

**Supplementary Table 1. International Lung Cancer Consortium and Synergy Consortia study-specific details, alcohol in never smokers.**

Study abbreviation	Study name	Principal Investigator(s)	Reference	Country/Continent	Study Period	Study Design/Control type*	Cases	Controls
NCI-Maryland	National Cancer Institute Lung Cancer Study	C.C. Harris	Meinhold CL et al., 2011, <i>Int J Cancer</i> 128:1404.	U.S.A./N.A.	1998-2009	Pop. & Hosp. C-C	87	446
HSPH	Harvard School of Public Health Lung Cancer Study	D. Christiani	Miller DP et al., 2002, <i>Cancer Res</i> 62:2819.	U.S.A./N.A.	1992-2008	Hosp. C-C	174	69
NELCS	New England Lung Cancer Study	E. Duell	Heck JE et al., 2009, <i>Environ Health Perspect</i> 117:1718.	U.S.A./N.A.	2005-2008	Pop. C-C	9	93
MSK	Memorial Sloan-Kettering Cancer Centre	I. Orlow, B. Park	NA	U.S.A./N.A.	2003-2006	Hosp. C-C	73	72
WELD	Women's Epidemiology of Lung Disease	A.G. Schwartz	Schwartz AG et al., 2009, <i>J thorac Oncol</i> 4:291.	U.S.A./N.A.	2001-2005	Pop. C-C	54	282
UCLA	UCLA-USC Health Study	ZF. Zhang	Cui Y et al., 2006, <i>Int J Cancer</i> 118:714.	U.S.A./N.A.	1999-2004	Pop. C-C	109	470
Moffitt	Moffitt study of lung cancer	P. Lazarus	Gallagher CJ et al., 2007, <i>Cancer Epidemiol Biomarkers Prev</i> 16:823.	U.S.A./N.A.	1999-2003	Hosp. C-C	44	345
FHS	Family Health Study III	A.G. Schwartz	Cote ML et al., 2005, <i>JAMA</i> 293:3036.	U.S.A./N.A.	1990-2003	Pop. C-C	66	277
Toronto	Greater Toronto Area Lung Cancer Study	J. McLaughlin	Brenner DR et al., 2010, <i>BMC Cancer</i> 10:285.	Canada/N.A.	1997-2002	Pop. & Hosp. C-C	88	336
Montreal	Montreal case-control study of environmental causes of cancer	J. Siemiatycki	Benedetti A et al., 2006. <i>Cancer Causes Control</i> 17:469.	Canada/N.A.	1996-2002	Pop. C-C	44	431
Hawaii	Study of Diet and Cancer (University of Hawaii)	L. LeMarchand	Le Marchand L et al., 2000, <i>JNCI</i> 92:154.	U.S.A./Hawaii/N.A.	1992-1997	Pop. C-C	32	168
CAPUA	Cancer de Pulmon en Asturias	A. Tardon	López-Cima MF et al., 2012, <i>BMC Cancer</i> 12:433.	Spain/Europe	2000-2010	Hosp. C-C	41	191
Spain	Spain Lung Cancer Study	J.M. Barros-Dios	Barros-Dios JM et al., 2012, <i>Cancer Epidemiol Biomarkers Prev</i> 21:951.	Spain/Europe	2005-2007	Hosp. C-C	57	228
Israel	Molecular Epidemiology of Lung Cancer	G. Rennert	NA	Israel/Europe	2005-	Pop. C-C	92	168
ICARE	Investigation of occupational and environmental causes of respiratory cancers	I. Stucker	Luce D et al., 2011, <i>BMC Public Health</i> 11:928.	France/Europe	2001-2007	Pop. C-C	221	1233
EAGLE	Environment and Genetics in Lung Cancer Etiology	M.T. Landi	Landi MT et al., 2008, <i>BMC Public Health</i> 8:1471.	Italy/Europe	2002-2005	Pop. C-C	112	636
ESTHER	ESTHER Study	H. Brenner	Truong T et al., 2010, <i>JNCI</i> 102:959.	Germany/Europe	2001-2003	Pop. C-C	20	70
CE	INCO Central Europe Health Study	P. Boffetta, P. Brennan	Brennan P et al., 2006 <i>Am J Epidemiol</i> 164:1233.	Europe/Multi-country	1998-2002	Pop. & Hosp. C-C	210	908
EPIC	European Prospective Investigation of Cancer	P. Vineis	Riboli E. et al., 1992, <i>Ann Oncol</i> 3:783. Rohrmann S et al, 2006, <i>AJE</i> 164 :1103	Europe/Multi-country	1993-1998	Cohort	221	1103
Seoul	Seoul Study of lung cancer	Y.C. Hong	Kim JH et al., 2013. <i>Environ Health Toxicol</i> 28:e2013012.	Korea/Asia	2001-2008	Hosp. C-C	153	345
Aichi	Aichi Cancer Centre	K. Matsuo	Ito H et al., 2013, <i>Ann Oncol</i> 24:2870.	Japan/Asia	2001-2005	Hosp. C-C	381	1224
China	National Cancer Institute - China	Q. Lan	Lan Q et al., 2000, <i>Cancer Epidemiol Biomarkers Prev</i> 9:605.	China/Asia	1985-1990	Pop. C-C	260	267

\*Hosp. = Hospital-based control sampling, Pop. = Population-based control sampling, C-C= Case-Control study.

**Supplementary Table 2. Alcohol data availability and details across studies.**

Study name	Ever drinker definition	Current drinker definition	Duration variables	Intensity variables	Wine Detail	Other Beverages included				notes
						Beer size	wine size	liquor size	other size	
NCI-Maryland	"more than 12 bevs per year ever"	none - can calculate	yes	yes	no	no	cans, bottles or 12oz glass	4oz glass	1.5 oz shots	
HSPH	did you ever drink	do you drink now	yes	yes	no	no	bottles/cans	glasses	ounces	
NELCS	two years ago how often did you drink...?	two years ago how often did you drink...?	no	yes	yes	no				
MSK	"ever had a glass of .."	none - can calculate	yes	yes	no	no				
WELD	at least once a month for six months or more	none	yes	yes	no	no	12 oz cans or bottles	4oz glass	1oz shots	
UCLA	one alcoholic drink per month for at least 6 months	none - can calculate	yes	yes	no	no	cans or pints or glasses	glasses, bottle, 375, 750	drinks or ounces or shots	pints x1.5 cans
Moffitt	"at least once a week for one year"	do you still drink...?"	yes	yes	yes	other/liquor	12 oz beer	3.6 oz glass	shots	
FHS	at least once a month for six months or more	none	yes	yes	no	no	12 oz cans or bottles	4oz glass	1oz shots	
Toronto	only asks two years ago	two years ago*	no	yes	yes	port	12 oz bottle	5 oz glass	1.5 oz shots	3 oz shots sherry, port, liqueur
Montreal	"ever drink.... Regularly?'"	do you still drink it regularly...?"	yes	yes	no	no	drinks	drinks	drinks	
Hawaii	ever drinker on a weekly basis	do you currently drink....?"	yes	yes	no	no	12 oz can	4 oz glass	1.5 oz shots	

Supplementary Table 2 (continued).

Study name	Ever drinker definition	Current drinker definition	Duration variables	Intensity variables	Wine Detail	Other Beverages					notes
						included	Beer size	wine size	liquor size	other size	
CAPUA	only asks two years ago	past five years	no	yes	yes	champagne, cider, brandy	in 200ml increments /d/w/m	in 100ml increments d/w/m	in 50ml increments d/w/m	champagne or cider 25ml/d/w/m	
Spain	ever drink	none - can calculate	yes	yes	yes		glasses	glasses	glasses	brandy, jerez, aguardiente	
Israel	at least once a week for one year	none	yes	yes	yes	other/liquor	beer, can	wine, glass	shot glass		
ICARE	none - can calculate	regular alcohol consumption everyday (at least 1/2 litre of wine per day)	yes	yes	no	aperitif	nombre de verres	nombre de verres	nombre de verres		
EAGLE	yes	"during the last year"	yes	yes	no	aperitif	cans or bottles of beer	glasses of wine	glasses of hard liquor, bitters, liqueurs		
ESTHER	none - can calculate	how many days per week have you drunk alcohol in the last 12 months	yes	yes	no	no	beer .33L	wine .25L	.02L		
CE	"Have you ever consumed alcoholic drinks?"	one year ago	yes	yes	no	no	bottles	glasses	grams		
EPIC	multiple time variables	drinks at recruitment	yes	yes	no	fortified wine	glasses	glasses	glasses	fortified wine - glasses	
Seoul	none - can calculate	"how often do you drink more than two cups of soju or beer?"	no	yes	no	sake, sochu	soju - bottles				average bottle of soju is 375 ml
Aichi	do you drink....		yes	yes	no	sake, sochu					
China	have you drank....?	do you drink... now?	yes	yes	no	other	can	glasses	drinks	other drinks	

**Supplementary Table 3. Risk estimates and 95% CI by average amount of alcohol consumed per day by sex.**

Alcohol consumed (g/day)	Cases (percent)	Controls (percent)	OR	95% CI
<u>Female</u>				
Never drinker	1157 (58.5)	2532 (47.3)	1.00	Reference
0-4.9	500 (25.3)	1652 (30.9)	0.80	0.69, 0.93
5-9.9	141 (7.1)	570 (10.7)	0.84	0.67, 1.05
10-19.9	115 (5.8)	412 (7.7)	0.85	0.66, 1.09
20-29.9	31 (1.6)	106 (2.0)	0.73	0.47, 1.14
30-44.9	11 (0.6)	49 (0.9)	0.55	0.27, 1.10
45+	23 (1.2)	30 (0.6)	1.19	0.60, 2.35
<u>Male</u>				
Never drinker	181 (31.8)	956 (23.8)	1.00	Reference
0-4.9	132 (23.2)	955 (23.8)	0.89	0.68, 1.17
5-9.9	76 (13.3)	541 (13.5)	0.87	0.63, 1.20
10-19.9	74 (13.0)	688 (17.2)	0.74	0.53, 1.02
20-29.9	47 (8.2)	339 (8.5)	0.95	0.64, 1.42
30-44.9	25 (4.4)	257 (6.4)	0.85	0.52, 1.37
45+	35 (6.1)	275 (6.9)	0.96	0.61, 1.51

Adjusted for age-group, sex, ethnicity, education, and centre/sub-centre. Includes all studies.

**Supplementary Table 4. Risk estimates and 95% CI by average amount of alcohol consumed per day, by study design**

Study type/ alcohol consumed (g/day)	Cases (percent)	Controls (percent)	OR	95% CI
<u>Population case-control</u>				
Never drinker	608 (59.7)	1377 (33.6)	1.00	NA
0-4.9	195 (19.1)	1071 (26.2)	0.68	0.55, 0.85
5-9.9	83 (8.2)	511 (12.5)	0.77	0.58, 1.02
10-19.9	70 (6.9)	578 (14.1)	0.55	0.41, 0.75
20-29.9	33 (3.2)	267 (6.5)	0.59	0.39, 0.89
30-44.9	14 (1.4)	178 (4.4)	0.44	0.24, 0.78
45+	16 (1.6)	113 (2.8)	0.79	0.45, 1.41
<u>Cohort (EPIC)</u>				
Never drinker	23 (10.4)	149 (13.5)	1.00	NA
0-4.9	103 (46.6)	484 (43.9)	1.42	0.85, 2.39
5-9.9	43 (19.5)	218 (19.8)	1.32	0.74, 2.37
10-19.9	34 (15.4)	152 (13.8)	1.53	0.83, 2.84
20-29.9	7 (3.2)	50 (4.5)	0.96	0.37, 2.49
30-44.9	6 (2.7)	33 (3.0)	1.21	0.43, 3.42
45+	5 (2.3)	17 (1.5)	1.92	0.59, 6.21
<u>Hospital case-control</u>				
Never drinker	507 (54.9)	1293 (52.3)	1.00	NA
0-4.9	235 (25.5)	563 (22.8)	0.89	0.71, 1.11
5-9.9	59 (6.4)	213 (8.6)	0.85	0.59, 1.22
10-19.9	55 (6.0)	195 (7.9)	1.04	0.71, 1.52
20-29.9	25 (2.7)	62 (2.5)	1.28	0.72, 2.30
30-44.9	13 (1.4)	49 (2.0)	1.52	0.73, 3.18
45+	29 (3.1)	99 (4.0)	1.23	0.68, 2.22

Adjusted for age-group, sex, ethnicity, education, and center/sub-center. Population case-control includes: China, EAGLE, ESTHER, FHS, Hawaii, ICARE, Israel, Montreal, NELC, UCLA, WELD. Hospital Case-control includes AICHI, CAPUA, HSPH, MSKCC, Moffitt, Seoul, Spain. Cohort includes EPIC study.