys and labelling. Dublin: Health Research Board.

Montonen M. (2016) RARHA Delphi survey: "Low risk" drinking guidelines as a public health measure. Helsinki: National Institute for Health and Welfare.

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Tricas-Sauras S et al. (2015) Consumer survey on communication of alcohol associated risks. European Alcohol Policy Alliance.

Annex 3

# Positive health effects of alcohol

*Deire Mongan[a]*

It is well established that people consuming alcohol at low-risk levels have better health than those who do not use alcohol at all. However, there is still controversy of the causality of this association. Even if there was a causal component, it has been argued in recent years that the benefits accruing from low-risk alcohol consumption may have been overstated.

Fillmore et al. classified longitudinal studies on alcohol and health according to how "an abstainer" was defined, as this is the key reference group to which all drinkers are typically compared. They found that when studies explicitly excluded former and occasional drinkers from the abstainer reference group, there was limited evidence of protection from moderate alcohol consumption.[1]

A 2016 systematic review and meta-regression analysis of studies which included 3 998 626 individuals, investigated alcohol use and mortality risk after controlling for quality-related study characteristics. The authors reported that estimates of mortality risk from alcohol were significantly altered by study design and characteristics. When meta-analyses were adjusted for these factors, low-volume alcohol consumption had no net mortality benefit compared with lifetime abstention or occasional drinking.[2]

Fekjaer (2013) reported evidence of health benefits from alcohol use for implausible types of health conditions including deafness, hip fractures, the common cold, cancers, birth complications, dementia, and liver cirrhosis in observational longitudinal studies. In these studies the J-shape curve was observed, with lower risk for low-volume drinkers compared with abstainers even though a causal basis for such associations is highly unlikely.[3]

A 2014 genetic study reported that a genetic variant associated with reduced drinking lowered rather than increased cardiovascular risk among low-volume drinkers, which challenges the concept of a cardioprotective effect associated with low-risk alcohol consumption.[4] There is also evidence of lifestyle confounding factors influencing results. Research has shown that nondrinkers are more likely than low-risk drinkers to have characteristics associated with increased CVD mortality in terms of demographic factors, social factors, behavioural factors, access to health care, and health-related conditions.[5]

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[a] Health Research Board, Ireland

Annex 4

# Country snapshots:

# Development of national low risk drinking guidelines

## Setting low risk drinking guidelines: the Italian experience

*Andrea Ghiselli and Laura Rossi[a]*

**In Italy, the consumption of alcoholic beverages – almost exclusively wine up to some twenty years ago – has been considered an integral part of culture and diet, to the extent that in the past alcohol was seen as a way to supplement an energy-deficient diet. Over the past decades the perception of the role of alcoholic beverages in Italian food culture has shifted from potential benefit to potential harm, an evolution reflected in the nutrition recommendations of the Italian Society of Human Nutrition (SINU) and in the guidelines for a healthy diet issued by the National Institute of Nutrition (currently CREA).**

Changes in alcohol intake guidelines from 1979 to 2014 are summarised in Table 1.

## Focus on benefit for health

The first Italian policy document on nutrition intake, developed in 1979 by the National Institute of Nutrition in collaboration with the Ministry of Health, set a daily ration of 500 ml of wine for men and 300 ml for women[1]. While a lesser amount was considered to suffice for older people, consumption of 300 ml wine was suggested even for pregnant and lactating women.

The nutrition recommendations (LARN) revised in 1987 highlighted risks of alcohol consumption during pregnancy and breastfeeding as well as risk of harm for young people under 18 years[2]. Nevertheless, alcohol was still considered a nutrient with high energy value. The recommendation was to limit the share of calories from alcohol to 10% of the total reference energy intake, which for men amounted to around 42g pure alcohol per day, for women around 30g, and for older people under 30g.

Today alcohol is no longer considered a nutrient as the calories derived from alcohol are "empty". Instead, it is categorized as a non-nutrient substance with nutritional interest – like dietary fibres, it could have an effect on health and wellbeing[3].

In 1986, the first Italian Guidelines for a healthy diet defined acceptable alcohol consumption as 1g of pure alcohol per 1Kg of body weight, corresponding to 450-600 ml of wine per day for men and 250-350 ml for women [4]. In the second edition of the Guidelines in 1997, daily consumption was lowered to 450 ml for men but maintained at 350 ml for women[5]. This was in line with the nutrition recommendations revised in 1996, which set the limit of alcohol intake to 40g pure alcohol per day for men and 30g for women[6].

Epidemiological studies of the time showed lower mortality in moderate drinkers compared to heavy drinkers and to absainers (the J-shaped curve). Wine, especially red wine, was considered beneficial because of the antioxidants contained in it. Scientific literature tended to support, and even promote, moderate consumption of wine – and also beer – for protection against cardiovascular disease. The public health message at that period was "alcoholic beverages: if yes, in moderation".

The idea of wine as more beneficial compared with other alcoholic beverages was maintained in the next version of the dietary Guidelines for a healthy diet in 2003, even though with reservations. The risk of interaction of alcohol with medications was highlighted. The concept of alcohol unit was introduced, defined as equivalent to 12 grams of pure alcohol. The guidelines regarding alcohol consumption showed a downward trend and older people in particular were recommended to reduce drinking because of changes in metabolism[7].

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[a] The national Food and Nutrition Research Center CREA

**Table 1.** Changes in alcohol intake guidelines in Italy from 1979 to 2014

| | Nutritional references 1979 | LARN 1987 | Dietary guideline 1986 | LARN 1996 | Dietary guideline 1997 | Dietary guideline 2003 | LARN 2014 |
|---|---|---|---|---|---|---|---|
| | Wine ml | Ethanol g | Wine ml | Ethanol g | Wine ml | Alcohol units | Alcohol units |
| Men | 500 | 43.5- 41.4 | 646-437 | 40 | 450 | 2-3 | 2 |
| Women | 300 | 30,7 | 371-270 | 30 | 350 | 1-2 | 1 |
| Older men | 220 | 28,5 | 311 | 30 | | 1 | - |
| Older women | 180 | 24,2 | 194 | 25 | | 1 | - |
| Pregnant/ lactating w. | 300 | 0 | - | 0 | | 0 | 0 |

## Focus on harm to health

The LARN recommendations revised in 2014 marked a total change in the approach toward ethanol and alcoholic beverages. Ethanol was described for the first time as a toxic, carcinogenic and psychoactive substance for which no intake level "recommended" or compatible with good health can de specified[8]. In line with international recommendations[9], alcohol consumption was described in terms of increasing risk of harm, with low risk consumption defined as less than two units per day for men and less than one unit for women.

- **Low risk consumption**: Less than 10 g/day (approximately 1 unit) for women and less than 20 g/day (approximately 2 units) for men.
- **Hazardous consumption**: A level or pattern of drinking likely to result in harm if present drinking habits persist (corresponding to a regular average consumption of 20-40 g/day for women and 40-60 g/day for men).
- **Harmful consumption**: A pattern of drinking that causes damage to physical or mental health (corresponding to a regular average consumption of more than 40 g/day for women and more than 60 g/day for men).
- **Alcohol dependence**: A cluster of physiological, behavioural and cognitive phenomena in which the use of alcohol takes on a much higher priority for a given individual than other behaviours that once had greater value. The predominant trait is a constant desire to drink.

The revised LARN recommendations avoided the term "moderation" because of a lack of an unequivocal definition. The epidemiological scenario was completely changed: there is no more risk-free alcohol consumption, only consumption involving lower risk. Alcohol is no more defined as food but considered toxic. Drinking guidelines should accordingly shift from potential benefit to potential harm.

These new concepts will inform the development of new dietary Guidelines to be published in 2016. Key issues in the guidelines regarding alcohol consumption could be summarised as:

- Alcoholic beverages, including wine and beer, are not protective but can be harmful to health.
- If you decide to drink alcohol be aware of the risk for cancer and other illnesses.
- Protection against cardiovascular disease can be better obtained by increasing fruit and vegetables and decreasing salt in diet, or by reducing overweight.

Another important point arising from recent research is the causal relation between alcohol consumption and cancer[10]. In 2014, the European code against cancer, developed by the WHO's Agency for Research on Cancer, highlighted abstinence from alcohol as the best strategy to reduce alcohol-related cancer risk: "If you drink alcohol of any type, limit your intake. Not drinking alcohol is better for cancer prevention." [b]

There is a need to change the messages related to alcohol consumption and harm across different levels in the health sector, in particular in communication between health professionals and patients or

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[b] http://cancer-code-europe.iarc.fr/index.php/en/

consumers. The importance to avoid any confounding message will be stressed which could induce patients to assume any alcoholic beverages could be beneficial for health in any quantity. This applies in particular to wine, still considered less harmful than other alcoholic drinks.

To provide consumers with adequate information, the idea is to develop drinking guidelines in the form of a "decalogue" identifying conditions under which lower-risk alcohol consumption could be possible.

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## Core guidelines
### Tentative "decalogue" on lower-risk alcohol consumpotion

**If you drink alcohol you should…**
- … be adult;
- … be in good health;
- … have a complete and balanced diet;
- … have normal weight;
- … limit consumption to 2 units of alcohol if you are a man and 1 unit if you are a woman;[c]
- … drink only during the meal;
- … not be pregnant or lactating;
- … not be on medication;
- … not intend to drive or use and instrument that requires concentration;
- … not suffer for other dependencies.

**One unit equals 12 grams of pure alcohol.**

[c] Two units = 24g of pure alcohol; one unit = 12g.

Good practice principles for low risk drinking guidelines

# A quarter of a century of alcohol campaigns in Denmark

*Kit Broholm[a]*

**In Denmark, yearly alcohol campaigns have been carried out by health authorities since 1990. The campaigns have highlighted various aspects of alcohol related harm and disseminated information on drinking guidelines to various target groups. In 2010, the focus of the drinking guidelines was shifted from high risk to low risk. The national campaigns have served as an umbrella for activities at local level and, together with concrete guidance for municipal action, have been the backbone of a national health promotion strategy.**

Alcohol consumption has fallen in Denmark from 12,2 litres pure alcohol per capita (age 15+) in 1996 to 9,3 litres in 2015 – a 23% reduction in less than 20 years [1]. Consumption is decreasing among both men and women and in all age groups, in particular among young men aged 16-24 years. The only exception is well-educated persons aged 65 years or more whose alcohol consumption shows an upward trend.[2]

To explain this development it is necessary to look at Danish alcohol policy in terms of both control measures and health promotion initiatives. Denmark has a tradition of liberal alcohol policy, with excise duty and licensing of on-premise sale of alcoholic beverages as the main regulatory instruments. The trend has been toward further liberalization: restrictions on alcohol advertising have been lifted, the availability of alcohol has increased including through internet retailing, and excise duties have been lowered.

As a consequence of the liberal policy, alcohol consumption among young people became a cause for concern in the 1990s. The first ESPAD survey report in 1995 showed vividly that young people in Denmark were drinking more than their European counterparts.[3] In 1998 a mimimum age of 15 years was introduced for retail purchasing of alcoholic beverages. In 2004 the age limit was raised to 16 years, and in 2011 to 18 years for beverages containing 16,5% alcohol or more. (For on-premise serving of alcoholic beverages the age limit has been 18 years since 1924.) In parallel with raising the age limit, schools were recommended to agree on a school policy on alcohol and on common rules with parents of pupils in the 5th to 9th grade. School-based work was supported through national campaigns and materials.

The combination of measures has made an effect. Among boys, the share of those who had tried alcohol fell from 74% in 1998 to 49% in 2002 for 11 year olds, from 86% to 76% for 13 year olds, and from 95% to 92%  for 15 year olds. The trend has been steadily falling. In 2014, the figures were 21% for 11 year olds, 36% for 13 year olds and 77% for 15 year olds.[4]

Regarding the population at large, health promotion has been the main strategy to reduce alcohol related harm, combining support for the development of municipal alcohol policy and action with nation-wide information campaigns including drinking guidelines.

## Health promotion in municipalities

In order to strengthen municipalities' capacity and structures for health promotion, the Danish Health Authority has produced guidance materials on 11 different themes on which action should be stepped up, including alcohol, tobacco, physical exercise, diet and mental health. Each health promotion package lays out facts on the risk factor, presents evidence of effective interventions and describes good practice. Evidence-informed recommendations for municipal health promotion are presented regarding structural interventions, health promotion services, information and education and early detection. The recommended actions are indicated as basic level, suggested by current best evidence, and as developmental, that is, requiring a higher level of proactivity and new competencies. The aim is to assist municipal decision-makers and health planners in setting priorities, planning and organizing local health promotion and disease prevention.[5]

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[a] The Danish Health Authority

Recommendations for basic level action in the alcohol prevention package focus on:

- adopting alcohol policies for the municipality and in workplaces and institutions linked with the municipality, including schools and various services;
- promoting responsible serving as part of the municipality's alcohol licensing policy;
- early identification risk and harm by professionals in health care and social services, and provision of brief counselling for hazardous and harmful drinkers and their families;
- differentiating alcohol treatment services according to the needs of specific groups.

In 2013, 18% of the municipalities reported they live up to the recommendations on the basic level. In 2015 the share had increased to 38%, and 72% intended to develop their policy and action on alcohol to meet the basic level.[6]

## Alcohol campaigns and drinking guidelines

The other line of action is anchored in the alcohol campaign conducted yearly since 1990, always in week 40 in the autumn, with information about alcohol related harm and drinking guidelines as the main message but with varying target groups. The campaign is a norm-setting initiative which seeks to raise public debate on themes such as:

- the health and social consequences of drinking too much;
- how to talk to a partner who is drinking too much;
- drinking to drunkenness as the most risky pattern;
- how to reduce alcohol consumption;
- how to resist pressure to drink.

The alcohol campaign is implemented in collaboration between the national Health Authority and municipalities. Meetings are organized with municipal health promotion professionals to discuss the evaluation of the preceding campaign, the plans for the coming campaign and how its theme could be used to promote activities on the local level. Information materials are produced centrally taking into account municipalities' preferences, and a generic press release is drawn up which can be adjusted to raise the interest of the local press.

The nature of local initiatives depends on the campaign's theme. If the campaign focuses on the consequences of a alcohol problems for the partner and children, municipalities would use the campaigns to promote family-oriented treatment. If the focus is on alcohol as a risk factor for cancer and other illnesses, municipalities would promote possibilities to get free counselling in health services. If the focus is on young people, municipalities could facilitate local discussion on how to manage night life to reduce alcohol related harm.

From 1989 the guideline regarding alcohol consumption for women was no more than 14 units per week, and for men no more than 21 units. From around 2000 it was underlined that this was a guideline to reduce high risk from alcohol. Starting from 2007, the advice to limit drinking on any occasion to five units was added to the guideline based on a review of epidemiologic evidence by an expert group.[7]

In 2010 the National Board of Health introduced a low risk guideline, advising no more than 7 units a week for women and 14 for men. The change was motivated by alcohol being recognized as a carcinogen, therefore basically unhealthy, and as a contributory factor in a widening range of illnesses. While the extensive work done for the revision of the Australian guidelines in 2009 served as an important source of information[8], the low risk level was set lower for women in Denmark to emphasize their greater vulnerability. An equally important motivation for the shift in focus was to improve public communication as there were findings showing that around 25% of the population interpreted 14/21 units per week as healthy level of alcohol consumption. In parallel with the low risk levels, the high risk levels still stand as reference for health personnel to identify clients who might benefit from brief intervention.

A comparison of the reception of the week 40 campaigns from 2008 to 2013 indicates that:

- Except for one campaign, 50–91% of the population have seen the campaign.
- Between 50% and 85% know the message concerning the drinking guideline.
- Between 18% and 40% think the campaign has given new knowledge.
- Between 12 % and 22% intend to change their habits due to the campaign.[9]

The percentages vary depending on the theme, the target group and the amount of money spent on advertising. The campaign can be considered a success in that many say they intend to change drinking habits. Whether this happens or not, it indicates the message has had an influence on the norm system.

## Conclusions

The dual strategy to support action by municipalities and to carry out yearly campaigns has proved effective in mobilizing professionals and engaging lay people in discussion on alcohol related harms and ways to tackle them. Important for spurring action by municipalities or other sub-national bodies is to provide clear recommendations on how to build up structures for alcohol health promotion and for the management of alcohol use disorders in the health, social and education sectors.

The keys to an effective alcohol campaign strategy is a long-term approach and cooperation with the local level. Regularity contributes to good working relationships with the media which are essential for amplifying campaign messages. Developing and implementing campaigns in cooperation with local actors ensures that the public information effort supports concrete health promotion activities.

The combination of control policy, of mobilizing a range of professionals to work with children in alcohol-affected families, to provide early counselling and treatment, and to implement the recommendations of the alcohol package, and of national norm-setting campaigns spotlight alcohol consumption and related harms in a way that supports change. Laws and regulation are strong signals from society, and information campaigns motivate people to reconsider drinking habits and increase understanding of the rationale for regulation.

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## Core guidelines

### The Danish Health Authority's recommendations concerning alcohol consumoption

- Any alcohol consumption carries risk to health.
- Don't drink to promote your health.
- The risk to your health from alcohol is low if you drink 7 units a week if you are a woman and 14 units a week if you are a man. [b]
- The risk to your health from alcohol is high if you drink more than 14/21 units per week.[c]
- Stop drinking before having 5 units on any occasion.
- Avoid alcohol if you are pregnant or planning pregnancy.
- Children under 16 years should not drink alcohol. Young people aged 16 -18 years should drink as little as possible.
- If you are an older person, be especially careful with alcohol.

**One unit equals 12g of pure alcohol.**

[a] 7 units = 84g of pure alcohol; 14 units = 168g
[b] 14 units = 168g of pure alcohol; 21 units = 252g

Good practice principles for low risk drinking guidelines

# Review of adult drinking guidelines in the UK

*Lisa Jones[a]*

**Adult drinking guidelines were first developed by the UK Health Departments in the 1980s. "Safe limits", defined as standard drinks per week, were published in 1984. In 1987 the guidelines were revised down to "sensible limits" and the concept of a unit was introduced, equivalent to 8g pure alcohol and corresponding to the amount of alcohol an average adult can process within an hour. The "sensible drinking" guidelines were reviewed and updated in 1995. The most significant change was that guidelines were given regarding daily, rather than weekly, consumption, to take into account emerging evidence of potential health benefits from regular drinking of small amounts of alcohol, particularly in relation to coronary heart disease. Guidelines on drinking during pregnancy were revised in 2006, advising women who are pregnant or trying to conceive to avoid drinking alcohol. In 2009, specific guidance on the consumption of alcohol by children and young people was published by the Chief Medical Officer for England. In 2012, a process to review the adult guidelines was started in response to a call from the UK House of Commons Science and Technology Committee [1]. Expert groups were tasked to consider the scientific evidence and advise accordingly. In January 2016, the UK Chief Medical Officers proposed new guidelines for people who wish to keep health risks from alcohol to a low level. The proposed guidelines were presented for public consultation between January and April 2016.**

## Considering new health evidence

The UK Chief Medical Officers asked a Health Evidence Expert Group to consider the evidence on the effects of alcohol on health. The Group examined evidence from 44 systematic reviews and meta-analyses published since 1995 [2,3], and consulted experts recently involved in the updating of Australian and Canadian alcohol guidelines. The Group concluded that there was significant new, good quality evidence available on the effects of alcohol consumption on health and that an update to the guidelines was needed. The Group also concluded that the evidence supporting a protective effect of alcohol consumption was now weaker than it was in 1995. A Behavioural Expert Group was asked to assess the evidence of the effectiveness of the current UK guidelines for alcohol consumption, and evidence about the use, understandings and impact of national guidelines on other health-related behaviours. In practice limited evidence was found [4] and so the Group identified some general principles that could be used to maximise understanding and acceptance of guidelines.

## Developing new adult drinking guidelines

In early 2014, the two previous expert groups combined to form a Guideline Development Group (GDG). The GDG was tasked with advising the UK Chief Medical Officers on the most appropriate methodological approach to developing guidelines and to advise on the content of the new guidelines. The GDG based its advice on the following principles: (i) people have a right to accurate information and clear advice about alcohol and its health risks; and (ii) there is a responsibility on Government to ensure this information is provided for citizens in an open way, so that they can make informed choices [5]. The GDG considered the suitability of methodologies used in the development of lower risk drinking guidelines in Canada and Australia as a basis for UK guidelines. To explore the impact of alcohol on mortality and morbidity in the UK population, scientific modelling was carried out applying the Sheffield Alcohol Policy Model (v.2.7), a mathematical simulation model previously used to appraise various alcohol policy options [6]. Using the Canadian and Australian approaches [6], similar guideline thresholds were implied by the model (see Table 1 for a summary of the main findings). The Canadian approach set the threshold at the level at which the risks of drinking were equivalent to abstaining from alcohol. Based on the Australian approach, the thresholds were alternatively set at a level where 1% of annual deaths would be attributable to drinking.

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[a] Centre for Public Health, Liverpool John Moores University

**Table 1.** Implied guideline consumption thresholds using different approaches

| Threshold | Drinking days per week | Units per week | | Units per day | |
|---|---|---|---|---|---|
| | | Males | Females | Males | Females |
| Canadian: RR=1.0 | 1 | 3.4 | 10.0 | 3.4 | 10.0 |
| | 2 | 5.8 | 12.0 | 2.9 | 6.0 |
| | 3 | 7.4 | 12.8 | 2.5 | 4.3 |
| | 4 | 8.2 | 13.2 | 2.1 | 3.3 |
| | 5 | 8.9 | 13.4 | 1.8 | 2.7 |
| | 6 | 9.4 | 13.6 | 1.6 | 2.3 |
| | 7 | 9.8 | 13.6 | 1.4 | 1.9 |
| Australian: Proportion of deaths attributable to alcohol=1% | 1 | 6.0 | 12.0 | 6.0 | 12.0 |
| | 2 | 9.4 | 14.0 | 4.7 | 7.0 |
| | 3 | 11.3 | 14.8 | 3.8 | 4.9 |
| | 4 | 12.3 | 15.2 | 3.1 | 3.8 |
| | 5 | 13.1 | 15.4 | 2.6 | 3.1 |
| | 6 | 13.7 | 15.6 | 2.3 | 2.6 |
| | 7 | 14.1 | 15.7 | 2.0 | 2.2 |

Taken from *Mortality and morbidity risks from alcohol consumption in the UK: Analyses using the Sheffield Alcohol Policy Model (v.2.7) to inform the UK Chief Medical Officers' review of the UK lower risk drinking guidelines* [6]

Alongside their consideration of the modelling outcomes, the GDG also consulted experts and were briefed on focus group research that explored public understanding of the 1995 guidelines. Based on their considerations the GDG recommended a new weekly guideline for regular drinking and recommended that advice be provided separately on reducing the short term risks from single occasion drinking. In another change from the 1995 guidelines, recommendations for new adult drinking guidelines are presented as the same for men and women: 'you are safest not to drink regularly more than 14 units of alcohol per week'. This is because the modelling outcomes showed that at the same level of consumption men were at a much higher risk from the acute harms than women. In their report to the UK Chief Medical Officers [5] the GDG noted that the recommendations were both pragmatic and evidence-based and presented a detailed discussion of the evidence underpinning the advice.

## Responding to the public consultation

In late 2015, the UK Chief Medical Officers considered and accepted the advice of the GDG [5]. The proposed new guidelines were based on the three recommendations from the GDG, including: (i) a weekly guideline on regular drinking; (ii) advice on single episodes of drinking; and (iii) a guideline on pregnancy and drinking, advising as the safest approach for women who are pregnant or planning a pregnancy not to drink alcohol at all [7]. Public consultation on the proposed new guidelines ran for 12 weeks from January 2016 [8]. There was widespread reporting of the new guidelines in the UK media when they were released. Reactions to the guidelines were mixed with some media commentators making accusations of "nanny state" tactics and "scaremongering" [9,10]. However others welcomed the opportunity for the public to be provided with evidence against which they can make an informed choice about their own drinking [11].

The GDG met for the last time in May 2016 to consider the outcomes of the public consultation, which were released in August 2016 [12] alongside an addendum to the expert group report [13]. Responses to the consultation were reportedly evenly split between positive and negative [12]. However a number of additional responses, all negative, were identified as being connected to a campaign coordinated by the UK based consumer advocacy group, the Campaign for Real Ale (CAMRA). The consultation had sought views on whether the guidelines, the explanations for how they were chosen, and the advice on what one could do to reduce drinking or to limit health risks were clear and understandable. The consultation identified three commonly cited reasons for objecting to the guidelines: (i) disputes with the evidence; (ii) the assertion that moderate drinking is good for you; and (iii) that the low-risk limits are now the same for men and women. These objections were addressed in

the addendum to the expert group report and it was felt "that for many people the guidelines offer information, in a clear and useful format, that they will find helpful" [12]. Changes to the text of the guideline to simplify, clarify and ensure consistency in the language used were prompted by the responses to the consultation and market testing of the guidelines.  Regarding the advice on single occasions of drinking, the consultation had also asked whether consumers would prefer advice to be given in terms of a number of units not to be exceeded or in terms of risk-reducing behaviours, as proposed by the CDG. As the consultation feedback was inconclusive the GDG agreed to advise the UK CMOs not to include a number for the single occasion guideline [12].

## References

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# Core guidelines

## UK Chief Medical Officers, August 2016

**Weekly drinking guideline**

The Chief Medical Officers' guideline for both men and women is that:

- To keep health risks from alcohol to a low level it is safest not to drink more than 14 units a week on a regular basis.
- If you regularly drink as much as 14 units per week, it is best to spread your drinking evenly over 3 or more days. If you have one or two heavy drinking episodes a week, you increase your risks of death from long term illness and from accidents and injuries.
- The risk of developing a range of health problems (including cancers of the mouth, throat and breast) increases the more you drink on a regular basis.
- If you wish to cut down the amount you drink, a good way to help achieve this is to have several drink-free days each week.

**Single occasion drinking episodes**

The Chief Medical Officers' advice for men and women who wish to keep their short term health risks from single occasion drinking episodes to a low level is to reduce them by:

- limiting the total amount of alcohol you drink on any single occasion;
- drinking more slowly, drinking with food, and alternating with water;
- planning ahead to avoid problems e.g. by making sure you can get home safely or that you have people you trust with you.

The sorts of things that are more likely to happen if you do not understand and judge correctly the risks of drinking too much on a single occasion can include:

- accidents resulting in injury, causing death in some cases
- misjudging risky situations, and
- losing self-control (e.g. engaging in unprotected sex).

Some groups of people are more likely to be affected by alcohol and should be more careful of their level of drinking on any one occasion for example those at risk of falls, those on medication that may interact with alcohol or where it may exacerbate pre-existing physical and mental health problems.

If you are a regular weekly drinker and you wish to keep both your short- and long-term health risks from drinking low, this single episode drinking advice is also relevant for you.

**A guideline on pregnancy and drinking**

- If you are pregnant or planning a pregnancy, the safest approach is not to drink alcohol at all, to keep risks to your baby to a minimum.
- Drinking in pregnancy can lead to long-term harm to the baby, with the more you drink the greater the risk.

The risk of harm to the baby is likely to be low if you have drunk only small amounts of alcohol before you knew you were pregnant or during pregnancy.

If you find out you are pregnant after you have drunk alcohol during early pregnancy, you should avoid further drinking. You should be aware that it is unlikely in most cases that your baby has been affected. If you are worried about alcohol use during pregnancy do talk to your doctor or midwife.

**One unit equals 8g or 10 ml of pure alcohol.**

# Guidance on alcohol consumption in Switzerland

*Jann Schumacher on behalf of the Federal Commission for Alcohol-Related Issues[a]*

**In 2015, the Federal Commission for Alcohol-Related Issues (FCAL) published guidelines for low-risk alcohol consumption in Switzerland, based on epidemiological knowledge and data. The guidelines are differentiated by age, sex, health status and certain circumstances. To underline the primary intent to prevent risk and harm, the messages also highlight the need to respect alcohol-free lifestyles and advise against daily drinking.**

Until 2015 a range of guidelines had been proposed by various bodies, none of them with a comprehensive scientific basis. To remedy this lack of official guidance, the FCAL, in collaboration with the FOPH, commissioned the independent expert organisation Addiction Switzerland to draw up a report to review recent scientific findings on the health effects of alcohol. Published in 2013, the report draws on epidemiological data concerning alcohol-related morbidity and on an analysis of mortality in Switzerland between 1997 and 2011 [1,2,3].

Informed by this document, the FCAL set out to formulate nuanced messages rather than a single rule applicable to everyone. The limits beyond which alcohol consumption is harmful depend on the age, sex, and health of the individual concerned as well as specific circumstances such as being pregnant, on medication, or engaged in driving or exercise. The aim was to provide guidance tailored to particular groups and situations.

Another aim was to formulate messages that would be interpreted as points of reference for the consumption of alcohol rather than as firm recommendations. To underline the primary intent to prevent risk and harm, the messages highlight the need to respect alcohol-free lifestyles, and that it is advisable, even for adults in good health, to abstain from drinking at least two days a week. It is also pointed out that there are more effective means to prevent cardiovascular disease than drinking alcohol.

The points of reference regarding alcohol consumption and risk of harm were published in early 2015 in French, German, Italian and Romansh to cater for the various language groups in Switzerland [4]. A longer version of the guidance also explains the reasoning for the advice. The guidance on alcohol consumption was published to coincide with the launch of a three-year national campaign under the aegis of the FOPH. The campaign encourages people to think about their own drinking habits and ask themselves "how much is too much?"[b]

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[a] The Federal Commission for Alcohol-Related Issues (FCAL) comprises experts in public health, prevention, care and research and serves the Swiss Federal Council in consultative capacity.

[b] http://www.alcohol-facts.ch/

# Core guidelines

## Federal Commission for Alcohol-Related Issues, 2015

**Messages for guidance on alcohol consumption**

The consumption of alcohol entails health risks. The risks vary depending on the person, the circumstances in which they drink, their age and their state of health. The messages about what constitutes 'low-risk consumption' should be differentiated to reflect this.

In the interests of health, the following guidelines should be observed:

| | |
|---|---|
| **Respect for alcohol-free lifestyles** | **This choice should be respected and supported.**<br><br>Alcohol is not necessary to prevent cardiovascular disease. Eating a healthy diet and getting enough exercise are far more effective means of prevention. |
| **Healthy adults** | Healthy adult **men** should not drink more than two to a maximum of three glasses of alcohol per day, and **women**, no more than one to a maximum of two glasses.[c]<br><br>At least **two alcohol-free days** a week should be observed.<br><br>If, on rare, exceptional occasions, you drink more than this over the course of several hours, consumption should be limited to five glasses if you are a man, and four if you are a woman. |
| **Children, young people and young adults** | **Children and young people** up to the age of 16 should not drink alcohol.<br><br>**Young adults** should seldom drink alcohol and only in moderation. It is particularly important to avoid bouts of heavy drinking. |
| **Older people** | **Older people** are more sensitive to alcohol. As you get older it makes sense to reduce your consumption of alcohol. |
| **Alcohol should be avoided...** | ...throughout pregnancy and breastfeeding<br>...if you are on medication<br>...if you are driving<br>...during work or activities requiring greater concentration<br>...during sport. |

**One glass equals 10-12g of pure alcohol.**

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[c] 2-3 glasses = 20-36g of pure alcohol; 1-2 glasses = 10-24 g of pure alcohol

# Development of drinking guidelines in Finland

*Marjatta Montonen[a]*

**In Finland, dissemination of information on alcohol consumption levels associated with risk of health harm has – until recently – emphasised high rather than low risk. High risk levels for adult men and women were determined in the 1990s to help health professionals identify among primary care patients hazardous drinkers who might benefit from brief intervention. Low risk levels were determined in Finnish nutrition recommendations when they were updated in 2005. The Current Care Guideline for the treatment of alcohol use disorders updated in 2015 introduced a continuum of risk by identifying consumption levels associated with low, medium and high risk. To emphasize the importance of prevention of harm, the National Health Institute shifted emphasis in its information activities from high to low risk, highlighting on the one hand that risk of harm from alcohol consumption starts to increase at a low level of consumption and, on the other, situations in which further caution is warranted.**

## Focus on high risk

Guidelines regarding alcohol intake levels associated with high risk of health harm were launched in 1992 in the Finnish Medical Journal to encourage general practicioners raise the potentially sensitive issue of alcohol consumption with patients and provide advice to cut down to prevent harm[1]. Based on epidemiological studies showing significant increase in illness and death in men above a daily alcohol consumption of 40g of pure alcohol per day and in women above 20g, weekly consumption of 24 standard drinks by a man and 16 standard drinks by a woman was specified as heavy consumption associated with high risk. The standard drink was defined as equivalent to 12 grams of pure alcohol, corresponding with a small bottle of medium-strength beer, the most common serving of the most common alcoholic beverage type at the time.

The AUDIT test developed by the WHO was highlighted as the primary tool for screening but also as a tool for self-assessment[2]. To prime healthcare patients for possible brief intervention and to promote self help, a variety of handout materials were disseminated under the national alcohol action programme[3]. The materials offered information on alcohol-related health harm, on high-risk drinking levels and on techniques for cutting down.

The high risk levels specified in 1992 were included in the Current Care Guideline for the treatment of alcohol abuse, issued for the first time in 2005[4], and in the clinical guideline for the primary health care on the idenfification of hazardous and harmful alcohol use, published in 2006 based on work done in the European Union co-funded PHEPA-project[5].

Developed by the Finnish Medical Society Duodecim in cooperation with specialty societies, such as the Society for Addiction Medicine, Current Care Guidelines are intended to provide a common national basis for clinical practice. The process includes systematic literature search and review of the evidence by a group of experts. The guidelines are circulated for feedback to interest groups before publication.[b]

When the Current Care Guideline for alcohol treatment was updated in 2010, the available scientific evidence suggested that while moderate use of alcohol possibly decreased the risk of coronary heart disease, overall mortality for men increased significantly at daily consumption above 40g pure alcohol and for women above 20g. The high risk alcohol thresholds remained unchanged. It was stressed that they were intended for clinical use and should not be taken to imply that drinking up to the threshold would be safe[6]. This was reflected in a change of terminology from "heavy drinking" to "risky drinking". In the media and colloquial speech the threshold was simply called the "risk limit", leaving room for different interpretations.

## Focus on low risk

Recommendations for an optimal diet have been issued since 1987 by the National Nutrition Council under the Ministry of Agriculture. The Finnish dietary guidelines are based on Nordic Nutrition Recommendations which are developed through Nordic cooperation under the aegis of the Nordic Council of Ministers. Cooperation enables to draw on a wider pool of expertise and share the workload of reviewing research evidence while enabling each country to fine-tune the recommendations according to national circumstances. The Nordic and national recommendations are updated at eight-year intervals.[c]

The dietary recommendations include a guideline on alcohol consumption. In 1987, the advice was to not to include alcoholic beverages in the regular diet[7]. In 2005, it was recommended to keep alcohol consumption at a moderate level and the average alcohol intake not to be exceeded was specified as 20g of pure alcohol per day for men and 10g for women. Moreover, it was recommended that alcoholic beverages should not account for more than 5% of the daily energy intake[8].

For an update of the Nordic Nutrition Recommendations in 2012, new evidence on the health aspects of alcohol was reviewed, in particular concerning cardiovascular disease and metabolic risk factors, total mortality, cancer, weight change, pregnancy and birth outcomes[9]. Based on the overall evidence, including potential beneficiary effects, alcoholic beverages, along with red meat, salt and added sugar, were included in the list of foodstuffs the consumption of which should be reduced. The alcohol intake levels not to be exceeded remained the same as in 2005[10].

## Continuum of risk

The latest update of the Current Care Guideline on alcohol use disorders in 2015 incorporated the low-risk level specified in the nutrition recommendations into a three-level risk classification. A moderate risk level was associated with first signs of potential harm in laboratory tests. The high risk level was updated downwards to take into account new research evidence. The guidance for healthcare services is that a patient presenting with longer-term high risk consumption or with episodic heavy drinking (more than 5-6 standard drinks on a single occasion) should always be offered brief intervention[11].

Besides reference levels for alcohol consumption by adult men and women, advice for reducing risk of harm for specific subgroups and in specific situations has been provided by various public health bodies. In order to raise awareness of the continuum of risk and of various aspects of risk, the National Institute of Health summarised the core recommendations in a single fact sheet published in 2016[12].

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## Core guidelines

### Compiled by the National Institute for Health

Reducing alcohol consumption to a level where the risk of health harm is low is beneficial for health, whether by avoiding alcohol, drinking less frequently or drinking less at a time. There is no safe level of alcohol consumption.

| Risk of health harm from alcohol for healthy adults | | | |
|---|---|---|---|
| | Men | Women | |
| **Low risk**[1] | On average no more than 2 drinks/day | On average no more than 1 drink/day | Probably no risk of harm for a healthy working-age person |
| **Moderate risk** | Prolonged consumption of more than 14 drinks/week | Prolonged consumption of more than 7 drinks/week | Changes in laboratory tests are possible. |
| **High risk**[2] | Consumption of 23-24 drinks/week or more | Consumption of 12-16 drinks/week or more | Significant increase in morbidity and risk of death. |
| 1) For men maximum 20g of pure alcohol, for women 10g. 2) For men 40g of pure alcohol or more, for women 20g. | | | |

**Risks from alcohol**

- To reduce risk of harm from drunkenness, limit drinking on any occasion to 5-6 drinks.
- Even a small amount of alcohol increases the risk of harm for young people. Starting to drink should be postponed as long as possible.
- Health status and medication should be taken into account when assessing older people's alcohol consumption. Reducing consumption with advanced age is advised in any case.

**Situations where alcohol consumption should be avoided**

- No alcohol is safest during pregnancy. Heavy drinking should be avoided when planning pregnancy and during the lactation period.
- The share of alcohol from the daily energy intake should not exceed 5%.
- Harmful interactions are possible when alcohol is consumed while on medication; some medicines call for abstinence, others for minimising alcohol consumption.
- People with symptoms of depression should avoid alcoholic beverages.
- Driving under the influence of alcohol entails risk.
- Alcohol consumption and drunkenness are not permitted at work.

### One unit equals 12g of pure alcohol.