Detection of Alcohol Comsumption among Hospitalized Internal Medicine Patients In Europe.

The ALCHIMIE STUDY

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BACKGROUND

	Risk factor	DALYs (millions)	Percentage of total		Risk factor	DALYs (millions)	Percentage of total
	World				*Low-income countries*[a]		
1	Childhood underweight	91	5.9	1	Childhood underweight	82	9.9
2	Unsafe sex	70	4.6	2	Unsafe water, sanitation, hygiene	53	6.3
3	Alcohol use	69	4.5	3	Unsafe sex	52	6.2
4	Unsafe water, sanitation, hygiene	64	4.2	4	Suboptimal breastfeeding	34	4.1
5	High blood pressure	57	3.7	5	Indoor smoke from solid fuels	33	4.0
6	Tobacco use	57	3.7	6	Vitamin A deficiency	20	2.4
7	Suboptimal breastfeeding	44	2.9	7	High blood pressure	18	2.2
8	High blood glucose	41	2.7	8	Alcohol use	18	2.1
9	Indoor smoke from solid fuels	41	2.7	9	High blood glucose	16	1.9
10	Overweight and obesity	36	2.3	10	Zinc deficiency	14	1.7
	Middle-income countries[a]				*High-income countries*[a]		
1	Alcohol use	44	7.6	1	Tobacco use	13	10.7
2	High blood pressure	31	5.4	2	Alcohol use	8	6.7
3	Tobacco use	31	5.4	3	Overweight and obesity	8	6.5
4	Overweight and obesity	21	3.6	4	High blood pressure	7	6.1
5	High blood glucose	20	3.4	5	High blood glucose	6	4.9
6	Unsafe sex	17	3.0	6	Physical inactivity	5	4.1
7	Physical inactivity	16	2.7	7	High cholesterol	4	3.4
8	High cholesterol	14	2.5	8	Illicit drugs	3	2.1
9	Occupational risks	14	2.3	9	Occupational risks	2	1.5
10	Unsafe water, sanitation, hygiene	11	2.0	10	Low fruit and vegetable intake	2	1.3

WHO 2009

BACKGROUND

- Unhealthy alcohol use is common among patients admitted to hospital for reasons other than alcohol misuse. Prevalence of positive screens has been reported 16-26%. *Roche AM, et al. Drug Alcohol Depend. 2006 Jun 9;83:1-14*.
- Significantly, less severe drinking patterns (at-risk and harmful drinking) have been found to be less common than dependence in the hospital setting. *Saitz et al. J Gen Intern Med. 2006 Apr;21:381-5*.
- There is little information on the prevalence and detection of unhealthy alcohol use and adequacy of alcohol consumption history-taking in hospitalized patients in Europe.
- The available data show that alcohol use often goes unrecorded during hospitalization even in patients with alcohol related disorders. *Rosón et al. Eur J Intern Med. 2010;21:458-64.*

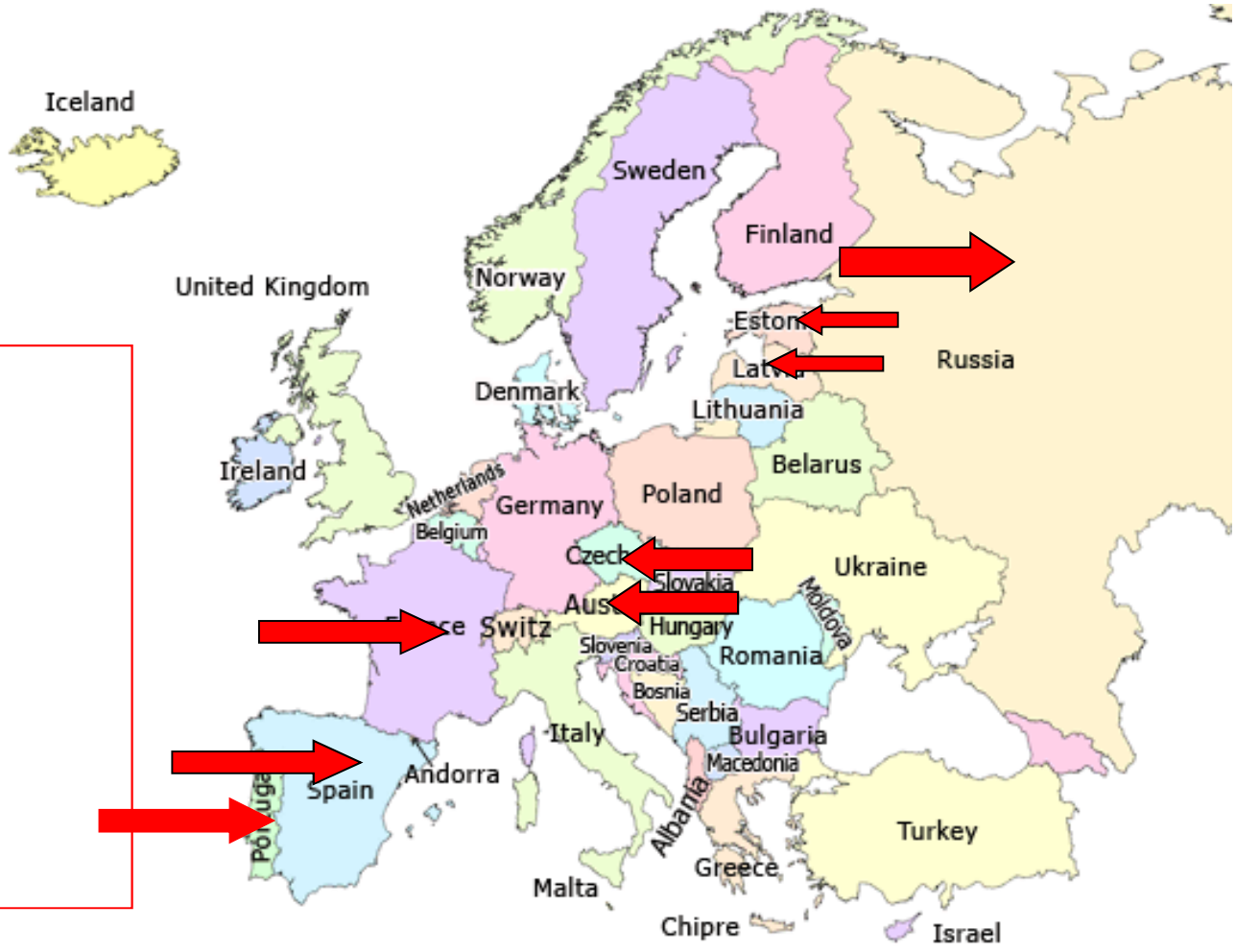
OBJECTIVES

- To determine the prevalence and spectrum of alcohol use and alcohol related disorders among general internal medicine inpatients across Europe.
- To evaluate the rate of identification and the methods used by medical staff.
- To investigate factors associated with lack of recording alcohol use in medical records.
- To describe possible differences among countries

PATIENTS AND METHODS

- Point-prevalence, multicentre study performed in 8 European countries.
- Setting:
  - 43 European Hospitals:20 community, 16 University, 7 Referral
  - Population covered: Urban: 18 Rural:2 Both:23
  - Type of medical records: paper:18 electronic:25
  - Knowledge of prevalence for alcohol use disorders:4

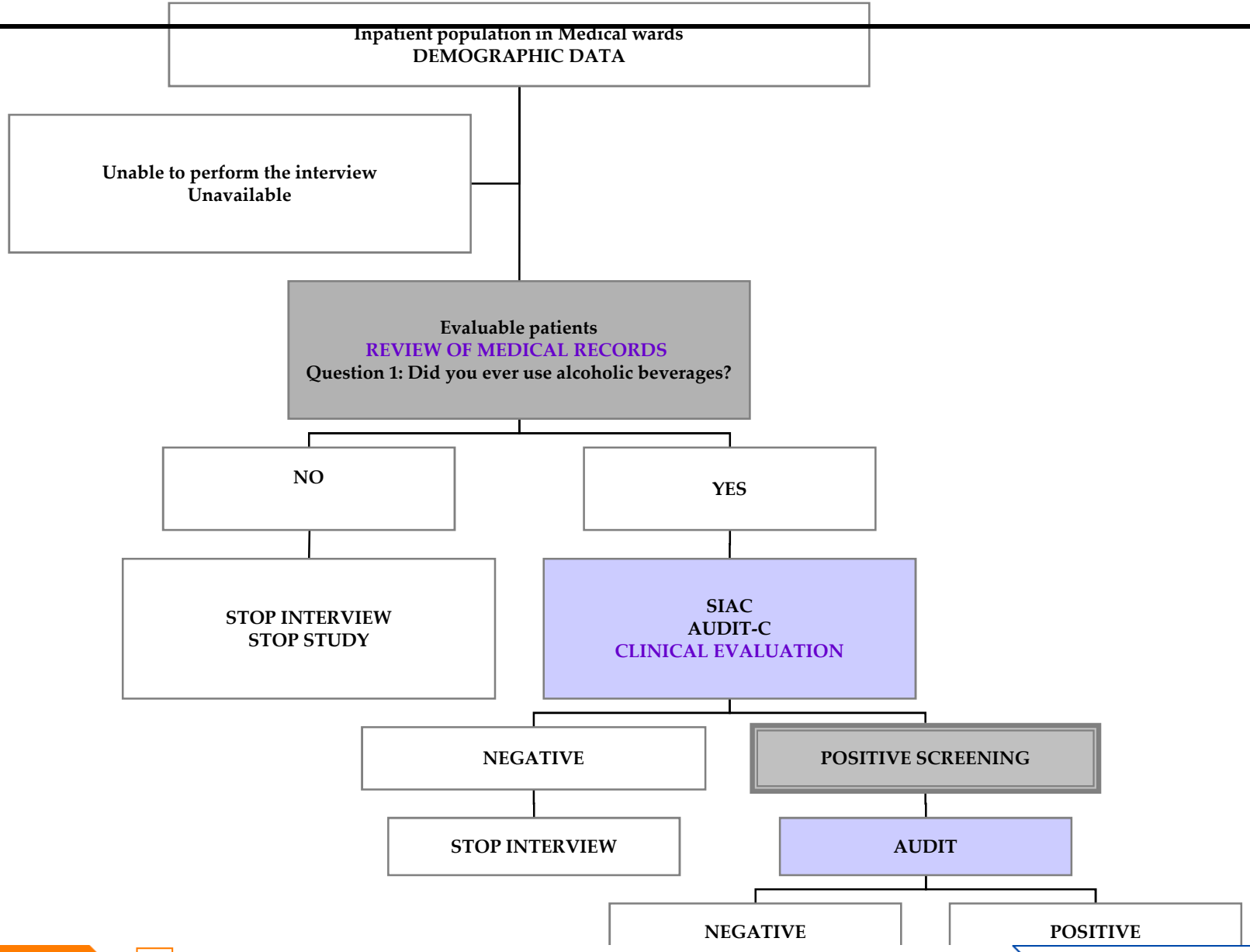
ALCHIMIE, participating countries



National coordinators

- Austria: Rudolf Stauber
- Czech Pepublik: Jan Václavik
- Estonia: Margus Member
- Russia: Alexander Arutyunov
- Latvia: Ieva Ruza
- Portugal: Jose Barata
- France: Pascal Perney
- Spain: Beatriz Roson

PATIENTS AND METHODS



Systematic Inventory of Alcohol Consumption (SIAC)

Question 1: "If you ever drink alcoholic beverages (wine, beer, etc), how many drinks you have in a day? (written down in Standard Drinks)"
Question 2: "How often? (Number of days in a week)"
Question 3: "On weekends (or workdays) do your drinking habits change?"

MEN	WOMEN AND >65 YEARS
>28 SDs per week **> 6 SDs per ocasion**	**>17 SDs per week** **> 4 SDs per ocasion**

AUDIT-C

Question 1: How often did you have a drink containing alcohol in the past year?
Question 2: How many drinks did you have on a typical day when you were drinking in the past year?
Question 3: How often did you have six or more drinks on one occasion in the past year?

The AUDIT-C is scored on a scale of 0-12 (scores of 0 reflect no alcohol use).
In men, a score of 5 or more is considered positive; in women, a score of 4 or more is considered positive.

PATIENTS AND METHODS

AUDIT

The test contains 10 multiple choice questions on quantity and frequency of alcohol consumption (questions 1 to 3), drinking behaviour and dependence (questions 4 to 7) and alcohol-related problems or reactions (questions 8 to 10).
We applied cut-off points of 8 for men and 6 for women to perform the subsequent clinical evaluation of drinking patterns.

ICD-10 DIAGNOSTIC CRITERIA

ABSTAINERS
LOW RISK DRINKER
HAZARDOUS DRINKER
HARMFUL DRINKER
DEPENDENCE
FORMER DEPENDENT

PATIENTS AND METHODS

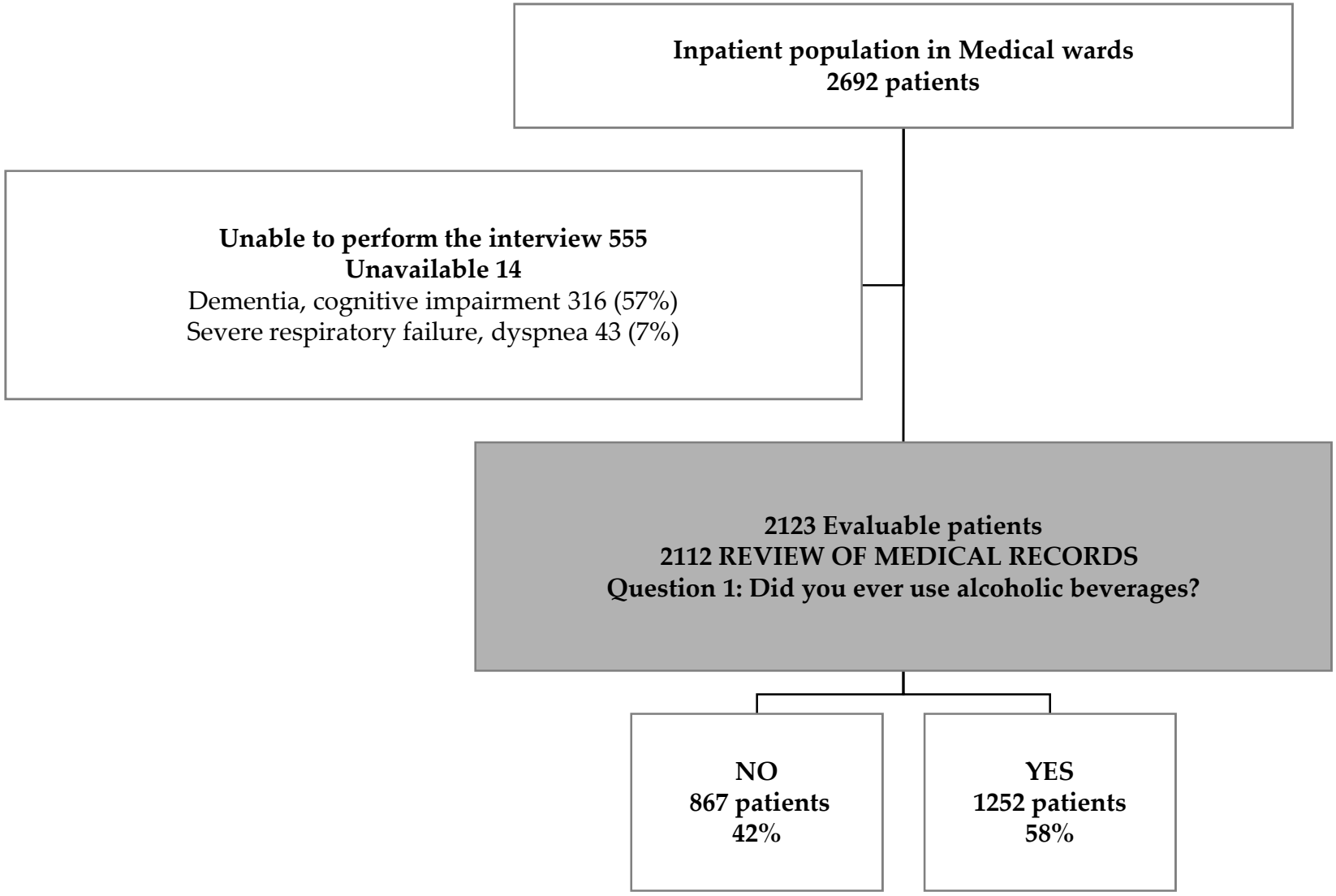
EVALUATION OF CLINICAL RECORDS

- demographical data: age and gender;
- reason for admission;
- type of admission: scheduled or emergency;
- type of evaluation of drinking pattern in the medical record

STATISTICAL ANALYSES

- Descriptive statistics were used to summarize data.
- we used the chi-square test with continuity correction for categorical variables, and the Student's t-test for continuous variables.
- Multivariate analysis was performed with the stepwise logistic-regression model of the SPSS software package 13.0 (SPSS, Chicago).
- Associations were considered statistically significant if the *P* value was <0.05 using a two-sided test.

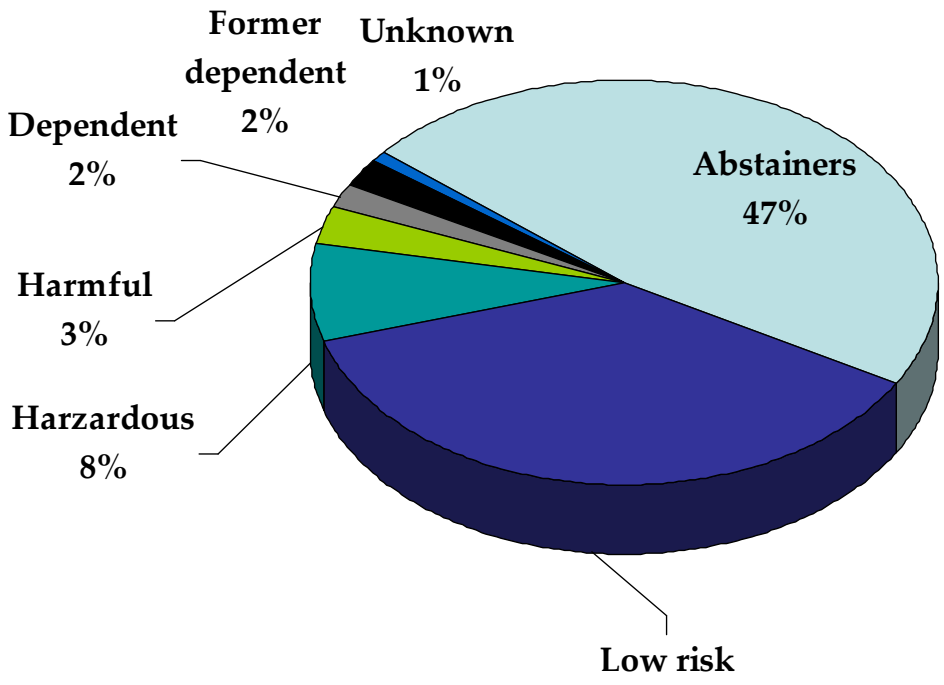
STUDY DEVELOPMENT



RESULTS

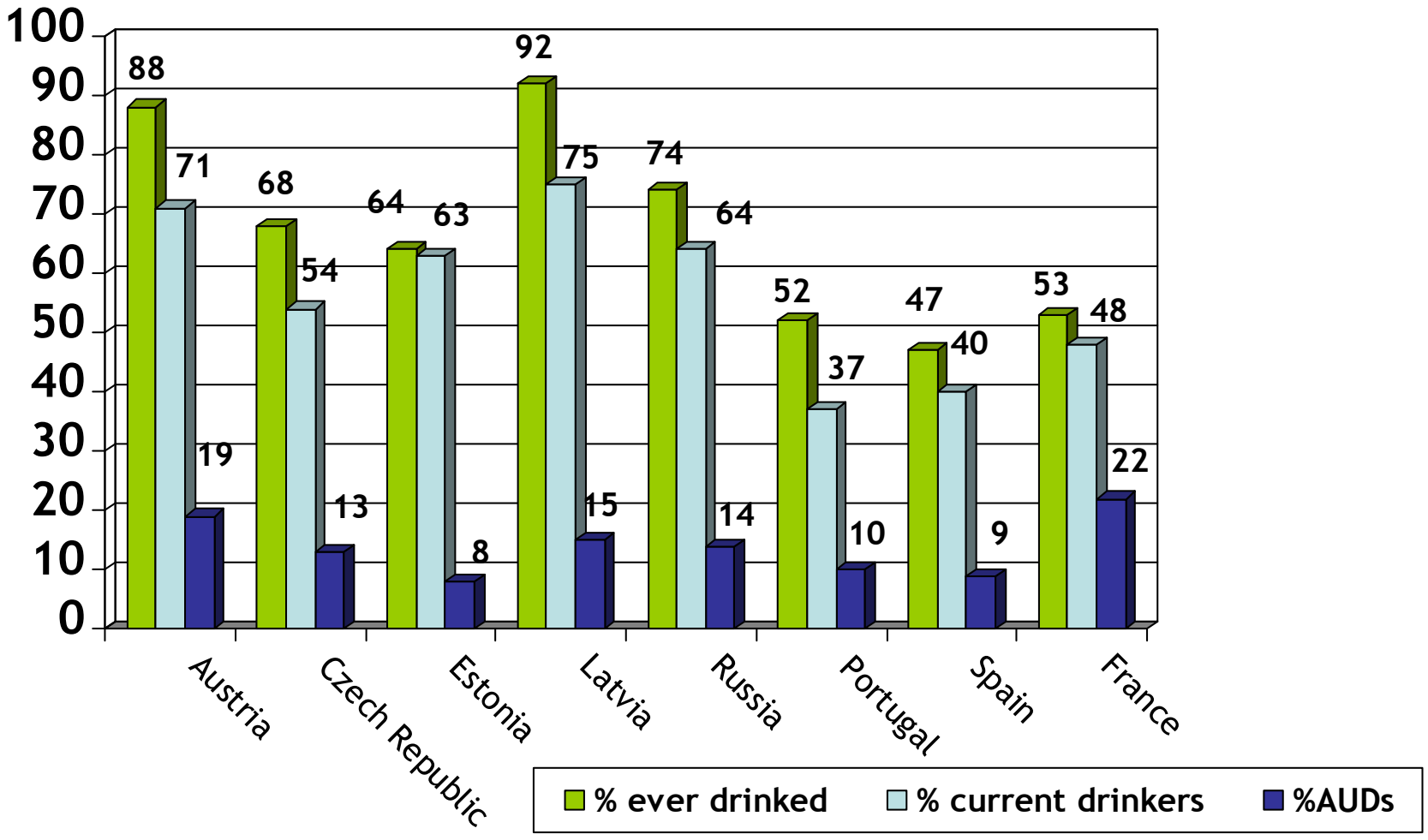
- Interviewed patients were 1114 (52%) men; mean age (SD) 67.9±17.3 years.
- Reasons for admission were not alcohol-related in 2031 (95%) patients.

Detected Drinking Patterns in 2123 Inpatients in IM Wards



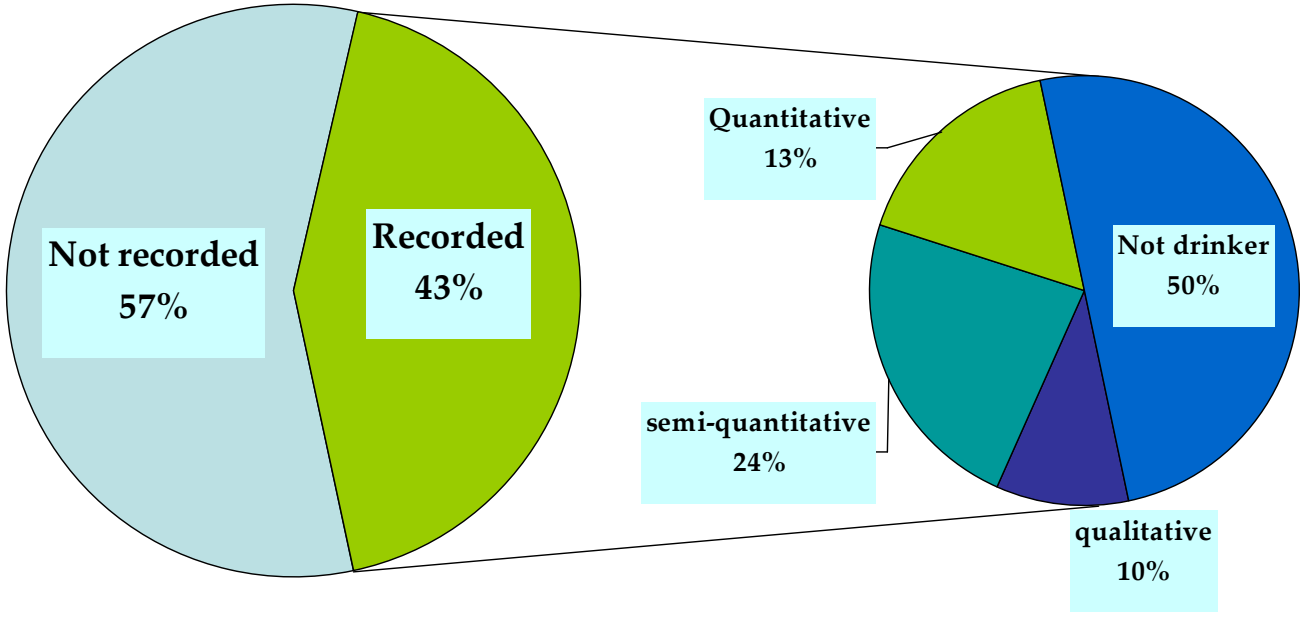
Overall, 300 (14%) patients had current unhealthy alcohol use and 47 (2%) were former dependent patients

DRINKING HABITS IN HOSPITALIZED PATIENTS BY COUNTRY

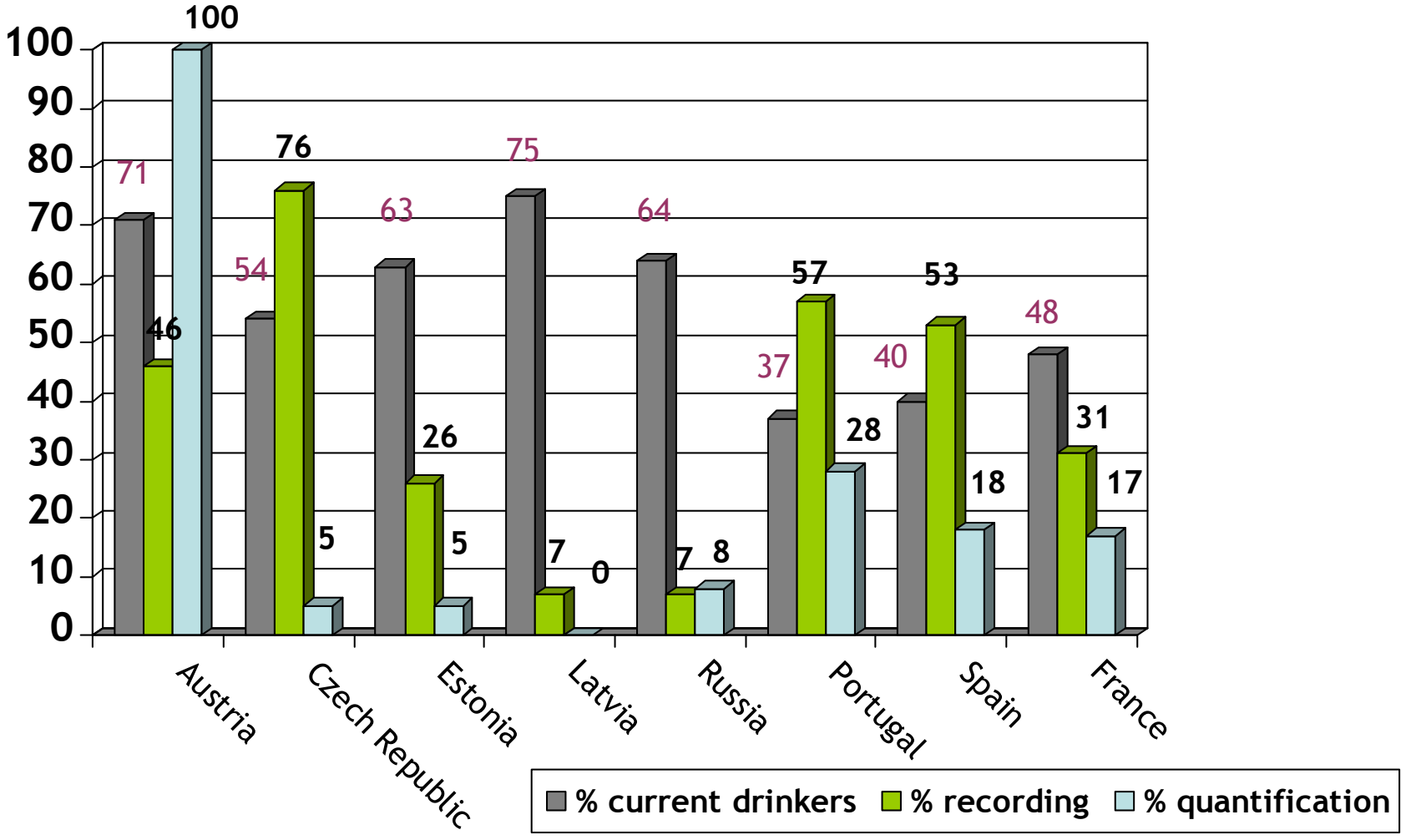


METHODS OF RECORDING ALCOHOL CONSUMPTION

- We reviewed 2112 (99%) medical records.
- Alcohol consumption was recorded in 918 (43%) patients.



ALCOHOL USE DOCUMENTATION IN MEDICAL RECORDS BY COUNTRY



FACTORS ASSOCIATED WITH LACK OF ALCOHOL USE DOCUMENTATION IN MEDICAL RECORDS

- PATIENT FACTORS
- HOSPITAL and SETTING FACTORS
- PHYSICIAN FACTORS

Patient factors associated with lack of alcohol use recording

				Univariate analysis			Multivariate analysis		
Characteristics	***Total N=2112***	***Not recorded N= 1194 (56%) n (%)***	***Recorded N= 918(44%) n (%)***	***P value***	***Odds Ratio***	***95% Confidence Intervals***	***P Value***	***Odds Ratio***	***95% Confidence Intervals***
Age groups									
Younger (<65 yr)	529 (25)	297 (25)	232 (25)	0.000	R		-	R	
Median (65-83 yr)	1040 (43)	549 (46)	491 (53)		0.873	0.708-1.078	0.840	1.028	0.768-1.345
Older (>83 yr)	5410 (25)	348 (29)	193 (21)		1.408	1.102-1.801	0.090	1.314	0.958-1.801
Gender									
Male	1106 (52)	568 (48)	538 (29)	0.000					
Female	1006 (48)	626 (52)	380 (41)		1.468	1.312-1.855	0.001	1.468	1.120-1.828
Type of admission									
Scheduled	604 (29)	351 (29)	253 (28)	0.356					
Emergency	1507 (71)	842 (71)	665 (72)		1.096	0.905-1.326			
Drinking patterns·									
Non-drinking	984 (47)	612 (51)	372 (41)	0.000	R		-	R	
Low risk drinker	770 (37)	440 (37)	330 (36)		0.810	0.669-0.982	0.997	0.999	0.585-1.707
Hazardous	162 (8)	91 (8)	71 (8)		0.779	0.557-1.090	0.202	0.651	0.337-1.259
Harmful drinker	63 (3)	18 (1)	45 (5)		0.243	0.139-0.426	0.016	0.343	0.144-0.821
Dependence	75 (4)	17 (1)	58 (6)		0.178	0.102-0.311	0.014	0.321	0.129-0.798
Dependence in remission	46 (3)	13 (1)	33 (4)		0.239	0.124-0.461	0.250	0.637	0.296-1.737
Occasional drinking									
No	864 (41)	513 (43)	351 (38)	0.029					
Yes	1248 (59)	681 (57)	567 (62)		0.822	0.689-0.980	0.004	1.974	1.237-3.150
Current drinking									
No	1056 (52)	640 (56)	416 (46)	0.000					
Yes	982 (48)	500 (44)	482 (54)		0.647	0.566-0.804	0.008	0.530	0.330-0.850
Admission alcohol related									
No	2027 (96)	1180 (99)	847 (92)	0.000					

Setting factors associated with lack of alcohol use recording

				Univariate analysis			Multivariate analysis		
Characteristics	***Total N=2112***	***Not recorded N= 1194 (56%) n (%)***	***Recorded N= 918(44%) n (%)***	***P value***	***Odds Ratio***	***95% Confidence Intervals***	***P Value***	***Odds Ratio***	***95% Confidence Intervals***
European region									
Southern	1269 (60)	715 (60)	554 (60)	0.000	0.390	0.308-0.495	0.000	0.261	0.164-0.414
Central	352 (17)	102 (8)	250 (27)		0.123	0.090-0.168	0.000	0.145	0.088-0.239
Northern	491 (23)	377 (32)	114 (12)		R		-	R	
Country prevalence									
Low ≤13%	402 (19)	230 (19)	172 (19)	0.000	R				
Intermediate (<13-20%)	1129 (53)	562 (47)	567 (62)		0.746	0.593-0.938	0.000	2.109	1.460-3.046
High (>20%)	581 (27)	402 (34)	581 (27)		1.689	1.297-2.201	0.013	1.630	1.111-2.392
Population served									
Urban	881 (42)	379 (32)	502 (55)	0.000	R				
Rural	90 (4)	57 (5)	33 (4)		2.288	1.460-3.584	0.050	1.996	1.000-3.984
Mixed	141 (54)	758 (64)	383 (42)		2.621	2.187-3.143	0.000	1.966	1.447-2.670
Size of hospital				0.002					
Small (<200 beds)	274 (13)	157 (13)	117 (13)		R				
Medium (200-600 beds)	731 (35)	376 (31)	355 (39)		0.789	0.597-1.044	0.449	0.834	0.522-1.333
Large (>600 beds)	1107 (52)	661 (55)	446 (49)		1.104	0.845-1.444	0.000	2.656	1.529-4.305
Type of hospital									
University	947 (45)	451 (38)	496 (54)	0.000	0.516	0.434-0.615	0.000	0.422	0.306-0.580
Other (referral, community)	1165 (55)	743 (62)	422 (46)						
Hospital prevalence									
Low (<11%)	565 (27)	344 (29)	221 (24)	0.000	R		-	R	
Intermediate (11-<22%)	1008 (47)	515 (43)	493 (54)		0.671	0.544-0.827	0.006	0.649	0.476-0.885
High (≥22%)	539 (25)	335 (28)	204 (22(		10.55	0.828-1.345	0.886	0.973	0.675-1.405
Electronic Files									
No	982 (46)	677 (57)	305 (33)	0.000					
Yes	1130(53)	517 (43)	613(67)		0.380	0.131-0.454	0.871	0.962	0.599-1.545

Physician factors associated with lack of alcohol use recording

				Univariate analysis			Multivariate analysis		
Characteristics	***Total N=2112***	***Not recorded N= 1194 (56%) n (%)***	***Recorded N= 918(44%) n (%)***	***P value***	***Odds Ratio***	***95% Confidence Intervals***	***P Value***	***Odds Ratio***	***95% Confidence Intervals***
Internal Medicine									
No	66 (3)	66 (5)	0	0.000					
Yes	2046	1128 (95)	918 (100)		1.81	1.77-1.886	0.998		
Resident training									
No	581 (27)	402 (34)	179 (19)	0.000					
Yes	1531 (72)	792 (66)	739 (81)		0.477	0.390-0.584	0.376	1.277	0.743-2.195
Obligatory field in medical records·									
No	1348 (64)	863 (72)	485 (53)	0.000					
Yes	764 (36)	331 (28)	433 (47)		0.430	0.358-0.515	0.000	0.471	0.320-0.695
Knowledge of local prevalence									
No	1853 (88)	1115 (93)	738 (80)	0.000					
Yes	259 (12)	79 (7)	180 (20)		0.290	0.219-0.385	0.000	0.371	0.240-0.573

Limitations and Strengths

Study drawbacks include:

- Self reported consumption.
- Limitation to one day measure
- Clinical evaluation only in patients who underwent screening tests

Strengths of the study are:

- Substantial number of patients included from a variety of hospitals across Europe
- Use of standardized tests for identification
- Clinical evaluation of unhealthy patterns

Summary

- Alcohol use disorders are frequent among European patients hospitalized for reasons not alcohol-related.
- They are frequently undetected during hospitalization.
- Adequate quantification of alcohol intake is rarely performed
- There were many modifiable factors identified associated with lack of recording.

Conclusions

- Opportunity to detect unhealthy alcohol use and intervene was missed in a substantial number of cases.
- These data may be helpful when designing strategies to improve alcohol use detection among medical inpatients in Europe.