Addiction and Lifestyles in Contemporary Europe: Reframing Addictions Project (ALICE RAP)

Prevalence of substance use, dependence and problematic gambling in Europe

Deliverable 5.1, Work Package 5

Edited by

Simon Marmet
Gerhard Gmel
Jürgen Rehm

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Acknowledgments

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1 Introduction

S. Marmet and G. Gmel

Concepts of dependence play an important role in clinical practice and research on substance use. While there is good information available on the prevalence of substance use (e.g., Eurobarometer, EMCDDA), little is known about the prevalence of substance dependence in Europe.

The aim of ALICE RAP (acronym for Addiction and Lifestyles in Contemporary Europe Reframing Addictions Project) Area2, Work package 5: Counting addiction is therefore to provide estimates for substance and gambling addictions for the EU-27 and non EU-member states (Norway, Iceland, Switzerland, Israel) participating in the ALICE RAP project. As a lot of information was only available locally and in local languages, partners in all countries participating in ALICE RAP were asked to provide the best available data for their countries. The primary task of partners was to find the best available substance addictions (plus problem gambling) estimates in their country and provide them in a comparable manner to the work package leader. As a working definition for the work package addiction was defined as either dependence, dependence and misuse/harmful use as defined in classification systems like ICD-10 or DSM-IV or substance use disorder in the DSM-5 context. Therefore addiction, dependence and substance use disorders are used rather interchangeably in this report.

Moreover, addiction prevalence and addiction-related health harm has not been systematically assessed on a country level for all addictions in Europe. However, up to date information on addictions and attributable harm is important for policy and health care planning. WP 5 tried to fill this gap based on available data to provide up to date information on the prevalence of addictions and attributable harm on a country level, and for the EU as a whole. As there are in no estimates of addictions in many countries, i.e., dependence, misuse or use disorders, countries were asked to provide best available estimates on use and heavy use. These use estimates were then triangulated with addiction estimates from countries, where both data sources (use and addiction estimates) were available.

Addiction prevalence estimates were searched for alcohol, tobacco, cannabis and problematic gambling. Use prevalence and estimated harm for illicit drugs are also included.

Overall the following methodology was used:

- Systematic gathering of available data in the 23 ALICE RAP countries by country experts.

- Systematic gathering of data available from other sources such as the EMCDDA, Eurostat or the Global Burden of Disease study.

- Triangulation of different methods to obtain or estimate prevalence rates based on surveys (with valid instruments to assess dependence and abuse such as CIDI, AUDADIS, SCAN; estimations based on screening instruments, or use data.

- Estimation of mortality, years of life lost due to mortality and disability, and burden of disease due to addiction and substance use based on data or methods developed by the Comparative Risk Assessment of the Global Burden of Disease 2010 study.

The present report describes estimates and strategies to come up with final estimates separately for alcohol, tobacco, cannabis and problem gambling. In the appendix country profiles and data sources for each country are provided.

Data was collected for all EU-27 members and Iceland, Norway, Switzerland and Israel. Table 1.0.1 shows the countries and their attribution to European regional groups. Croatia was not a member of the EU when data collection started and is thus not included. In this report, the term European Union always refers to the EU-27 with its member states as in the year 2012 (see table 1.0.1). Estimates for regions were calculated by weighting country estimates with the corresponding population size of each country.

Table 1.0.1:   ALICE RAP and EU-27 countries by region

Region	Countries
Central-East and Eastern Europe	Bulgaria, Czech Republic, Estonia, Hungary, Latvia, *Lithuania*, Poland, Romania, Slovakia, *Slovenia*
Nordic Countries	Denmark, Finland, Iceland, Norway, Sweden
Central-West and Western Europe	Austria, *Belgium*, France, Germany, Ireland, *Luxembourg*, Netherlands, Switzerland, United Kingdom
Southern Europe	*Cyprus*, *Greece*, Italy, *Malta*, Spain, Portugal, Israel

Remark: Countries in italic are part of the EU, but did not participate actively in the data collection for ALICE RAP.

1.1   Organisations involved in ALICE RAP WP5

Scientists in 23 European countries participated in the ALICE RAP WP5 data collection. The following list shows the participating institutions with the main responsible scientist.

WP leader:

ADDICTION SWITZERLAND (FORMERLY SUCHT INFO SCHWEIZ-SIPA): (Gerhard Gmel)

Partner institutions involved:

FCRB: FUNDACIO PRIVADA CLINIC PER A LA RECERCA BIOMEDICA (Toni Gual)
SU: STOCKHOLMS UNIVERSITET (Börje Olsson)
UIO: UNIVERSITETET I OSLO (Hans Olav Melberg)
THL: TERVEYDEN JA HYVINVOINNIN LAITOS (Esa Österberg)
AU: AARHUS UNIVERSITET (Kim Bloomfield)
IPIN: INSTYTUT PSYCHIATRII I NEUROLOGII (Jacek Moskalewicz)
UTRIP: INSTITUT ZA RAZISKAVE IN RAZVOJ UTRIP ZAVOD (Matej Kosir)
USFD: THE UNIVERSITY OF SHEFFIELD (Petra Meier)
TUD: TECHNISCHE UNIVERSITAET DRESDEN (Jürgen Rehm)
HUJI: THE HEBREW UNIVERSITY OF JERUSALEM (Yehuda Neumark)
IDT: INSTITUTO DA DROGA E DA TOXICODEPENDENCIA (Fernanda Feijao)
UM: UNIVERSITEIT MAASTRICHT (Paul Lemmens)
PARPA: PANSTWOWA AGENCJA ROZWIAZYWANIA PROBLEMOW ALKOHOLOWYCH (Krzysztof Brzozka)

Temporary employed individuals working on data collection

NATIONAL CENTRE FOR PUBLIC HEATLTH PROTECTION, Bulgaria (Plamen Dimitrov)
PRAGUE PSYCHIATRIC CENTER, Czech Republic (Ladislav Csèmy)
CORVINUS UNIVERSITY, Hungary (Zsuzsanna Elekes)
FACHHOCHSCHULE KÄRNTEN, Austria (Uli Frick)
UNIVERSITY OF TARTU, Estonia (Raul Kiivet)
ISTITUTO SUPERIORE DI SANITA, Italy (Emanuele Scafato)
THE CENTRE OF HEALTH ECONOMICS, Latvia (Marcis Trapencieris)
TRINITY COLLEGE FOR HEALTH SCIENCES, Ireland (Joe Barry)

SCHOOL OF ADVANCED SOCIAL STUDIES, Slovenia (Matej Makarovic)
CANCER CENTER AND INSTITUTE OF ONCOLOGY, Poland (Witold Zatonski)
NATIONAL SCHOOL OF PUBLIC HEALTH, MANAGEMENT AND PROFESSIONAL DEVELOPMENT, BUCHAREST, Romania (Silvia Florescu)
FRENCH MONITORING CENTER FOR DRUGS AND DRUG ADDICTIONS, France (Eric Janssen)

2   Alcohol use and dependence

J. Rehm, P. Anderson, J. Barry, P. Dimitrov, Z. Elekes, F. Feijão, U. Frick, A. Gual, G. Gmel jun., L. Kraus, S. Marmet, J. Raninen, M.X. Rehm, E. Scafato, K.D. Shield, M. Trapencieris, G. Gmel

The following chapter presents the results of the work carried out within WP5 on alcohol, which has also led to a publication submitted and under review by European Addiction Research:

J. Rehm, P. Anderson, J. Barry, P. Dimitrov, Z. Elekes, F. Feijão, U. Frick, A. Gual, G. Gmel jun., L. Kraus, S. Marmet, J. Raninen, M.X. Rehm, E. Scafato, K.D. Shield, M. Trapencieris, G. Gmel (2014). Prevalence and potential influencing factors of alcohol dependence in Europe.

The mentioned article under review has more details on the data and the methodology, but we made sure that the current publication has all the key information included, so the data can be interpreted.

2.1   Introduction

Alcohol consumption is a major risk factor for the burden of disease [1-3]. More specifically, Alcohol Use Disorders (AUDs), as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM) version IV [4] or the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) [5], are associated with the most detrimental health consequences caused by drinking [6-9]. For instance, for the European Union (EU) in 2004, it has been estimated that alcohol dependence (AD), the most severe form of AUDs, was responsible for more than 60% of all alcohol-attributable mortality, causing 85,000 deaths (12,000 deaths among women and 73,000 deaths among men between 18 and 64 years of age) [10, 11].

Estimates of the burden caused by AUDs are usually based on attributable fractions and require information on the prevalence of AUDs and the relative risk for outcomes causally related to AUDs [12]; (for disease-specific relative risks associated with AUDs, see [13]). Thus, reliable and valid data on the prevalence of AD and alcohol abuse (DSM-IV) or the harmful use of alcohol (ICD-10) would be required to measure and monitor the prevalence of AUDs and their consequences (there were no European studies available up to 2013 using DSM-5). Thus, as the last systematic review of AUDs in Europe was published in 2005 [14], it is the aim of this report to present an overview of current knowledge on the prevalence of AD and AUDs in the EU-27 and the other European ALICE RAP participants (Iceland, Norway and Switzerland). We will also examine the availability, validity, and reliability of the currently available data.

Large comparative international studies by the World Health Organization (WHO) on the validity and reliability of diagnostic categories in 10 countries showed that the diagnostic concordance coefficients between the usual instruments used to measure AUDs and psychiatric judgments were good to very good for dependence, but considerably lower for the abuse and harmful use categories [15, 16]. This finding has been corroborated by other studies [17]. Thus, this paper focuses on AD as the most severe [18, 19], and better to express in operational terms, sub-diagnosis of AUDs.

2.2   Methods

2.2.1   Selection of studies for prevalence data for alcohol dependence and alcohol use disorders, and the derivation of prevalence estimates

Prevalence estimates for AD were based on an earlier systematic literature review for each country examined ([10]; updated to September 2013 based on the new WHO Global Status Report on Alcohol and Health, [20]) to find best estimates for 2010. The data obtained from the systematic review were

then adjusted for biases and checked for validity and comprehensiveness by the Addiction and Lifestyles in Contemporary Europe - Reframing Addictions Project (ALICE RAP) experts in all participating countries.

The following selection criteria for prevalence estimates of AD were used: the highest priority was given to prevalence estimates obtained from nationally representative surveys of the general population that used a standardized and validated instrument to measure AD, such as the Composite International Diagnostic Interview (CIDI [21]) or the Schedules for Clinical Assessment in Neuropsychiatry (SCAN [22]) in its various forms (for reliability and validity of these instruments to assess AD, see[15, 16]). Within this category, we preferred studies where the prevalence of AD and alcohol abuse/harmful use was assessed independently.

The second highest priority was given to prevalence estimates for AD that were obtained from nationally representative surveys of the general population using a standardized and validated instrument where AD and alcohol abuse/harmful use were not assessed independently. Most importantly in this category, the early round of the World Mental Health Survey in European countries [23] assessed AD only if at least one criterion for alcohol abuse was fulfilled; as a consequence, the prevalence of AD was severely underestimated by the World Mental Health Surveys (WMHS) [24]. The WMHS were used in estimating AD for Belgium (part of the overall estimate; see Table 2.2.3), Bulgaria (see also [25, 26], for details on the operationalization), the Czech Republic [27], France, Italy [28], Romania [29] and Spain. For each of these countries the prevalence had to be adjusted as the prevalence of AD empirically found was severely underestimated as only people with a symptom of alcohol abuse were screened for AD. Thus these estimates were adjusted by upshifting the empirical prevalence by the proportion of overall AD, which had no symptoms of alcohol abuse (based on data from the German National Health Interview and Examination Survey [30, 31]). For countries in Central or Eastern Europe, the Slovakian WHO Multi Country Study Survey [32] was used for upshifting. While this procedure could be seen as correcting the underestimation of AD, it may have been too conservative a method for countries in the South of Europe where AD is relatively more prevalent than alcohol abuse because of these countries' drinking patterns [10].

The third highest priority was given to national prevalence estimates of AD that were accompanied (either directly or indirectly) by a clear description of the methodology used (for an example, see Switzerland [33]). The lowest priority was given to prevalence estimates obtained from national or international organizations that were not accompanied (either directly or indirectly) by a clear indication of sources or of the methodology used (e.g., from the WHO or the EU, e.g., : http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] ; see Table 1). If only AUD prevalence was presented, these figures were scaled down to AD based on the proportions observed for neighbouring countries. Not included in our systematic review were prevalence estimates of AD that were derived from screening scales such as the Alcohol Use Disorders Identification Test (AUDIT) [35] or the CAGE questionnaire [36]; however, these estimates are provided as footnotes to Table 2.3.3, or used in other parts of the paper.

2.2.2 Other measures

The alcohol use statistics have been taken from the last WHO Global Status Report on Alcohol and Health [20], and were collected by the last WHO Global Survey on Alcohol and Health to all member countries in 2012 [37]. In 2012, 177 Member States participated in the survey, which represented a 90 percent response rate and covered 98 percent of the world population The harm outcomes were also based on the calculations for the WHO Global Status Report which themselves have been based on the WHO Global Health Statistics estimates for 2012. The contribution of alcohol, i.e., the alcohol-

attributable fractions, were based on a methodology originally developed for the Comparative Risk Assessment of the Global Burden of Disease and Injury Study and combined with the exposure data for 2012 (for an overview of the alcohol part of this study see: [38-40]; for the risk relations see [41-43]; for the results see [44]. We used the WHO estimates rather than the GBD estimates for three reasons:

- They were more recent (2012 instead of 2010).
- They did not exclude alcohol abuse/harmful use of alcohol as part of the alcohol use disorders.
- They were used on the latest iteration of methodology for computing alcohol-attributable fractions and corrected some of the earlier mistakes (e.g., for injury).

2.3   Results

Alcohol use is prevalent in Europe (see Table 2.2.1) with more than 8 out of 10 Europeans drinking. Otherwise, we see the well-known effect of more men than women consuming alcohol as well as having higher levels of consumption (Table 2.2.2). Given the high prevalence of drinking and the prevalence of heavy drinking, it comes as no surprise, that the prevalence of alcohol dependence is also quite high (3.5%; for women 1.7%, for men: 5.3%; see Table 2.2.3 and Figure 2.2.1).

In total, based on population studies cited in Table 2.3.3, close to 11 million adults between 18 and 64 years of age were estimated to be alcohol dependent in the EU in 2010, with approximately three times more men than women being alcohol dependent (see Table 2.2.3 for details). Adding AD estimates for Iceland, Norway and Switzerland to the EU estimates, the total number of individuals who were alcohol dependent increased to 11.4 million; however, the underlying prevalence of AD did not noticeably change.

In empirical studies, the prevalence of alcohol abuse overall was approximately equal to the prevalence of AD (lower prevalence of abuse: Germany [45], Norway Oslo [46]; about the same, +/- 0.3%: Germany [47]; higher prevalence of abuse: Netherlands [48], Norway rural [46]; in Slovakia, in the WHO multi-country study [32], women had a higher prevalence of abuse and men had a higher prevalence of AD). These results include only studies that independently measured AD and alcohol abuse, so the WMHS results are excluded since dependence was only assessed if there was at least one symptom of abuse. The observation of about equal prevalence of dependence and abuse was corroborated by earlier European studies (listed in [14]).

Table 2.2.1: *Prevalence of abstainers, former drinkers and current drinkers in Europe, 15-64 years old*

	Lifetime abstainer			Former drinker			Current drinker		
	Men %	Women %	Total %	Men %	Women %	Total %	Men %	Women %	Total %
Austria	6.7	13.3	10.0	4.2	3.2	3.7	89.0	83.5	86.2
Belgium	1.8	5.1	3.4	9.8	8.5	9.1	88.4	86.5	87.5
Bulgaria	8.3	13.9	11.1	15.8	12.9	14.4	75.8	73.2	74.6
Cyprus	3.0	6.8	4.9	3.7	10.9	7.4	93.4	82.3	87.7
Czech Republic	1.6	1.6	1.6	5.0	7.5	6.2	93.4	90.8	92.1
Denmark	1.6	4.1	2.9	4.7	6.1	5.4	93.6	89.8	91.7
Estonia	9.7	17.6	13.8	17.5	16.2	16.9	72.7	66.1	69.2
Finland	6.4	12.9	9.6	15.9	14.5	15.2	77.7	72.6	75.2
France	0.7	1.7	1.2	2.1	2.7	2.4	97.1	95.6	96.3
Germany	2.0	3.6	2.8	11.0	11.1	11.0	87.0	85.3	86.2
Greece	4.7	12.3	8.5	15.6	16.0	15.8	79.7	71.7	75.6
Hungary	2.3	5.9	4.1	9.4	8.9	9.1	88.2	85.3	86.7
Iceland	7.0	14.9	10.9	16.3	15.2	15.8	76.8	69.8	73.4
Ireland	3.4	6.7	5.1	9.8	11.2	10.5	86.8	82.0	84.4
Israel	26.3	42.1	34.2	4.0	9.1	6.5	69.8	48.9	59.3
Italy	12.4	34.6	23.5	3.5	6.9	5.2	84.1	58.5	71.3
Latvia	6.3	15.9	11.3	17.7	16.1	16.9	76.0	68.0	71.6
Lithuania	7.1	19.8	13.7	18.0	16.5	17.2	74.9	63.7	68.8
Luxembourg	0.7	1.5	1.1	3.6	3.6	3.6	95.7	94.9	95.3
Malta	9.7	19.9	14.7	15.9	19.9	17.9	74.3	60.2	67.4
Netherlands	2.1	3.1	2.6	3.8	8.7	6.2	94.1	88.2	91.1
Norway	2.4	5.2	3.7	3.5	10.3	6.8	94.1	84.6	89.5
Poland	16.6	30.0	23.4	18.9	17.7	18.3	64.5	52.3	58.3
Portugal	10.9	21.5	16.3	15.7	20.2	18.0	73.4	58.3	65.6
Romania	7.9	14.7	11.3	16.3	13.7	15.0	75.8	71.6	73.7
Slovakia	10.9	16.3	13.6	16.5	14.0	15.2	72.6	69.7	71.2
Slovenia	5.9	13.6	9.6	16.2	13.0	14.6	78.0	73.3	75.7
Spain	7.1	11.0	9.0	15.9	16.1	16.0	77.0	72.9	75.0
Sweden	5.5	11.2	8.3	15.5	16.0	15.8	79.0	72.8	75.9
Switzerland	1.8	4.5	3.1	3.4	5.6	4.5	94.8	89.9	92.4
United Kingdom	11.6	15.9	13.9	1.0	1.0	1.0	87.4	83.1	85.2
Central-East and Eastern Europe	**10.2**	**18.6**	**14.4**	**15.5**	**14.2**	**14.9**	**74.3**	**67.1**	**70.7**
Nordic Countries	**4.3**	**8.9**	**6.6**	**10.9**	**12.4**	**11.7**	**84.8**	**78.7**	**81.8**
Central-West and Western Europe	**4.2**	**6.6**	**5.4**	**5.4**	**5.8**	**5.6**	**90.4**	**87.6**	**89.0**
Southern Europe	**10.4**	**23.7**	**17.0**	**9.9**	**12.1**	**11.0**	**79.7**	**64.2**	**72.0**
EU27	**6.9**	**13.4**	**10.2**	**9.1**	**9.5**	**9.3**	**84.0**	**77.0**	**80.5**
ALICE RAP	**7.0**	**13.6**	**10.3**	**8.9**	**9.5**	**9.2**	**84.1**	**76.9**	**80.5**

Source: WHO Global Status Report on Alcohol and Health [20]
For Italy: The multipurpose survey on households [49]
For the United Kingdom: [50]

Table 2.2.2:   *Prevalence of heavy drinking in Europe, 15-64 years old*

| | Heavy drinker (40g+/20g+ per day) | | |
	Men %	Women %	Total %
Austria	23.4	21.1	22.3
Belgium	22.8	20.4	21.6
Bulgaria	25.2	19.7	22.4
Cyprus	17.8	17.8	17.8
Czech Republic	26.7	26.9	26.8
Denmark	24.3	22.9	23.6
Estonia	23.8	18.9	21.3
Finland	25.7	24.2	25.0
France	26.5	22.1	24.3
Germany	25.5	23.3	24.4
Greece	22.3	21.1	21.7
Hungary	28.4	25.4	26.9
Iceland	14.1	13.4	13.8
Ireland	24.9	22.4	23.6
Israel	3.3	1.3	2.3
Italy	13.7	13.3	13.5
Latvia	27.5	22.2	24.8
Lithuania	30.5	25.3	27.8
Luxembourg	24.9	22.2	23.6
Malta	14.2	13.9	14.1
Netherlands	20.7	18.8	19.8
Norway	14.6	14.1	14.3
Poland	25.0	19.5	22.2
Portugal	26.5	23.8	25.1
Romania	29.1	23.7	26.4
Slovakia	26.8	21.1	23.9
Slovenia	23.4	25.0	24.1
Spain	23.8	22.3	23.1
Sweden	19.9	18.7	19.3
Switzerland	22.8	20.4	21.6
United Kingdom	24.9	22.5	23.7
Central-East and Eastern Europe	**26.6**	**22.1**	**24.3**
Nordic Countries	**21.0**	**19.8**	**20.4**
Central-West and Western Europe	**25.0**	**22.2**	**23.6**
Southern Europe	**18.5**	**17.3**	**17.9**
EU27	**23.8**	**21.2**	**22.5**
ALICE RAP	**23.4**	**20.8**	**22.1**

Source: WHO Global Status Report on Alcohol and Health [20]; the data were derived from a triangulation of per capita data and survey data, and do not correspond to survey data alone [38, 39].

Table 2.2.3:   Prevalence of alcohol dependence in Europe, 18-64 years old

	Source	Year	Alcohol dependent		
			Men %	Women %	Total %
Austria	[51]; this prevalence was derived from an overall prevalence of AD for Austria, and it was assumed that the age pattern in Austria followed the pattern in Germany [45]	2004	8.8	3.0	5.9
Belgium	Mean of two major surveys in one year; (WMHS adjusted and Belgian Health Survey 2001, cf. GSRA); original age range corrected	2001/2002	6.3	2.3	4.3
Bulgaria	Data were part of WMHS; adjusted for methodological problems with algorithm for asking dependence; for a documentation of fieldwork, see [25, 26]; age range 18-79 in original study	2003-2007	4.3	0.4	2.3
Cyprus	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	5.3	1.6	3.5
Czech Republic	WMHS; adjusted for methodological problems with algorithm for asking dependence; see [27]; age range 18-79 in original study	1989-1999	5.0	0.8	2.9
Denmark	[52] Estimation taken into consideration adjustment for non-participation; 16+ population of Denmark in the original study was converted for 18-64 year olds	2005	5.6	2.2	3.9
Estonia	[53]; no clear indication about age range in the original publication, so we assumed 18-64 years old	1999	13.0	1.4	7.0
Finland	[54] for under 30 year olds; [55] for 30-64 year old (see also [56])	2000	7.2	1.9	4.6
France	WMHS, adjusted for methodological problems with algorithm for asking dependence; original age range corrected (see also [57])	2001-2002	5.3	1.5	3.4
Germany	Mean of German Epidemiological Survey of Substance Abuse; ages 18-64 with N=9,084 [47]; and the German National Health Interview and Examination Survey for Adults conducted 2009-2012, age group 18-79 with 5,318 respondents [45, 58, 59]. For the latter survey, only the age groups 18-64 were used. Germany is the country with the most surveys on AD in Europe (see footnote 1 to the table)	2009-2012	5.0	2.0	3.6
Greece	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	4.8	1.5	3.2
Hungary	Hungarian Statistical Office; http://www.ksh.hu/ ; based on a version of the Jellinek formula; adjusted for age pattern of Bulgaria	2010	10.1	3.7	6.8
Iceland	[60] Based on a census study of the greater Reykjavik area with sampling of all born in 1931, 1951 and 1971	2005-2007	10.5	0.7	5.7
Ireland	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	6.4	2.0	4.2
Israel					
Italy	[28] WMHS, too small numbers with AD to do proper statistical adjustments; the authors found 7 people with AUD in a sample of N = 4,712 people 18 years and older (general population), in the majority people with alcohol abuse only	2001-2003	<1	<1	<1
Latvia	[61]; estimate is for 15-64 years of age	2011	21.2	4.3	12.5
Lithuania	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	9.9	1.9	5.8
Luxembourg	Mean of France and Germany		5.2	1.8	3.5

(Table 2.2.3 continues)

Table 2.2.3 (continued):   Prevalence of alcohol dependence in Europe, 18-64 years old

	Source	Year	Alcohol dependent		
			Men %	Women %	Total %
Malta	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	2.8	0.8	1.8
Netherlands	[62] 18-64 years old	2007/2009	1.0	0.5	0.8
Norway	[46, 63], with the average of Oslo and rural sample taken: 18-65 years old	1994-1997; 1997-1999	6.1	1.8	4.0
Poland	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	8.4	1.6	5.0
Portugal	Data from EU: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34]	2004	5.6	1.7	3.6
Romania	[29] WMHS, adjusted for methodological problems with algorithm for asking dependence	2005/2006	2.2	0.7	1.5
Slovakia	MCSS only age groups 15-64 taken with age-specific prevalence weighted by population size	2000/2001	9.2	1.3	5.2
Slovenia	GSRA (adjusted for screening scale), taken from [14]	1999	10.5	2.0	6.3
Spain	WMHS, adjusted for methodological problems with algorithm for asking dependence	2000/2001	1.2	0.2	0.7
Sweden	[64]; only 18-65 age groups taken	2003-2007	6.4	3.8	5.1
Switzerland	[33]	2007	8.1	1.6	4.9
United Kingdom	[65] https://catalogue.ic.nhs.uk/publications/mental-health/surveys/adul-psyc-morb-res-hou-sur-eng-2007/adul-psyc-morb-res-hou-sur-eng-2007-rep.pdf	2007	9.9	3.9	6.9
Central-East and Eastern Europe			**7.1**	**1.5**	**4.3**
Nordic Countries			**6.4**	**2.6**	**4.5**
Central-West and Western Europe			**6.3**	**2.3**	**4.3**
Southern Europe			**1.6**	**0.6**	**1.1**
EU27			**5.2**	**1.7**	**3.5**
ALICE RAP			**5.3**	**1.7**	**3.5**

Remark: GSRA: Global Status Report on Alcohol 2004 [66]

MCSS: Multi-Country Survey Study [67]

WHS: World Health Survey [68]

WMHS: World Mental Health Survey [69]

1 Based on the CAGE with a criterion of at least two positive answers, 2.2% of women 65 years and older, and 7.1% of men in that age range were screened for AD [70].

2 There are several regional studies in Germany (see overview for studies until 2005 in [14]) as well as two traditions of national surveys: the German National Health Interview and Examination survey [45] and German Epidemiological Survey of Substance Abuse [47]. The prior wave of the German National Health Interview and Examination Survey for Adults conducted 1997-1999 found similar data: 1.3% for women and 5.4% for men for the age group 18-64 [30, 31]. See text for a description of prevalence trends over time.

3 The Istituto Superiore di Sanita estimates the prevalence to be 2% overall [71]. No details about the methodology were given. See also [72] for a discussion of the prevalence of AD in Italy. Numbers of people afflicted were based on 0.45%.

4 The prevalence of abuse was found to be 5 times higher. AUDs as the sum of AD and abuse have been stable for the past decade [48], but AD estimates had been considerably higher in the preceding survey [73].

5 The prevalence of AD in primary health care was found to be 19% using the CAGE screening scale [74].

6 The national survey for 2012 found a prevalence of 0.3% for AD based on AUDIT thresholds in the age group 15-74 [75]

7 The Part Study showed 3.3% for women and 7.7% for men (see [14] and [76]). See also [77]

8 There are other estimates such as the one cited by the National Institute for Health and Clinical Excellence [78], which amounted to 6% of men and 2% of women. The prevalence for Northern Ireland was substantially lower in 1993/1994

(1.4% for both sexes; see [79]). There is another study on Northern Ireland as part of the WMHS (field work 2004-2008) which showed a prevalence rate of 4.2% when adjusted for independent assessment of abuse and dependence [80].

Figure 2.2.1:   Alcohol dependence prevalence (12 month) in Europe, 18-64 years old
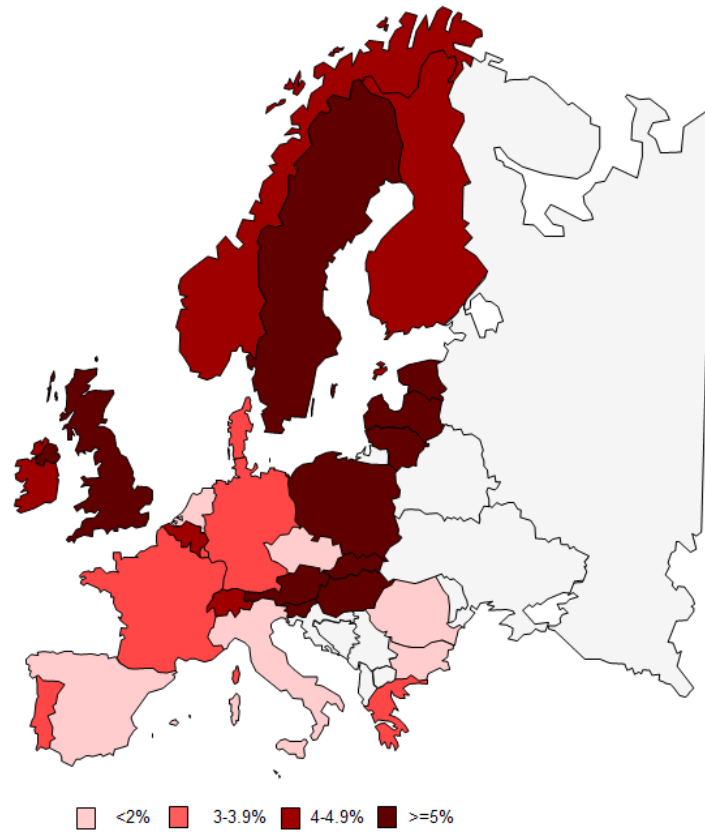
Remark: For sources and exact values see table 2.2.3 Map adapted from clearlyandsimply.com.

2.4 Harm caused by Alcohol

Table 2.3.1: *Alcohol attributable deaths, years of life lost (YLL), disability adjusted life years lost (DALY), 15+ years old*

	Absolute numbers (net burden)			Rates per 100,000		
	Attributable deaths	Attributable YLLs	Attributable YLDs	Attributable deaths	Attributable YLLs	Attributable YLDs
Austria	3021	87926	177069	42	1233	2483
Belgium	4939	135315	211109	55	1502	2344
Bulgaria	5351	156441	224911	83	2427	3489
Cyprus	133	4655	11666	20	686	1720
Czech Republic	6168	196987	276205	69	2197	3080
Denmark	2569	76625	108394	57	1690	2391
Estonia	3161	69177	91461	279	6113	8082
Finland	3240	99235	147000	73	2223	3294
France	29524	830316	1248574	56	1577	2371
Germany	38366	1064208	1607808	54	1504	2272
Greece	4351	114298	186642	46	1197	1955
Hungary	8617	271444	478422	101	3179	5604
Iceland	43	1233	2549	17	491	1015
Ireland	1352	42143	78373	38	1199	2230
Israel	458	11821	48444	8	219	897
Italy	8969	221655	278488	18	436	548
Latvia	7128	143583	175557	392	7888	9645
Lithuania	10792	251522	304649	404	9413	11402
Luxembourg	175	5046	8354	42	1222	2023
Malta	88	2387	4019	25	681	1146
Netherlands	3751	99087	123989	27	725	908
Norway	886	25625	82782	22	650	2101
Poland	26087	859136	1277381	81	2653	3944
Portugal	5579	150927	233819	62	1685	2611
Romania	22542	695930	802695	131	4046	4666
Slovakia	3918	132128	205022	86	2901	4501
Slovenia	1453	42418	71583	83	2411	4068
Spain	14472	371516	476522	37	939	1205
Sweden	3013	77389	174448	39	993	2239
Switzerland	2225	61104	131872	34	925	1997
United Kingdom	18852	586815	1372740	37	1140	2666
Central-East and Eastern Europe	**95217**	**2818766**	**3907886**	**111**	**3281**	**4555**
Nordic Countries	**9751**	**280107**	**515173**	**46**	**1334**	**2454**
Central-West and Western Europe	**102205**	**2911960**	**4959888**	**47**	**1349**	**2303**
Southern Europe	**34050**	**877259**	**1239600**	**30**	**763**	**1081**
EU27	**237611**	**6788309**	**10356900**	**57**	**1626**	**2481**
ALICE RAP	**241223**	**6888092**	**10622547**	**55**	**1587**	**2448**

Source: WHO Global Status Report on Alcohol and Health [20]

Figure 2.3.1:   Death rates per 100,000 due to alcohol, 15+ years old
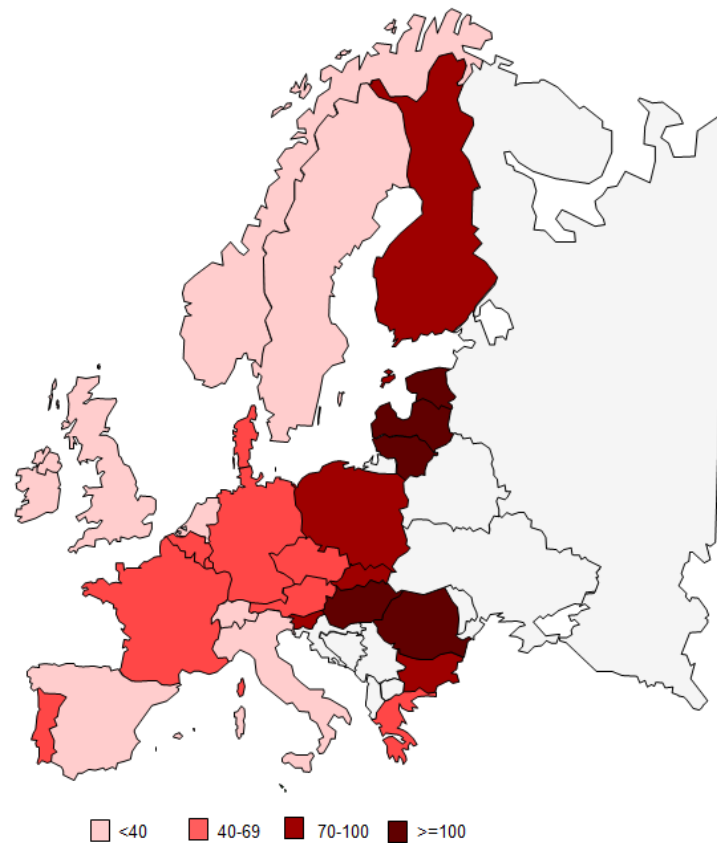
Remark: For sources and exact values see table 2.2.3 Map adapted from clearlyandsimply.com.

Table 2.3.1 and Figure 2.3.1 give an overview on mortality and burden of disease caused by alcohol. The Figures are high, alcohol continues to be a major risk factor for ill health in the European region. A closer inspection of the correlation between rates and use vs. dependence shows that use is more correlated with harm than dependence.

The harm associated with alcohol dependence or alcohol use disorders can be measured in two ways:

- Via death certificates, i.e. doctors' coding of the cause of death; or coding for hospital stays): according to this measure alcohol use disorders would be responsible for 0.6% of the total deaths and 2.9% of the DALYs in the WHO European region. This would be lower for EU and ALICE RAP countries [see 20].

- Via other calculations, such as alcohol attributable fractions. This would basically consider alcohol dependence or alcohol use disorders as a risk factor (e.g., Rehm et al. [9]). Unfortunately, there do not exist the same studies on causality as for alcohol, and this is a problem. But a rough estimate would be that 71% or all alcohol attributable net burden and 62% of the overall burden would be due to alcohol dependence [81].

2.5   Discussion

This study found that AD and AUDs are common in the EU. We estimated that in 2010 approximately 11 million adults in the EU were alcohol dependent and that more than 22 million adults in the EU qualified as having AUDs. The AUD estimates may become important when systems of care shift to treatments in accordance with the DSM-5 [82]. Prevalence of alcohol abuse was higher in young adults [14], which is consistent with the notion that more severe AD was found in the later age groups [65].

The prevalence figures for AD presented in this paper may be underestimated as they are derived from general population surveys which do not include special and marginalized groups such as the homeless, people in prisons, and people who are institutionalized [83]. In marginalized groups, heavier drinking patterns and a markedly higher prevalence of AD and AUDs are common. For example, in a systematic review of mental illness among homeless men in Western societies, Fazel and colleagues [84] found a pooled prevalence estimate of 38% for AD, with two factors being associated with the heterogeneity across studies: the more recent the study (as analyzed by decade), the higher the prevalence of AD, and studies from mainland Europe showed a higher prevalence of AD. For instance, two German studies observed a prevalence of AD that exceeded 50% among the homeless [85, 86], and in Ireland alcohol was found to be the most prevalent drug among the homeless, with alcohol problem rates above 70% as measured with the AUDIT [87]. Furthermore, in the Irish study, 13% of respondents named alcohol problems as the main reason for them becoming homeless.

With respect to other marginalized populations, AD has been found to be highly prevalent in incarcerated individuals [88]. In their systematic review, Fazel and colleagues [88] found that the prevalence for alcohol abuse and AD among male prisoners ranged from 18% to 30%, and ranged from 10% to 24% among female prisoners. Additionally, in a representative study of male Irish prisoners on remand, a six-month prevalence of 28.8% for AD and 39.3% for AUDs was observed (alcohol abuse and AD were defined to be exclusive [89]). In two English prisons in 2003, the prevalence of AD was 57% among men, the majority of whom qualified for severe dependence [90]. In a Greek prison, 37.5% of a randomly drawn sample of male inmates were diagnosed as having AD [91]. In a study of male inmates of a French prison in 2004, 19% were alcohol dependent [92]. All of these prevalence estimates for AD are multiple times greater than what was observed for the general population in our review.

It has been observed in numerous studies that AD and AUDs show a high comorbidity with somatic, and especially mental disorders, and thus are significantly more prevalent in both acute and psychiatric hospital wards [93, 94]. Thus, in specialized and marginalized populations not covered in surveys there is a much higher prevalence of AD and AUDs when compared to the general population. This indicates that the prevalence figures presented in our paper markedly underestimate the true prevalence figures; however, additional research is needed on the exact size of homeless, prison and other institutionalized populations in various European countries to determine the extent of the underestimation of the true population prevalence of AD. It is conceivable that this underestimation may be substantial as the number of homeless people in Europe may be quite large [95]. In their working document titled "Confronting Homelessness in the European Union" (http://ec.europa.eu/social/BlobServlet?docId=9770&langId=en), the EU referred to 410,000 homeless people (defined as being without a house or a roof on **any** given night in the EU). This could imply that about 4.1 million people in the EU are exposed to rooflessness and houselessness each year for a shorter or longer period. Based on this prevalence, the overall number of people with AD in the EU would increase by another 1.5 million if homeless people were accounted for in the surveys.

We also hypothesize that marginalized populations over-proportionally contribute to the harms which result from AD and AUDs, illustrated, for example, by the high standardized mortality rates found to be

associated with people with AD in treatment compared to the general population [7]. This finding may be the result of including some marginalized groups in treatment programs.

With respect to harm, most of the harm from alcohol dependence is mediated by heavy drinking (especially very heavy drinking, both chronic and acute). Thus in future it may be better to include heavy drinking prevalence rather than alcohol use disorders, as it is a) a more stable measure [see also 96, 97]; b) routine surveys on drinking are conducted more often than surveys on use disorders (and they are cheaper); and c) it is better correlated with harm, not only mortality harm as shown above but all kind of health and social harm [96, 97].

3 Tobacco use and dependence

S. Marmet, J. Rehm, L. Kraus, A. Pabst, M. Trapencieris, K. Bloomfield, U. Grittner, P. Dimitrov, Y. Neumark, J. Holmes, P. Meier, J. Barry, E. Scafato, M. Ramstedt, J. Raninen, F. Feijão, E. Janssen, U. Frick, E. Österberg, J. Moskalewicz, S. Florescu, M. Košir, J. Reynolds, T. Gual, G. Gmel

3.1 Introduction

Tobacco dependence is strongly related to regular smoking, one of the most important avoidable health risks in Europe in terms of mortality and morbidity [98]. Nicotine is the main component for rendering tobacco products highly addictive. For example, Lopez et al. [99] found that 67.5% of tobacco users are dependent on nicotine at some point in their lifetime. Nevertheless there are few studies in Europe directly assessing nicotine dependence on a population level and therefore little is known about the health burden stemming from nicotine dependence.

Dependence measures are investigated since many years, yet astonishingly, there seem to be only few epidemiological substance use surveys measuring nicotine dependence in a comparable way. This is particularly the case for Europe. One aim of the present study is to estimate nicotine dependence in Europe based on either the available literature or on survey data provided in the framework of the ALICE RAP project.

In addition, some studies show that the measurement of dependence may be affected by culture and environment. For example, in the alcohol field [100-103], dependence prevalence may be inversely related to alcohol use measure within countries over time or across countries, e.g. due to differences in response behaviors when answering questions measuring dependence. For the purpose of assessing health risks, however, one may wonder whether smokers being measured as dependent have other health hazard compared to non-dependent smokers smoking the same amount of cigarettes per day. If that is not the case, smoking quantity might be a more direct and more accurate measure for estimating tobacco attributable harm.

The present report attempts to review dependence measures and to report dependence prevalence in European countries were available. Additionally, it seeks for an easy proxy to assess dependence even for countries that do not provide measurement of dependence in order to get an estimate for most or all European countries.

3.2 Description of methods

The main aim was to find comparable data on nicotine dependence in Europe from general population surveys representative for the respective country. Studies conducted in a clinical setting, school surveys or similar studies were therefore not considered, although they may serve as evidence for the relationship between different measures of tobacco dependence in this report. We were searching for data by gender and age categories of 15-34, 35-64 and ≥65. In the first section, we will describe shortly different instruments to measure nicotine dependence and to compare their strengths and weaknesses in order to find an approach that combines estimates from different sources. To find dependence prevalence estimates two different paths were followed: a) we searched the literature for published studies about nicotine dependence prevalence and b) we asked partner-researchers within the ALICE RAP project in the countries participating in the ALICE RAP project to provide the best available data. As

it became clear that we would not get direct nicotine dependence estimates for several countries, we additionally searched for other methods to estimate nicotine dependence from available data sources, e.g. via smoking prevalence rates or rates of smokers using a certain amount of cigarettes.

3.3   Description of dependence measures

There are many different instruments for assessing nicotine dependence. Those will be shortly described below. The different instruments can be broadly categorized as follows: a) those asking more directly diagnostic criteria as outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) [104] or the International Classification of Diseases Tenth Edition (ICD-10) [105], and b) screening instruments.

3.3.1   Diagnostic systems

The two diagnostic systems currently broadly used are the DSM-IV and the ICD-10. For a DSM-IV diagnosis of nicotine dependence at least three of seven criteria must be present, for ICD-10 three of six must be present (see table 3.3.1.1). There are different DSM-IV operationalizations [e.g. 106] in use, which are not necessarily fully comparable.

Table 3.3.1.1: Diagnostic criteria of DSM-IV and ICD-10

DSM-IV	ICD-10
(1) tolerance, as defined by either of the following:	
(a) a need for markedly increased amounts of the substance to achieve intoxication or desired effect	(d) evidence of tolerance, such that increased doses of tobacco are required in order to achieve effects originally produced by lower doses;
(b) markedly diminished effect with continued use of the same amount of the substance	
(2) withdrawal, as manifested by either of the following:	
(a) the characteristic withdrawal syndrome for the substance (refer to Criteria A[1] and B of the criteria sets for Withdrawal from the specific substances)	(c) a physiological withdrawal state when tobacco use has ceased or been reduced, as evidenced by: the characteristic withdrawal syndrome for tobacco; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms;
(b) the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms	
(3) the substance is often taken in larger amounts or over a longer period than was intended	(b) difficulties in controlling tobacco-taking behaviour in terms of its onset, termination, or levels of use;
(4) there is a persistent desire or unsuccessful efforts to cut down or control substance use	See also b)
(5) a great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g., chain-smoking), or recover from its effects	
(6) important social, occupational, or recreational activities are given up or reduced because of substance use	(e) progressive neglect of alternative pleasures or interests because of tobacco use, increased amount of time necessary to obtain or take the substance or to recover from its effects;
7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance	(f) persisting with tobacco use despite clear evidence of overtly harmful consequences, such as depressive mood states consequent to periods of heavy substance use, or drug-related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.
	(a) a strong desire or sense of compulsion to take tobacco

Remark [1]: Withdrawal Criterion A for DSM-IV Criterion 2: Daily use of nicotine for at least several weeks; B: Abrupt cessation of nicotine use, or reduction in the amount of nicotine used, followed within 24 hours by four (or more) of the following signs: Irritability, frustration, or anger, Anxiety, Difficulty concentrating, Restlessness, Decreased heart rate, Increased appetite or weight gain, dysphoric or depressed mood, Insomnia.

The ICD-10 criteria are broadly similar to the DSM-IV criteria, the biggest difference may be the compulsion to use criterion in ICD-10 [107] that was also inckuded in DSM-5. The two diagnostic systems should therefore correspond well [108]. For example, Hughes et al. [107] found a correlation of r=0.87 between the two diagnostic systems (63% were dependent by DSM-IV and 51% by ICD-10 in sample 1 and 86% respectively 82% in sample 2); Cottler et al. [109] found a prevalence of 79% by DSM-IV and 85% by ICD-10. However, Mwenifumbo and Tyndale [110] found no significant agreement between DSM-IV and ICD-10 (91% were dependent by DSM-IV, 48% were dependent by ICD-10). However, the latter findings [110] were difficult to follow, and the sample size of the study was small.

3.3.2   Screening instruments

There are several screening instruments for tobacco dependence, the most frequently used is currently the Fagerström Test for Nicotine Dependence [FTND 111]. The FTND consists of 6 questions resulting in a score from 0 to 10 (see table 3.3.2.1). The assumption behind the FTND is that all smokers are dependent but to different degrees from very low to very high dependence. However, this concept is more in line with a dimensional concept of dependence and not with a taxonic, where users can be split up in dependent and non-dependent users. The dimensional approach is rarely considered in practice, and thus the FTND is more often used as a dichotomous measure of dependence, commonly with a cutoff of ≥4 [e.g., 112, 113]. It is technically inadequate to label users with a score of below 4 as non-dependent within the FTND framework, but this terminology is used for comparability to DSM-IV in this report. The two most important items of the FTND are number of cigarettes per day and time to first cigarette in the morning. Those two items form also the Heavy Smoking Index (HSI) [111, 114], the short form of the FTND. The HSI (usually used with a cutoff of ≥3) corresponds very well to the FTND, e.g. Fidler et al. [115] found a correlation of r=0.92 between the two measures.

Table 3.3.2.1:   The Fagerström Test for Nicotine Dependence

Question	Answer possibilities
How soon after you wake up do you smoke your first cigarette?	Within 5 min (3 points)
	Within 6-30 min (2 points)
	Within 31-60 min (1 point)
	After 60 min (0 points)
Do you find it difficult to refrain from smoking in places where it is forbidden?	Yes (1 point)
Which cigarette would you hate most to give up?	The first in the morning (1 point)
	Any other (0 pint)
How many cigarettes per day do you smoke?	≤10 (0 points)
	11-20 (1 point)
	21-30 (2 points)
	≥31 (3 points)
Do you smoke more frequently during the first hours after waking than during the rest of the day?	Yes (1 point)
Do you smoke if you are so ill that you are in bed most of the day?	Yes (1 point)

Remark: Adapted from Fagerström et al. [116]

Other Screeners are for example the Cigarette Dependence Scale 12 (CDS-12) [117], the Nicotine Dependence Syndrome Scale (NDSS) [118], the Hooked on Nicotine Checklist (HONC) [119] and the Wisconsin Inventory of Smoking Dependence Syndrome (WISDM) [120]. Those screeners are rarely found in European research literature, compared with literature on the FTND.

Conclusion:

There are few studies comparing empirically ICD-10 and DSM-IV derived estimates of nicotine dependence. Theoretically, however, such estimates should result in similar findings, what is supported by the scarce existing literature. The most widely used instrument to measure dependence is a screening instrument, namely the FTND and its 2-item version HSI.

3.4 Differences between dependence measures

As data on nicotine dependence in Europe may have been estimated based on different measures, a literature review was conducted on studies comparing different measurements.

3.4.1 Association between DSM-IV and FTND

The two most often used measures for tobacco dependence are FTND and DSM-IV based instruments (ICD-10 is rarely used). However, these instruments differ in several aspects. The FTND contains the item "number of cigarettes per day" (CPD) while the DSM-IV criteria do not contain the actual quantity of cigarettes (or other tobacco products) used. Therefore, the DSM-IV based diagnoses may classify smokers of few cigarettes per day or non-daily, occasional smokers as dependent [121]. In contrast, non-daily smokers do not reach high scores on the FTND and are usually non-dependent by means of a FTND cutoff of 4 or more [e.g. 122], although this is theoretically possible. This, of course, on the one hand is only true if the FTND is used as a dichotomous measure, and not as a continuous measure assuming that all smokers are dependent to different severity. On the other hand, some researches use a certain amount of cigarettes per day as an indicator for the DSM-IV criterion tolerance [e.g. 112], while others use this as an indicator for "a lot of time spent" (e.g. the M-CIDI uses this operationalization [123] which was used in several German studies). Whether such proxies create false negatives or false positives is unknown [124]. It, however, also means that different operationalizations (which also do vary in other aspects) of DSM-criteria logically might result in different prevalence estimates. This is clearly an obstacle in comparing DSM-IV based nicotine dependence between different surveys.

In studies comparing FTND to DSM-IV empirically the agreement between the two instruments is low to moderate (see table 3.4.1.1). Hughes et al. [107], for example, found a correlation of only r=0.32 with FTND cutoff ≥ 5; Broms et al. [113] found a correlation of r=0.59 between FTND scores and the number of DSM-IV symptoms; Baker et al. [125] reported an r=0.26 between FTND and DSM-IV criteria; Mwenifumbo et al. [110] found no significant agreement between the two instruments, Brook et al. [126] found 9.1% of the sample were classified as dependent by the DSM-IV and FTND, DSM-IV classified an additional 23% as dependent and the FTND found 1.1 % which were not dependent by DSM-IV. Agrawal et al. [112] reported a kappa coefficient of k =.30 which corresponds to r=0.50. In the Epidemiological Survey of Substance Abuse (ESA) of 2006 ([127], own calculations), the correlation between DSM-IV and FTND with a cutoff ≥ 4 was r=0.24, while the correlation between FTND Score (i.e. the continuous score) and number of DSM-IV symptoms was r=0.39. The higher correlation between dimensional measures compared to categorized measures indicates that a part of the disagreement between DSM-IV and FTND is due to an "arbitrary dichotomization" (see also discussion on taxometric analysis of dependence, e.g. [122, 128]) of both measures. Loukola [129] found a correlation of r=0.35

between lifetime DSM-IV ND and lifetime FTND ND (cutoff ≥4) while the prevalence of ND was the same. However, there is overall evidence that DSM-IV and FTND do not agree well and they seem to measure different parts of the nicotine dependence construct [e.g. 130].

Table 3.4.1.1: Studies reporting the relationship between DSM-IV Nicotine Dependence and FTND

Study	Relevant finding
Agrawal et al. [112]	Interrater agreement coefficient kappa of k=0.3 between FTND and DSM-IV
Breslau & Johnson 2000 [131]	Interrater agreement coefficient kappa of k=0.208 between FTND and DSM III
Broms et al. 2007 [113]	Correlation between FTND score and number of DSM-IV criteria of r=0.59
Broms 2008 [132]	Interrater agreement coefficient kappa of k=0.4 between DSM-IV and FTND
Moolchan et al. 2002 [130]	FTND and DSM-IIIR did at no cutoff reliably agree (max k=0.205)
Baumeister et al. 2008 [127]; own calculations	Correlation between number of DSM-IV criteria and FTND-Score is r=0.392 Correlation between DSM-IV(Cutoff 3) and FTND (Cutoff 4) is r=0.232
Loukola et al. 2008 [129]	Correlation of r=0.35 between lifetime DSM-IV and FTND (≥4 cutoff)

3.4.2   Prevalence differences between DSM-IV and FTND

Despite the low agreement between the FTND and DSM-IV, the prevalence of both measures may still result in similar prevalence estimates of dependence, which does mean that different smokers are classified as dependent. Studies (see table 3.4.2.1), however, mostly indicate that DSM-IV criterion based prevalence estimates rather exceed those of the FTND. One study [133] may point to an exception with a higher FTND prevalence; the sample, however, was restricted, consisting of individuals with at least 1 alcohol dependence symptom, and the cutoff for the FTND was lower than usual (cutoff ≥ 3). It is important to note that the differences between FTND and DSM-IV are not to be interpreted entirely as measurement error, they also capture different aspects of the dependence constructs and different groups of people might score differently on each test. It also appears that DSM-IV results in higher estimates because it categorizes individuals as dependent who smoke only little, which is rarely the case with the FTND, where a main criterion is the number of cigarettes smoked.

Table 3.4.2.1: Comparative studies FTND and DSM-IV prevalence rates

Study	Relevant findings
Brook et al. 2009 [126]	32% were dependent by DSM-IV and 10% only by FTND with a cutoff ≥ 4
Hughes et al. 2004 [107]	63% were dependent by DSM-IV and 40% by FTND with a cutoff ≥ 5
Hughes et al. 2004 [107]	86% were dependent by DSM-IV and 58% by FTND with a cutoff ≥ 5
John et al. 2003 [133]	32.8% were dependent by DSM-IV and 35.6% by FTND with a cutoff ≥ 3
Mwenifumbo & Tyndale 2010 [110]	91% were dependent by DSM-IV and 48% by FTND with a cutoff ≥ 4
Keskitalo-Vuokko et al. 2012 [134]	44% and 41.1% were dependent by DSM-IV and 41.5% and 40.1% by FTND (2 samples, lifetime) with a cutoff ≥ 4
Loukola et al. 2008 [129]	48% where lifetime dependent by DSM-IV and 48% by FTND with a cutoff ≥ 4

Conclusion:

The agreement between the two most often used measure to estimate dependence, FTND and DSM-IV is rather poor and comparing studies across countries with different measures needs caution.

3.5 Dependence data from literature search and partner institutions

We searched PubMed entries with the keywords "nicotine dependence", "tobacco dependence" and "cigarette dependence" as well as "nicotine addiction", "tobacco addiction" and "cigarette addiction" plus the name of the respective country for each of the countries and for Europe since 2005. 254 studies were found in Pubmed. However, most of those studies were excluded based on abstracts, because they studied only a subsample of the population (e.g. clinical, smoking cessation centers, only one area within a country or region). Only 9 studies were investigated further, all of them fall in one of the following categories: data collection was before 2005, no dependence prevalence rates were reported (e.g. only mean for FTND) or data presentation did not allow to extract the required information.

Further studies and reports were searched via Google and Google scholar and reference lists of articles. However, as Google reports several thousand results for each country for nicotine dependence, we chose not to review all the Google results systematically and only checked the results of the first pages.

That only few studies were found via literature search was not surprising, because reviews by other authors also reported only very few studies for the European area [e.g. 135, 136]. Overall, we identified the following problems in the course of data collection:

- The literature about dependence prevalence rates from representative samples of a country's population is scarce.

- Data in published literature is often not published in a way that would allow its use for the present report, e.g. data were not presented by sex and age groups or only means of dependence scores, but no prevalence rates were reported.

- Many general population surveys did only estimate smoking prevalence, but not dependence prevalence.

- There is no consensus in instruments used, how this measures (e.g. cutoffs or mean scores) are used and how the data should be reported (age categories, presenting data by sex, inclusion or exclusion of occasional smokers, etc.).

Our second approach to find data was to collaborate with researchers via the ALICE RAP network in the respective countries to get the relevant data, being aware that we would not find all data via literature search, especially not in a comparable format, and that some data sources may have been in languages not spoken by us.

3.6   Results of data collection from ALICE RAP

Table 3.6.1:   Nicotine dependence prevalence estimates from ALICE RAP partners

Country	Instrument	Reference	Source	Remarks	Dependence prevalence 15-64
Austria	Prevalence and quantity	Uhl 2009 [137]	ALICE RAP-Partner (Frick)	No dependence estimate	
Bulgaria	DSM-IV	WMHS 2008 [138]	ALICE RAP-Partner (Dimitrov)	Only dependence prevalence used	7.4%
Denmark	Prevalence only	[139]	ALICE RAP-Partner (Bloomfield)	Only smoking prevalence	
Finland	prevalence only	Health behavior among the Finnish adult population 2012 [140]	ALICE RAP-Partner (Österberg)	Only smoking prevalence (published report table)	
France	HSI	Health Barometer 2012 [141]	ALICE RAP-Partner (Janssen)	Prevalence and dependence	11.8%
Germany	DSM-IV	Kraus & Papst 2010 [142]	ALICE RAP-Partner (Kraus)/literature	Dataset obtained	7.5%
Israel		Data courtesy of Israel Center for Disease Control 2010 [143]	ALICE RAP-Partner (Neumark)	Only smoking prevalence	
Italy	Prevalence only	The multipurpose survey on households [49]	ALICE RAP-Partner (Scafato)	Only smoking prevalence	
Latvia	HSI	GPS 2011 [61]	ALICE RAP-Partner (Trapencieris)	Dataset obtained	20.7%
Poland	Prevalence and quantity	Team G.P.S, 2010 [144]	ALICE RAP-Partner (Okulicz-Kozaryn)	No dependence estimate	
Portugal	FTND	Balsa 2013 [75]	ALICE RAP-Partner (Feijão)	Only highest dependence level	2.6%
Romania	DSM-IV	WHMS 2008 [138]	ALICE RAP-contact (Florescu)	Only dependence prevalence used	3.9%
Slovenia	only use prevalence	EHIS 2008 [145]	ALICE RAP-Partner (Košir)	Only prevalence	
Spain	FTND	ENSE 2012 [146]	ALICE RAP-Partner (Gual & Reynolds)	Only prevalence	10.0%
Sweden	CDS	Ramstedt 2014 [147]	Ramstedt (ALICE Rap-contact)	Prevalence and dependence	3.2%
Switzerland	FTND	Gmel et al. 2012 [148]	ALICE RAP-Partner (Gmel)	Dataset obtained	8.4%
United Kingdom	FTND	APMS 2007 [149]	ALICE RAP-Partner (Holmes)	Only England	10.2%

Conclusion:

For Europe, direct dependence estimates exist only for few countries (see table 3.6.1), and available estimates are heterogeneous as regards instruments used and reported formats.

3.7   Alternative approach for dependence estimate: smoking quantity

There are different possibilities for proxy estimates of dependence for countries were no direct dependence estimates exist: One possibility is to extrapolate from countries were data exists, e.g. using a certain percentage of the prevalence of smokers (e.g. 30% of smokers are dependent) that was found in countries were both dependence estimates and prevalence estimates exist. Another possibility would be to use the prevalence of smoking a certain quantity (e.g. smoking a pack or more per day) as a proxy for dependence.

As smoking quantity has been shown to have some predictive validity for smoking cessation [e.g. 131, 150, 151-153], was related to DSM-IV Nicotine Dependence [e.g. 121], and is part of most screening instruments for tobacco dependence (e.g. FTND, CDS), it appears reasonable to use smoking quantity as an indicator for tobacco dependence on a population level. In the following sections we will investigate the relationship between dependence measures and smoking quantity.

3.7.1   Association between DSM-IV and cigarettes smoked per day (CPD)

Studies looking at the link between CPD and DSM-IV criteria are using a number of different statistical approaches such as correlation between CPD and the dichotomous nicotine dependence or the number of DSM-IV criteria, item response theory models, or comparisons of prevalence rates between DSM-IV based dependence and the prevalence of smokers of certain number of cigarettes smoked on average per day (e.g., 10+, 20+, 21+, etc.). In general, the association is low (see table 3.7.1.1). DSM-IV based diagnostic of nicotine dependence seems to have little in common with the amount of cigarettes used. Therefore, correlations between DSM-IV and smoking quantity appear to be rather low (around 0.3 to 0.5). Correlations are higher if number of DSM-IV criteria is used instead of the dependence dichotomy. The size of correlations may also vary according to smoking measurement (e.g. depending on the reference period or the inclusion of occasional smokers), sample characteristics (e.g. general population surveys versus subsamples such as youth surveys), etc.

Table 3.7.1.1: Studies reporting the relationship between DSM-IV Nicotine Dependence and smoking quantity

Study	Relevant findings
Broms et al. 2007 [113]	Correlation between DSM-IV and CPD during heaviest smoking period of r=0.55
Chung et al. 2012 [154]	Average CPD among DSM-IV dependent smokers was =17
Dierker et al. 2007 [121]	The examination of the area under the ROC curve showed an overall moderate association between past week smoking quantity and nicotine dependence, AUC= 0.81 (CI 0.75–0.88)
Di Franza et al. 2010 [106]	5 studies with a correlation of r=0.22–0.55 between number of DSM criteria and CPD.
Donny & Dierker 2007 [155]	Of moderate-to-heavy (i.e., ≥ 10 CPD) smokers who initiated daily smoking at least 10 years ago (n=5281), 37.7% had never been nicotine dependent as regards DSM-IV
Donny et al. 2008 [156]	CPD explains little of DSM-IV variance
Hendricks et al. 2008 [157]	CPD was superior to DSM-IV in predicting smoking cessation
John et al. 2004 [123]	DSM-IV dependence prevalence was 31%; but 60% smoked more than 10 cigarettes a day
John et al. 2009 [158]	Dependence prevalence among smokers (DSM-IV) was 27.2% while 20.9% smoked 20+ CPD
Kawakami et al. 1999 [159]	in three samples correlations of r=0.309 to 0.458 between DSM-IV and CPD
Lessov et al. 2004 [160]	36% of male and 33% of female smokers were DSM-IV dependent (lifetime), while 27.1%, respectively 18.4% smoked 20+ CPD
McBride et al. 2010 [151]	In confirmatory factor analysis and item response theory models CPD did not add to the underlying continuum of nicotine dependence as modeled by DSM-IV, cigarette use did not increase the precision of DSM-IV diagnostic
Saha et al. 2010 [161]	DSM-IV model with CPD added had a good fit. Different conclusion of same NESARC data set, compared with McBride
Strong et al. 2003 [162]	Correlation of r=0.33 between number of DSM-IV criteria and peak CPD ever in life
Baumeister et al. 2008 [127] (own calculations)	The correlation between CPD and DSM-IV (dichotomous) r=0.237, respectively r=0.330 between CPD and number of DSM-IV criteria (continuous)
Carabello et al. 2009 [163]	Concluded that there seems to be no minimal smoking quantity or frequency for symptoms of dependence to appear.
Loukola et al. 2008 [129]	48% where lifetime dependent by DSM-IV and 48% by FTND (cutoff ≥ 4) and 50% smoked heavy (≥ 20 during heaviest smoking period or ≥ 40 on a single day). Found a correlation of r=0.44 between DSM-IV and heavy smoking.

3.7.2   Association between FTND and CPD

Clearly and trivially the correlation between FTND scores and CPD is higher than between CPD and DSM-IV diagnostic, because CPD is part of the FTND (see table 3.7.2.1).

If FTND is used as a screener for nicotine dependence this is largely based on number of cigarettes smoked (3 possible points out of 10). A second important item is the time to first cigarette (3 possible points out of 10), which again is correlated with number of cigarettes smoked. Both of those two items of the FTND are conceptually not well represented in DSM-IV.

Table 3.7.2.1: Studies reporting the relationship between FTND Nicotine Dependence and smoking quantity

Study	Relevant finding
U. S. Department of Health and Human Services 2010 [153]	FTND does not have incremental value compared with measures of number of cigarettes/day
Rice et al. 2012 [164]	Correlation of FTND with CPD was r=0.81 in European Americans and r=0.71 in African Americans
Broms et al. 2007 [113]	Correlation of r=0.71 between FTND score and CPD during heaviest smoking period
Piper et al. 2008 [165]	Correlation of r=0.54 between FTND and CPD
de Leon et al. 2003 [166]	Found an interrater agreement coefficient kappa of k=0.60 between FTND (cutoff ≥6) and smoking more than 30 CPD. The category of ≥ 30 CPD underdiagnoses subjects compared to FTND.
Baumeister et al. 2008 [127]	The correlation between CPD and FTND-Score is r=0.715 The corrected (excluding the FTND item on number of cigarettes) correlation between CPD and FTND-Score is rc=.579
Loukola et al. 2008 [129]	Correlation of 0.45 between FTND and heavy smoking (≥20 CPD or ≥40 on single day).
Park et al. 2012 [167]	Found in a sample of 338,566 South Koreans participating in a smoking cessation program a correlation of r=0.7 between CPD and FTND and r=0.4 between CPD and FTND without CPD.

3.7.3 Summary of the relationship between CPD and dependence measures

Overall, smoking quantity is strongly related to FTND due to the fact that FTND contains also CPD as an item and time to first cigarette in the morning, which is also related to CPD. This relation is less strong if CPD is removed from the FTND score. As 3 of 10 points in the FTND are from the CPD item it is likely that a person with low CPD will have a low FTND score and a person with a high CPD will often have a high score.

Relatively little is known about the level of smoking that is necessary to result in a diagnosis of nicotine dependence as defined by DSM-IV [119, 121]. Based on DSM-IV criteria even smokers of very few cigarettes per day have been estimated to be dependent. On the other hand, screeners like the FTND include smoking quantity and therefore prevalence of dependence based on a cutoff (e.g. ≥ 4) more clearly corresponds to prevalence rates of a certain amount smoked. For the same reason, dependence based on screening instruments and on DSM-IV criteria do not correspond well.

Given the low overall correlation between CPD and dependence measures, it is clear that there is no cutoff for smoking quantity above which all or even most people are dependent. Thus, the aim can only be to search a cutoff for smoking quantity which produces a prevalence rate close to other measures of dependence. As the literature did not result in a clear answer on which cutoff to choose, it was decided to test different cutoffs for smoking quantity in samples available to us. Because of the well-known digit bias [107] i.e. the occurrence of spikes in self-assessed number of cigarettes per day in steps of 5 or 10 (e.g. 0, 5, 10, 15, 20) cigarettes, it was chosen to test cutoffs at steps of 5 cigarettes a day.

Those cutoffs were then compared to dependence estimates based on those national surveys in Europe for which the data set were available to us, i.e. Addiction Monitoring in Switzerland (AMIS) 2011 [148] in

Switzerland, the German Epidemiological Survey of Substance Abuse (ESA) 2006 and 2009 [127, 142] and the Adult Psychiatric Morbidity Survey 2007 [149] from England.

3.7.4   Results of analysis

Table 3.7.4.1 shows from 4 different surveys how prevalence of dependence diagnosis with DSM-IV or FTND (cutoff ≥4). Figure 3.7.4.1 provides the same information as a graphic.

Table 3.7.4.1: Proportion of nicotine dependent persons based on DSM-IV or FTND by number of smoked cigarettes for countries providing individual level data to ALICE RAP

Cigarettes smoked per day	Germany ESA DSM 2009 %	Germany ESA DSM 2006 %	Germany ESA FTND 2006 %	Switzerland AMIS FTND 2011 %	England APMS FTND 2007 %
0-4	9.8	10.2	2.0	2.9	2.1
5-9	18.4	22.9	3.3	10.4	13.5
10-14	18.5	22.2	17.1	18.2	33.8
15-19	30.8	32.3	40.8	54.4	51.4
20-24	44.4	41.6	54.6	67.0	72.7
25-29	37.6	50.0	90.6	93.3	85.7
30+	51.5	50.9	95.4	93.2	96.4
Total	25.1	28.7	33.7	35.9	38.6

Remark: Numbers are proportion of smokers of a certain amount of cigarettes per day that are dependent by the respective measure.

Figure 3.7.4.1: Proportion of nicotine dependent persons based on DSM-IV or FTND by number of smoked cigarettes for countries providing individual level data to ALICE RAP
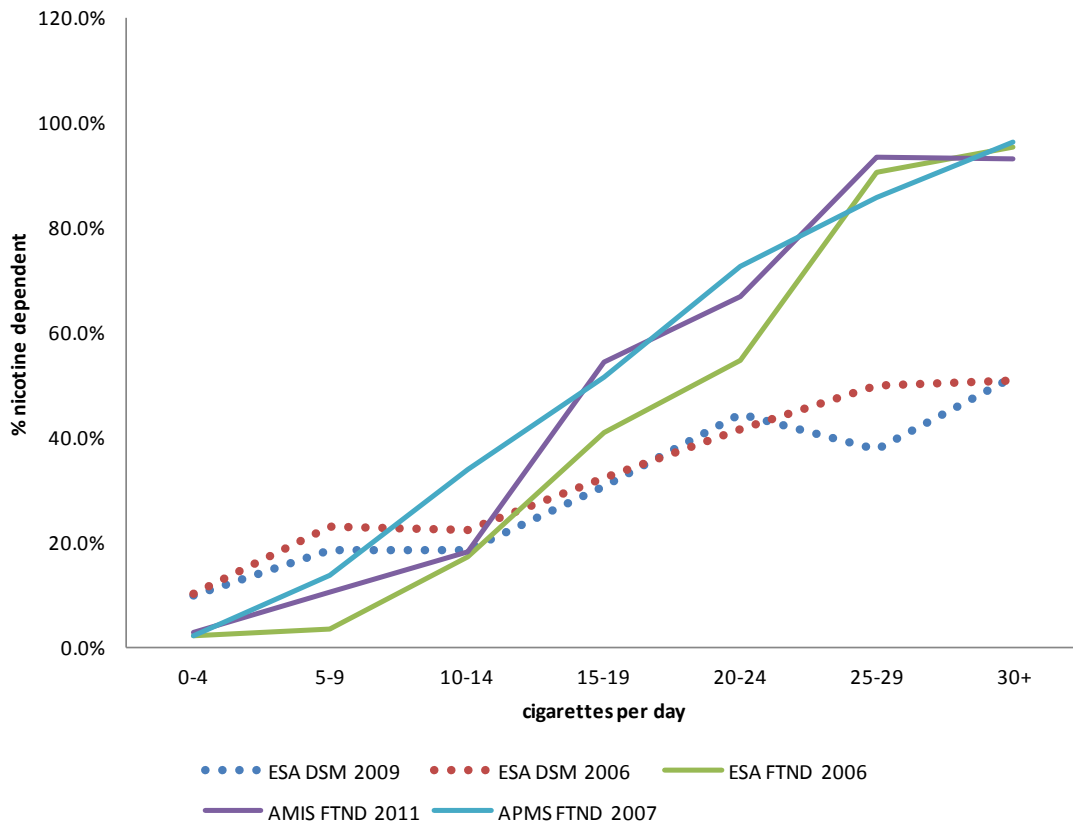
For the FTND, more than 90% of smokers of 30+ CPD have a score of 4 and more. This also means that there are smokers of 30+ CPD that do not reach a FTND score of 4 or more, even though they already reach 3 points with the CPD item alone. Figure 3.7.4.1 also shows the proportion of people being dependent with respect to DSM-IV or FTND ≥4. Clearly DSM-IV dependence starts at a lower number of CPD but does not go much above 50%, whereas the slope is steeper for FTND. However, as can be seen, dependence estimates are in a dose-response relationship with smoking quantity.

Table 3.7.4.2 shows the proportion of smokers that would be dependent either by the DSM-IV or FTND or by a cutoff of a certain amount of cigarettes smoked per day. Apparently, a prevalence measure of 20+ cigarettes per day comes closest to prevalence estimates from FTND or DSM-IV.

Table 3.7.4.2: ***Proportion of smokers diagnosed by DSM-IV, FTND or by number of cigarettes smoked daily (CPD)***

		DSM %	FTND %	CDP ≥ 10 %	CDP ≥ 15 %	CDP ≥ 20 %	CDP ≥ 25 %
ESA 2006	Men	29.5	36.9	68.0	54.6	37.0	15.2
	Women	27.7	29.7	60.1	41.2	23.0	7.4
	Total	28.7	33.7	64.5	48.6	30.8	11.8
ESA 2009	Men	24.0		65.2	49.1	28.6	12.3
	Women	25.5		56.3	37.0	21.1	7.2
	Total	24.6		61.2	43.7	25.3	10.0
AMIS 2011	Men		36.7	70.0	48.7	36.6	11.9
	Women		35.0	63.7	38.3	25.7	2.4
	Total		35.8	66.9	43.5	31.2	7.2
APMS 2007	Men		40.6	69.2	42.9	28.6	10.7
	Women		36.5	60.3	35.9	20.9	6.5
	Total		38.6	64.8	39.4	24.8	8.6

Remarks: Reading example: In the German ESA 2006, 27.7% of female smokers (past 12 months) were diagnosed nicotine dependent by DSM-IV and 29.7% by FTND (cutoff ≥ 4). If a use criterion of ≥ 10 cigarettes per day were used, 60.1% of smokers would be dependent, and 20.3% with a definition of ≥ 20 cigarettes per day.

Table 3.7.4.3 shows the sensitivity (% of correctly classified as dependent), specificity (% of correct classified as non-dependent) and the accuracy (% of correctly classified) for different cutoffs compared to DSM-IV or FTND. There is always a trade-off between sensitivity and specificity, the best balance can be found at ≥15 and ≥20 CPD, while at lower or higher CPD either sensitivity or specificity is very low. Clearly, even the best possible approximation in these datasets cannot be considered very good. For comparison, the FTND with a cutoff of 4 has a sensitivity of 0.48 and a specificity of 0.94 in relation to DSM-IV in the ESA 2006 (own calculations, not tabulated), that is about the same sensitivity as for ≥20 CPD (sensitivity=0.48, table 3.7.4.3), with a higher specificity though (specificity = 0.76, table 3.7.4.3).

Table 3.7.4.3: Sensitivity, specificity and accuracy for different CPD cutoffs relative to dependence measures

		≥ 10 CPD			≥ 15 CPD			≥ 20 CPD			≥ 25 CPD		
		Sens	Spec	Acc	Sens	Spec	Acc	Sens	Spec	Acc	Sens	Spec	Acc
DSM ESA 2006	Men	0.85	0.38	0.52	0.75	0.53	0.60	0.54	0.69	0.65	0.25	0.88	0.70
	Women	0.76	0.46	0.54	0.60	0.67	0.65	0.41	0.85	0.73	0.15	0.96	0.74
	Total	0.81	0.42	0.53	0.68	0.59	0.62	0.48	0.76	0.68	0.21	0.92	0.71
FTND ESA 2006	Men	0.97	0.44	0.64	0.91	0.63	0.74	0.73	0.81	0.78	0.41	0.98	0.77
	Women	0.98	0.53	0.66	0.85	0.75	0.78	0.57	0.90	0.80	0.24	0.99	0.77
	Total	0.97	0.48	0.65	0.89	0.69	0.76	0.67	0.85	0.79	0.35	0.99	0.77
DSM ESA 2009	Men	0.80	0.40	0.50	0.71	0.58	0.62	0.45	0.78	0.70	0.17	0.90	0.72
	Women	0.79	0.52	0.59	0.62	0.72	0.69	0.42	0.86	0.75	0.17	0.96	0.76
	Total	0.80	0.45	0.54	0.67	0.64	0.65	0.44	0.81	0.72	0.17	0.93	0.74
FTND AMIS 2011	Men	0.98	0.46	0.65	0.87	0.74	0.79	0.71	0.84	0.79	0.30	0.99	0.74
	Women	0.90	0.50	0.64	0.76	0.82	0.80	0.55	0.90	0.78	0.06	0.99	0.67
	Total	0.94	0.48	0.65	0.82	0.78	0.79	0.63	0.87	0.78	0.19	0.99	0.70
FTND UK 2007	Men	0.94	0.48	0.67	0.72	0.77	0.75	0.54	0.89	0.75	0.24	0.98	0.68
	Women	0.91	0.57	0.70	0.69	0.83	0.78	0.47	0.94	0.77	0.16	0.99	0.69
	Total	0.93	0.53	0.68	0.70	0.80	0.76	0.51	0.92	0.76	0.20	0.99	0.69

Remarks: Sens = Sensitivity, Spec = Specificity, Acc = Accuracy, CPD = Cigarettes per day

Generally, based on accuracy prevalence rates of either 20+ or 25+ cigarettes per day would correspond best with dependent prevalence rates with respect to FTND or DSM-IV.

Table 3.7.4.4 shows with the example of the ESA 2006 in more detail the relation between smoking quantity and DSM-IV as well as FTND. Again the table shows that using DSM as standard for dependence, some occasional smokers are dependent, many more as with the criterion of ≥ 4 for FTND (or HSI ≥ 3). Similarly, the table 3.7.4.4 shows that 20+ cigarettes is a good proxy for dependence

Table 3.7.4.4: Smoking and dependence prevalence according to ESA 2006, Germany

| | | | | | Occasional smokers | | | | | | | Daily smokers | | | | | | |
| | | | | Cigarettes per day | | | | Dependent by… | | | Cigarettes per day | | | | Dependent by… | | |
Sex	Age	Never smokers %	Former smokers %	Smoker, not specified %	0-9 %	10-14 %	15-19 %	20 or more %	FTND ≥4 %	HSI ≥3 %	DSM-IV %	0-9 %	10-14 %	15-19 %	20 or more %	FTND ≥4 %	HSI ≥3 %	DSM-IV %
Men	15-34	42.40	15.90	1.60	11.70	0.80	0.50	0.30	0.70	0.60	2.80	3.40	6.70	7.10	9.70	11.60	11.30	11.00
Men	35-64	31.80	34.80	3.90	6.30	0.40	0.20	0.00	0.30	0.20	1.20	2.10	2.70	4.80	12.90	11.90	12.00	6.70
Women	15-34	50.10	16.40	0.80	10.00	0.50	0.10	0.10	0.10	0.10	2.00	4.80	5.10	6.40	5.70	8.60	8.50	8.60
Women	35-64	46.80	28.00	1.00	5.30	0.30	0.00	0.00	0.30	0.30	0.80	3.60	4.50	4.10	6.40	7.20	7.20	5.20
Total	15-34	46.30	16.20	1.20	10.80	0.70	0.30	0.20	0.40	0.40	2.40	4.10	5.90	6.80	7.70	10.10	9.90	9.80
Total	35-64	39.10	31.40	2.50	5.80	0.40	0.10	0.00	0.30	0.30	1.00	2.80	3.60	4.50	9.70	9.60	9.60	6.00
Total	total	41.30	26.80	2.10	7.30	0.50	0.20	0.10	0.30	0.30	1.40	3.20	4.30	5.20	9.10	9.70	9.70	7.10

Conclusion:

Prevalence rates for 20+ cigarettes per day are overall the closest to the prevalence of nicotine dependence measured by DSM-IV or FTND. Apparently, ≥25 cigarettes per day produces prevalence rates far below the dependence measures, while ≥15 cigarettes per day would have overestimated dependence rates in most cases. The 20+ cigarettes per day cutoff fits better for men than for women. It will be used in this report as a proxy for nicotine dependence, when no other estimates were available.

3.8   Prevalence of tobacco use and dependence including proxy estimates

As we found 20+ CPD to be the best approximation to the dependence concept we used these prevalence rates as proxy for dependence rates for those countries where no other measures were available.

Table 3.8.1 shows best available dependence estimates for all European countries. Where sound dependence estimates were available those were used, while for the other countries dependence was calculated as the proportion of smokers smoking 20+ cigarettes a day. Figure 3.8.1 and 3.8.2 show data on a map of Europe. Primary source of smoking prevalence rates is the Eurobarometer (EB) study. As the sample sizes of Eurobarometer were relatively small (500 to 1,000 per country), the data sets for the Eurobarometer 2009 [168] and the Eurobarometer 2012 [169] were combined for higher reliability of the estimates. Prevalence rates refer to cigarette smoking; hand-rolled cigarettes were included.

Data is shown for 15-64 years old. Where data was only available for the entire population, data has been adjusted to 15-64 years old using the age-proportions of a neighboring country. Daily and occasional smoking rates were not available for Denmark, Hungary, Latvia, Slovenia and United Kingdom and have been calculated by using the daily/occasional smoking ratio from Eurobarometer for those countries.

Table 3.8.1: *Prevalence of never smokers, ex-smokers, daily, occasional and total smokers, 15-64 year olds*

	Source	Year	Never smokers	Ex smokers	Daily	Occasional	Total smokers
			%	%	%	%	%
Austria	Uhl 2009 [137]	2008	34.5	23.8	29.3	12.5	41.8
Belgium	EB [168, 169]	2009/2012	50.3	17.9	28.6	3.2	31.8
Bulgaria	WMHS 2008 / EB [168, 169]	2003-2007	41.0	14.7	43.1	1.3	44.3
Cyprus	EB [168, 169]	2009/2012	54.9	11.8	32.5	0.8	33.3
Czech Republic	EB [168, 169]	2009/2012	52.3	17.1	28.0	2.7	30.6
Denmark	Danish National Survey on Alcohol and Drugs [139]	2011	47.7	22.7	26.3	3.2	29.5
Estonia	EB [168, 169]	2009/2012	46.6	20.4	29.7	3.4	33.1
Finland	Health behavior among the Finnish adult population 2012 [140]	2012	53.5	18.3	17.0	10.0	27.0
France	Health Barometer 2010 [141]	2010	36.1	26.8	32.2	4.9	37.1
Germany	Pabst 2010 [170]	2009	44.5	25.9	20.1	9.5	29.6
Greece	EB [168, 169]	2009/2012	40.8	12.2	46.2	0.9	47.1
Hungary	Balku 2012 [171] / EB [168, 169]	2012			31.0	2.3	33.3
Iceland	Stat iceland [172]	2011	46.9	29.8			23.2
Ireland	EB [168, 169]	2009/2012	50.3	17.1	30.2	2.4	32.6
Israel	[143]	2010	56.9	16.5			26.6
Italy	The multipurpose survey on households [49]	2011	50.9	21.1	25.8	0.5	26.3
Latvia	GPS 2011 [61]	2011	27.5	30.5	38.0	2.6	40.6
Lithuania	EB [168, 169]	2009/2012	48.6	16.8	31.2	3.4	34.7
Luxembourg	EB [168, 169]	2009/2012	54.3	19.1	23.4	3.2	26.6
Malta	EB [168, 169]	2009/2012	55.8	14.1	27.6	2.5	30.1
Netherlands	EB [168, 169]	2009/2012	47.4	28.7	20.9	3.1	24.0
Norway	Stat norway [173]	2008			14.5	9.6	24.2
Poland	EHIS 2009 [144]	2009	50.9	16.2	26.8	6.1	32.9
Portugal	Balsa 2013 [75]	2013	53.8	18.1	25.8	2.3	28.0
Romania	WHMS 2008 [138]/EB [168, 169]	2005/2006	55.8	11.2	31.5	1.5	32.9
Slovakia	EB [168, 169]	2009/2012	55.2	20.7	20.9	3.3	24.1
Slovenia	EHIS 2008 [145] / EB [168, 169]	2008			24.3	2.4	26.8
Spain	ENSE 2012 [146]	2012	49.9	18.3	28.3	3.5	31.8
Sweden	Ramstedt 2013 [147]	2013	61.4	20.6	8.4	6.3	14.7
Switzerland	Gmel et al. 2012 [148]	2011	52.3	20.0	20.3	7.4	27.7
United Kingdom	APMS [149]	2007	35.4	38.7	23.4	2.4	25.8
Central-East and Eastern Europe			**51.0**	**15.7**	**29.5**	**3.7**	**33.1**
Nordic Countries			**55.4**	**20.7**	**15.4**	**7.1**	**22.5**
Central-West and Western Europe			**40.7**	**28.7**	**27.0**	**3.6**	**30.6**
Southern Europe			**50.3**	**18.8**	**26.3**	**3.9**	**30.2**
EU27			**45.5**	**23.4**	**27.0**	**3.8**	**30.8**
ALICE RAP			**45.8**	**23.3**	**26.7**	**3.9**	**30.6**

Remark: EB = Eurobarometer 2009 and 2012 combined (see text for details).

Daily smoking is the lowest in the Nordic Countries(15.4%; Norway, Sweden, Finland) and in Switzerland (20.3%). These are also the countries were the proportion of occasional smokers among all current smokers (daily plus occasional) are the highest. For example, in Greece and Bulgaria with the highest current smoking rates of around 45%, only 2-3% are occasional smokers. In Sweden, however, 42.9% (6.3% of 14.7%) of all current smokers were occasional Smokers (Norway: 39.9%; Finland: 37.0%; Switzerland: 26.9%).

Thus, with exception of the Nordic countries, when countries were aggregated across different European regions smoking rates are rather similar around 30%. Only in Central East and Eastern Europe the smoking prevalence is slightly higher (33.1%).

Figure 3.8.1:   Smoking prevalence in Europe, 15-64 years old
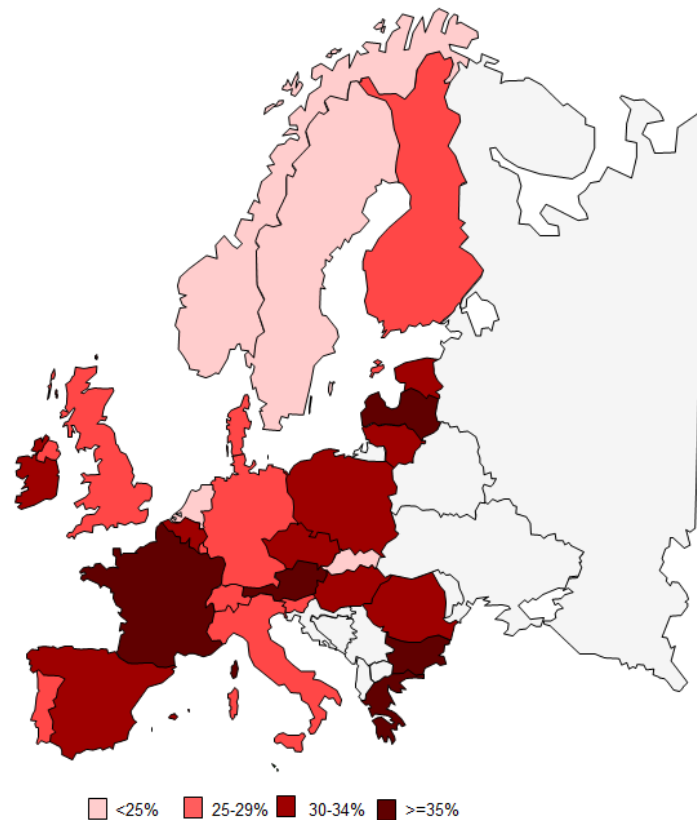
Remark: For sources and exact values see table 3.8.1. Map adapted from clearlyandsimply.com

Table 3.8.2:   *Prevalence of smoking and nicotine dependence, 15-64 years old*

	Source	Dependence estimate	Year	Smoking prevalence 15-64			Nicotine dependence 15-64		
				Men	Women	Total	Men	Women	Total
				%	%	%	%	%	%
Austria	Uhl 2009 [137]	CPD20+	2008	46.7	37.3	41.8	19.2	12.8	16.0
Belgium	EB [168, 169]	CPD20+	2009/2012	33.6	30.0	31.8	12.4	10.5	11.5
Bulgaria	WMHS 2008 / EB [168, 169]	DSM (lifetime)	2003-2007	50.7	38.0	44.3	8.7	6.1	7.4
Cyprus	EB [168, 169]	CPD20+	2009/2012	48.1	18.7	33.3	33.8	9.0	21.3
Czech Republic	EB [168, 169]	CPD20+	2009/2012	36.8	24.4	30.6	17.0	5.0	11.0
Denmark	Danish National Survey on Alcohol and Drugs [139]	CPD20+	2011	32.7	26.2	29.5	12.8	6.0	9.4
Estonia	EB [168, 169]	CPD20+	2009/2012	44.1	23.1	33.1	18.8	3.2	10.6
Finland	Health behavior among the Finnish adult population 2012 [140]	CPD20+ (EB)	2012	31.6	25.9	27.0	11.6	3.9	7.8
France	Health Barometer 2010 [141]	HSI (3+)	2010	40.6	33.6	37.1	13.9	9.8	11.8
Germany	Pabst 2010 [170]	DSM-IV	2009	32.8	25.5	29.6	8.2	6.7	7.5
Greece	EB [168, 169]	CPD20+	2009/2012	50.3	43.8	47.1	36.3	25.3	30.8
Hungary	Balku 2012 [171] / EB [168, 169]	CPD20+ (EB)	2012	37.1	29.5	33.3	18.2	9.0	13.5
Iceland	Stat iceland [172]		2011	22.3	24.0	23.2			
Ireland	EB [168, 169]	CPD20+	2009/2012	31.2	34.0	32.6	14.3	14.9	14.6
Israel	[143]		2010	35.5	17.8	26.6			
Italy	The multipurpose survey on households [49]	CPD20+	2011	32.5	20.3	26.3	10.6	3.6	7.1
Latvia	GPS 2011 [61]	HSI	2011	58.0	24.4	40.6	36.0	6.5	20.7
Lithuania	EB [168, 169]	CPD20+	2009/2012	46.8	23.2	34.7	17.0	3.1	9.8
Luxembourg	EB [168, 169]	CPD20+	2009/2012	30.6	22.5	26.6	12.3	7.3	9.8
Malta	EB [168, 169]	CPD20+	2009/2012	38.2	21.8	30.1	19.5	8.2	13.9
Netherlands	EB [168, 169]	CPD20+	2009/2012	26.8	21.0	24.0	8.2	5.2	6.7
Norway	Stat norway [173]		2008	22.5	25.3	24.2			
Poland	EHIS 2009 [144]	CPD20+ (daily smokers)	2009	39.5	26.4	32.9	20.8	7.5	14.1
Portugal	Balsa 2013 [75]	FTND (highest level)	2013	36.8	19.8	28.0	4.2	1.1	2.6
Romania	WHMS 2008 [138] / EB [168, 169]	DSM (12-month)	2005/2006	42.8	23.2	32.9	5.4	2.6	3.9
Slovakia	EB [168, 169]	CPD20+	2009/2012	30.5	17.8	24.1	9.5	3.3	6.4
Slovenia	EHIS 2008 [145] / EB [168, 169]	CPD20+ (EB)	2008	30.3	23.3	26.8	18.8	7.9	13.5
Spain	ENSE 2012 [146]	CPD20+	2012	35.1	28.6	31.8	13.0	7.0	10.0
Sweden	Ramstedt 2013 [147]	CDS-12	2013	14.8	14.6	14.7	2.6	3.7	3.2
Switzerland	Gmel et al. 2012 [148]	FTND	2011	32.2	23.4	27.7	9.8	7.0	8.4
United Kingdom	APMS [149]	FTND	2007	27.1	24.6	25.8	11.0	9.3	10.2

(Table 3.8.2 continues)

Table 3.8.2 (continued): *Prevalence of smoking and nicotine dependence, 15-64 years old*

Source	Dependence estimate	Year	Smoking prevalence 15-64			Nicotine dependence 15-64		
			Men	Women	Total	Men	Women	Total
			%	%	%	%	%	%
Central-East and Eastern Europe			40.4	26.0	33.1	15.7	5.9	10.8
Nordic Countries			23.9	21.7	22.5	7.8	4.4	6.1
Central-West and Western Europe			33.4	27.7	30.6	11.0	8.5	9.8
Southern Europe			35.5	24.9	30.2	13.4	6.6	10.0
EU27			35.1	26.5	30.8	12.5	7.3	9.9
ALICE RAP			34.9	26.3	30.6	12.4	7.3	9.9

Remark: EB = Eurobarometer 2009 and 2012 combined (see text for details)

There are huge differences in the proportion of dependent smokers on all smokers: In Bulgaria, for example, with one of the highest current smoking rates (44.3%) only 7.4% were estimated to be dependent (i.e. 15.8% of current smokers), and this even with a lifetime measure of dependence that does include former smokers. On the other hand, in Greece with a similarly high smoking prevalence (47.1%) 30.8% were estimated to be dependent smokers based on CPD of 20 or more cigarettes, i.e. 65.5% of all current smokers.

With the exception of the Nordic countries, where smoking prevalence rates and dependence rates are clearly lower than in other European regions, when aggregated to European Regions the estimated Nicotine Dependence amounts to an astonishingly stable 10-11% of the population. Which corresponds to about one third of all smokers. There are clear gender differences across regions. Whereas in Central-West and Western Europe smoking and nicotine dependence rates among men and women are comparable (11.0% versus 8.5%) there are more than twice more dependent male than female smokers in Central-East and Eastern Europe and Southern Europe.

Table 3.8.4: *Prevalence of nicotine dependence, by age and sex*

	Source	Dependent estimate	Year	Men			Women			Total		
				15-34 %	35-64 %	15-64 %	15-34 %	35-64 %	15-64 %	15-34 %	35-64 %	15-64 %
Austria	Uhl 2009 [137]	CPD20+	2008			19.2			12.8			16.0
Belgium	EB [168, 169]	CPD20+	09/12	12.1	12.6	12.4	5.8	13.4	10.5	8.9	13.0	11.5
Bulgaria	WMHS 2008/ EB [168, 169]	DSM (lifetime)	03-07	5.3	11.0	8.7	6.7	5.7	6.1	6.0	8.1	7.4
Cyprus	EB [168, 169]	CPD20+	09/12	34.9	32.9	33.8	6.5	10.7	9.0	21.1	21.5	21.3
Czech Republic	EB [168, 169]	CPD20+	09/12	13.5	19.2	17.0	3.7	5.8	5.0	8.6	12.5	11.0
Denmark	Danish National Survey on Alcohol and Drugs [139]	CPD20+	2011	8.5	15.3	12.8	2.3	8.1	6.0	5.5	11.5	9.4
Estonia	EB [168, 169]	CPD20+	09/12	12.6	23.9	18.8	2.7	3.7	3.2	7.6	13.0	10.6
Finland	Health behavior among the Finnish adult population 2012 [140]	CPD20+ EB	2012	12.2	11.2	11.6	2.8	4.6	3.9	7.5	8.0	7.8
France	Health Barometer 2010 [141]	HSI (3+)	2010	14.6	13.4	13.9	9.0	10.3	9.8	11.8	11.8	11.8
Germany	Pabst 2010 [170]	DSM-IV	2009	11.7	6.6	8.2	9.3	5.5	6.7	10.5	6.1	7.5
Greece	EB [168, 169]	CPD20+	09/12	31.7	40.0	36.3	21.9	27.5	25.3	27.0	33.6	30.8
Hungary	Balku 2012 [171] / EB [168, 169]	CPD20+ (EB)	2012	13.3	21.3	18.2	7.9	9.6	9.0	10.6	15.2	13.5
Iceland	Stat iceland [172]		2011									
Ireland	EB [168, 169]	CPD20+	09/12	14.7	14.0	14.3	12.7	16.6	14.9	13.7	15.2	14.6
Israel	[143]		2010									
Italy	The multipurpose survey on households [49]	CPD20+	2011	7.2	12.4	10.6	1.8	4.6	3.6	4.5	8.4	7.1
Latvia	GPS 2011 [61]	HSI	2011	26.0	43.7	36.0	7.0	6.2	6.5	16.6	23.8	20.7
Lithuania	EB [168, 169]	CPD20+	09/12	9.4	23.2	17.0	2.5	3.6	3.1	6.0	12.8	9.8
Luxembourg	EB [168, 169]	CPD20+	09/12	7.5	14.9	12.3	6.0	8.0	7.3	6.8	11.5	9.8
Malta	EB [168, 169]	CPD20+	09/12	16.2	21.7	19.5	7.8	8.4	8.2	12.3	14.9	13.9
Netherlands	EB [168, 169]	CPD20+	09/12	7.7	8.5	8.2	5.1	5.3	5.2	6.4	6.9	6.7
Norway	Stat norway [173]		2008									
Poland	EHIS 2009 [144]	CPD20+ (daily smokers)	2009	14.1	26.3	20.8	4.0	10.1	7.5	8.9	17.5	14.1
Portugal	Balsa 2013 [75]	FTND (highest level)	2013	1.3	5.8	4.2	0.6	1.4	1.1	1.0	0.0	2.6
Romania	WHMS 2008 [138] / EB [168, 169]	DSM (12-month)	05/06	2.5	7.4	5.4	2.7	2.5	2.6	2.6	4.9	3.9
Slovakia	EB [168, 169]	CPD20+	09/12	5.4	12.5	9.5	3.2	3.4	3.3	4.4	7.8	6.4
Slovenia	EHIS 2008 [145] / EB [168, 169]	CPD20+ (EB)	09/12	15.0	21.2	18.8	5.9	9.1	7.9	10.6	15.3	13.5
Spain	ENSE 2012 [146]	CPD20+	2012	9.6	15.0	13.0	5.3	7.9	7.0	7.5	11.5	10.0
Sweden	Ramstedt 2013 [147]	CDS-12	2013	2.2	2.8	2.6	3.6	3.8	3.7	2.9	3.3	3.2
Switzerland	Gmel et al. 2012 [148]	FTND	2011	8.8	10.7	9.8	4.9	8.1	7.0	6.9	9.2	8.4
United Kingdom	APMS [149]	FTND	2007	12.3	10.2	11.0	9.6	9.1	9.3	10.9	9.7	10.2

(Table 3.8.4 continues)

Table 3.8.4 (continued):   Prevalence of nicotine dependence, by age and sex

Source	Dependent estimate	Year	Men			Women			Total		
			15-34	35-64	15-64	15-34	35-64	15-64	15-34	35-64	15-64
			%	%	%	%	%	%	%	%	%
Central-East and Eastern Europe			10.8	19.4	15.7	4.3	7.0	5.9	7.5	12.8	10.8
Nordic Countries			6.5	8.6	7.8	3.0	5.2	4.4	4.8	6.9	6.1
Central-West and Western Europe			12.3	9.8	11.0	8.8	8.2	8.5	10.6	9.1	9.8
Southern Europe			10.2	15.3	13.4	4.9	7.5	6.6	7.6	11.0	10.0
EU27			11.2	13.1	12.5	6.6	7.6	7.3	8.9	10.3	9.9
ALICE RAP			11.2	13.1	12.4	6.6	7.6	7.3	8.9	10.2	9.9

Remark: EB = Eurobarometer 2009 and 2012 combined (see text for details).

Figure 3.8.2:   Nicotine dependence prevalence in Europe, 15-64 years old
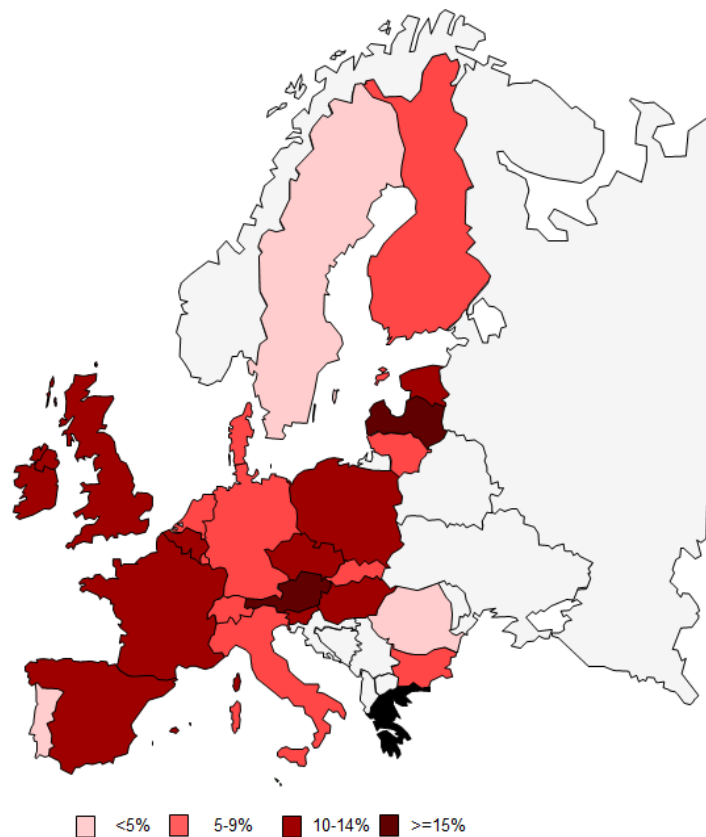
Remark: For sources and exact values see table 3.8.2. Map adapted from clearlyandsimply.com

At least, quite consistent, tobacco dependence is higher in the older parts of the population which may be related to a longer nicotine exposure. However, even this is not true for all countries, e.g. in Germany there are more dependent smokers among the 15-34 year olds compared with the 35-64 year olds. On the one hand, Germany was one of the rare countries using a dependence measure that is not related to CPD (like CPD20+ or the FTND). This could point to some measurement issues related to how dependence is measured. On the other hand, higher dependence estimates among the younger were also found for Central West and Western Europe (which comprises Germany) altogether, and

particularly in UK, Germany and France, or Finland. This may point to the possibility that youth smoking is on the rise again in some established market economies.

3.9   Harm from Smoking

We have not found a possibility to calculate harm from dependent smoking (or more generally from Tobacco Use Disorders), Harm from smoking is reported based on the work for the Global Burden of Disease Study [44, 174].

Table 3.9.1:   Deaths, years of life lost and disability adjusted years of life lost attributable to smoking, Total and by sex, 15-64 years old

	Attributable deaths			Years of life lost			DALY		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Austria	2020	664	2684	62881	21037	83918	79290	33052	112343
Belgium	3638	1032	4670	111192	32901	144092	132431	47613	180045
Bulgaria	5948	1363	7310	187207	44227	231434	204229	54532	258760
Cyprus	160	23	183	5009	752	5761	6139	1203	7343
Czech Republic	4851	1185	6037	144643	35511	180154	163334	47384	210718
Denmark	1458	914	2372	43803	27501	71304	54128	37073	91201
Estonia	595	102	697	18192	3033	21225	20168	3873	24040
Finland	1262	313	1575	37649	9456	47105	44182	13205	57387
France	19856	3980	23836	623212	132864	756074	717253	197242	914495
Germany	22324	7446	29770	701513	238366	939878	823494	325928	1149423
Greece	4322	791	5113	136426	25718	162144	157000	37292	194292
Hungary	7457	2657	10114	234979	84546	319525	256831	101441	358272
Iceland	36	20	56	1115	595	1710	1436	872	2308
Ireland	776	350	1126	24206	10970	35176	30471	16089	46559
Israel	969	245	1214	30502	7598	38100	39734	13345	53079
Italy	12520	3207	15727	384723	102430	487153	473520	160139	633660
Latvia	1342	216	1557	41800	6584	48384	46172	8123	54296
Lithuania	1831	188	2018	58488	6147	64635	65025	8111	73136
Luxembourg	122	37	159	3772	1146	4919	4536	1664	6200
Malta	88	15	103	2668	439	3106	3293	706	3999
Netherlands	4094	2273	6367	123841	71083	194925	151938	95250	247188
Norway	850	445	1295	25527	13330	38857	32365	18741	51106
Poland	23157	5800	28956	719434	180358	899791	793581	227441	1021021
Portugal	2837	408	3245	92096	14162	106258	106955	20526	127482
Romania	14024	2670	16694	449774	86756	536529	493173	109536	602709
Slovakia	3024	567	3591	94279	17894	112174	105050	23519	128570
Slovenia	615	145	760	19162	4569	23731	22842	6900	29742
Spain	11981	1890	13872	382448	66288	448736	450504	100073	550578
Sweden	1039	720	1759	30587	21191	51778	39182	30249	69431
Switzerland	1374	497	1871	42190	15499	57689	58272	27917	86190
United Kingdom	13309	7101	20410	409063	216287	625349	501084	303240	804323
Central-East and Eastern Europe	**62843**	**14891**	**77734**	**1967957**	**469625**	**2437582**	**2170406**	**590860**	**2761264**
Nordic Countries	**4645**	**2411**	**7056**	**138681**	**72073**	**210755**	**171293**	**100140**	**271433**
Central-West and Western Europe	**67513**	**23382**	**90895**	**2101870**	**740153**	**2842020**	**2498769**	**1047996**	**3546766**
Southern Europe	**32877**	**6579**	**39457**	**1033871**	**217386**	**1251257**	**1237146**	**333284**	**1570431**
EU27	**164649**	**46056**	**210705**	**5143046**	**1462215**	**6605258**	**5945806**	**2011405**	**7957212**
ALICE RAP	**167878**	**47264**	**215142**	**5242380**	**1499238**	**6741614**	**6077613**	**2072280**	**8149894**

Source: GBD 2010 [174]

Figure 3.9.1: *Death rate per 100,000 attributable to smoking, 15-64 years old*

| | <40 | | 40-69 | | 70-100 | | >=100 |
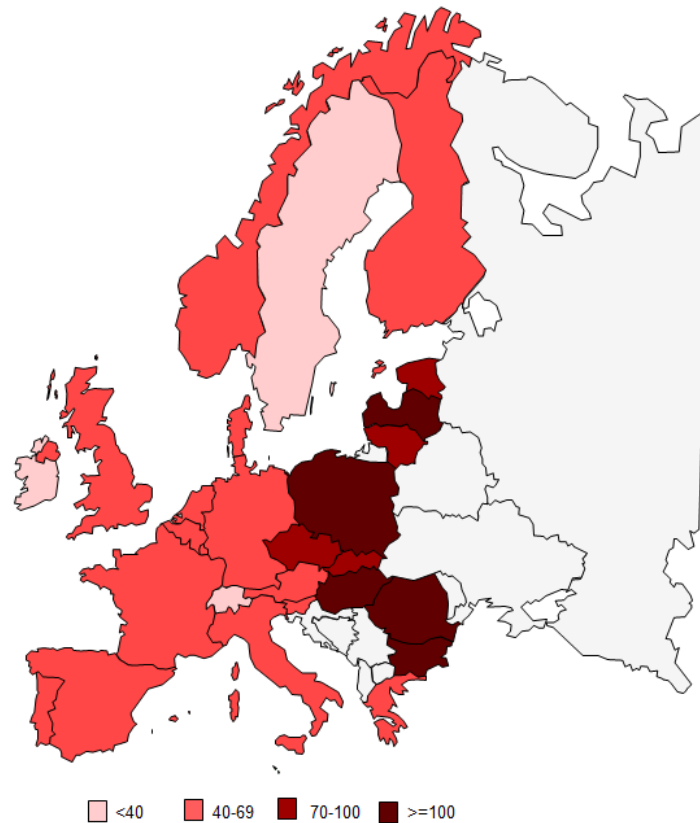
Remark: For sources and exact values see table 3.9.1. Map adapted from clearlyandsimply.com

Overall, the majority of the deaths and burden of disease from smoking occurs in men, the difference between men and women is greatest in Central-East and Eastern Europe and Southern Europe, as was independently suggested from our estimates on prevalence of smoking and prevalence of dependence. It was estimated that in EU27 more than 210,000 people died in 2010 before the age of 65 due to smoking. According to our estimates about one third of smokers are dependent smokers, this would give a lower bound (assuming a uniform distribution of deaths among all smokers) of 70,000 deaths due to dependent smoking annually in the EU27. This is certainly an underestimate as there is a dose-response relationship between number of cigarettes smoked in lifetime and mortality from smoking, and dependent smokers can be assumed having smoked more than non-dependent smokers. We think an upper bound would be closer to twice as many death under the assumption of uniform distribution, i.e. around 140,000 deaths before the age of 65 annually in Europe.

Table 3.9.2: ***Death rates per 100,000, years of life lost rate per 100,000 and disability adjusted years of life lost rate per 100,000 attributable to smoking, 15-64 years old***

	Deaths per 100,000	YLL per 100,000	DALY per 100,000
Austria	47	1484	1987
Belgium	65	2016	2519
Bulgaria	143	4540	5077
Cyprus	32	1001	1276
Czech Republic	82	2445	2860
Denmark	65	1964	2512
Estonia	78	2360	2673
Finland	44	1326	1615
France	57	1804	2182
Germany	55	1744	2133
Greece	69	2182	2614
Hungary	147	4648	5212
Iceland	26	803	1083
Ireland	37	1169	1548
Israel	26	817	1138
Italy	41	1257	1635
Latvia	108	3369	3781
Lithuania	95	3039	3438
Luxembourg	46	1434	1808
Malta	36	1075	1384
Netherlands	57	1752	2222
Norway	40	1208	1588
Poland	106	3305	3751
Portugal	46	1513	1815
Romania	120	3850	4325
Slovakia	92	2888	3310
Slovenia	53	1670	2092
Spain	44	1414	1735
Sweden	29	849	1138
Switzerland	35	1089	1627
United Kingdom	49	1513	1946
Central-East and Eastern Europe	**111**	**3469**	**3930**
Nordic Countries	**42**	**1261**	**1624**
Central-West and Western Europe	**54**	**1675**	**2090**
Southern Europe	**44**	**1383**	**1735**
EU27	**63**	**1979**	**2384**
ALICE RAP	**62**	**1942**	**2348**

Source: GBD 2010 [174]

The highest death rate related to smoking was found in the Central East and Eastern Europe, which is more than twice as high as in Nordic Countries, Southern Europe and Central West and Western Europe.

Table 3.9.3: *Death rates per 100,000 and disability adjusted life years lost rate per 100,000 from smoking, for 15-34, 35-64 and 65+ years old*

	Deaths per 100,000 15-34	Deaths per 100,000 35-64	Deaths per 100,000 65+	DALY per 100,000 15-34	DALY per 100,000 35-64	DALY per 100,000 65+
Austria	1	75	550	86	3117	7897
Belgium	1	105	701	93	3993	9603
Bulgaria	4	230	626	255	8074	10030
Cyprus	1	58	488	71	2282	7563
Czech Republic	1	136	658	93	4716	10250
Denmark	1	103	1072	74	3941	14468
Estonia	1	131	647	86	4469	9660
Finland	1	71	437	72	2552	6111
France	1	91	414	91	3473	5602
Germany	1	85	552	86	3245	7768
Greece	2	112	858	164	4194	10522
Hungary	2	247	819	142	8707	12739
Iceland	0	46	630	48	1891	8090
Ireland	1	66	813	102	2696	10713
Israel	0	51	494	61	2171	6669
Italy	1	61	631	94	2445	7951
Latvia	1	183	687	119	6341	10867
Lithuania	2	159	553	150	5701	8684
Luxembourg	0	75	641	69	2891	9148
Malta	0	60	562	60	2298	7901
Netherlands	1	89	806	74	3441	11078
Norway	0	66	737	68	2557	9236
Poland	1	187	797	112	6534	11843
Portugal	1	74	400	124	2850	5421
Romania	3	197	599	202	7030	9748
Slovakia	1	162	560	121	5754	8966
Slovenia	1	86	506	69	3352	7472
Spain	1	71	484	110	2779	6269
Sweden	0	47	526	48	1843	6884
Switzerland	0	56	500	72	2540	7111
United Kingdom	1	81	884	98	3169	11414
Central-East and Eastern Europe	**2**	**188**	**696**	**140**	**6608**	**10768**
Nordic Countries	**0**	**68**	**659**	**62**	**2599**	**8734**
Central-West and Western Europe	**1**	**85**	**615**	**90**	**3292**	**8351**
Southern Europe	**1**	**69**	**581**	**106**	**2717**	**7405**
EU27	**1**	**102**	**624**	**105**	**3795**	**8547**
ALICE RAP	**1**	**100**	**622**	**104**	**3745**	**8516**

Source: GBD 2010 [174]

As can be seen in table 3.9.3, almost no deaths from smoking occur below the age of 35, a lot more per 100,000 occur in the age group of 35-64. While we report only use and dependence data for 15-64 years old, the age group of 65+ has been added to this table in order to demonstrate that the majority of deaths from smoking occurs indeed in the age group of 65+. The above-mentioned differences among

15-64 year olds in death rates between all other regions and the Central-East and Eastern Europe region was also found for deaths aged 65 years or more. However, the second highest rate among 65+ year olds was now found for the Nordic countries which had the lowest rate for 15-64 year olds. This may indicate that in the Nordic countries where the peak of the smoking epidemic was earlier than in other countries, deaths are still occurring among the older generations, but this will level off in the future, as smoking rates are going down.

3.9.1   Relation of use and dependence estimates to harm

Table 3.9.1.1: Correlations of smoking prevalence and nicotine dependence with death rates per 100,000, years of life lost per 100,000 and disability adjusted years of life lost rate per 100,000 from smoking, 15-64 years old

	Smoking prevalence			Nicotine dependence (including 20+ estimates)		
	Death rate	YLL rate	DALY rate	Death rate	YLL rate	DALY rate
Men	0.62*	0.62*	0.63*	0.17	0.17	0.17
Women	0.27	0.29	0.31	-0.02	-0.01	0.03
Total	0.50*	0.51*	0.51*	0.03	0.03	0.03

Remark: Sex–specific prevalence, dependence and harm rates were correlated.
           * $p < 0.05$.

We analyzed further whether the smoking prevalence and the estimated nicotine dependence prevalence rates were related to harm caused from smoking. It should be noted that there is a time lag between current smoking and deaths, i.e. the correlation between smoking rates and deaths should be highest after a time lag of about 35 years [175]. However, this bias is present for both measures. Therefore, country prevalence rates were correlated with the harm caused from smoking in the respective country. As table 3.9.1.1 shows, there is a moderate relationship between the smoking prevalence (past 12 months) for men and both sexes and the harm indicators from the GBD 2010. This relationship was stronger for men and relatively weak and non-significant for women. Surprisingly, estimates for nicotine dependence (including the CPD 20+ proxy) were not at all related to harm caused from smoking, despite the fact that the dose-response relationship between total cigarettes smoked in live (which should be associated with dependence) and smoking related mortality and morbidity is clearly established. While harm from smoking is indeed rather related to tobacco smoking than nicotine dependence, it was nevertheless expected that the latter is still strongly related to harm from smoking, as nicotine dependence should be strongly related with smoking quantity.

There are several explanations for the low correlation between nicotine dependence prevalence and harm caused by smoking: First, smoking takes often decades to cause its full harm, therefore the correlation might be stronger with future harm data. This however should affect prevalence rates and dependence rates in the same way. Second, our estimates used different methodologies for dependence estimates and mortality and morbidity data come from the GBD 2010, and therefore depend again on other data sources for exposure. Nevertheless, the discrepancy between the association of prevalence estimates with harm compared with dependence estimates with harm suggests that other factors play a role here than just methodological differences. It may be that dependence is just not a good estimator for harm.

3.10   Discussion of results

As shown in table 3.8.1, overall 30.6% of the population in the EU-27 smokes cigarettes and 9.9% in the EU-27 countries are dependent on nicotine by our definition. More men (12.5%) are affected than women (7.3%). Sweden has the lowest prevalence of nicotine dependence (3.2%) and also the lowest smoking prevalence (14.7%). However, smokeless tobacco plays a role in Sweden [176] and might be the cause for the very low nicotine dependence prevalence as our estimates only considers cigarette smoking. With 30.8% of the population dependent on nicotine, Greece has by far the highest dependence prevalence as well as the highest smoking prevalence (47.1%). Additionally, Greece has together with Cyprus (only the government controlled part) the highest proportion of nicotine dependence among smokers (65%). This may appear as an outlier, however, it corresponds well to the finding of Margaritis et al. [177] that 75.7% of a sample of smokers in Athens were nicotine dependent by DSM-IV. The majority of the countries have a dependence rate below 10%, which must still be considered as high.

Men have higher smoking prevalence compared to women in all but two countries (Ireland and Sweden), and men have higher dependence rates than women in all countries. However, the female to male smoking ratios are lower than those for dependence, with other words, the proportion of men being dependence on all smokers is higher than for that proportion for women.

Harm from smoking clearly increases with age and is highest in retirement age. However, already around 210,000 Europeans (EU-27) die from smoking before the age of 65. Harm is more strongly related to prevalence of smoking than to smoking dependence. Clearly, the lack of comparable dependence estimates in Europe warrant further research.

Interpretation:

The task of assessing nicotine dependence on an European level is confronted with several problems. First, not many countries have assessed nicotine dependence in general population surveys, neither by instruments reflecting DSM or ICD diagnosis nor by screening instruments. Second, different measuring instruments are in use, which are barely comparable and the data are of variable quality. Second, many surveys were outdated, not accessible or published without required details. Despite extensive literature searches and ALICE RAP contacts, we finally found few surveys providing dependence estimates based on diagnostic systems or screeners. We filled the gaps with data based on smoking quantity, for which data was available for most countries participating in the ALICE RAP project and the remaining countries of the European Union.

There are quite relevant differences in prevalence rates of dependence between countries. It is difficult to say whether these differences are due to inaccuracy in methods or the methods of the underlying surveys or if they represent real differences. Such differences might stem from different smoking policies, prohibitions to smoke at working places, tax systems, affordability of cigarettes, use prevalence and accessibility of other nicotine containing products (snus, NRT, electronic cigarettes), social expectations, anti-smoking campaigns and other factors.

4 Cannabis use and dependence

S. Marmet, J. Rehm, L. Kraus, A. Pabst, M. Trapencieris, Y. Neumark, E. Janssen, F. Feijao, M. Ramstedt, J. Raninen, P. Meier, J. Holmes, G. Gmel

4.1 Introduction

Cannabis is an illegal substance (beyond a certain THC threshold) in all European countries, yet its use is quite prevalent in many European countries, and it is certainly the most often used illegal substance in Europe. The most comprehensive estimate of cannabis use for the European Union and Norway is collected by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). These estimates are based on Reitox-country reports, which each member of the European Union and Norway sends regularly to the EMCDDA. As the EMCDDA data is based on official country reports, and all use measures are based on surveys representative for the respective country population, this ALICE RAP report will use the EMCDDA data for cannabis use prevalence. It seems unlikely to get use data of superior or similar quality as regards comparability between countries with the ALICE RAP approach. Hence, we concentrated on getting data from ALICE RAP partners mainly as regards dependence estimates, either by instruments reflecting DSM or ICD criteria or by means of screening instruments.

The EMCDDA data uses the following variables for cannabis use:

- lifetime prevalence of cannabis use

- 12 month prevalence of cannabis use

- 30 day prevalence of cannabis use

- daily or almost daily cannabis use

Unlike tobacco, all estimates are about cannabis use frequency, there are no widely available estimates on quantity of cannabis used. This is in part due to the fact that cannabis, being illegal, is not regulated as much as e.g. tobacco and therefore the quantity of cannabis smoked by a person is more difficult to estimate and the amount of cannabis in a single joint or pipe may vary a lot as well as the amount of THC in the cannabis itself.

4.2 Measures for cannabis dependence

While cannabis does not seem to cause a strong physical dependence like other drugs, e.g. alcohol or tobacco, its prolonged use can still cause signs of psychological dependence. Nevertheless, the instruments used for cannabis dependence are usually similar to tobacco or alcohol dependence instruments.

4.2.1 Diagnostic systems

The two diagnostic systems currently broadly used are the DSM-IV [104] and the ICD-10 [105]. For a DSM-IV diagnosis of cannabis dependence at least three of seven criteria must be present, for ICD-10 three of six must be present. The criteria are identical to those for tobacco (see table 3.3.1.1 in chapter 3) or alcohol. The DSM-5 includes a diagnose for cannabis use disorder, following the general pattern of DSM-5 substance use disorder with three severity thresholds. However, population studies based on DSM-5 are yet to come and the three thresholds will be somewhat problematic when compared to

studies using other, dichotomized measures. As cannabis dependence is different from dependence to alcohol and tobacco, using the same criteria is somewhat questionable and the DSM-IV may not entirely fit for adolescents as they show symptoms like withdrawal or tolerance only rarely [178].

4.2.2   Screening instruments

There are several screening instruments for cannabis dependence, respectively problematic cannabis use. The CUDIT [179] is an often used screener and it is based on the AUDIT [180] for alcohol. Other screening tests for problematic cannabis use or cannabis dependence are the severity of dependence (SDS, [181]) scale, the Cannabis Abuse Screening Test (CAST, [182]) or the CAGE (Cut down, Annoyed, Guilty, Eye-opener, [183]). There are a number of other screening measures [see 184]. In a recent review [185], the Cannabis Abuse Screening Test (CAST), the Cannabis Use Disorders Identification Test (CUDIT) and the Cannabis Use Problems Identification Test (CUPIT, [186]) were found to be the most appropriate tools to screen for cannabis-related problems in general population surveys.

Table 4.2.2.1: Cannabis dependence measures with abbreviated questions

DSM-IV APA 1994 [104]	CUPIT Bashford, J., Flett, R. & Copeland, J. 2010 [186]	CUDIT Adamson and Sellman 2003 [179]	SDS Gossop et al. 1995 [181]	CAGE Midanik et al. 1998 [183]	CAST Beck and Legleye 2003 [182]
Tolerance	a) Use frequency (12 months) b) Use Frequency (30 days)	Use frequency (6-month)	Use out of control	Tried or felt need to **C**ut down	Use before midday
Withdrawal	Frequency per day of use	Hours stoned on typical day	Worried or anxious about not using	Get **A**nnoyed when people tell to stop	Smoking alone
Greater use than intended	Morning Use	Stoned for six or more hours	Worry about use	Feeling **G**uilty	Memory problems
Failed to control/cut down	Hours stoned on typical day	Unable to stop using once started	Wish to be able to stop	Morning use (**E**ye-opener)	Advice to cut-down from friends/family
Time spent	Difficulty to stop b) being able to stop when wanted c) Use despite intention not to do	Failed expectations	Difficulty to stop		Tried to reduce/stop and failed
Activities neglected	Time without use	Use at morning			Problems because of cannabis use
Continued use despite problems	Felt needing cannabis	Guilt/remorse after using			
	Difficulty to get through day without	Problems concentrating			
	Failed expectations	Injuries			
	Lack of energy	Advise to cut down from relative/doctor/friends			
	Interference with other obligations (work, school)				
	Given up things (sport, etc)				
	Problems concentrating and remembering				

Remarks: Short form of questions adapted from original sources and EMCDDA 2012 cannabis reader [184]

As can be seen easily in table 4.2.2.1, the different cannabis dependence instruments (some measure problematic use rather than dependence) vary widely in the concepts they capture. Indeed it is questionable whether estimates from those measures are truly comparable, especially as the corresponding cut-offs of the different measures are also often not known, vary across studies, or have no psychometrically tested validity and reliability.

4.2.3   Alternative dependence estimates

As dependence estimates are not available for every country, it might be interesting to get an approximate estimate of cannabis dependence based on a better available measure. As use frequency is correlated with cannabis dependence, frequency could be used as an approximation. While exact frequency-quantity information is not available for many countries, some reports include daily or almost daily use as the most stringent category, which may be useful as an approximation. For example, the EMCDDA cannabis reader [184] assumes that about 40% of almost daily users are dependent. The present chapter looks at some potential proxy estimates.

4.3   Results

4.3.1   Cannabis use prevalence

EMCDDA data provides cannabis use estimate of all countries in the European Union (except Luxembourg) and Norway. These data has been provided by individual countries via the Reitox-network and were taken from general population surveys between 2007 and 2012 (EMCDDA [187]). Data for Switzerland has been added from Gmel et al. [188]. Data for Israel was available for 18-40 years old [189], which has been used as an estimate for the 15-34 years age category and was adjusted to the 15-64 years population using the ratio for 15-34 years / 15-64 years from all countries were data was available. No comparable estimates were found for Iceland. Estimates for lifetime, 12-month and 30-day use prevalence are available by sex and for 15-34 years and 15-64 years old. Data for daily or almost daily use was only available for 8 countries for 15-34 years and 15-64 years old.

Table 4.3.1.1 gives the most recent available data from EMCDDA as regards use prevalence of cannabis.

Table 4.3.1.1: Prevalence of lifetime, 12-month, 30-day and daily or almost daily cannabis use, 15-64 years old

	Source use	Year	Sample	Lifetime %	12-month %	30-day %	Daily or almost daily %
Austria	EMCDDA [187]	2008	3761	14.2	3.5	1.7	0.2
Belgium	EMCDDA [187]	2008	6792	14.3	5.1	3.1	0.9
Bulgaria	EMCDDA [187]	2008	5139	7.3	2.7	1.4	
Cyprus	EMCDDA [187]	2009	3385	11.6	4.4	2.5	0.6
Czech Republic	EMCDDA [187]	2011	901	24.9	8.9	3.1	0.8
Denmark	EMCDDA [187]	2010	11611	32.5	5.4	2.3	0.5
Estonia	EMCDDA [187]	2008	1401		6.0	1.4	
Finland	EMCDDA [187]	2010	1873	18.3	4.6	1.4	0.2
France	EMCDDA [187]	2010	22774	32.1	8.4	4.6	1.5
Germany	EMCDDA [187]	2009	8030	25.6	4.8	2.4	0.4
Greece	EMCDDA [187]	2004	4351	8.9	1.7	0.9	
Hungary	EMCDDA [187]	2007	2710	8.5	2.3	1.2	0.3
Iceland							
Ireland	EMCDDA [187]	2010–11	5128	25.3	6.0	2.8	
Israel	[189]	2012		12.5	4.0	2.6	
Italy	EMCDDA [187]	2012	18898	21.7	3.5	1.5	0.3
Latvia	EMCDDA [187]	2011	4491	12.5	4.0	1.5	0.2
Lithuania	EMCDDA [187]	2008	4777	11.9	5.6	1.2	0.1
Luxembourg							
Malta	EMCDDA [187]	2001	1755	3.5	0.8	0.5	
Netherlands	EMCDDA [187]	2009	5769	25.7	7.0	4.2	
Norway	EMCDDA [187]	2009	1624	14.6	3.8	1.6	
Poland	EMCDDA [187]	2010	5782	17.5	9.6	5.4	0.4
Portugal	EMCDDA [187]	2007	12202	11.7	3.6	2.4	
Romania	EMCDDA [187]	2010	5100	1.6	0.3	0.1	
Slovakia	EMCDDA [187]	2010	4055	10.5	3.6	1.4	
Slovenia	EMCDDA [187]	2007	1724		3.1		
Spain	EMCDDA [187]	2011	22128	27.4	9.6	7.0	2.5
Sweden	EMCDDA [187]	2011	6964	14.2	2.6	0.9	
Switzerland	AMIS Gmel [188]	2012	11155 (use) / 2574 (problematic use)	36.0	7.9	4.0	0.9
United Kingdom	EMCDDA [187]	2011-12	26663	31.0	6.9	4.1	0.5
Central-East and Eastern Europe				**12.7**	**5.7**	**2.9**	**0.4**
Nordic Countries				**19.2**	**3.9**	**1.5**	**0.3**
Central-West and Western Europe				**28.0**	**6.4**	**3.5**	**0.8**
Southern Europe				**21.3**	**5.5**	**3.5**	**1.3**
EU27				**22.8**	**6.0**	**3.3**	**0.8**
ALICE RAP				**22.8**	**5.9**	**3.3**	**0.8**

Figure 4.3.1.1: Cannabis 30-day use prevalence, 15-64 years old

Remark: For sources and exact values see table 4.3.1.1. Map adapted from clearlyandsimply.com.

Approximately, around 50% of those who have used cannabis in the past year, also used it in the past 30-days. Similarly, around a quarter of those who used it in the past 30 days is using cannabis daily or almost daily. However, there is some variation in these proportions. In Southern European countries more than one third of past 30 day users are daily or almost daily users, whereas in Central-East and Eastern Europe the proportion is much lower, around 1/7 to 1/8.

4.3.2   Results of data collection for cannabis dependence within ALICE RAP

As we decided before the data collection to use the EMCDDA prevalence rates, we only asked our partners for cannabis dependence prevalence rates based on diagnostic systems like DSM-IV or screeners like CUDIT. Data is shown for 15-64 years old. Where data was only available for the entire population, data has been adjusted to 15-64 years old using the age-proportions of a neighboring country.

Table 4.3.2.1: Data provided by ALICE RAP contacts from population surveys, 15-64 years old

	Source dependence	Year	Estimate	Dependence Men %	Women %	Total %
France	Health Barometer 2010 [141]	2010	CAST >=7	7.0	3.1	5.5
Germany	Kraus 2006 [190]	2006	SDS >=2	0.9	0.3	0.5
Latvia	GPS 2011 [61]	2011	CAST >=7	0.6	0.2	0.4
Portugal	Balsa 2013 [75]	2012	SDS >9 high level dependence	0.9	0.4	0.6
Sweden	Ramstedt 2013 [147]	2012	MINI (DSM-IV)	0.4	0.1	0.2
Switzerland	Marmet 2013 [191]	2012	CUDIT (original)	3.0	0.2	1.6
United Kingdom	APMS 2007 [149]	2007	SDS cutoff >3	4.7	2.1	3.4

The ALICE RAP contacts provided data for cannabis dependence for 7 countries (see table 4.3.2.1). Instruments used were CAST, SDS (3 different cutoffs), MINI and CUDIT. There is one firm conclusion from these different estimates, namely that men are probably more often cannabis dependent than women, however this ratio varied from about 15:1 in Switzerland and about 2:1 in France, Portugal, and the United Kingdom.

Table 4.3.2.1: Daily or almost daily use and dependence estimate for young adults, 15 to 34 years old

	30 day use 15-34 %	Daily or almost daily 15-34 %	Dependence 15-34 %
Austria	3.4	0.3	
Belgium	6.9	2.2	
Bulgaria	3.1		
Cyprus	4.5	1.1	
Czech Republic	6.4	1.6	
Denmark	5.1	0.7	
Estonia	3.2		
Finland	3.3	0.5	
France	9.8	3.3	8.2
Germany	5.4	0.9	1.5
Greece	1.5		
Hungary	2.7	0.4	
Iceland			
Ireland	4.5		
Israel	4.0		
Italy	3.7	0.7	
Latvia	2.7	0.3	0.8
Lithuania	2.6	0.2	
Luxembourg			
Malta			
Netherlands	7.7		
Norway	2.1		
Poland	10.0	0.8	
Portugal	4.5		1.2
Romania	0.2		
Slovakia	2.8	0.1	
Slovenia			
Spain	12.5	4.4	
Sweden	2.0		0.5
Switzerland	7.7	1.4	3.8
United Kingdom	7.2	0.7	6.7
EU27	**6.6**	**1.6**	**4.9**
ALICE RAP	**6.6**	**1.6**	**4.8**

Remark: For sources see table 4.3.1.1 and table 4.3.2.1.

The mean for dependence estimates over all ALICE RAP countries that provided dependence estimates was 4.8%, while the mean of all estimates for daily or almost daily use (20 days or more per month) was only 1.6%. Assuming the EMCDDA recommendation of 40% of daily users being dependent, this would mean around 0.6% dependent cannabis users based on an estimate of daily use whereas with screening instruments one would estimate an about 8-times higher rate. Thus, 100% of daily or almost daily cannabis user could be used as one potential proxy to estimate cannabis dependence. This would be a very crude proxy, because the available data are not sufficient and consistent enough for a more informed quantification of the link between cannabis use frequency and cannabis dependence.

Recently Degenhardt et al [192] estimated the prevalence of cannabis dependence (and related harm) worldwide for the Global Burden of Disease study 2010, and the authors came up even with confidence intervals for each country in the world. Interestingly, in a companion paper describing the availability of data [193] for the GBD 2010 estimates only 7 studies worldwide were found that provided cannabis dependence estimates. Studies varied as regards representativity (national versus sub-national), age range (studies among 12-18 year olds versus general population samples of 18-64 year olds), methodology (cohort study of 26 year olds, versus school surveys versus general population samples), etc. Only two studies in Europe were identified: for Germany [190], which is included in our review and for the United Kingdom [194], for which newer estimates are available in the meantime.

Therefore, it may not come as a surprise that estimates of cannabis dependence in the Degenhardt et al. study were in a rather narrow range (see webappendix [192]), namely

- Central Europe (with 13 countries and dependence prevalence varying from 0.22% to 23%)

- Eastern Europe (with 7 countries ranging from 0.22% to 0.22%)

- Western Europe (with 22 countries ranging from 0.34% to 0.35%)

Additional studies in Europe identified in the present study at least suggest that this may be a strong underestimate of cannabis dependence in Europe. Degenhardt et al. (see webappendix [192]) also provides estimates of harm to cannabis dependence which vary between 34.1 and 54.8 per 100,000 DALYS in Europe.

4.4 Discussion

4.4.1 Availability of data on cannabis dependence

While there are good data on cannabis use available for Europe, data for cannabis dependence from general population surveys are scarce for Europe. We found estimates based on general population surveys for only 7 countries (see table 4.3.2.1). The finding of the almost non-existence of dependence estimates is similar to Degenhardt et al. [193], who found, searching data for 1990 to 2008, only 2 surveys for cannabis dependence (Germany and United Kingdom) in Europe and 7 worldwide.

For the dependence estimate provided by ALICE RAP partners, three different screening instrument (CAST, SDS, CUDIT) and one DSM-IV instrument (MINI) were used. The SDS was used in three countries, with three different cutoffs reported to us. This results indicate that not only few data are available, but the existing data can barely be compared, as the concepts measured by those instruments vary widely (see table 4.3.2.1) and the cut-offs used may not correspond between different instruments.

Reasons for non-existence of cannabis dependence estimates may be that cannabis dependence is a rare mental disease and its nature is not yet completely understood, nor is its relevance for public health clear. The fact that people may not tell the truth to cannabis questions and the rarity of cannabis dependence and its occurrence almost only in young adults may lead to a preference for estimating cannabis dependence in selected samples (e.g. cannabis users) or school surveys.

As the EMCDDA gives the guidelines for cannabis surveys for the European Union, it is unlikely that there will be cannabis dependence estimate for most of Europe before the EMCDDA recommends a cannabis dependence instruments and collects data about cannabis dependence itself. Ideally, future data for cannabis dependence would be collected in the Reitox-network which provides already the data for cannabis use prevalence to the EMCDDA. However, meanwhile some reflection is needed on the importance of cannabis dependence for public health and how to best measure cannabis dependence.

4.4.2   Patterns of cannabis use and dependence in Europe

The use data shows clearly data cannabis use is concentrated among young adults (15 to 34 years old) and is much more prevalent among men. While there is not a lot of dependence information available, all of the existing estimates for cannabis dependence point also in the same direction as the use data.

In our data the prevalence of cannabis dependence was higher than the daily or almost daily use prevalence for all countries were both estimates were available, although estimates stem from different data sets except for Switzerland.

Cannabis use prevalence seems to be lower in the Nordic countries, compared with the rest of Europe. Otherwise there are no regional differences in cannabis use. For cannabis dependence, not enough data is available for regional interpretations, and the existing data may not be very well comparable.

4.4.3   Cannabis dependence and related harm in Europe

Given the scarcity of estimates for dependence, in our opinion any attempt to measure harm due to dependence is more or less useless. That such estimates exist in the framework of the GBD 2010 study, does not hinder us to draw such a conclusion.

5   Illicit drugs

S. Marmet and G. Gmel

5.1   Introduction

We decided to not collect data on illicit drug use, as the EMCDDA provides already good use prevalence estimates for the European Union and Norway. Figures from EMCDDA [187] for 12-month prevalence for Cocaine, Amphetamine, Ecstasy and LSD are provided in table 5.2.1. However, accuracy of illicit drug use (this is also true for cannabis, but probably to a lesser degree) estimates from population surveys are questionable, as a lot of people may not tell the truth about their illicit drug use. Therefore, we decided not to go into heroin use prevalence. As stated by the EMCDDA, estimates for last year prevalence of heroin use among young adults (15- to 34-year-olds) in the general population range between 0.0 % and 0.7 % [195]. However, due to the very low figures reported and the hidden nature of heroin use, general population surveys are not considered robust means for monitoring use of this substance. Therefore, indirect statistical extrapolations, based on observations of only a little part of the concerned population, are used to understand the prevalence of this phenomenon.

As dependence due to illegal drugs is supposed to be rare it is difficult to assess in general population surveys, also because dependence to e.g. heroin or crack may more often occur in marginalized populations which are rarely reached in general population surveys, e.g. because they do not have a telephone line. Additionally, some illicit drugs, for example LSD, do not cause marked dependence symptoms. Overall, few dependence estimates from general population surveys (too which our work is restricted) were excepted as useful, and it is not possible to get good estimates for Europe for illicit drug dependence, therefore no data on illicit drug dependence was collected in the ALICE RAP network.

Degenhardt [193] reviewed illicit drug dependence estimates between 1990 and 2008 and found only 3 general population surveys for methamphetamine or amphetamine dependence in Europe and 2 for cocaine. Some more surveys were available for opioid dependence, but most of them did not stem from general population surveys but from indirect measures or subsamples. This is well in line with our a priori expert opinion that there is no relevant amount of data available for illicit drug dependence from general population surveys.

The closest proxy for illicit drug dependence (mainly for heroin dependence) available for Europe is the EMCDDA indicator "problem drug use" (0.42% for EU and Norway, see table 5.2.1 [196]), which is a combined estimate of problem opioid use and injecting drug use. This estimate stems from indirect measures (no population surveys, e.g. capture-recapture, [196]) which vary between countries. This indicator may provide good information for public health policy development [193], however, the concept is rather driven by practical ideas than by a theoretical dependence concept and therefore this measure is not useful as a proxy for illicit drug dependence, especially also because the measure is only available in aggregated form.

5.2   Use prevalence for illicit drugs

Data from EMCDDA are based on general population surveys collected within the Reitox network. Heroin use is not measured in the population surveys but via indirect methods. The problem drug use indicator consists of problem opioid use and injecting drug use. The problem drug use indicator bases

for example on capture-recapture methods or extrapolation, it is not measured in exactly the same manner for whole Europe, for the methods used per country see EMCDDA 2013 [187].

Table 5.2.1:   EMCDDA estimates for illicit drug use prevalence (12-months), 15-64 years old

Country	Year	Age range all adults	Sample size all adults	Cocaine %	Amphetamines %	Ecstasy %	LSD %	Problem drug use (rate per 1000 converted to %) %
Austria	2008	15-64	3761	0.9	0.5	0.5	0.2	0.5
Belgium	2008	15-64	6792	0.9	n.a.	n.a.	n.a.	0.0
Bulgaria	2008	15-64	5139	0.7	0.9	0.7	0.0	0.6
Cyprus	2009	15-64	3385	1.2	0.3	0.6	0.5	0.2
Czech Republic	2011	15-64	901	0.6	0.8	1.6	1.1	0.6
Denmark	2010	16-64	11611	0.9	0.7	0.3	0.1	0.9
Estonia	2008	15-64	1401	0.7	1.1	1.2	0.3	
Finland	2010	15-64	1873	0.2	0.8	0.4	0.2	
France	2010	15-64	22774	0.9	0.2	0.2	0.2	0.8
Germany	2009	18-64	8030	0.8	0.7	0.4	0.1	0.4
Greece	2004	15-64	4351	0.1	0.0	0.2	0.1	0.3
Hungary	2007	18-64	2710	0.2	0.5	0.5	0.2	
Ireland	2010-11	15-64	5128	1.5	0.4	0.5	0.3	
Italy	2012	18-64	18898	0.6	0.1	0.0	0.1	1.0
Latvia	2011	15-64	4491	0.2	0.3	0.4	0.1	0.9
Lithuania	2008	15-64	4777	0.2	0.7	1.0	0.2	0.0
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.6
Malta	2001	18-64	1755	0.3	0.0	0.2	0.1	
Netherlands	2009	15-64	5769	1.2	0.4	1.4	0.1	
Norway	2009	15-64	1624	0.4	0.7	0.3	0.0	
Poland	2010	15-64	5782	0.7	1.9	1.5	0.7	0.3
Portugal	2007	15-64	12202	0.6	0.2	0.4	0.1	
Romania	2010	15-64	5100	0.1	0.0	0.2	0.0	
Slovakia	2010	15-64	4055	0.2	0.1	0.5	0.0	0.3
Slovenia	2007	15-64	1724	n.a.	n.a.	n.a.	n.a.	
Spain	2011	15-64	22128	2.3	0.6	0.7	n.a.	
Sweden	2008	15-64	22095	0.5	0.8	0.1	n.a.	0.5
Switzerland	2012	15-64	11172	0.5	0.6	0.3	0.6	
United Kingdom	2011-12	16-59	26663	2.2	0.8	1.4	0.2	0.9
EU and Norway (EMCDDA 2012 report)				**1.2**	**0.6**	**0.6**	**0.2.**	**0.42**

Remark: For sources see EMCDDA webpage EMCDDA 2013 [187]. Means (except LSD (own calculation) from EMCDDA 2012 (annual report) [196]
Source for Switzerland is Gmel [188]

Cocaine is with 1.2% users in the last 12 months the most often used illicit drug after Cannabis, but is used much less often than Cannabis (6% in the EU). Amphetamines and Ecstasy are used about half (0.6%) as often as Cocaine and LSD use is even more rare (0.2%). Problem drug use is with 0.42% relatively frequent, but as mentioned before, this indicator was not taken from population surveys and

may therefore not be entirely comparable, as it includes, or bases on, marginalized groups not included in general population surveys.

The estimated EU-27 prevalence of problem drug use corresponds well with a recent estimate [197] of injection drug use in Europe (Western Europe 0.4%; Eastern Europe: 1.5%).

5.3   Harm caused by illicit drugs

The estimates presented for harm from illicit drug use were taken from the Global Burden of Disease 2010 Study [174].

Table 5.3.1: *Deaths, years of life lost and disability adjusted years of life lost from illicit drug use, Total and by sex, 15-64 years old*

	Attributable deaths			Attributable years of life lost			Attributable DALY		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Austria	168	48	216	8288	2357	10645	23210	9117	32328
Belgium	135	49	184	6305	2109	8414	23681	9875	33556
Bulgaria	53	14	67	2456	606	3062	9820	3982	13802
Cyprus	7	1	8	321	70	391	1232	484	1716
Czech Republic	69	21	90	3047	870	3917	13570	5886	19456
Denmark	170	47	218	7601	1918	9520	14080	4962	19042
Estonia	70	21	92	3488	923	4411	5370	1843	7213
Finland	155	52	207	7029	2130	9159	11544	4249	15794
France	648	213	861	27995	8328	36323	103712	40601	144313
Germany	1215	323	1538	55188	13513	68700	164177	62310	226487
Greece	197	31	228	10345	1554	11899	21866	6132	27999
Hungary	63	19	83	2882	823	3704	13633	6025	19658
Iceland	5	3	8	217	111	328	741	341	1083
Ireland	94	31	126	4692	1413	6106	12259	4646	16906
Israel	87	18	105	3994	802	4796	14950	5620	20570
Italy	752	186	938	33728	7525	41253	143677	53421	197099
Latvia	66	22	88	2922	881	3803	5868	2358	8226
Lithuania	103	25	128	4841	1031	5873	9123	3170	12293
Luxembourg	13	4	17	629	164	794	1498	529	2026
Malta	4	1	5	218	44	263	912	324	1237
Netherlands	115	32	147	5319	1405	6724	25676	10366	36042
Norway	195	56	251	9169	2531	11699	16318	5506	21824
Poland	428	112	539	19464	4396	23861	74265	31942	106206
Portugal	91	25	115	4051	1016	5067	17656	6717	24373
Romania	206	86	292	8235	3232	11467	32280	14553	46833
Slovakia	59	19	77	2421	705	3125	8125	3340	11464
Slovenia	22	6	28	1069	257	1326	2970	1063	4032
Spain	843	235	1078	36301	9467	45767	134553	49630	184183
Sweden	164	42	207	7330	1788	9118	18576	6294	24870
Switzerland	83	25	109	3833	1052	4885	14496	5760	20256
United Kingdom	1551	394	1945	77091	18555	95646	227396	86048	313443
Central-East and Eastern Europe	**1140**	**345**	**1485**	**50826**	**13723**	**64549**	**175023**	**74160**	**249183**
Nordic Countries	**690**	**201**	**890**	**31345**	**8478**	**39823**	**61260**	**21352**	**82612**
Central-West and Western Europe	**4022**	**1120**	**5142**	**189340**	**48897**	**238237**	**596105**	**229251**	**825357**
Southern Europe	**1981**	**498**	**2479**	**88957**	**20477**	**109434**	**334848**	**122328**	**457176**
EU27	**7463**	**2061**	**9524**	**343257**	**87079**	**430336**	**1120730**	**429865**	**1550595**
ALICE RAP	**7833**	**2163**	**9996**	**360469**	**91575**	**452043**	**1167236**	**447092**	**1614328**

Source: GBD 2010 [174]

Figure 5.3.1:   Death rates per 100,000 attributable to illicit drug use, 15-64 years old
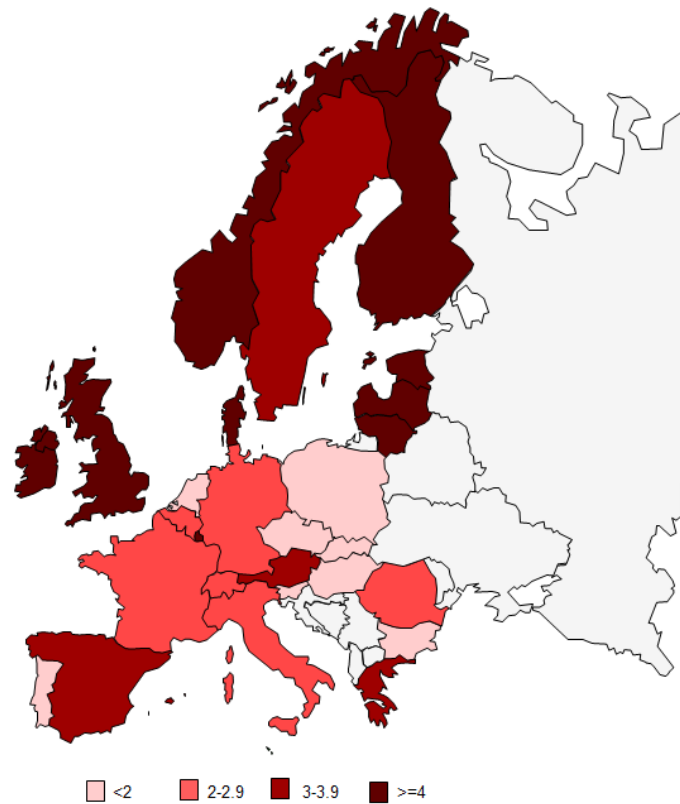
Remark: For sources and exact values see table 5.3.1. Map adapted from clearlyandsimply.com.

About 70% of the harm due to illicit drug use occurs in men. Overall in the EU-27 about 9,500 people aged 15-64 years died from illicit drug use in 2010 (table 5.3.1).

Table 5.3.2: ***Death rates per 100,000, years of life lost rate per 100,000 and disability adjusted years of life lost rate per 100,000 from illicit drug use, 15-64 years old***

	Deaths per 100,000	YLL per 100,000	DALY per 100,000
Austria	4	188	572
Belgium	3	118	469
Bulgaria	1	60	271
Cyprus	1	68	298
Czech Republic	1	53	264
Denmark	6	262	524
Estonia	10	491	802
Finland	6	258	445
France	2	87	344
Germany	3	128	420
Greece	3	160	377
Hungary	1	54	286
Iceland	4	154	508
Ireland	4	203	562
Israel	2	103	441
Italy	2	106	508
Latvia	6	265	573
Lithuania	6	276	578
Luxembourg	5	231	591
Malta	2	91	428
Netherlands	1	60	324
Norway	8	364	678
Poland	2	88	390
Portugal	2	72	347
Romania	2	82	336
Slovakia	2	80	295
Slovenia	2	93	284
Spain	3	144	580
Sweden	3	149	408
Switzerland	2	92	382
United Kingdom	5	231	758
Central-East and Eastern Europe	**2**	**92**	**355**
Nordic Countries	**5**	**238**	**494**
Central-West and Western Europe	**3**	**140**	**486**
Southern Europe	**3**	**121**	**505**
EU27	**3**	**129**	**465**
ALICE RAP	**3**	**130**	**465**

Source: GBD 2010 [174]

The death rate in the age group of 15-64 years old is about 3 per 100,000 in the EU-27 (table 5.3.2), with the highest death rate of 10 per 100,000 in Estonia and 8 per 100,000 in Norway. It is generally astonishing that the death rate is very high in the Nordic countries. We can only speculate whether this is due to a better reporting and monitoring system of deaths in the Nordic countries.

Table 5.3.3: **Death rates per 100,000 and disability adjusted life years lost rate per 100,000 from illicit drug use, for 15-34, 35-64 and 65+ years old**

	Deaths per 100,000 15-34	Deaths per 100,000 35-64	Deaths per 100,000 65+	DALY per 100,000 15-34	DALY per 100,000 35-64	DALY per 100,000 65+
Austria	4.54	3.39	0.59	842	411	20
Belgium	2.33	2.73	2.20	667	350	35
Bulgaria	1.35	1.29	0.66	408	185	15
Cyprus	1.32	1.45	1.99	405	208	33
Czech Republic	0.89	1.45	1.03	364	197	21
Denmark	3.62	7.39	1.94	619	469	34
Estonia	10.73	9.85	2.08	1089	603	37
Finland	4.63	6.57	2.05	580	362	37
France	1.33	2.50	2.59	466	269	32
Germany	2.29	3.16	1.15	591	328	24
Greece	4.28	2.29	0.97	571	251	15
Hungary	1.01	1.33	0.99	398	209	21
Iceland	1.82	5.05	4.59	603	434	75
Ireland	4.15	4.19	1.69	730	428	38
Israel	1.49	2.97	3.33	541	345	44
Italy	1.96	2.66	1.08	717	399	23
Latvia	3.74	7.84	4.47	670	505	77
Lithuania	4.78	6.90	2.35	725	476	43
Luxembourg	4.42	5.29	3.29	769	480	52
Malta	2.30	1.46	1.45	650	275	28
Netherlands	1.13	1.44	0.74	470	241	17
Norway	6.49	8.63	2.49	843	573	40
Poland	1.44	2.40	0.86	515	295	21
Portugal	1.18	1.92	1.07	479	266	20
Romania	0.90	2.88	1.79	444	266	33
Slovakia	1.02	2.72	2.30	367	240	41
Slovenia	2.12	1.86	1.07	416	202	20
Spain	1.81	4.41	1.78	706	499	31
Sweden	2.49	3.97	1.61	529	329	29
Switzerland	1.79	2.21	0.97	535	293	21
United Kingdom	5.01	4.50	0.80	1060	559	28
Central-East and Eastern Europe	**1.49**	**2.56**	**1.31**	**474**	**270**	**26**
Nordic Countries	**3.94**	**6.19**	**1.95**	**621**	**415**	**34**
Central-West and Western Europe	**2.78**	**3.18**	**1.42**	**686**	**366**	**27**
Southern Europe	**2.01**	**3.18**	**1.36**	**667**	**408**	**25**
EU27	**2.34**	**3.17**	**1.39**	**633**	**360**	**26**
ALICE RAP	**2.36**	**3.20**	**1.41**	**632**	**361**	**27**

Source: GBD 2010 [174]

Deaths rates are almost the same for 15 to 34 years old and the 35-64 years old and much lower in the age group above 65. This is in contrast to tobacco and alcohol, were a lot of deaths are caused in the oldest age group.

5.4   Discussion

There are almost no general population surveys on illicit drug dependence other than those for cannabis dependence. The aim of the present project is the use of general population surveys. Other sources as those used by EMCDDA are probably more valuable to estimate the extend of illicit drug use and dependence, and related harm. The concepts of "problematic drug use" or "injecting drug use" are not measurable accurately in general population surveys, this applies as well to illicit drug dependence.

General population estimates of illicit drug dependence should not be in the focus of general population surveys for the reasons discussed above: illicit drug use and dependence is relatively rare, occurs often in marginalized populations not reached in general population surveys and a lot of people may not tell the truth about their illicit drug use in surveys.

6   Problem Gambling

S. Marmet, J. Rehm, L. Kraus, A. Pabst, E. Janssen, F. Feijão, P. Meier, J. Holmes, U. Frick, Z. Elekes, H.-O. Melberg, J. Moskalewicz, S. Florescu, G. Gmel

6.1   Introduction

A major part of the European population, depending on the country, engages more or less regularly in different kinds of gambling. The most popular type of gambling are lotteries, often organized by national or regional administrations. Other forms include sport betting and casino gambling and regional varieties of gambling. Most gamblers invest only few money or at least not more money than they can afford. However, a small part of the gamblers may run into problem because they are unable to control their gambling and spend too much money on gambling. While problem gambling is not directly comparable to substance dependence, problem gamblers may nevertheless develop symptoms similar to substance addiction. However, in this report the term "problem gambling" is preferred over "gambling addiction", because it is currently more commonly used.

6.2   Measures for gambling prevalence

Measuring the prevalence of gambling is in theory simple. However, it is somewhat more complicated to find estimates that are comparable to estimates from other states, as there are quite some differences in type of gambling and what is defined as gambling.

Additionally, gambling prevalence *per se* (e.g. proportion of people playing in the lottery) does not provide a lot of information relevant for public health, which is why we decided to not collect data on gambling prevalence.

6.3   Measures for problematic gambling

While most gamblers only gamble occasionally, some players are spending a lot of time with gambling and develop a behavioral pattern that is somewhat comparable to substance dependence and may cause a lot of social and financial problems to the gambler. Because gambling is not substance related, the term dependence is rarely used for gambling, instead the terms problematic or pathological gambling are more often used.

6.3.1   Diagnostic systems

The two diagnostic systems currently broadly used are the DSM-IV [104] and the ICD-10 [105]. The ICD-10 includes a diagnose for pathological gambling, which is, however, rarely or not at all used in population surveys. The DSM-IV gambling diagnose is essentially similar to the DSM-IV diagnoses for alcohol and tobacco. The maximum points of the DSM-IV scale are 10 points (see table 6.3.2.1), subjects scoring five or more points are diagnosed with pathological gambling. Many surveys use an additional cutoff of three or more points for problematic gambling to get a more differentiated picture. However, this cutoff is not mentioned in the DSM-IV manual.

In the DSM-IV, pathological gambling (PG) was classified under the section titled, "Impulse Control Disorders Not Elsewhere Classified," along with Compulsive Hair Pulling (Trichotillomania); Intermittent Explosive Disorder; Kleptomania; and Pyromania. In the *DSM-5* problem gambling was moved to the category "Substance-Related and Addictive Disorders".

In DSM-5, the cutoff for pathological gambling was lowered to 4 and the illegal act criterion was removed.

To meet the criteria for gambling disorder in DSM-5, a person has to have at least four of the symptoms identified below, within a 12 month period [198]:

1. Needs to gamble with increasing amounts of money in order to achieve the desired excitement.
2. Is restless or irritable when attempting to cut down or stop gambling.
3. Has made repeated unsuccessful efforts to control, cut back, or stop gambling.
4. Is often preoccupied with gambling.
5. Often gambles when feeling distressed.
6. After losing money gambling, often returns another day to get even.
7. Lies to conceal the extent of involvement with gambling.
8. Has jeopardized or lost a significant relationship, job or educational or career opportunity because of gambling.
9. Relies on others to provide money to relieve desperate financial situations caused by gambling.

6.3.2 Screening instruments

There are several screening instruments for problematic gambling, e.g. the Problem Gambling Severity Index (PGSI; which is the Canadian Problem Gambling Index without some non-scored questions about us frequency), [199], the South Oaks Gambling Screen (SOGS; based on DSM-III; [200]).

Table 6.3.2.1: DSM-IV and screening instruments for problem gambling

DSM-IV	SOGS	PGSI
Chasing losses	Go back to win back money	Bet more than could afford to lose
Preoccupation with gambling	Claimed to have won money when lost	Need to gamble with more money
Need to gamble with more money	Feeling of having a problem	Chasing losses
Restless or irritable when trying to stop	Gamble more than intended	Borrowed money/sold items
Gambling as escape	Criticism from people	Felt that might have a problem
Tried and failed to cut down	Felt guilty	Health problems (including stress)
Lying about extent of gambling	Wanted to stop but could not	Criticism from people
Crime to finance gambling	Hidden gambling from spouse, children or other important person	Financial problems
Risked or lost a relationship/job	Arguments with people about gambling	Feeling guilty
Reliance on others to finance gambling	Borrowed money and did not pay back	
	Lost time from work/school	
	Borrowed money from whom? (multiple sub-questions)	

Remarks: Shortened versions of the questions.

6.4   Results of data collection

As with tobacco and alcohol, data was collected via the ALICE RAP country contacts. They were requested to provide data from general population surveys for problematic or pathological gambling based on diagnostic systems or screening instruments. The results of the ALICE RAP data search are presented in table 6.4.1. In addition to the data received from ALICE RAP contacts, estimates from literature source were added for several countries (see table 6.4.2). Most sources were found in the book from Meyer et al., 2009 [201], which provided an overview for problem gambling for 21 European countries for the year 2009.

Data is shown for 15-64 years old. Where data were only available for the entire population, data have been adjusted to 15-64 years old using the age-proportions of a neighboring country.

Table 6.4.1:   Results for problem gambling prevalence within ALICE RAP

Country	Reference	Year	Measure	Problem gambling 15-64 %	Pathological gambling 15-64 %	Problem + pathological 15-64 %
Austria	Buth 2011 [202]	2009	DSM-IV	0.4	0.7	1.1
France	Health barometer 2010 [141]	2010	CPGI (cutoff 3+ for problematic, 8+ for pathological)	0.9	0.45	1.35
Germany	Sassen 2011 [203]	2009	DSM-IV	0.5	0.3	0.7
Hungary	Demetroivs 2008 [204]	2007	SOGS	1.4	1.9	3.3
Norway	Lund 2003 [205]	2002	NODS (DSM) 3+	1.4		1.4
Poland	Badora 2012 [206]	2011	CPGI, cutoff 3	1.2		1.2
Portugal	Balsa [75]	2013	SOGS	0.3		0.3
Romania	WMHS [138]	2005/2006	DSM-IV	0.2	0.0	0.2
Switzerland	Bondolfi 2008 [207]	2005	SOGS	0.9	0.6	1.5
United Kingdom	British gambling prevalence survey 2010 [208]	2010	DSM-IV	1.1	0.6	1.7

Ten ALICE RAP contacts provided some estimates for problem and/or pathological gambling from general population surveys. Measures used were DSM-IV, CPGI, SOGS, NODS (National Opinion Research Center DSM-IV Screen for Gambling Problems, a DSM-IV proxy measure), and DIGS (Diagnostic Interview for Gambling Severity, a DSM-IV proxy measure).

Table 6.4.2: Estimates for problem and pathological gambling, 15-64 years old

Country	Reference	Year	Measure	Problem gambling 15-64 %	Pathological gambling 15-64 %	Problem + pathological 15-64 %
Austria	Buth 2011 [202]	2009	DSM-IV	0.4	0.7	1.1
Belgium	Druine 2006 [209]	2006	DSM-IV	2.3		2.3
Bulgaria						
Cyprus						
Czech republic						
Denmark	Bonke 2006 [210]	2005	NODS 3+	0.6		0.6
Estonia	Laansoo 2006 [211]	2006	SOGS 3+	6.5		6.5
Finland	Avellan 2013 [212]	2011	SOGS-R	1.7	1.0	2.7
France	Health barometer 2010 [141]	2010	CPGI (cutoff 3+ for problematic, 8+ for path	0.9	0.5	1.4
Germany	Sassen 2011 [203]	2009	DSM-IV	0.5	0.3	0.7
Greece						
Hungary	Demetroivs 2008 [204]	2007	SOGS	1.4	1.9	3.3
Iceland	Abbot 2006 [213]	2002	DIGS- 3+	1.1		1.1
Ireland						
Israel						
Italy						
Latvia						
Lithuania						
Luxembourg						
Malta						
Netherlands	De Bruin 2006 [214]	2006	SOGS 3+	1.0		1.0
Norway	Lund 2003 [205]	2002	NODS 3+	1.4		1.4
Poland	Badora 2012 [206]	2011	CPGI, cutoff 3	1.2		1.2
Portugal	Balsa [75]	2013	SOGS	0.3		0.3
Romania	WMHS [138]	2005/2006	DSM-IV	0.2	0.0	0.2
Slovakia						
Slovenia						
Spain						
Sweden	Rönnberg 1999 [215]	1999	SOGS-R	2.3		2.3
Switzerland	Bondolfi 2008 [207]	2005	SOGS	0.9	0.6	1.5
United Kingdom	British gambling prevalence survey 2010 [208]	2010	DSM-IV	1.1	0.6	1.7
EU27				**1.0**	**0.5**	**1.5**
ALICE RAP				**1.0**	**0.5**	**1.5**

Figure 6.4.1: ***Problem gambling (including pathological gambling) in Europe, 15-64 years old***
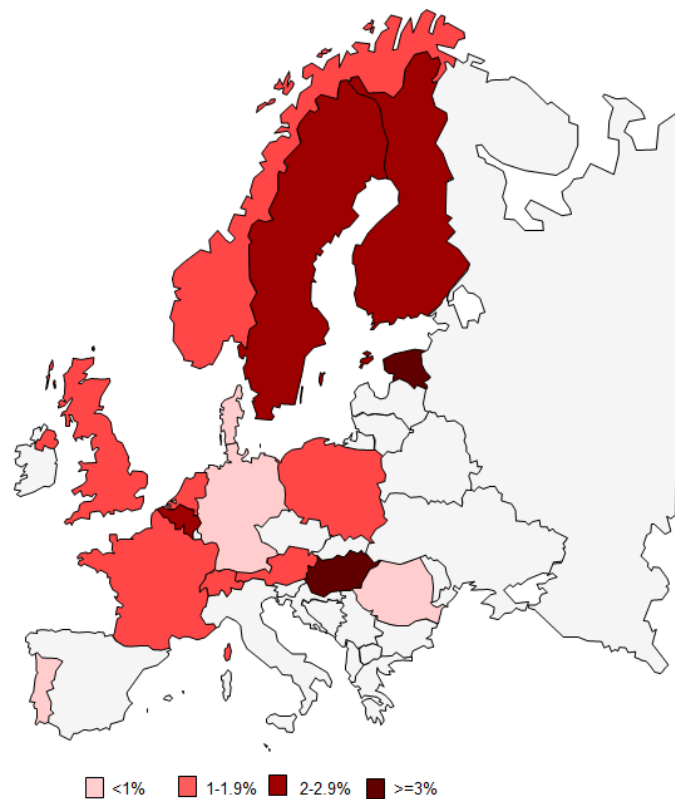
Remark: For sources and exact values see table 6.4.1. Map adapted from clearlyandsimply.com.

Problem Gambling prevalence (including pathological gambling) estimates vary between 0.2% (Romania for pathological gambling) and 6.5% for Estonia. The mean for all ALICE RAP countries with data is 1.5%. However, data from a lot of countries are missing. There is not enough data available to interpret regional differences.

6.5   Discussion

Estimates for problem or pathological gambling are overall quite widely available. In most surveys, prevalence rates for problem and pathological gambling combined are about 1%, which several countries reporting much higher prevalence rates (e.g. France and Estonia), resulting in an average of 1.5% for all ALICE RAP countries. However, there is not yet an established standard methodology for estimating problem gambling and therefore the data stem from a lot of difference instruments from surveys of varying quality and are therefore difficult to compare. As a consequence, it is very difficult to find meaningful regional patterns for problem gambling prevalence and to interpret the data further. The most important conclusion from this chapter is therefore that agreeing on a common standard measure for problem gambling should be a priority in European gambling research.

One reason for the relative good availability of problem gambling estimates, compared to tobacco and cannabis dependence estimate may be, that gambling is highly regulated and highly taxed in many countries and often a part of the incomes (e.g. in Switzerland) is reserved for combating problem gambling, therefore a lot of funds are available for researching gambling behavior.

Data for most countries was extracted from published articles which did not allow to extract data by sex and age groups, therefore we cannot provide detailed information about the distribution of gambling problems in Europe by sex and age. However, all but one national survey providing data by sex and age group (France, Germany, Portugal, United Kingdom, with the exception of Romania, where problem gambling is concentraded among 35-64 years old men; see respective Appendix tables in chapter 9) indicate, that problem gambling is concentrated in young adults (15 to 34 years old) and is much more prevalent in men, compared to women. This pattern is well known from substance use and dependence.

7   Overview of substance dependence and problem gambling

Simon Marmet, Jürgen Rehm, Gerhard Gmel

7.1   Alcohol, nicotine and cannabis dependence prevalence and problem gambling prevalence

In table 7.1.1 dependence prevalence estimate for alcohol, nicotine and cannabis and problem gambling have been summarized in one table to compare across different substances.

Nicotine dependence is by far more common (9.9%) than alcohol dependence (3.4%) among 15-64 years old. Data availability for cannabis dependence did not permit to calculate an European estimate, but available data suggest that it is far less prevalent than alcohol dependent. It may be, however, that among the youngest age groups, cannabis dependence is indeed as prevalent as alcohol dependence.

Problem gambling and pathological gambling are with 1.5% relatively prevalent, however, the comparability of the gambling data is somewhat questionable, as there are not yet established measurement standards for problem gambling.

Table 7.1.1: *Alcohol, nicotine and cannabis dependence and problem gambling (including pathological gambling), 15-64 years old*

	Alcohol dependence %	Nicotine dependence %	Cannabis dependence %	Problem + pathological 15-64 %
Austria	5.9	16.0		1.1
Belgium	4.3	11.5		2.3
Bulgaria	2.3	7.4		
Cyprus	3.5	21.3		
Czech Republic	2.9	11.0		
Denmark	3.9	9.4		0.6
Estonia	7.0	10.6		6.5
Finland	4.6	7.8		2.7
France	3.4	11.8	5.5	1.4
Germany	3.6	7.5	0.5	0.7
Greece	3.2	30.8		
Hungary	6.8	13.5		3.3
Iceland	5.7			1.1
Ireland	4.2	14.6		
Israel				
Italy	<1	7.1		
Latvia	12.5	20.7		
Lithuania	5.8	9.8		
Luxembourg	3.5	9.8		
Malta	1.8	13.9		
Netherlands	0.8	6.7		1.0
Norway	4.0			1.4
Poland	5.0	14.1		1.2
Portugal	3.6	2.6	0.6	0.3
Romania	1.5	3.9		0.2
Slovakia	5.2	6.4		
Slovenia	6.3	13.5		
Spain	0.7	10.0		
Sweden	5.1	3.2	0.2	2.3
Switzerland	4.9	8.4	1.6	1.5
United Kingdom	6.9	10.2	3.4	1.7
EU-27	**3.4**	**9.9**		**1.5**
ALICE RAP	**3.4**	**9.9**		**1.5**

Remark: For sources and details see table 2.2.3, 3.8.2, 4.3.2.1, 6.4.2,
            data for alcohol is for 18-64 years old

7.2   Harm attributable to alcohol, tobacco and illicit drugs

Table 7.2.1:   Deaths attributable to alcohol, tobacco and illicit drug use, 15+ years old

	Alcohol	Tobacco	Illicit drugs	Alcohol, tobacco, illicit drugs	Rate per 100,000 for alcohol, tobacco, illicit drugs
Austria	3021	10796	225	14041	197
Belgium	4939	17715	225	22879	254
Bulgaria	5351	15749	76	21176	329
Cyprus	133	685	10	828	122
Czech Republic	6168	16564	107	22839	255
Denmark	2569	12046	235	14851	328
Estonia	3161	2202	97	5459	482
Finland	3240	5553	226	9019	202
France	29524	68319	1139	98982	188
Germany	38366	123043	1732	163141	230
Greece	4351	23249	249	27848	292
Hungary	8617	23738	99	32454	380
Iceland	43	296	9	348	139
Ireland	1352	5242	134	6728	191
Israel	458	4840	129	5427	101
Italy	8969	92033	1069	102071	201
Latvia	7128	4196	106	11430	628
Lithuania	10792	5032	141	15965	598
Luxembourg	175	608	19	802	194
Malta	88	450	6	544	155
Netherlands	3751	26816	166	30733	225
Norway	886	6624	269	7778	197
Poland	26087	70075	584	96746	299
Portugal	5579	10957	136	16672	186
Romania	22542	36257	351	59149	344
Slovakia	3918	7347	92	11357	249
Slovenia	1453	2471	31	3955	225
Spain	14472	51664	1217	67353	170
Sweden	3013	10660	234	13907	178
Switzerland	2225	8410	121	10756	163
United Kingdom	18852	110260	2026	131138	255
Central-East and Eastern Europe	**95217**	**183631**	**1684**	**280531**	**328**
Nordic Countries	**9751**	**35178**	**974**	**45903**	**219**
Central-West and Western Europe	**102205**	**371208**	**5787**	**479201**	**223**
Southern Europe	**34050**	**183876**	**2816**	**220742**	**191**
EU27	**237611**	**753725**	**10732**	**1002067**	**238**
ALICE RAP	**241223**	**773894**	**11261**	**1026377**	**235**

Remark: Source for alcohol is WHO Global Status Report on Alcohol and Health [20]; source for tobacco and illicit drugs is GBD 2010 [174]

Table 7.2.2: *Disability adjusted life years (DALY) lost attributable to alcohol, tobacco and illicit drug use, 15+ years old*

	Alcohol	Tobacco	Illicit drugs	Alcohol, tobacco, illicit drugs	Rate per 100,000 for alcohol, tobacco, illicit drugs
Austria	177069	228893	32628	438591	6151
Belgium	211109	358681	34212	604001	6705
Bulgaria	224911	394013	14009	632933	9820
Cyprus	11666	15113	1750	28529	4206
Czech Republic	276205	374672	19794	670671	7478
Denmark	108394	221826	19346	349565	7711
Estonia	91461	46495	7298	145254	12836
Finland	147000	113023	16131	276154	6187
France	1248574	1516135	147752	2912461	5532
Germany	1607808	2462360	230513	4300682	6076
Greece	186642	416723	28317	631683	6617
Hungary	478422	570190	20002	1068615	12517
Iceland	2549	5387	1111	9047	3603
Ireland	78373	100755	17096	196224	5584
Israel	48444	102034	20894	171373	3174
Italy	278488	1594416	199936	2072840	4077
Latvia	175557	96044	8522	280123	15390
Lithuania	304649	120456	12527	437632	16379
Luxembourg	8354	12608	2063	23025	5576
Malta	4019	8880	1254	14153	4035
Netherlands	123989	528385	36468	688842	5042
Norway	82782	117852	22113	222747	5653
Poland	1277381	1632296	107286	3016964	9316
Portugal	233819	232125	24754	490697	5479
Romania	802695	921157	47903	1771755	10300
Slovakia	205022	188683	11742	405447	8901
Slovenia	71583	55018	4100	130701	7427
Spain	476522	1040220	186597	1703339	4306
Sweden	174448	185823	25362	385633	4950
Switzerland	131872	179248	20533	331653	5022
United Kingdom	1372740	1964811	316287	3653838	7096
Central-East and Eastern Europe	**3907886**	**4399024**	**253184**	**8560094**	**10015**
Nordic Countries	**515173**	**643911**	**84063**	**1243147**	**5926**
Central-West and Western Europe	**4959888**	**7351876**	**837552**	**13149317**	**6109**
Southern Europe	**1239600**	**3409512**	**463503**	**5112614**	**4433**
EU27	**10356900**	**15399802**	**1573651**	**27330352**	**6494**
ALICE RAP	**10622547**	**15804323**	**1638302**	**28065172**	**6422**

Remark: Source for alcohol is WHO Global Status Report on Alcohol and Health [20]; source for tobacco and illicit drugs is GBD 2010 [174]

As alcohol mortality and morbidity data was available only for the total population of 15 years and older from the source used, tobacco and illicit drug use attributable mortality and morbidity is also presented for the entire 15 years and older population.

Over 1 million Europeans (EU-27 plus ALICE RAP countries) died in 2010 due to alcohol, tobacco or illicit drug use. Tobacco accounts for over three quarters of the deaths, alcohol for about one quarter.

Illicit drug use causes relatively few deaths in the general population. Overall, 235 per 100,000 Europeans die each year due to alcohol, tobacco and illicit drug use. The death rate per 100,000 is a lot higher (328) in Central-East and Eastern Europe and somewhat lower in Southern Europe (191).

Overall, more than 28 million disability adjusted life years (DALY) are lost each year due to alcohol, tobacco and illicit drug use. Relatively, the share of alcohol on total DALY is much higher (about 40%) compared to the share of alcohol attributable deaths on all alcohol, tobacco and illicit drug use deaths (about 25%). This is mostly related to the fact that people die younger from alcohol than from tobacco. Similarly, illicit drugs account for 1% of deaths, but for about 6% of DALY.

About 6,400 DALYattributable to tobacco, alcohol and illicit drug use are lost per 100,000 individuals in Europe each year .

7.3   Overall Discussion

There are a lot of data available on substance use, however, there is relatively few good data for substance dependence from population surveys. Additionally, there are many different methods for estimating dependence which are not entirely comparable. Given the catastrophic situations for dependence estimates, perhaps with the exception of alcohol, it is almost impossible to get good and comparable dependence estimate for Europe and therefore it is also not possible to accurately estimate the harm caused from substance dependence in Europe. Additionally, it is even questionable whether the path with dependence estimate should be followed in the future, because of the difficulties in estimating dependence across countries in a comparable way. For example, there is so much variation in dependence estimates across countries which is unexplainable by consumption differences. That means, it unlikely that dependence is a concept that can be measured currently in a useful way for comparative studies. Even despite the scarce evidence for dependence estimate presented in the current report, it became clear that simply use measures correlated better with harm estimates than dependence estimates.

Nevertheless, the current report shows that a lot of people in Europe are suffering from heavy substance use or dependence. Whatever is exactly measured, it is a huge problem in Europe that causes a lot of harm and heavy costs for the society.

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9 Appendix

9.1 Country: Austria

Country contact: Ulrich Frick

9.1.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	9.0%	5.4%		17.8%	10.7%		6.7%	13.3%	10.0%
Former drinker	3.1%	4.9%		2.3%	3.7%		4.2%	3.2%	3.7%
Current drinker	88.0%	89.7%		79.9%	85.6%		89.0%	83.5%	86.2%
Heavy drinkers (20/40 g/day)	18.5%	26.4%		15.4%	24.5%		23.4%	21.1%	22.3%
Dependence/use disorder									
Dependent drinkers							8.8%	3.0%	5.9%
Estimated harm									
Attributable death									3021
Attributable Years of life lost									87926
DALY									177069

Source:　Use prevalence: WHO Global Status Report on Alcohol and Health [20]
　　　　　Dependence prevalence: Uhl 2009 [51] / Year: 2004
　　　　　Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.1.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers							29.0%	39.0%	34.5%
Ex-smokers							25.1%	22.5%	23.8%
Smokers past 12 months							46.7%	37.3%	41.8%
Daily smokers							32.1%	26.7%	29.3%
Smokers 20+ cigarettes per day							19.2%	12.8%	16.0%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	10	2009	5117	5	659	2994	2020	664	2684
Years of life lost	560	62321	65858	268	20769	29014	62881	21037	83918
DALY	1166	78124	77097	654	32398	39454	79290	33052	112343

Source:　Use prevalence: Uhl 2009 [137] / Year: 2008
　　　　　Dependence prevalence: Uhl 2009 [137]　 / Year: 2008
　　　　　Estimated Harm: GBD 2010 [174] / Measures for dependence/use disorder: CPD20+

9.1.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	22.8%			15.7%			17.5%	11.0%	14.2%
12-month use	8.3%			4.8%			4.6%	2.4%	3.5%
30-day use	4.6%			2.2%			2.6%	0.8%	1.7%
Daily or almost daily use									0.2%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.1.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	75	92	5	20	28	4	168	48	216
Years of life lost	4662	3626	76	1282	1076	42	8288	2357	10645
DALY	12819	10391	205	4944	4173	96	23210	9117	32328

Source: Estimated Harm: GBD 2010 [174]

9.1.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling							0.7%	0.1%	0.4%
Pathological gambling							0.9%	0.4%	0.7%

Source: Buth 2011 [202]

Measures used for problematic and pathological gambling: DSM-IV / Year: 2009

9.2   Country: Belgium

Country contact:

9.2.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	2.4%	1.4%		7.0%	3.9%		1.8%	5.1%	3.4%
Former drinker	7.9%	11.0%		6.4%	9.7%		9.8%	8.5%	9.1%
Current drinker	89.6%	87.7%		86.6%	86.4%		88.4%	86.5%	87.5%
Heavy drinkers (20/40 g/day)	19.9%	24.5%		15.5%	23.5%		22.8%	20.4%	21.6%
Dependence/use disorder									
Dependent drinkers							6.3%	2.3%	4.3%
Estimated harm									
Attributable death									4939
Attributable Years of life lost									135315
DALY									211109

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: WMHS [138], GSRA / Year: 2001/2002
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.2.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	51.2%	43.3%	32.2%	59.1%	51.8%	76.4%	46.2%	54.5%	50.3%
Ex-smokers	11.4%	25.4%	52.5%	10.0%	18.7%	15.8%	20.3%	15.4%	17.9%
Smokers past 12 months	37.4%	31.4%	15.4%	30.9%	29.5%	7.8%	33.6%	30.0%	31.8%
Daily smokers	32.1%	28.2%	15.4%	27.5%	27.8%	6.8%	29.6%	27.7%	28.6%
Smokers 20+ cigarettes per day	12.1%	12.6%	3.8%	5.8%	13.4%	2.3%	12.4%	10.5%	11.5%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	13	3625	10026	8	1024	3019	3638	1032	4670
Years of life lost	704	110487	121964	444	32457	31366	111192	32901	144092
DALY	1516	130915	137407	995	46619	41230	132431	47613	180045

Source: Use prevalence: EB [168, 169]   / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.2.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	32.9%			19.5%			18.0%	10.8%	14.3%
12-month use	15.9%			6.7%			7.2%	3.2%	5.1%
30-day use	10.4%			3.6%			4.4%	1.9%	3.1%
Daily or almost daily use									0.9%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.2.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	50	85	20	13	37	21	135	49	184
Years of life lost	2974	3331	255	747	1362	207	6305	2109	8414
DALY	12837	10844	394	5176	4699	262	23681	9875	33556

Source: Estimated Harm: GBD 2010 [174]

9.2.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling							2.7%	2.0%	2.3%
Pathological gambling									

Source: Druine 2006 [209]
          Measures used for problematic and pathological gambling: DSM-IV / Year: 2006

9.3 Country: Bulgaria

Country contact: Plamen Dimitrov, Anina Chivela

9.3.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	13.1%	5.2%		14.5%	13.5%		8.3%	13.9%	11.1%
Former drinker	14.3%	16.8%		8.2%	15.6%		15.8%	12.9%	14.4%
Current drinker	72.6%	77.9%		77.2%	70.9%		75.8%	73.2%	74.6%
Heavy drinkers (20/40 g/day)	20.5%	28.2%		19.4%	19.8%		25.2%	19.7%	22.4%
Dependence/use disorder									
Dependent drinkers							4.3%	0.4%	2.3%
Estimated harm									
Attributable death									5351
Attributable Years of life lost									156441
DALY									224911

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: WMHS [138] / Year: 2003-2007
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.3.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	43.1%	24.6%	41.2%	48.7%	51.2%	90.6%	31.6%	50.2%	41.0%
Ex-smokers	8.3%	23.4%	39.9%	8.6%	13.6%	4.7%	17.7%	11.7%	14.7%
Smokers past 12 months	48.6%	52.0%	18.8%	42.7%	35.2%	4.7%	50.7%	38.0%	44.3%
Daily smokers	47.8%	50.6%	18.4%	41.3%	33.9%	4.7%	49.5%	36.7%	43.1%
Smokers 20+ cigarettes per day	24.5%	34.1%	10.3%	10.6%	11.0%	0.8%	30.5%	10.8%	20.6%
Dependence/use disorder									
Dependent tobacco use	5.3%	11.0%	6.8%	6.7%	5.7%	1.0%	8.7%	6.1%	7.4%
Estimated harm									
Attributable death	52	5895	6013	19	1344	2426	5948	1363	7310
Years of life lost	2808	184398	92761	1015	43212	30134	187207	44227	231434
DALY	3572	200656	100759	1411	53121	34493	204229	54532	258760

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: WMHS 2008 [138] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: DSM-IV (lifetime)

9.3.3 Cannabis

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Cannabis use prevalence (12 months)									
Lifetime user	17.1%			11.7%			9.2%	5.5%	7.3%
12-month use	7.1%			4.9%			3.2%	2.2%	2.7%
30-day use	3.9%			2.4%			1.8%	1.0%	1.4%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.3.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Estimated harm									
Attributable death	22	31	5	4	10	4	53	14	67
Years of life lost	1364	1092	77	269	337	44	2456	606	3062
DALY	5718	4102	136	2262	1720	71	9820	3982	13802

Source: Estimated Harm: GBD 2010 [174]

9.3.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Problem gambling									
Pathological gambling									

9.4 Country: Cyprus

Country contact:

9.4.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	5.1%	1.1%		9.0%	5.0%		3.0%	6.8%	4.9%
Former drinker	3.0%	4.2%		8.5%	12.8%		3.7%	10.9%	7.4%
Current drinker	91.8%	94.7%		82.5%	82.2%		93.4%	82.3%	87.7%
Heavy drinkers (20/40 g/day)	15.2%	20.1%		13.7%	21.1%		17.8%	17.8%	17.8%
Dependence/use disorder									
Dependent drinkers							5.3%	1.6%	3.5%
Estimated harm									
Attributable death									133
Attributable Years of life lost									4655
DALY									11666

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
          Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
          Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.4.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	35.6%	32.7%	17.6%	74.3%	76.4%	85.4%	34.0%	75.6%	54.9%
Ex-smokers	11.1%	23.4%	55.4%	6.9%	4.9%	2.9%	18.0%	5.7%	11.8%
Smokers past 12 months	53.3%	44.0%	27.0%	18.8%	18.7%	11.7%	48.1%	18.7%	33.3%
Daily smokers	52.1%	42.6%	27.0%	18.2%	18.4%	11.7%	46.8%	18.3%	32.5%
Smokers 20+ cigarettes per day	34.9%	32.9%	22.3%	6.5%	10.7%	7.2%	33.8%	9.0%	21.3%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	2	158	405	0	23	97	160	23	183
Years of life lost	84	4924	5588	14	738	1200	5009	752	5761
DALY	142	5997	6271	44	1160	1499	6139	1203	7343

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
          Dependence prevalence: EB [168, 169] / Year: 2009/2012
          Estimated Harm: GBD 2010 [174]
          Measures for dependence/use disorder: CPD20+

9.4.3   Cannabis

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Cannabis use prevalence (12 months)									
Lifetime user	26.9%			9.2%			18.0%	5.4%	11.6%
12-month use	13.0%			2.8%			7.3%	1.5%	4.4%
30-day use	7.5%			1.5%			4.2%	0.8%	2.5%
Daily or almost daily use									0.6%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.4.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Estimated harm									
Attributable death	3	4	2	1	1	0	7	1	8
Years of life lost	176	145	23	34	36	5	321	70	391
DALY	762	470	28	300	184	6	1232	484	1716

Source: Estimated Harm: GBD 2010 [174]

9.4.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Problem gambling									
Pathological gambling									

9.5   Country: Czech Republic

Country contact: Ladislav Csémy

9.5.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	1.7%	1.6%		1.7%	1.6%		1.6%	1.6%	1.6%
Former drinker	4.6%	5.2%		4.8%	9.4%		5.0%	7.5%	6.2%
Current drinker	93.7%	93.2%		93.6%	89.0%		93.4%	90.8%	92.1%
Heavy drinkers (20/40 g/day)	21.7%	30.1%		26.1%	27.4%		26.7%	26.9%	26.8%
Dependence/use disorder									
Dependent drinkers							5.0%	0.8%	2.9%
Estimated harm									
Attributable death									6168
Attributable Years of life lost									196987
DALY									276205

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: WMHS [138] / Year: 1989-1999
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.5.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	54.8%	38.6%	53.3%	60.3%	59.7%	80.3%	44.8%	59.9%	52.3%
Ex-smokers	8.4%	24.6%	35.9%	13.7%	16.9%	12.8%	18.4%	15.7%	17.1%
Smokers past 12 months	36.8%	36.8%	10.8%	26.0%	23.3%	6.8%	36.8%	24.4%	30.6%
Daily smokers	33.3%	34.5%	9.5%	23.2%	20.9%	6.8%	34.0%	21.8%	28.0%
Smokers 20+ cigarettes per day	13.5%	19.2%	5.4%	3.7%	5.8%	1.6%	17.0%	5.0%	11.0%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	21	4830	7212	8	1177	3315	4851	1185	6037
Years of life lost	1153	143490	104390	437	35074	39930	144643	35511	180154
DALY	1909	161425	114974	832	46552	48980	163334	47384	210718

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.5.3   Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	43.5%			27.4%			30.8%	18.8%	24.9%
12-month use	21.5%			10.3%			12.7%	4.9%	8.9%
30-day use	8.1%			4.5%			4.4%	1.8%	3.1%
Daily or almost daily use									0.8%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.5.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	22	47	9	5	16	7	69	21	90
Years of life lost	1281	1766	136	291	579	88	3047	870	3917
DALY	7506	6065	211	3272	2614	126	13570	5886	19456

Source: Estimated Harm: GBD 2010 [174]

9.5.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.6   Country: Denmark

Country contact: Kim Bloomfield, Ulrike Grittner

9.6.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	3.2%	0.7%		5.7%	3.2%		1.6%	4.1%	2.9%
Former drinker	3.8%	5.3%		4.6%	7.0%		4.7%	6.1%	5.4%
Current drinker	92.9%	94.1%		89.7%	89.8%		93.6%	89.8%	91.7%
Heavy drinkers (20/40 g/day)	21.5%	25.9%		18.4%	25.5%		24.3%	22.9%	23.6%
Dependence/use disorder									
Dependent drinkers							5.6%	2.2%	3.9%
Estimated harm									
Attributable death									2569
Attributable Years of life lost									76625
DALY									108394

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: [52]   / Year: 2005
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.6.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	54.9%	38.9%	27.4%	61.1%	44.5%	39.3%	44.9%	50.6%	47.7%
Ex-smokers	11.5%	28.8%	43.5%	12.8%	29.2%	41.5%	22.4%	23.1%	22.7%
Smokers past 12 months	33.6%	32.2%	29.1%	26.1%	26.3%	19.2%	32.7%	26.2%	29.5%
Daily smokers									
Smokers 20+ cigarettes per day	8.5%	15.3%	12.5%	2.3%	8.1%	4.0%	12.8%	6.0%	9.4%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	5	1453	4998	2	911	4677	1458	914	2372
Years of life lost	287	43516	62652	123	27378	49465	43803	27501	71304
DALY	648	53480	71169	346	36728	59456	54128	37073	91201

Source: Use prevalence: Danish National Survey on Alcohol and Drugs [139] / Year: 2011
Dependence prevalence: Danish National Survey on Alcohol and Drugs [139] / Year: 2011
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.6.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	53.7%			37.4%			39.7%	26.4%	32.5%
12-month use	17.5%			10.4%			7.4%	3.7%	5.4%
30-day use	7.7%			3.1%			3.6%	1.3%	2.3%
Daily or almost daily use									0.5%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.6.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	42	129	9	7	41	8	170	47	218
Years of life lost	2444	5158	130	398	1521	95	7601	1918	9520
DALY	6157	7923	186	2149	2813	118	14080	4962	19042

Source: Estimated Harm: GBD 2010 [174]

9.6.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									0.6%
Pathological gambling									

Source: Bonke 2006 [210]
Measures used for problematic and pathological gambling: NODS / Year: 2005

9.7 Country: Estonia

Country contact:

9.7.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	10.8%	8.9%		16.7%	18.2%		9.7%	17.6%	13.8%
Former drinker	14.5%	19.8%		16.2%	16.3%		17.5%	16.2%	16.9%
Current drinker	74.7%	71.2%		67.1%	65.5%		72.7%	66.1%	69.2%
Heavy drinkers (20/40 g/day)	25.3%	22.8%		20.5%	17.9%		23.8%	18.9%	21.3%
Dependence/use disorder									
Dependent drinkers							13.0%	1.4%	7.0%
Estimated harm									
Attributable death									3161
Attributable Years of life lost									69177
DALY									91461

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]

Dependence prevalence: Rehn 2001 [53] / Year: 1999

Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.7.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	39.7%	26.9%	31.1%	60.1%	58.5%	84.4%	32.8%	59.1%	46.6%
Ex-smokers	20.2%	25.6%	47.1%	17.9%	17.7%	9.7%	23.2%	17.8%	20.4%
Smokers past 12 months	40.0%	47.4%	21.9%	22.0%	23.8%	5.9%	44.1%	23.1%	33.1%
Daily smokers	35.5%	44.9%	20.3%	18.2%	20.8%	5.1%	40.6%	19.7%	29.7%
Smokers 20+ cigarettes per day	12.6%	23.9%	10.0%	2.7%	3.7%	1.0%	18.8%	3.2%	10.6%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	3	592	1109	0	101	396	595	102	697
Years of life lost	165	18027	16222	23	3011	4340	18192	3033	21225
DALY	257	19911	17506	59	3813	4949	20168	3873	24040

Source: Use prevalence: EB [168, 169] / Year: 2011

Dependence prevalence: EB [168, 169] / Year: 2011

Estimated Harm: GBD 2010 [174]

Measures for dependence/use disorder: CPD20+

9.7.3   Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user									
12-month use	17.6%			9.5%			8.3%	3.8%	6.0%
30-day use	3.6%			2.7%			1.7%	1.1%	1.4%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.7.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	34	36	3	5	16	1	70	21	92
Years of life lost	2057	1431	51	330	593	17	3488	923	4411
DALY	3178	2192	62	832	1010	23	5370	1843	7213

Source: Estimated Harm: GBD 2010 [174]

9.7.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									6.5%
Pathological gambling									

Source: Laansoo 2006 [211]
             Measures used for problematic and pathological gambling: SOGS / Year: 2006

9.8 Country: Finland

Country contact: Esa Österberg

9.8.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	12.4%	2.7%		17.6%	10.1%		6.4%	12.9%	9.6%
Former drinker	12.5%	18.0%		10.8%	16.7%		15.9%	14.5%	15.2%
Current drinker	75.1%	79.4%		71.6%	73.2%		77.7%	72.6%	75.2%
Heavy drinkers (20/40 g/day)	22.8%	27.5%		19.5%	27.0%		25.7%	24.2%	25.0%
Dependence/use disorder									
Dependent drinkers							7.2%	1.9%	4.6%
Estimated harm									
Attributable death									3240
Attributable Years of life lost									99235
DALY									147000

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: Latvala 2009 [54] / Year: 2000
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.8.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	60.5%	41.3%		65.6%	56.2%		63.0%	48.7%	53.5%
Ex-smokers	4.9%	26.0%		4.7%	21.6%		4.8%	23.8%	18.3%
Smokers past 12 months	34.0%	30.7%		29.0%	21.1%		31.6%	25.9%	27.0%
Daily smokers	20.0%	21.1%		13.3%	14.2%		16.7%	17.7%	17.0%
Smokers 20+ cigarettes per day	12.2%	11.2%	4.1%	2.8%	4.6%	1.1%	11.6%	3.9%	7.8%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	7	1255	2843	3	310	1135	1262	313	1575
Years of life lost	356	37294	36746	146	9310	11462	37649	9456	47105
DALY	649	43533	41202	316	12889	14434	44182	13205	57387

Source: Use prevalence: Health behavior among the Finnish adult population 2012 [140] / Year: 2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.8.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	32.7%			25.1%			22.1%	14.5%	18.3%
12-month use	13.8%			8.5%			5.8%	3.3%	4.6%
30-day use	5.2%			1.2%			2.3%	0.5%	1.4%
Daily or almost daily use									0.2%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.8.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	51	104	10	11	41	8	155	52	207
Years of life lost	3066	3962	170	662	1468	117	7029	2130	9159
DALY	5822	5722	205	1962	2287	132	11544	4249	15794

Source: Estimated Harm: GBD 2010 [174]

9.8.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									1.7%
Pathological gambling									1.0%

Source: Avellan 2013 [212]
            Measures used for problematic and pathological gambling: SOGS-R / Year: 2011

9.9 Country: France

Country contact: Eric Janssen, Maitena Milhet

9.9.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	1.5%	0.3%		2.3%	1.3%		0.7%	1.7%	1.2%
Former drinker	1.8%	2.4%		2.1%	3.1%		2.1%	2.7%	2.4%
Current drinker	96.8%	97.3%		95.6%	95.6%		97.1%	95.6%	96.3%
Heavy drinkers (20/40 g/day)	23.6%	28.3%		16.6%	25.5%		26.5%	22.1%	24.3%
Dependence/use disorder									
Dependent drinkers							5.3%	1.5%	3.4%
Estimated harm									
Attributable death									29524
Attributable Years of life lost									830316
DALY									1248574

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: WMHS [138] / Year: 2001-2002
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old
Measures used for dependence/use disorder: WMHS [138]

9.9.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	38.5%	25.8%	24.0%	45.1%	39.2%	67.0%	30.7%	41.4%	36.1%
Ex-smokers	12.4%	38.9%	65.7%	15.3%	30.8%	27.4%	28.7%	24.9%	26.8%
Smokers past 12 months	49.1%	35.3%	10.3%	39.6%	30.0%	5.6%	40.6%	33.6%	37.1%
Daily smokers	40.9%	31.9%	8.0%	33.2%	26.6%	4.8%	35.4%	29.1%	32.2%
Smokers 20+ cigarettes per day	5.3%	6.2%	0.8%	2.2%	2.8%	0.2%	5.8%	2.6%	4.2%
Dependence/use disorder									
Dependent tobacco use	14.6%	13.4%	2.0%	9.0%	10.3%	1.2%	13.9%	9.8%	11.8%
Estimated harm									
Attributable death	92	19764	34146	41	3939	10337	19856	3980	23836
Years of life lost	4965	618247	414598	2194	130671	92514	623212	132864	756074
DALY	9191	708062	472084	5428	191814	129556	717253	197242	914495

Source: Use prevalence: Health Barometer 2010 [141] / Year: 2010
Dependence prevalence: Health Barometer 2010 [141] / Year: 2010
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: HSI

9.9.3   Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	53.3%			37.0%			39.5%	25.0%	32.1%
12-month use	24.0%			11.1%			11.9%	5.1%	8.4%
30-day use	14.2%			5.5%			6.8%	2.5%	4.6%
Daily or almost daily use									1.5%
Dependence/use disorder									
Dependent cannabis use	10.5%	3.2%		4.9%	0.8%		7.0%	3.1%	5.5%

Source use: EMCDDA [187]
Source dependence: Health Barometer 2010 [141] / Year: 2010
                       Measures for dependence/use disorder: CAST

9.9.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	179	469	133	34	179	145	648	213	861
Years of life lost	10537	17458	1478	2058	6270	1190	27995	8328	36323
DALY	54137	49574	2062	20370	20231	1377	103712	40601	144313

Source: Estimated Harm: GBD 2010 [174]

9.9.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling	2.0%	1.1%	0.7%	0.3%	0.5%	0.2%	1.4%	0.4%	0.9%
Pathological gambling	0.8%	0.6%	0.2%	0.5%	0.3%	0.1%	0.7%	0.2%	0.5%

Source: Health barometer 2010 [141]
               Measures used for problematic and pathological gambling: CPGI / Year: 2010

9.10 Country: Germany

Country contact: Ludwig Kraus

9.10.1 Alcohol

	Men			**Women**			**Total 15-64**		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	2.8%	1.6%		5.1%	2.8%		2.0%	3.6%	2.8%
Former drinker	8.7%	12.2%		8.4%	12.5%		11.0%	11.1%	11.0%
Current drinker	88.4%	86.3%		86.4%	84.7%		87.0%	85.3%	86.2%
Heavy drinkers (20/40 g/day)	22.6%	27.2%		18.3%	26.0%		25.5%	23.3%	24.4%
Dependence/use disorder									
Dependent drinkers							5.0%	2.0%	3.6%
Estimated harm									
Attributable death									38366
Attributable Years of life lost									1064208
DALY									1607808

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: [45, 47, 58, 59]   / Year: 2009-2012
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.10.2 Tobacco

	Men			**Women**			**Total 15-64**		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	48.5%	34.0%		54.2%	48.8%		38.8%	51.0%	44.5%
Ex-smokers	12.3%	35.9%		15.0%	27.3%		28.5%	23.6%	25.9%
Smokers past 12 months	39.2%	30.1%		30.9%	24.0%		32.8%	25.5%	29.6%
Daily smokers	26.4%	20.4%		18.4%	17.9%		22.1%	17.6%	20.1%
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use	11.7%	6.6%		9.3%	5.5%		8.2%	6.7%	7.5%
Estimated harm									
Attributable death	97	22227	62570	51	7395	30702	22324	7446	29770
Years of life lost	5248	696266	827080	2747	235619	313392	701513	238366	939878
DALY	10186	813308	922794	6204	319723	390145	823494	325928	1149423

Source: Use prevalence: Pabst 2010 [170] / Year: 2009
Dependence prevalence: Pabst 2010 [170] / Year: 2009
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: DSM-IV

9.10.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	43.7%			33.0%			30.3%	20.9%	25.6%
12-month use	14.3%			7.8%			6.4%	3.1%	4.8%
30-day use	7.2%			3.5%			3.4%	1.3%	2.4%
Daily or almost daily use									0.4%
Dependence/use disorder									
Dependent cannabis use	2.4%	0.0%		0.6%	0.2%		0.9%	0.3%	0.5%

Source use: EMCDDA [187]
Source: Kraus 2006 [190] / Year: 2006
Measures for dependence/use disorder: SDS

9.10.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	364	851	102	70	252	92	1215	323	1538
Years of life lost	21239	33949	1436	4204	9308	1054	55188	13513	68700
DALY	80961	83217	2524	31072	31238	1502	164177	62310	226487

Source: Estimated Harm: GBD 2010 [174]

9.10.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling	1.7%	0.4%		0.1%	0.1%		0.8%	0.1%	0.5%
Pathological gambling	1.1%	0.2%		0.0%	0.0%		0.5%	0.0%	0.3%

Source: Sassen 2011 [203]
Measures used for problematic and pathological gambling: DSM-IV / Year: 2009

9.11 Country: Greece

Country contact:

9.11.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	6.3%	3.6%		16.8%	9.5%		4.7%	12.3%	8.5%
Former drinker	12.1%	17.9%		12.1%	18.5%		15.6%	16.0%	15.8%
Current drinker	81.6%	78.5%		71.1%	72.0%		79.7%	71.7%	75.6%
Heavy drinkers (20/40 g/day)	19.1%	24.5%		16.6%	23.8%		22.3%	21.1%	21.7%
Dependence/use disorder									
Dependent drinkers							4.8%	1.5%	3.2%
Estimated harm									
Attributable death									4351
Attributable Years of life lost									114298
DALY									186642

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
 Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
 Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.11.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	44.5%	27.0%	25.6%	51.4%	43.9%	87.2%	34.7%	46.9%	40.8%
Ex-smokers	7.2%	21.1%	48.5%	7.5%	10.5%	6.8%	15.0%	9.3%	12.2%
Smokers past 12 months	48.3%	51.9%	25.9%	41.1%	45.6%	6.0%	50.3%	43.8%	47.1%
Daily smokers							49.6%	42.7%	46.2%
Smokers 20+ cigarettes per day	31.7%	40.0%	15.3%	21.9%	27.5%	2.2%	36.3%	25.3%	30.8%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	46	4276	13434	17	774	4701	4322	791	5113
Years of life lost	2498	133928	153331	926	24792	42413	136426	25718	162144
DALY	3373	153627	170276	1420	35872	52156	157000	37292	194292

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
 Dependence prevalence: EB [168, 169] / Year: 2009/2012
 Estimated Harm: GBD 2010 [174]
 Measures for dependence/use disorder: CPD20+

9.11.3   Cannabis

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Cannabis use prevalence (12 months)									
Lifetime user	15.1%			6.1%			13.7%	4.1%	8.9%
12-month use	4.5%			1.9%			2.5%	0.9%	1.7%
30-day use	2.1%			0.9%			1.3%	0.4%	0.9%
Daily or almost daily use	15.1%			6.1%			13.7%	4.1%	8.9%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.11.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Estimated harm									
Attributable death	110	88	13	15	16	7	197	31	228
Years of life lost	6528	3817	136	899	655	65	10345	1554	11899
DALY	13142	8724	226	3498	2634	93	21866	6132	27999

Source: Estimated Harm: GBD 2010 [174]

9.11.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Problem gambling									
Pathological gambling									

9.12   Country: Hungary

Country contact: Zsuzsanna Elekes

9.12.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	2.4%	2.3%		6.0%	5.8%		2.3%	5.9%	4.1%
Former drinker	8.8%	9.9%		5.6%	11.0%		9.4%	8.9%	9.1%
Current drinker	88.8%	87.8%		88.3%	83.3%		88.2%	85.3%	86.7%
Heavy drinkers (20/40 g/day)	23.9%	31.7%		24.9%	25.8%		28.4%	25.4%	26.9%
Dependence/use disorder									
Dependent drinkers							10.1%	3.7%	6.8%
Estimated harm									
Attributable death									8617
Attributable Years of life lost									271444
DALY									478422

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]

Dependence prevalence: Hungarian Statistical Office; http://www.ksh.hu/ / Year: 2010

Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.12.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers									
Ex-smokers									
Smokers past 12 months	36.8%	37.3%	16.0%	29.6%	29.5%	7.7%	37.1%	29.5%	33.3%
Daily smokers									
Smokers 20+ cigarettes per day	13.3%	21.3%	9.6%	7.9%	9.6%	1.8%	18.2%	9.0%	13.5%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	33	7424	8621	14	2643	5003	7457	2657	10114
Years of life lost	1789	233190	124954	730	83816	62823	234979	84546	319525
DALY	2680	254152	136696	1301	100140	75222	256831	101441	358272

Source: Use prevalence: Balku 2012 [171] / Year: 2012

Dependence prevalence: EB [168, 169] / Year: 2009/2012

Estimated Harm: GBD 2010 [174]

Measures for dependence/use disorder: CPD20+

9.12.3　Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	24.4%			13.9%			11.0%	6.1%	8.5%
12-month use	7.5%			4.0%			3.0%	1.7%	2.3%
30-day use	4.0%			1.4%			1.7%	0.7%	1.2%
Daily or almost daily use									0.3%
Dependence/use disorder									
Dependent cannabis use									

Source:　　EMCDDA [187]

9.12.4　Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	23	40	10	5	14	7	63	19	83
Years of life lost	1363	1519	140	302	521	83	2882	823	3704
DALY	7772	5861	217	3383	2641	127	13633	6025	19658

Source:　　Estimated Harm: GBD 2010 [174]

9.12.5　Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									1.4%
Pathological gambling									1.9%

Source:　　Demetroivs 2008 [204]
　　　　　　Measures used for problematic and pathological gambling: SOGS / Year: 2007

9.13 Country: Iceland

Country contact:

9.13.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	12.4%	2.7%		19.6%	11.3%		7.0%	14.9%	10.9%
Former drinker	13.1%	18.7%		11.6%	18.0%		16.3%	15.2%	15.8%
Current drinker	74.5%	78.6%		68.7%	70.6%		76.8%	69.8%	73.4%
Heavy drinkers (20/40 g/day)	11.7%	16.0%		9.8%	16.3%		14.1%	13.4%	13.8%
Dependence/use disorder									
Dependent drinkers							10.5%	0.7%	5.7%
Estimated harm									
Attributable death									43
Attributable Years of life lost									1233
DALY									2549

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: [60] / Year: 2005-2007
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.13.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers							46.9%	47.2%	46.9%
Ex-smokers							30.9%	28.8%	29.8%
Smokers past 12 months							22.3%	24.0%	23.2%
Daily smokers									
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	0	36	123	0	20	117	36	20	56
Years of life lost	10	1105	1454	3	592	1186	1115	595	1710
DALY	29	1407	1651	15	856	1429	1436	872	2308

Source: Use prevalence: Stat iceland [172] / Year: 2010
Estimated Harm: GBD 2010 [174]

9.13.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user									
12-month use									
30-day use									
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.13.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	1	4	1	0	2	1	5	3	8
Years of life lost	73	144	12	30	81	12	217	111	328
DALY	392	349	15	171	170	13	741	341	1083

Source: Estimated Harm: GBD 2010 [174]

9.13.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling							2.3%	0.7%	1.1%
Pathological gambling									

Source: Abbot 2006 [213]
Measures used for problematic and pathological gambling: DIGS / Year: 2002

9.14 Country: Ireland

Country contact: Joseph Barry

9.14.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	6.1%	1.3%		8.9%	5.0%		3.4%	6.7%	5.1%
Former drinker	8.0%	11.1%		8.8%	13.2%		9.8%	11.2%	10.5%
Current drinker	85.8%	87.6%		82.3%	81.8%		86.8%	82.0%	84.4%
Heavy drinkers (20/40 g/day)	22.4%	26.9%		18.1%	25.9%		24.9%	22.4%	23.6%
Dependence/use disorder									
Dependent drinkers							6.4%	2.0%	4.2%
Estimated harm									
Attributable death									1352
Attributable Years of life lost									42143
DALY									78373

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.14.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	55.7%	48.6%	48.5%	46.9%	50.7%	58.5%	51.6%	49.1%	50.3%
Ex-smokers	9.8%	22.6%	40.7%	12.7%	20.3%	28.6%	17.3%	17.0%	17.1%
Smokers past 12 months	34.5%	28.8%	10.8%	40.4%	28.9%	13.0%	31.2%	34.0%	32.6%
Daily smokers	31.0%	27.3%	10.2%	37.1%	27.3%	11.7%	28.9%	31.5%	30.2%
Smokers 20+ cigarettes per day	14.7%	14.0%	5.1%	12.7%	16.6%	5.0%	14.3%	14.9%	14.6%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	8	769	2312	5	346	1803	776	350	1126
Years of life lost	407	23799	28429	242	10727	18034	24206	10970	35176
DALY	816	29655	32194	538	15550	22001	30471	16089	46559

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.14.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	42.3%			27.4%			33.2%	17.5%	25.3%
12-month use	15.5%			5.3%			9.1%	2.9%	6.0%
30-day use	7.7%			1.6%			4.7%	0.9%	2.8%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.14.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	46	48	5	10	22	3	94	31	126
Years of life lost	2730	1962	83	572	841	48	4692	1413	6106
DALY	7218	5042	129	2505	2141	62	12259	4646	16906

Source: Estimated Harm: GBD 2010 [174]

9.14.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.15   Country: Israel

Country contact: Yehuda Neumark

9.15.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	40.5%	12.1%		50.1%	34.6%		26.3%	42.1%	34.2%
Former drinker	2.7%	5.2%		6.3%	11.6%		4.0%	9.1%	6.5%
Current drinker	56.8%	82.6%		43.6%	53.7%		69.8%	48.9%	59.3%
Heavy drinkers (20/40 g/day)	2.0%	4.7%		0.5%	2.0%		3.3%	1.3%	2.3%
Dependence/use disorder									
Dependent drinkers									
Estimated harm									
Attributable death									458
Attributable Years of life lost									11821
DALY									48444

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.15.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	48.7%	38.9%	33.1%	73.1%	66.9%	69.9%	43.8%	69.9%	56.9%
Ex-smokers	12.8%	28.6%	52.1%	9.7%	14.7%	21.9%	20.7%	12.3%	16.5%
Smokers past 12 months	38.5%	32.5%	14.8%	17.2%	18.4%	8.3%	35.5%	17.8%	26.6%
Daily smokers									
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	9	960	2182	2	243	1444	969	245	1214
Years of life lost	475	30027	26066	123	7475	13423	30502	7598	38100
DALY	1006	38728	31060	388	12957	17896	39734	13345	53079

Source: Use prevalence: [143] / Year: 2010
Estimated Harm: GBD 2010 [174]

9.15.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	27.8%			13.5%					12.5%
12-month use	12.1%			5.2%					4.0%
30-day use	8.1%			2.7%					2.6%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: [189] / Year: 2012

Special remarks for country: Data was available for 18-40 years old which has been used as an estimate for the 15-34 years age category and was adjusted to the 15-64 years population using the ratio for 15-34 years / 15-64 years from all countries were data was available.

9.15.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	29	58	16	5	13	8	87	18	105
Years of life lost	1724	2271	179	306	496	78	3994	802	4796
DALY	8909	6041	229	3439	2181	96	14950	5620	20570

Source: Estimated Harm: GBD 2010 [174]

9.15.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.16 Country: Italy

Country contact: Emanuele Scafato, Ghirini Silvia, Michaela Bitarello, Peppino Ortoleva

9.16.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	16.6%	10.2%	13.9%	34.9%	34.4%	46.6%	12.4%	34.6%	23.5%
Former drinker	4.1%	3.2%	5.4%	8.0%	6.4%	7.7%	3.5%	6.9%	5.2%
Current drinker	79.3%	86.6%	80.7%	57.0%	59.2%	45.7%	84.1%	58.5%	71.3%
Heavy drinkers (20/40 g/day)	3.2%	8.7%	11.4%	0.7%	1.8%	1.9%	6.8%	1.4%	4.1%
Dependence/use disorder									
Dependent drinkers							<1%	<1%	<1%
Estimated harm									
Attributable death									8969
Attributable Years of life lost									221655
DALY									278488

Source: Use prevalence: The multipurpose survey on households [49]   / Year: 2011
Dependence prevalence: de Girolamo 2006 [28] / Year: 2001-2003
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old
Special remarks for country: For mean calculations, 0.5% has been used.

9.16.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	51.9%	34.9%	31.3%	66.1%	58.2%	76.1%	40.8%	60.8%	50.9%
Ex-smokers	12.4%	31.5%	53.4%	12.6%	19.6%	15.6%	24.9%	17.3%	21.1%
Smokers past 12 months	33.2%	32.1%	14.3%	19.6%	20.6%	6.7%	32.5%	20.3%	26.3%
Daily smokers	32.8%	30.8%	13.5%	19.6%	20.6%	6.6%	31.5%	20.3%	25.8%
Smokers 20+ cigarettes per day	7.2%	12.4%	4.0%	1.8%	4.6%	1.4%	10.6%	3.6%	7.1%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	79	12441	53813	34	3173	22493	12520	3207	15727
Years of life lost	4284	380439	624155	1849	100581	197526	384723	102430	487153
DALY	8129	465392	707373	4462	155676	253385	473520	160139	633660

Source: Use prevalence: The multipurpose survey on households [49] / Year: 2011
Dependence prevalence: The multipurpose survey on households [49] / Year: 2011
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.16.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	40.6%			29.2%			27.2%	17.0%	21.7%
12-month use	10.3%			6.1%			4.6%	2.6%	3.5%
30-day use	5.2%			2.4%			2.1%	1.0%	1.5%
Daily or almost daily use									0.3%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.16.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	225	527	70	37	149	60	752	186	938
Years of life lost	13072	20656	843	2179	5346	531	33728	7525	41253
DALY	70161	73516	1918	25617	27805	919	143677	53421	197099

Source: Estimated Harm: GBD 2010 [174]

9.16.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.17 Country: Latvia

Country contact: Marcis Trapencieris

9.17.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	7.0%	5.8%		15.1%	16.5%		6.3%	15.9%	11.3%
Former drinker	14.7%	20.0%		16.0%	16.2%		17.7%	16.1%	16.9%
Current drinker	78.3%	74.2%		68.9%	67.4%		76.0%	68.0%	71.6%
Heavy drinkers (20/40 g/day)	29.1%	26.3%		23.9%	21.2%		27.5%	22.2%	24.8%
Dependence/use disorder									
Dependent drinkers							21.2%	4.3%	12.5%
Estimated harm									
Attributable death									7128
Attributable Years of life lost									143583
DALY									175557

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: Snikere 2011 [61] / Year: 2011
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.17.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	14.8%	9.5%		35.2%	46.5%		11.8%	42.1%	27.5%
Ex-smokers	29.6%	27.7%		34.0%	31.2%		31.8%	29.6%	30.5%
Smokers past 12 months	54.6%	60.6%		29.6%	21.0%		58.0%	24.4%	40.6%
Daily smokers									
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use	26.0%	43.7%		7.0%	6.2%		36.0%	6.5%	20.7%
Estimated harm									
Attributable death	8	1334	2092	1	215	547	1342	216	1557
Years of life lost	405	41395	31038	63	6522	6795	41800	6584	48384
DALY	568	45604	33785	133	7991	7963	46172	8123	54296

Source: Use prevalence: GPS 2011 [61] / Year: 2011
Dependence prevalence: GPS 2011 [61] / Year: 2011
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: HSI

9.17.3   Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	28.0%			12.8%			18.7%	6.8%	12.5%
12-month use	10.0%			4.7%			5.7%	2.4%	4.0%
30-day use	3.7%			1.7%			2.4%	0.7%	1.5%
Daily or almost daily use									0.2%
Dependence/use disorder									
Dependent cannabis use	1.0%	0.3%		0.6%	0.0%		0.6%	0.2%	0.4%

Source: Use prevalence: EMCDDA [187]
             Dependence prevalence: GPS 2011 [61] / Year: 2011

9.17.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	19	48	10	3	19	7	66	22	88
Years of life lost	1107	1815	173	208	673	95	2922	881	3803
DALY	2910	2958	190	1046	1311	106	5868	2358	8226

Source: Estimated Harm: GBD 2010 [174]

9.17.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.18   Country: Lithuania

Country contact:

9.18.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	7.9%	6.5%		18.8%	20.4%		7.1%	19.8%	13.7%
Former drinker	14.9%	20.3%		16.4%	16.5%		18.0%	16.5%	17.2%
Current drinker	77.1%	73.2%		64.7%	63.1%		74.9%	63.7%	68.8%
Heavy drinkers (20/40 g/day)	32.1%	29.3%		26.8%	24.3%		30.5%	25.3%	27.8%
Dependence/use disorder									
Dependent drinkers							9.9%	1.9%	5.8%
Estimated harm									
Attributable death									10792
Attributable Years of life lost									251522
DALY									304649

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.18.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	44.5%	24.8%	41.5%	57.6%	65.9%	91.9%	33.7%	62.5%	48.6%
Ex-smokers	16.4%	22.0%	38.7%	13.6%	14.7%	4.3%	19.5%	14.2%	16.8%
Smokers past 12 months	39.1%	53.2%	19.9%	28.8%	19.3%	3.7%	46.8%	23.2%	34.7%
Daily smokers	33.6%	50.6%	19.2%	25.0%	16.8%	3.7%	43.0%	20.2%	31.2%
Smokers 20+ cigarettes per day	9.4%	23.2%	8.0%	2.5%	3.6%	0.9%	17.0%	3.1%	9.8%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	15	1815	2613	3	185	401	1831	188	2018
Years of life lost	814	57673	37652	150	5998	4670	58488	6147	64635
DALY	1051	63973	41519	252	7859	5801	65025	8111	73136

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.18.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	27.6%			15.6%			15.8%	8.5%	11.9%
12-month use	13.4%			6.9%			7.7%	3.8%	5.6%
30-day use	3.6%			1.6%			1.7%	0.7%	1.2%
Daily or almost daily use									0.1%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.18.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	37	67	7	5	20	5	103	25	128
Years of life lost	2159	2682	119	290	742	75	4841	1031	5873
DALY	4787	4336	144	1502	1668	90	9123	3170	12293

Source: Estimated Harm: GBD 2010 [174]

9.18.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.19   Country: Luxembourg

Country contact:

9.19.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	1.4%	0.3%		2.1%	1.2%		0.7%	1.5%	1.1%
Former drinker	2.9%	4.0%		2.7%	4.1%		3.6%	3.6%	3.6%
Current drinker	95.7%	95.7%		95.2%	94.7%		95.7%	94.9%	95.3%
Heavy drinkers (20/40 g/day)	22.1%	26.7%		16.9%	25.6%		24.9%	22.2%	23.6%
Dependence/use disorder									
Dependent drinkers							5.2%	1.8%	3.5%
Estimated harm									
Attributable death									175
Attributable Years of life lost									5046
DALY									8354

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]

Dependence prevalence: Mean of France and Germany

Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.19.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	50.8%	43.4%	32.9%	68.9%	59.7%	67.5%	46.0%	62.8%	54.3%
Ex-smokers	14.1%	28.3%	54.0%	9.2%	17.5%	20.6%	23.4%	14.7%	19.1%
Smokers past 12 months	35.0%	28.2%	13.1%	21.9%	22.9%	11.8%	30.6%	22.5%	26.6%
Daily smokers	32.7%	23.8%	12.0%	19.3%	20.2%	10.4%	26.9%	19.9%	23.4%
Smokers 20+ cigarettes per day	7.5%	14.9%	4.5%	6.0%	8.0%	5.7%	12.3%	7.3%	9.8%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	0	121	267	0	37	182	122	37	159
Years of life lost	24	3749	3560	11	1136	1927	3772	1146	4919
DALY	57	4479	4028	34	1631	2379	4536	1664	6200

Source: Use prevalence: EB [168, 169] / Year: 2009/2012

Dependence prevalence: EB [168, 169] / Year: 2009/2012

Estimated Harm: GBD 2010 [174]

Measures for dependence/use disorder: CPD20+

9.19.3   Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user									
12-month use									
30-day use									
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.19.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	5	8	1	1	3	1	13	4	17
Years of life lost	293	337	17	55	109	12	629	164	794
DALY	762	736	23	250	278	14	1498	529	2026

Source: Estimated Harm: GBD 2010 [174]

9.19.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.20   Country: Malta

Country contact:

9.20.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	17.7%	4.0%		26.5%	15.5%		9.7%	19.9%	14.7%
Former drinker	12.3%	18.5%		14.8%	23.3%		15.9%	19.9%	17.9%
Current drinker	70.0%	77.5%		58.7%	61.2%		74.3%	60.2%	67.4%
Heavy drinkers (20/40 g/day)	11.4%	16.2%		10.3%	16.4%		14.2%	13.9%	14.1%
Dependence/use disorder									
Dependent drinkers							2.8%	0.8%	1.8%
Estimated harm									
Attributable death									88
Attributable Years of life lost									2387
DALY									4019

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.20.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	51.4%	44.0%	43.9%	61.8%	66.5%	83.3%	47.0%	64.8%	55.8%
Ex-smokers	10.3%	17.8%	47.8%	10.2%	15.2%	9.8%	14.8%	13.4%	14.1%
Smokers past 12 months	38.4%	38.1%	8.3%	28.0%	18.3%	6.9%	38.2%	21.8%	30.1%
Daily smokers	33.7%	35.4%	7.1%	24.3%	18.0%	6.9%	34.7%	20.3%	27.6%
Smokers 20+ cigarettes per day	16.2%	21.7%	4.6%	7.8%	8.4%	3.9%	19.5%	8.2%	13.9%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	0	88	289	0	15	58	88	15	103
Years of life lost	20	2648	3713	8	431	648	2668	439	3106
DALY	46	3247	4091	25	681	791	3293	706	3999

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.20.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user							5.3%	1.6%	3.5%
12-month use									0.8%
30-day use									0.5%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.20.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	2	2	1	0	1	0	4	1	5
Years of life lost	143	75	7	23	21	4	218	44	263
DALY	572	341	12	196	129	5	912	324	1237

Source: Estimated Harm: GBD 2010 [174]

9.20.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.21   Country: Netherlands

Country contact: Paul Lemmens

9.21.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	4.2%	0.9%		4.4%	2.4%		2.1%	3.1%	2.6%
Former drinker	3.1%	4.3%		6.6%	9.9%		3.8%	8.7%	6.2%
Current drinker	92.7%	94.8%		89.0%	87.7%		94.1%	88.2%	91.1%
Heavy drinkers (20/40 g/day)	17.6%	22.5%		13.9%	21.6%		20.7%	18.8%	19.8%
Dependence/use disorder									
Dependent drinkers							1.0%	0.5%	0.8%
Estimated harm									
Attributable death									3751
Attributable Years of life lost									99087
DALY									123989

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]

Dependence prevalence: de Graaf 2011 [62] / Year: 2007/2009

Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.21.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	49.4%	43.4%	24.4%	59.3%	43.8%	46.5%	45.6%	49.1%	47.4%
Ex-smokers	18.4%	32.9%	62.1%	18.0%	36.0%	38.7%	27.5%	29.9%	28.7%
Smokers past 12 months	32.2%	23.7%	13.5%	22.7%	20.2%	14.8%	26.8%	21.0%	24.0%
Daily smokers	25.6%	21.8%	12.7%	18.5%	18.6%	13.7%	23.2%	18.6%	20.9%
Smokers 20+ cigarettes per day	7.7%	8.5%	3.2%	5.1%	5.3%	3.8%	8.2%	5.2%	6.7%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	16	4078	13672	11	2263	6777	4094	2273	6367
Years of life lost	863	122978	170253	566	70517	71989	123841	71083	194925
DALY	1767	150171	190914	1199	94051	90284	151938	95250	247188

Source: Use prevalence: EB [168, 169] / Year: 2009/2012

Dependence prevalence: EB [168, 169] / Year: 2009/2012

Estimated Harm: GBD 2010 [174]

Measures for dependence/use disorder: CPD20+

9.21.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	45.9%			27.4%			32.9%	18.4%	25.7%
12-month use	19.2%			8.2%			9.8%	4.2%	7.0%
30-day use	11.9%						6.3%	2.0%	4.2%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.21.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	37	79	11	9	23	8	115	32	147
Years of life lost	2120	3199	137	524	880	67	5319	1405	6724
DALY	13406	12270	303	5538	4828	124	25676	10366	36042

Source: Estimated Harm: GBD 2010 [174]

9.21.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									1.0%
Pathological gambling									

Source: De Bruin 2006 [214]
             Measures used for problematic and pathological gambling: SOGS / Year: 2006

9.22 Country: Norway

Country contact: Hans Olav Melberg

9.22.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	4.5%	1.0%		7.1%	3.9%		2.4%	5.2%	3.7%
Former drinker	2.8%	4.0%		7.9%	11.8%		3.5%	10.3%	6.8%
Current drinker	92.6%	95.1%		85.1%	84.3%		94.1%	84.6%	89.5%
Heavy drinkers (20/40 g/day)	11.9%	16.3%		9.9%	16.8%		14.6%	14.1%	14.3%
Dependence/use disorder									
Dependent drinkers							6.1%	1.8%	4.0%
Estimated harm									
Attributable death									886
Attributable Years of life lost									25625
DALY									82782

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: Kringlen 2006, 2001 [46, 63] / Year: 1994-1997; 1997-1999
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.22.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers									
Ex-smokers									
Smokers past 12 months	25.0%	26.7%		19.0%	24.2%		22.5%	25.3%	24.2%
Daily smokers	10.0%	17.9%		9.0%	17.5%		9.5%	17.9%	14.5%
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	4	845	2823	2	444	2505	850	445	1295
Years of life lost	238	25288	33737	99	13231	23345	25527	13330	38857
DALY	562	31804	38386	291	18449	28360	32365	18741	51106

Source: Use prevalence: Stat norway [173] / Year: 2008
Estimated Harm: GBD 2010 [174]

9.22.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	23.5%			20.2%			16.2%	13.1%	14.6%
12-month use	6.6%			7.5%			4.0%	3.6%	3.8%
30-day use	2.8%			1.5%			5.7%	0.9%	1.6%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.22.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	66	129	10	16	41	8	195	56	251
Years of life lost	3900	5269	136	935	1596	82	9169	2531	11699
DALY	7936	8382	189	2627	2879	99	16318	5506	21824

Source: Estimated Harm: GBD 2010 [174]

9.22.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling							2.2%	0.6%	1.4%
Pathological gambling									

Source: Lund 2003 [205]
            Measures used for problematic and pathological gambling: NODS / Year: 2002

9.23   Country: Poland

Country contact: Katarzyna Okulicz-Kozaryn, Jacek Moskalewicz, Zofia Mielecka-Kubien, Krzysztof Brzozka, Marta Zin-Sedek

9.23.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	24.4%	10.5%		31.9%	28.6%		16.6%	30.0%	23.4%
Former drinker	16.4%	20.9%		12.0%	21.9%		18.9%	17.7%	18.3%
Current drinker	59.2%	68.6%		56.1%	49.6%		64.5%	52.3%	58.3%
Heavy drinkers (20/40 g/day)	20.5%	28.5%		20.0%	19.1%		25.0%	19.5%	22.2%
Dependence/use disorder									
Dependent drinkers							8.4%	1.6%	5.0%
Estimated harm									
Attributable death									26087
Attributable Years of life lost									859136
DALY									1277381

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.23.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	56.1%	29.8%	33.3%	70.9%	52.1%	80.1%	41.6%	60.2%	50.9%
Ex-smokers	9.4%	26.7%	47.8%	8.7%	17.1%	12.9%	18.9%	13.5%	16.2%
Smokers past 12 months	34.6%	43.5%	18.9%	20.4%	30.8%	7.0%	39.5%	26.4%	32.9%
Daily smokers	26.9%	38.0%	16.4%	14.9%	24.9%	5.4%	33.0%	20.6%	26.8%
Smokers 20+ cigarettes per day	14.1%	26.3%	8.2%	4.0%	10.1%	1.8%	20.8%	7.5%	14.1%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	129	23028	29517	38	5762	11602	23157	5800	28956
Years of life lost	6927	712507	413032	2048	178310	134363	719434	180358	899791
DALY	9688	783893	448781	3476	223964	162494	793581	227441	1021021

Source: Use prevalence: EHIS 2009 [144] / Year: 2009
Dependence prevalence: EHIS 2009 [144] / Year: 2009
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.23.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	35.6%			22.3%			22.0%	13.0%	17.5%
12-month use	22.5%			11.9%			12.4%	6.8%	9.6%
30-day use	15.1%			5.1%			7.9%	2.8%	5.4%
Daily or almost daily use									0.4%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.23.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	148	280	25	21	90	20	428	112	539
Years of life lost	8872	10592	356	1286	3111	231	19464	4396	23861
DALY	42545	31720	664	18197	13744	416	74265	31942	106206

Source: Estimated Harm: GBD 2010 [174]

9.23.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling	3.2%	1.1%	0.0%	0.6%	0.4%	0.5%	2.0%	0.5%	1.2%
Pathological gambling									

Source: Badora 2012 [206]

Measures used for problematic and pathological gambling: CPGI / Year: 2011

9.24 Country: Portugal

Country contact: Fernanda Feijão

9.24.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	20.5%	4.8%		29.0%	17.1%		10.9%	21.5%	16.3%
Former drinker	11.8%	18.2%		14.7%	23.4%		15.7%	20.2%	18.0%
Current drinker	67.7%	77.0%		56.3%	59.4%		73.4%	58.3%	65.6%
Heavy drinkers (20/40 g/day)	22.7%	29.0%		19.7%	26.2%		26.5%	23.8%	25.1%
Dependence/use disorder									
Dependent drinkers							5.6%	1.7%	3.6%
Estimated harm									
Attributable death									5579
Attributable Years of life lost									150927
DALY									233819

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: http://ec.europa.eu/health/alcohol/policy/country_profiles/ based on [34] / Year: 2004
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.24.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	43.5%	37.5%	45.3%	61.4%	70.4%	90.9%	39.7%	67.3%	53.8%
Ex-smokers	14.5%	28.7%	40.1%	14.0%	12.4%	5.8%	23.5%	13.0%	18.1%
Smokers past 12 months	42.0%	33.8%	14.6%	24.6%	17.2%	3.3%	36.8%	19.8%	28.0%
Daily smokers	38.4%	32.2%	4.6%	20.0%	16.3%	3.3%	34.4%	17.6%	25.8%
Smokers 20+ cigarettes per day	10.7%	16.3%	4.8%	4.9%	4.2%	1.3%	14.2%	4.4%	9.2%
Dependence/use disorder									
Dependent tobacco use	1.3%	5.8%	0.6%	0.6%	1.4%	0.7%	4.2%	1.1%	2.6%
Estimated harm									
Attributable death	27	2810	6275	8	400	1437	2837	408	3245
Years of life lost	1471	90625	78261	433	13729	14527	92096	14162	106258
DALY	2386	104570	86798	911	19615	17845	106955	20526	127482

Source: Use prevalence: Balsa 2013 [75] / Year: 2013
Dependence prevalence: Balsa 2013 [75] / Year: 2013
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: FTND (highest level of dependence)

9.24.3   Cannabis

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Cannabis use prevalence (12 months)									
Lifetime user	25.1%			8.7%			18.4%	5.2%	11.7%
12-month use	11.5%			1.8%			6.4%	0.9%	3.6%
30-day use	8.0%			1.0%			4.4%	0.5%	2.4%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use	1.4%	0.6%	0.0%	1.0%	0.1%	0.0%	0.9%	0.4%	0.6%

Source use: EMCDDA [187]
Source: Balsa 2013 [75] / Year: 2012
                    Measures for dependence/use disorder: SDS

9.24.4   Illicit drugs

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Estimated harm									
Attributable death	26	64	13	5	19	8	91	25	115
Years of life lost	1528	2523	153	313	703	79	4051	1016	5067
DALY	9271	8386	262	3497	3220	118	17656	6717	24373

Source: Estimated Harm: GBD 2010 [174]

9.24.5   Problem gambling

	Men			Women			Total 15-64		
	15-34	**35-64**	**65+**	**15-34**	**35-64**	**65+**	**Men**	**Women**	**Total**
Problem gambling	0.2%	0.6%	1.2%	0.1%	0.1%	0.2%	0.5%	0.1%	0.3%
Pathological gambling									

Source: Balsa [75]
                    Measures used for problematic and pathological gambling: SOGS / Year: 2013

9.25   Country: Romania

Country contact: Silvia Florescu

9.25.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	12.4%	4.9%		15.4%	14.2%		7.9%	14.7%	11.3%
Former drinker	14.8%	17.4%		8.9%	16.7%		16.3%	13.7%	15.0%
Current drinker	72.8%	77.7%		75.7%	69.1%		75.8%	71.6%	73.7%
Heavy drinkers (20/40 g/day)	24.8%	32.0%		23.8%	23.7%		29.1%	23.7%	26.4%
Dependence/use disorder									
Dependent drinkers							2.2%	0.7%	1.5%
Estimated harm									
Attributable death									22542
Attributable Years of life lost									695930
DALY									802695

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]

Dependence prevalence: Florescu 2009 [29] / Year:2005/2006

Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.25.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	49.8%	35.5%	44.2%	67.6%	71.1%	85.4%	41.9%	69.7%	55.8%
Ex-smokers	8.9%	20.5%	36.7%	5.5%	8.4%	4.0%	15.3%	7.2%	11.2%
Smokers past 12 months	41.3%	44.0%	19.1%	26.9%	20.4%	10.6%	42.8%	23.2%	32.9%
Daily smokers	40.0%	43.2%	18.7%	24.6%	18.8%	9.0%	41.8%	21.3%	31.5%
Smokers 20+ cigarettes per day							21.7%	6.7%	14.2%
Dependence/use disorder									
Dependent tobacco use	2.5%	7.4%	3.4%	2.7%	2.5%	0.6%	5.4%	2.6%	3.9%
Estimated harm									
Attributable death	116	13908	15413	33	2637	4150	14024	2670	16694
Years of life lost	6234	443540	231660	1763	84993	56224	449774	86756	536529
DALY	8409	484765	251282	2731	106805	67166	493173	109536	602709

Source: Use prevalence: EB [168, 169] / Year: 2008

Dependence prevalence: WHMS 2008 [138] for 18-64 years old   / Year: 2005/2006

Estimated Harm: GBD 2010 [174]

Measures for dependence/use disorder: DSM-IV

9.25.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	4.0%			2.0%			2.2%	1.0%	1.6%
12-month use	0.6%			0.4%			0.5%	0.2%	0.3%
30-day use	0.2%			0.2%			0.1%	0.1%	0.1%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.25.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	38	168	33	11	75	26	206	86	292
Years of life lost	2277	5958	501	688	2544	348	8235	3232	11467
DALY	16935	15345	651	7554	6999	420	32280	14553	46833

Source: Estimated Harm: GBD 2010 [174]

9.25.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	0.2%
Pathological gambling	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: WMHS [138] for 18-64 years old
Measures used for problematic and pathological gambling: DSM-IV / Year: 2005/2006

9.26   Country: Slovakia

Country contact:

9.26.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	16.2%	6.6%		17.1%	15.7%		10.9%	16.3%	13.6%
Former drinker	14.8%	17.8%		9.3%	17.5%		16.5%	14.0%	15.2%
Current drinker	69.0%	75.6%		73.6%	66.8%		72.6%	69.7%	71.2%
Heavy drinkers (20/40 g/day)	22.5%	30.2%		21.1%	21.1%		26.8%	21.1%	23.9%
Dependence/use disorder									
Dependent drinkers							9.2%	1.3%	5.2%
Estimated harm									
Attributable death									3918
Attributable Years of life lost									132128
DALY									205022

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: MCSS [67] / Year:2000/2001
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.26.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	55.2%	36.9%	31.1%	67.2%	64.8%	81.5%	44.7%	65.7%	55.2%
Ex-smokers	18.3%	29.7%	44.5%	14.2%	17.9%	13.0%	24.8%	16.5%	20.7%
Smokers past 12 months	26.5%	33.4%	24.4%	18.6%	17.3%	5.5%	30.5%	17.8%	24.1%
Daily smokers	23.3%	29.6%	23.3%	13.2%	15.9%	4.3%	26.9%	14.8%	20.9%
Smokers 20+ cigarettes per day	5.4%	12.5%	10.6%	3.2%	3.4%	1.1%	9.5%	3.3%	6.4%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	19	3005	2902	6	561	854	3024	567	3591
Years of life lost	1048	93231	43183	312	17583	10442	94279	17894	112174
DALY	1502	103549	47134	544	22976	12980	105050	23519	128570

Source: Use prevalence: EB [168, 169] / Year: 2009/2012
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.26.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	24.5%			12.1%			14.8%	6.2%	10.5%
12-month use	10.0%			4.3%			5.3%	2.0%	3.6%
30-day use	4.4%			0.9%			2.3%	0.5%	1.4%
Daily or almost daily use									0.0%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.26.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	14	44	10	3	16	6	59	19	77
Years of life lost	864	1557	157	174	531	77	2421	705	3125
DALY	4384	3740	186	1802	1538	91	8125	3340	11464

Source: Estimated Harm: GBD 2010 [174]

9.26.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.27 Country: Slovenia

Country contact: Matej Kosir, Sanela Talic

9.27.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	6.2%	5.7%		14.3%	13.3%		5.9%	13.6%	9.6%
Former drinker	14.5%	17.2%		8.4%	15.8%		16.2%	13.0%	14.6%
Current drinker	79.4%	77.1%		77.4%	70.9%		78.0%	73.3%	75.7%
Heavy drinkers (20/40 g/day)	18.5%	26.4%		25.0%	24.9%		23.4%	25.0%	24.1%
Dependence/use disorder									
Dependent drinkers							10.5%	2.0%	6.3%
Estimated harm									
Attributable death									1453
Attributable Years of life lost									42418
DALY									71583

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: GSRA, taken from [14] / Year: 1999
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.27.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers									
Ex-smokers									
Smokers past 12 months							30.3%	23.3%	26.8%
Daily smokers									
Smokers 20+ cigarettes per day	15.0%	21.2%	7.5%	5.9%	9.1%	1.8%	18.8%	7.9%	13.5%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	3	612	1167	0	144	544	615	145	760
Years of life lost	148	19015	16084	22	4546	5564	19162	4569	23731
DALY	293	22549	18032	86	6814	7243	22842	6900	29742

Source: Use prevalence: EHIS 2008 [145] / Year: 2008
Dependence prevalence: EB [168, 169] / Year: 2009/2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.27.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user									
12-month use	10.7%						4.8%	1.3%	3.1%
30-day use									
Daily or almost daily use									0.4%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.27.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	10	13	2	2	4	1	22	6	28
Years of life lost	581	487	31	127	130	17	1069	257	1326
DALY	1675	1295	45	591	471	22	2970	1063	4032

Source: Estimated Harm: GBD 2010 [174]

9.27.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									
Pathological gambling									

9.28 Country: Spain

Country contact: Toni Gual, Jillian Reynolds

9.28.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	13.5%	3.0%		15.0%	8.4%		7.1%	11.0%	9.0%
Former drinker	12.5%	18.1%		12.2%	18.5%		15.9%	16.1%	16.0%
Current drinker	74.0%	79.0%		72.8%	73.0%		77.0%	72.9%	75.0%
Heavy drinkers (20/40 g/day)	20.9%	25.8%		18.0%	25.1%		23.8%	22.3%	23.1%
Dependence/use disorder									
Dependent drinkers							1.2%	0.2%	0.7%
Estimated harm									
Attributable death									14472
Attributable Years of life lost									371516
DALY									476522

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: WMHS [138] / Year: 2000/2001
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.28.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	55.1%	36.4%	35.8%	61.4%	53.7%	92.0%	43.3%	56.5%	49.9%
Ex-smokers	9.2%	28.9%	50.2%	9.6%	17.9%	5.1%	21.6%	14.9%	18.3%
Smokers past 12 months	35.7%	34.7%	14.0%	29.0%	28.3%	2.9%	35.1%	28.6%	31.8%
Daily smokers	30.4%	31.6%	12.4%	25.4%	25.3%	2.6%	31.2%	25.4%	28.3%
Smokers 20+ cigarettes per day	9.6%	15.0%	3.8%	5.3%	7.9%	.9%	13.0%	7.0%	10.0%
Dependence/use disorder									
Dependent tobacco use									
Estimated harm									
Attributable death	106	11875	33292	42	1848	4500	11981	1890	13872
Years of life lost	5739	376708	388759	2257	64031	40059	382448	66288	448736
DALY	9121	441384	437790	4552	95521	51853	450504	100073	550578

Source: Use prevalence: ENSE 2012 [146] / Year: 2012
Dependence prevalence: ENSE 2012 [146] / Year: 2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CPD20+

9.28.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	44.8%			28.5%			35.4%	19.2%	27.4%
12-month use	23.3%			10.5%			13.6%	5.5%	9.6%
30-day use	17.7%			7.0%			10.2%	3.8%	7.0%
Daily or almost daily use									2.5%
Dependence/use disorder									
Dependent cannabis use									

Source: EMCDDA [187]

9.28.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	186	658	75	40	195	64	843	235	1078
Years of life lost	10721	25580	840	2279	7188	556	36301	9467	45767
DALY	63857	70696	1580	23832	25798	834	134553	49630	184183

Source: Estimated Harm: GBD 2010 [174]

9.28.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									0.25%*
Pathological gambling									0.31%*

Source: Becoña E. [216]

Measures used for problematic and pathological gambling: NODS

Special remarks for country: *This is a regional estimate for Galica and has not been included in the calculations of the means for Europe.

9.29 Country: Sweden

Country contact: Borje Olsson

9.29.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	10.4%	2.2%		15.3%	8.6%		5.5%	11.2%	8.3%
Former drinker	12.4%	17.5%		12.2%	18.5%		15.5%	16.0%	15.8%
Current drinker	77.1%	80.2%		72.6%	72.9%		79.0%	72.8%	75.9%
Heavy drinkers (20/40 g/day)	17.2%	21.7%		14.4%	21.4%		19.9%	18.7%	19.3%
Dependence/use disorder									
Dependent drinkers							6.4%	3.8%	5.1%
Estimated harm									
Attributable death									3013
Attributable Years of life lost									77389
DALY									174448

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: Andréasson 2013 [64] / Year:2003-2007
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.29.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	69.7%	57.4%	37.7%	68.8%	55.2%	51.0%	62.3%	60.5%	61.4%
Ex-smokers	9.4%	26.4%	46.6%	10.8%	28.3%	34.8%	19.6%	21.5%	20.6%
Smokers past 12 months	17.8%	12.9%	10.2%	16.2%	13.6%	8.7%	14.8%	14.6%	14.7%
Daily smokers	6.6%	8.1%	8.2%	8.0%	10.2%	7.4%	7.5%	9.3%	8.4%
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use	2.2%	2.8%	2.3%	3.6%	3.8%	2.0%	2.6%	3.7%	3.2%
Estimated harm									
Attributable death	5	1034	4688	3	717	4213	1039	720	1759
Years of life lost	247	30340	55901	172	21019	41783	30587	21191	51778
DALY	665	38517	64553	485	29764	51838	39182	30249	69431

Source: Use prevalence: Ramstedt 2013 [147] / Year: 2012
Dependence prevalence: Ramstedt 2013 [147] / Year: 2012
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: CDS-12

9.29.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	24.2%			18.6%			17.2%	11.0%	14.2%
12-month use	8.3%			3.9%			3.6%	1.6%	2.6%
30-day use	2.5%			1.5%			1.2%	0.6%	0.9%
Daily or almost daily use									
Dependence/use disorder									
Dependent cannabis use	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.4%	0.1%	0.2%

Source use: EMCDDA [187]
Source: Ramstedt 2013 [147] / Year: 2012
  Measures for dependence/use disorder: MINI (DSM-IV)

9.29.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	49	116	17	11	31	10	164	42	207
Years of life lost	2889	4441	235	654	1134	115	7330	1788	9118
DALY	9392	9184	345	3277	3017	146	18576	6294	24870

Source: Estimated Harm: GBD 2010 [174]

9.29.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									2.3%
Pathological gambling									

Source: Rönnberg 1999 [215]
  Measures used for problematic and pathological gambling: SOGS-R

9.30   Country: Switzerland

Country contact: Gerhard Gmel

9.30.1   Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	2.4%	1.4%		6.2%	3.5%		1.8%	4.5%	3.1%
Former drinker	2.7%	3.8%		4.2%	6.4%		3.4%	5.6%	4.5%
Current drinker	94.9%	94.8%		89.6%	90.1%		94.8%	89.9%	92.4%
Heavy drinkers (20/40 g/day)	19.4%	24.8%		15.1%	23.5%		22.8%	20.4%	21.6%
Dependence/use disorder									
Dependent drinkers							8.1%	1.6%	4.9%
Estimated harm									
Attributable death									2225
Attributable Years of life lost									61104
DALY									131872

Source: Use prevalence: WHO Global Status Report on Alcohol and Health [20]
                Dependence prevalence: Kuendig 2010 [33] / Year: 2007
                Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.30.2   Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	54.5%	43.2%	38.8%	63.1%	53.5%	69.9%	47.6%	56.8%	52.3%
Ex-smokers	9.8%	26.8%	45.0%	11.6%	24.1%	20.0%	20.2%	19.9%	20.0%
Smokers past 12 months	35.7%	29.9%	16.3%	25.2%	22.4%	10.1%	32.2%	23.4%	27.7%
Daily smokers	25.2%	22.3%	11.9%	16.4%	17.8%	8.6%	23.4%	17.3%	20.3%
Smokers 20+ cigarettes per day	8.0%	11.5%	2.8%	2.9%	5.7%	2.4%	10.2%	4.7%	7.4%
Dependence/use disorder									
Dependent tobacco use	8.8%	10.7%	5.4%	4.9%	8.1%	2.7%	9.8%	7.0%	8.4%
Estimated harm									
Attributable death	6	1368	4182	3	494	2356	1374	497	1871
Years of life lost	327	41863	49630	162	15337	21252	42190	15499	57689
DALY	939	57333	60989	471	27446	32069	58272	27917	86190

Source: Use prevalence: Gmel et al. 2012 [148, 188] / Year: 2011
                Dependence prevalence: Gmel et al. 2012 [148] / Year: 2011
                Estimated Harm: GBD 2010 [174]
                Measures for dependence/use disorder: FTND

9.30.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	52.3%			39.8%			41.4%	30.5%	36.0%
12-month use	21.1%			11.4%			10.5%	5.2%	7.9%
30-day use	11.4%			3.9%			6.0%	1.9%	4.0%
Daily or almost daily use	2.2%			0.6%			1.5%	0.3%	0.9%
Dependence/use disorder									
Dependent cannabis use	7.0%	0.6%	0.0%	0.5%	0.0%	0.0%	3.0%	0.2%	1.6%

Source use: Gmel et al. 2013 [188]
Source: Marmet 2013 [191] / Year: 2012
Measures for dependence/use disorder: CUDIT

9.30.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	29	54	8	6	19	4	83	25	109
Years of life lost	1732	2101	105	357	695	44	3833	1052	4885
DALY	7551	6945	199	2918	2842	78	14496	5760	20256

Source: Estimated Harm: GBD 2010 [174]

9.30.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling									0.9%
Pathological gambling									0.6%

Source: Bondolfi 2008 [207]
Measures used for problematic and pathological gambling: SOGS / Year: 2005

9.31 Country: United Kingdom

Country contact: Petra Meier, John Holmes

9.31.1 Alcohol

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Alcohol use prevalence (12 months)									
Lifetime abstainer	13.9%	10.3%		18.1%	14.7%		11.6%	15.9%	13.8%
Former drinker	1.0%	1.0%		1.0%	1.0%		1.0%	1.0%	1.0%
Current drinker	85.1%	88.7%		80.9%	84.3%		87.4%	83.1%	85.2%
Heavy drinkers (20/40 g/day)	20.2%	28.0%		16.7%	26.3%		24.9%	22.5%	23.7%
Dependence/use disorder									
Dependent drinkers							9.9%	3.9%	6.9%
Estimated harm									
Attributable death									18852
Attributable Years of life lost									586815
DALY									1372740

Source: Use prevalence: [50]
Heavy drinking prevalence: WHO Global Status Report on Alcohol and Health [20]
Dependence prevalence: Fuller 2009 [65] / Year: 2007
Estimated Harm: WHO Global Status Report on Alcohol and Health [20] for 15+ years old

9.31.2 Tobacco

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Smoking prevalence (12 months)									
Never smokers	35.7%	31.2%	22.2%	38.5%	37.6%	39.8%	32.9%	37.9%	35.4%
Ex-smokers	31.4%	45.3%	66.8%	31.0%	41.4%	48.2%	40.0%	37.5%	38.7%
Smokers past 12 months	32.9%	23.5%	11.0%	30.5%	21.0%	12.0%	27.1%	24.6%	25.8%
Daily smokers									
Smokers 20+ cigarettes per day									
Dependence/use disorder									
Dependent tobacco use	12.3%	10.2%	4.3%	9.6%	9.1%	3.2%	11.0%	9.3%	10.2%
Estimated harm									
Attributable death	111	13198	47634	48	7052	42217	13309	7101	20410
Years of life lost	5965	403098	567890	2610	213676	418707	409063	216287	625349
DALY	10302	490781	644283	5745	297495	516204	501084	303240	804323

Source: Use prevalence: APMS [149] / Year: 2007
Dependence prevalence: APMS [149] / Year: 2007
Estimated Harm: GBD 2010 [174]
Measures for dependence/use disorder: FTND

9.31.3 Cannabis

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Cannabis use prevalence (12 months)									
Lifetime user	43.6%			30.7%			37.4%	24.6%	31.0%
12-month use	16.8%			7.6%			9.7%	4.1%	6.9%
30-day use	10.2%			4.2%			5.9%	2.4%	4.1%
Daily or almost daily use									0.5%
Dependence/use disorder									
Dependent cannabis use	9.4%	1.6%	0.1%	4.0%	0.9%	0.2%	4.7%	2.1%	3.4%

Source use: EMCDDA [187]
Source: APMS 2007 [149] / Year: 2007
Measures for dependence/use disorder: SDS

9.31.4 Illicit drugs

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Estimated harm									
Attributable death	683	868	48	142	252	33	1551	394	1945
Years of life lost	40373	36718	653	8558	9997	387	77091	18555	95646
DALY	127486	99910	1951	46955	39092	893	227396	86048	313443

Source: Estimated Harm: GBD 2010 [174]

9.31.5 Problem gambling

	Men			Women			Total 15-64		
	15-34	35-64	65+	15-34	35-64	65+	Men	Women	Total
Problem gambling	2.9%	1.2%	0.2%	0.8%	0.2%	0.1%	1.9%	0.4%	1.1%
Pathological gambling	1.5%	0.6%	0.0%	0.4%	0.1%	0.1%	0.9%	0.2%	0.6%

Source: British gambling prevalence survey 2010 [208]
Measures used for problematic and pathological gambling: DSM-IV / Year: 2010