# **APPENDIX**

#### Alcohol abuse and dependence DSM-IV criteria

**Alcohol abuse:** A maladaptive pattern of alcohol use leading to clinically significant impairment or distress, as manifested by ≥1 of the following, occurring within a 12-month period:

- Recurrent alcohol use resulting in a failure to fulfil major obligations at work, school, or home.
- Recurrent alcohol use in situations in which it is physically hazardous (e.g., driving)
- Continued alcohol use despite persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of alcohol.

**Alcohol dependence:** A maladaptive pattern of alcohol use leading to clinically significant impairment or distress, as manifested by ≥3 of the following at any time in the same 12-month period:

- Tolerance
- Withdrawal
- Alcohol is often taken in larger amounts or over a longer period than was intended
- A persistent desire or unsuccessful efforts to cut down or control alcohol use
- A great deal of time spent in activities necessary to obtain alcohol, use alcohol, or recover from its effects
- Important social, occupational, or recreational activities are given up or reduced because of alcohol use
- Use continues despite knowledge of a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by alcohol

### Risk factors for hazardous alcohol drinking

We selected 41 potential risk factors, which are described in detail elsewere. A summary of these is given below:

- Socio-demographic factors: (1) age, (2) gender, (3) marital status, (4) occupation, (5) employment status, (6) ethnicity, (7) nationality, (8) country of birth, (9) educational level, (10) income, (11) owner-occupier of their accommodation, (12) living alone or with others.
- Controls, demands and rewards for (13) paid and (14) unpaid work, using an adapted version of the job content instrument with 7 items each.<sup>1,2</sup>
- (15) Debt and financial strain by means of three questions with Likert responses:<sup>3</sup> 1) General financial strain: "how well would you say you are managing financially these days?" (4-Likert); 2) Basic financial strain: "how often does it happen that you do not have enough money to afford the kind of food or clothing you/your family should have?" (5-Likert); and 3) Coping with debt: "how much difficulty do you have in meeting the payments of household and other bills?" (6-Likert).
- (16) Physical and (17) mental well-being, assessed by the 12-item Short Form (SF-12)<sup>4-5</sup> and (18) a question on the presence of long-standing illness, disability or infirmity.
- (19) Anxiety disorders using the anxiety section of the Primary Care Evaluation of Mental Disorders (PRIME-MD).<sup>6</sup> The Spanish version of the PRIME-MD can classify patients who test positive for panic attack, generalized anxiety disorder and other anxiety disorders.<sup>7</sup>
- (20) A screen for lifetime depression based on the first two questions of the Composite International Diagnostic Interview (CIDI).<sup>8</sup>
- (21) Lifetime use of recreational drugs (CIDI).<sup>9-10</sup>
- Brief questions on the quality of (22) sexual and (23) emotional relationships with a partner, adapted from a standardized questionnaire.<sup>11</sup>
- (24) DSM-IV diagnosis of major depression in the preceding 6 months using the CIDI.
- (25) A question on taking medication for anxiety, depression or stress.
- Childhood experiences of (26) physical, (27) emotional and/or (28) sexual abuse.
- (29) Nature and strength of spiritual beliefs.<sup>13</sup>
- (30) Presence of serious physical or psychological disorder, or substance misuse problems, or any serious disability in persons who were close friends or relations of participants.
- (31) Difficulty getting on with people and maintaining close relationships, assessed using questions from a social functioning scale.<sup>14</sup>
- (32) History of serious psychological problems or (33) suicide in first-degree relatives.
- (34) Satisfaction with the neighbourhood and (35) perceived safety inside/outside the home using questions from the Health Survey for England.<sup>16</sup>
- (36) Threatening events in the preceding 6 months using the List of Threatening Experiences Questionnaire.<sup>17</sup>
- (37) Experiences of discrimination in the preceding 6 months on grounds of gender, age, ethnicity, appearance, disability, or sexual orientation, using questions from a European study.<sup>18</sup>
- (38) Adequacy of social support from family and friends.
- (39) Two questions about smoking habits.<sup>20</sup>
- (40) We asked whether participants had ever had problems with drinking too much alcohol or had ever received treatment for an alcohol problem.
- (41) From the AUDIT<sup>21</sup> we took out the AUDIT-C, which contains only three items on alcohol consumption.<sup>22-23</sup>

## **Management of clustering effect**

To test the hierarchical data structure we used the likelihood-ratio test of the null model taking cumulative incidence of hazardous alcohol drinking at 12 months as the dependent variable and health centre as a random factor versus usual logistic regression [Chi2=11.49; p<0.0004]. The Intraclass Correlation Coefficient for Health Centre was 0.141 (95% Confidence Interval: 0.052-0.328). The likelihood-ratio test of the null model with the variable family physician as a random factor versus usual logistic regression was also significant [Chi2=3.55; p=0.0298]. The Intraclass Correlation Coefficient of the variable family physician was 0.118 (95% Confidence Interval: 0.036-0.327). We then checked the likelihood-ratio test of the null model with health centre and family physician as random factors versus the null model with only health centre [Chi2=0.00; p=0.9717]. We therefore decided to use multilevel logistic regression with health centre as the random component.

 Table S1. Model to predict drop-out\*.

Predictors	OR	95% CI	Р
Constant	0.53	0.30 - 0.95	0.032
Province (Granada as reference)			
Saragossa	1.45	0.89 - 2.34	0.135
Madrid	1.62	0.99 - 2.64	0.053
Logroño (La Rioja)	0.96	0.60 - 1.56	0.876
Majorca	3.09	1.90 - 5.03	<0.001
Las Palmas	2.07	1.16-3.70	0.013
Gender (Female as reference)			
Male	1.36	1.45 – 1.61	< 0.001
Age (range 18-75 years)	0.986	0.978 - 0.994	0.001
Country of birth (Spain as reference)			
Other	1.34	0.96 – 1.87	0.082
Marital status (Married as reference)			
Separated	1.08	0.78 – 1.50	0.652
Widowed	1.02	0.75 – 1.37	0.921
Divorced	1.33	0.84 – 2.11	0.223
Single	1.15	0.92 – 1.42	0.221
Employment (Employed as reference)			
Unemployed	1.05	0.79 – 1.41	0.729
Retired	1.27	0.98 – 1.65	0.076
Unable to work	0.94	0.70 - 1.27	0.693
Looking after family	0.88	0.70 – 1.11	0.292
Full-time student	0.61	0.37 - 1.03	0.063
Education (Beyond secondary as reference)			
Secondary education	1.09	0.84 - 1.42	0.520
Primary education	1.43	1.11 – 1.84	0.005
Incomplete primary education or illiterate	1.81	1.33 – 2.47	<0.001
Housing status (Mortgage as reference)			
Owned and paid	0.88	0.74 – 1.05	0.169
Rented	1.57	1.21 – 2.04	0.001
Other	1.08	0.71 – 1.64	0.716
Enough money to afford food or clothing (Always as reference)			
Often	1.01	0.83 – 1.24	0.901
Sometimes	0.95	0.74 – 1.20	0.640
Seldom	2.14	1.13 – 4.06	0.020
Never	0.93	0.44 – 1.97	0.854
Satisfaction with the area where you live (Very satisfied as reference)			
Satisfied	1.14	0.96 – 1.36	0.142
Neither satisfied nor dissatisfied	1.15	0.91 – 1.48	0.253
Dissatisfied	1.72	1.44 – 2.59	0.009
Very dissatisfied	1.20	0.76 – 1.88	0.441
Cigarette consumption per day (Non-smoking as reference)			
<10	1.25	0.98 – 1.60	0.072
10-20	1.10	0.87 – 1.39	0.426
>20	0.97	0.69 – 1.37	0.876
Mental health (SF-12, range= 0-100)	0.994	0.989 – 1.001	0.127

<sup>\*</sup> Multi-level logistic regression with Health Centre and Family Physician as random components.

**Table S2.** Weighted and unweighted predictAL-10\* model by the inverse probability of remaining in the follow-up to 12 months (IPW).

Risk factors	<sup>a</sup> PredictAL-10 adjusted for IPW			<sup>b</sup> PredictAL-10 not adjusted for IPW		
	OR	95% C.I.	р	OR	95% C.I.	р
Constant	0.0008	0.0001 - 0.0071	<0.001	0.0011	0.0001 - 0.0093	<0.001
Province						
Granada (Reference)	1.0			1.0		
Saragossa	2.02	0.49 - 8.37	0.333	2.10	0.67 – 6.58	0.201
Madrid	0.72	0.15 – 3.56	0.690	0.80	0.19 – 3.37	0.764
Logroño (La Rioja)	7.12	2.05 – 24.79	0.002	6.10	2.05 – 18.13	0.001
Majorca	5.32	1.11 – 25.62	0.037	5.12	1.57 – 16.76	0.007
Las Palmas	3.16	0.61 - 16.28	0.170	3.72	0.95 - 14.63	0.060
Gender						
Female (Reference)	1.0			1.0		
Male	3.20	1.29 – 7.91	0.012	3.51	2.02 - 6.08	<0.001
Age (range 18-75 years)	0.993	0.972 – 1.015	0.539	0.994	0.963 - 1.025	0.699
AUDIT-C	2.51	1.63 – 3.85	<0.001	2.42	1.59 – 3.71	<0.001
AUDIT-C*Age	0.991	0.984 - 0.999	0.045	0.992	0.983 - 1.001	0.076
Cigarette consumption per day						
Non-smoking (Reference)	1.0					
<10	2.39	1.21 – 4.73	0.012	2.13	1.01 – 4.50	0.046
10-20	1.28	0.51 – 3.18	0.600	1.15	0.51 – 2.60	0.729
>20	3.48	1.31 – 9.27	0.013	3.84	1.74 – 8.50	0.001
Financial strain						
Living comfortably (Reference)	1.0			1.0		
Doing alright	1.94	0.48 - 7.82	0.351	1.54	0.45 - 5.24	0.490
Finding it difficult or very difficult	4.19	0.98 - 17.84	0.053	3.19	0.86 – 11.77	0.082
Ever treated for alcohol problems						
No (Reference)	1.0	-				·
Yes	11.77	1.98 – 70.05	0.007	10.52	2.23 - 49.67	0.003
Sexual abuse in childhood		-				·
No (never) (Reference)	1.0			1.0		
Yes (rarely, sometimes, often, frequently)	5.07	1.71 – 15.09	0.003	4.72	1.65 – 13.45	0.004

<sup>\*</sup> Multi-level logistic regression with health centre as a random component. a C-Index = 0.886 (95% CI=0.854-0.918).

<sup>&</sup>lt;sup>b</sup> C-index = 0.886 (95% C.I = 0.853 - 0.920). Test for the difference: chi2 (degree of freedom:1)=0.15; P= 0.691.

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