The association between socioeconomic status and receipt of Brief Interventions for smoking and drinking: analysis of a population-based household survey: Supplementary material

Smoker definition
'Past-year smokers' were defined as those who responded to the question 'Do you smoke or have you ever smoked' with 'I smoke cigarettes (including hand-rolled) every day', 'I smoke cigarettes (including hand-rolled), but not every day', 'I do not smoke cigarettes at all, but I do smoke tobacco of some kind (e.g. pipe, cigar or shisha)' or 'I have stopped smoking completely in the last year'. E-cigarettes were specifically excluded from the definition of cigarettes in the question. Recent quitters were included in the sample to capture individuals who may have given up following a BI received in primary care.

Outcome measures
Among smokers, BI receipt was assessed by asking 'Has your GP spoken to you about smoking in the past year (i.e. last 12 months)?' Respondents were encouraged to select all options that applied and were classified into those who received a BI (those selecting at least one of four options: i) 'Yes, he/she advised me to stop but did not offer anything'; ii) 'Yes, he/she suggested that I go to a specialist stop smoking advisor or group'; iii) 'Yes, he/she suggested that I see a nurse in the practice'; iv) 'Yes, he/she offered me a prescription for Champix/Zyban, a nicotine patch, nicotine gum or other nicotine product') and those who did not (i.e. those who did not select any of options i) to iv) but did select one of 'No, I have seen my GP in the last year but he/she has not spoken to me about smoking' or 'Yes, he/she asked me about my smoking but did not advise me to stop smoking').

Among risky drinkers, BI receipt was assessed by asking 'In the last 12 months, has a doctor or other health worker within your GP surgery discussed your drinking?' Respondents were encouraged to select all options that applied and were classified into those who received a BI (those selecting at least one of three options: i) 'Yes, a doctor or other health worker within my GP surgery offered advice about cutting down my drinking'; ii) 'Yes, a doctor or other health worker within my GP surgery offered help or support within the surgery to help me cut down'; iii) 'Yes, a doctor or other health working within my GP surgery referred me to an alcohol service or advised me to seek specialist help') and those who did not (i.e. those who did not select any of options i) to iii) but did select one of 'No, I have seen a doctor or health worker within my GP surgery but did not discuss my drinking' or 'Yes, a doctor or other health worker within my GP surgery asked about my drinking').

Analysis using unweighted data

Table S1 - Descriptive analysis of prevalence, GP attendance and BI delivery rates for smokers and risky drinkers by socioeconomic status (unweighted, 95% Confidence Intervals in brackets)

		Past year smokers			Risky drinkers		
		Prevalence in population	Visited GP in past year	Received BI | visited GP	Prevalence in population	Visited GP in past year	Received BI | visited GP
Population		20.6% (20.3 to 21)	64.8% (63.9 to 65.7)	49.7% (48.5 to 50.9)	12.6% (12.3 to 12.7)	65.4% (64.2 to 66)	6.5% (5.7 to 6.9)
Social grade	AB	11.2% (10.6 to 11.8)	65.1% (62.4 to 67.9)	47.5% (43.9 to 51)	13.6% (12.9 to 13.9)	69.4% (67 to 70.7)	5.6% (4.2 to 6.4)
	C1	17.5% (16.9 to 18.1)	64.4% (62.6 to 66.3)	48.6% (46.2 to 51)	14.3% (13.8 to 14.6)	66% (64 to 67)	5% (3.9 to 5.6)
	C2	23.4% (22.5 to 24.2)	61.3% (59.3 to 63.3)	46.6% (44.1 to 49.2)	12.2% (11.5 to 12.5)	61.9% (59.2 to 63.3)	5.2% (3.6 to 6.1)
	D	26.8% (25.8 to 27.8)	63.9% (61.8 to 66)	50.5% (47.8 to 53.2)	9.3% (8.7 to 9.7)	65.3% (61.8 to 67)	6.9% (4.6 to 8)
	E	34.3% (33 to 35.5)	70.5% (68.5 to 72.6)	55.2% (52.4 to 57.9)	10.9% (10.1 to 11.4)	60.5% (56.5 to 62.5)	17% (13.1 to 19.1)
Education	University	12.7% (12.2 to 13.3)	61.9% (59.6 to 64.2)	45.8% (42.8 to 48.8)	12.7% (12.1 to 13)	67.1% (64.9 to 68.2)	5.5% (4.2 to 6.2)
	A-level	20.8% (20 to 21.6)	62.1% (59.9 to 64.3)	49.3% (46.4 to 52.1)	18.7% (17.9 to 19.1)	58.8% (56.4 to 60)	4.8% (3.5 to 5.5)
	GCSE	25.7% (25 to 26.4)	65.4% (63.8 to 66.9)	48.4% (46.4 to 50.5)	12.6% (12 to 12.9)	66.8% (64.5 to 67.9)	7% (5.5 to 7.8)
	Other	18.2% (17 to 19.5)	66.5% (63 to 69.9)	51.3% (46.8 to 55.8)	10.9% (9.9 to 11.4)	71.2% (66.8 to 73.4)	7.6% (4.6 to 9.2)
	None	25.9% (25 to 26.9)	67.8% (65.9 to 69.8)	54% (51.5 to 56.6)	6.7% (6.1 to 6.9)	70.7% (66.9 to 72.6)	11% (7.9 to 12.5)
Employment	Full time	22.1% (21.4 to 22.7)	57.2% (55.5 to 58.8)	46.9% (44.8 to 49.1)	15.9% (15.3 to 16.2)	60.7% (58.8 to 61.6)	4.3% (3.3 to 4.8)
	Other	19.9% (19.5 to 20.4)	69.1% (67.9 to 70.2)	51% (49.5 to 52.5)	10.9% (10.5 to 11.1)	68.8% (67.3 to 69.6)	7.8% (6.8 to 8.4)
Housing tenure	Owner	13.2% (12.8 to 13.6)	65.8% (64.3 to 67.3)	49.2% (47.2 to 51.1)	11.6% (11.2 to 11.8)	68.9% (67.3 to 69.7)	5.4% (4.5 to 5.9)
	Renter	32.5% (31.8 to 33.2)	64.5% (63.3 to 65.7)	50.2% (48.6 to 51.8)	14.2% (13.7 to 14.5)	61.1% (59.3 to 62.1)	8.1% (6.7 to 8.8)

Table S2 – Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: demographic- and behaviour-adjusted models

		Demographic-adjusted model			Behaviour-adjusted model		
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.36	***	1.14 to 1.61	1.32	**	1.1 to 1.59
	35-44	1.59	***	1.33 to 1.9	1.60	***	1.33 to 1.93
	45-54	2.02	***	1.7 to 2.41	2.01	***	1.67 to 2.42
	55-64	2.25	***	1.88 to 2.7	2.31	***	1.9 to 2.8
	65+	2.06	***	1.71 to 2.48	2.16	***	1.77 to 2.63
Gender	Male	Reference					
	Female	1.00		0.91 to 1.11	0.98		0.88 to 1.09
Region	North	Reference					
	Midlands	0.93		0.82 to 1.06	0.92		0.81 to 1.05
	South	0.87	*	0.78 to 0.98	0.86	*	0.76 to 0.97
Children in the household	None	Reference					
	≥1	1.12		0.99 to 1.26	1.07		0.94 to 1.21
Self-reported disability	No	Reference					
	Yes	1.43	***	1.25 to 1.62	1.45	***	1.26 to 1.66
Ethnicity	White	Reference					
	Mixed race	0.83		0.56 to 1.22	0.78		0.52 to 1.17
	Asian	0.94		0.75 to 1.18	0.89		0.7 to 1.12
	Black	1.29		0.92 to 1.81	1.12		0.78 to 1.61
	Arab/other	1.04		0.62 to 1.73	1.00		0.57 to 1.76
Time trend (monthly)		1.00		0.99 to 1	1.00		0.99 to 1.01
Risky drinker (AUDIT 8+)	No				Reference		
	Yes				0.89		0.78 to 1.01
Motivation to cut down smoking	None				Reference		
	Moderate				1.42	***	1.25 to 1.6
	High				2.21	***	1.87 to 2.61
Constant		0.60		0.31 to 1.19	0.46	*	0.23 to 0.95

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S3 - Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: socioeconomic adjusted models 1 & 2

		Socioeconomic-adjusted models 1 & 2					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.35	**	1.12 to 1.62	1.34	**	1.12 to 1.61
	35-44	1.64	***	1.36 to 1.98	1.63	***	1.35 to 1.97
	45-54	2.05	***	1.7 to 2.47	2.04	***	1.7 to 2.46
	55-64	2.36	***	1.94 to 2.87	2.31	***	1.89 to 2.81
	65+	2.22	***	1.82 to 2.72	2.13	***	1.73 to 2.62
Gender	Male	Reference					
	Female	0.96		0.86 to 1.08	0.98		0.88 to 1.09
Region	North	Reference					
	Midlands	0.93		0.82 to 1.06	0.92		0.81 to 1.05
	South	0.87	*	0.77 to 0.99	0.86	*	0.76 to 0.98
Children in the household	None	Reference					
	≥1	1.05		0.92 to 1.2	1.06		0.93 to 1.21
Self-reported disability	No	Reference					
	Yes	1.38	***	1.2 to 1.58	1.42	***	1.24 to 1.63
Ethnicity	White	Reference					
	Mixed race	0.77		0.51 to 1.16	0.79		0.52 to 1.19
	Asian	0.86		0.68 to 1.09	0.89		0.7 to 1.12
	Black	1.10		0.77 to 1.58	1.12		0.78 to 1.62
	Arab/other	1.01		0.58 to 1.78	1.01		0.57 to 1.76
Time trend (monthly)		1.00		0.99 to 1.01	1.00		0.99 to 1.01
Risky drinker (AUDIT 8+)	No	Reference					
	Yes	0.90		0.79 to 1.03	0.90		0.79 to 1.02
Motivation to cut down smoking	None	Reference					
	Moderate	1.43	***	1.26 to 1.62	1.43	***	1.26 to 1.61
	High	2.25	***	1.9 to 2.66	2.23	***	1.89 to 2.64
Social grade	AB	Reference					
	C1	1.09		0.9 to 1.31			
	C2	0.92		0.76 to 1.12			
	D	1.21		0.99 to 1.47			
	E	1.29	*	1.06 to 1.58			
Education	University				Reference		
	A-level				1.20	*	1 to 1.45
	GCSE				1.10		0.94 to 1.29
	Other				1.16		0.92 to 1.48
	None				1.22	*	1.02 to 1.46
Constant		0.44	*	0.21 to 0.92	0.41	*	0.19 to 0.85

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S4 - Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: socioeconomic-adjusted models 3 & 4

		Socioeconomic-adjusted models 3 & 4					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.34	**	1.12 to 1.61	1.32	**	1.11 to 1.59
	35-44	1.62	***	1.34 to 1.96	1.63	***	1.35 to 1.97
	45-54	2.03	***	1.69 to 2.45	2.07	***	1.72 to 2.5
	55-64	2.31	***	1.9 to 2.8	2.41	***	1.97 to 2.94
	65+	2.12	***	1.73 to 2.59	2.27	***	1.85 to 2.78
Gender	Male	Reference					
	Female	0.97		0.87 to 1.08	0.98		0.87 to 1.09
Region	North	Reference					
	Midlands	0.93		0.81 to 1.06	0.93		0.81 to 1.06
	South	0.86	*	0.76 to 0.97	0.85	*	0.75 to 0.96
Children in the household	None	Reference					
	≥1	1.06		0.93 to 1.21	1.06		0.93 to 1.21
Self-reported disability	No	Reference					
	Yes	1.42	***	1.24 to 1.63	1.41	***	1.22 to 1.62
Ethnicity	White	Reference					
	Mixed race	0.78		0.52 to 1.17	0.77		0.51 to 1.16
	Asian	0.88		0.7 to 1.12	0.91		0.71 to 1.15
	Black	1.12		0.78 to 1.61	1.11		0.77 to 1.6
	Arab/other	1.01		0.58 to 1.77	0.98		0.56 to 1.73
Time trend (monthly)		1.00		0.99 to 1.01	1.00		0.99 to 1.01
Risky drinker (AUDIT 8+)	No	Reference					
	Yes	0.89		0.78 to 1.02	0.89		0.78 to 1.02
Motivation to cut down smoking	None	Reference					
	Moderate	1.42	***	1.26 to 1.61	1.43	***	1.26 to 1.61
	High	2.22	***	1.88 to 2.62	2.22	***	1.88 to 2.63
Employment status	Full-time	Reference					
	Other	1.07		0.95 to 1.22			
Housing tenure	Owned				Reference		
	Rented				1.14	*	1.01 to 1.27
Constant		0.45	*	0.22 to 0.92	0.43	*	0.21 to 0.88

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Table S5 - Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: demographic- and behaviour-adjusted models

		Demographic-adjusted model			Behaviour-adjusted model		
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.77		1 to 3.15	1.62		0.87 to 3.03
	35-44	2.92	***	1.7 to 5	2.52	**	1.41 to 4.53
	45-54	3.22	***	1.98 to 5.24	3.44	***	2.03 to 5.82
	55-64	2.41	**	1.45 to 4.01	3.52	***	2.03 to 6.13
	65+	2.54	***	1.52 to 4.25	4.72	***	2.68 to 8.3
Gender	Male	Reference					
	Female	0.72	*	0.53 to 0.96	0.67	*	0.48 to 0.93
Region	North	Reference					
	Midlands	1.26		0.9 to 1.75	1.30		0.9 to 1.88
	South	1.01		0.75 to 1.36	0.96		0.69 to 1.34
Children in the household	None	Reference					
	≥1	0.72		0.5 to 1.04	0.95		0.64 to 1.41
Self-reported disability	No	Reference					
	Yes	2.91	***	2.16 to 3.91	1.91	***	1.36 to 2.68
Ethnicity	White	Reference					
	Mixed race	1.45		0.5 to 4.19	1.61		0.51 to 5.09
	Asian	2.15		0.73 to 6.28	1.76		0.51 to 6.08
	Black	0.78		0.18 to 3.33	0.61		0.13 to 2.88
	Arab/other	3.90		0.76 to 20.07	7.04	*	1.27 to 38.91
Time trend (monthly)		1.00		0.99 to 1.02	1.00		0.99 to 1.02
Past year smoker	No				Reference		
	Yes				1.20		0.88 to 1.64
Motivation to cut down drinking	None				Reference		
	Moderate				2.64	***	1.91 to 3.65
	High				4.54	***	2.96 to 6.96
AUDIT Score	8-15				Reference		
	16-19				2.78	***	1.79 to 4.33
	20+				11.88	***	8.18 to 17.26
Constant		0.04	***	0.01 to 0.22	0.01	***	0 to 0.06

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Table S6 - Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: socioeconomic-adjusted models 1 & 2

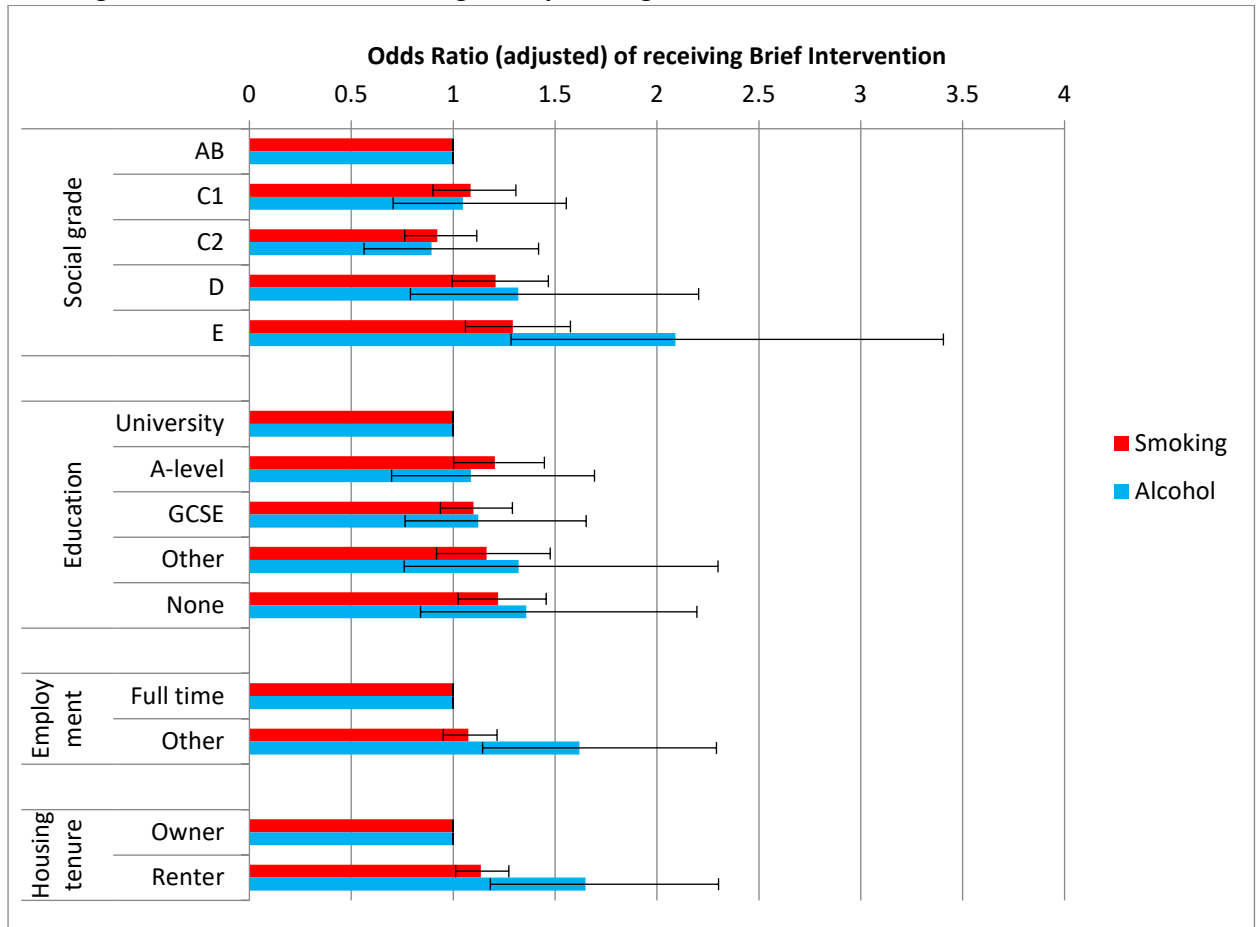|		Socioeconomic-adjusted models 1 & 2					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.59		0.85 to 2.99	1.63		0.86 to 3.1
	35-44	2.40	**	1.33 to 4.33	2.54	**	1.39 to 4.64
	45-54	3.22	***	1.88 to 5.51	3.40	***	1.96 to 5.89
	55-64	3.38	***	1.93 to 5.92	3.43	***	1.93 to 6.09
	65+	4.64	***	2.61 to 8.23	4.51	***	2.49 to 8.16
Gender	Male	Reference					
	Female	0.66	*	0.47 to 0.91	0.68	*	0.49 to 0.94
Region	North	Reference					
	Midlands	1.31		0.91 to 1.9	1.29		0.9 to 1.87
	South	1.01		0.73 to 1.41	0.99		0.71 to 1.38
Children in the household	None	Reference					
	≥1	0.96		0.64 to 1.43	0.95		0.64 to 1.41
Self-reported disability	No	Reference					
	Yes	1.67	**	1.17 to 2.38	1.84	**	1.3 to 2.6
Ethnicity	White	Reference					
	Mixed race	1.60		0.5 to 5.08	1.57		0.49 to 4.99
	Asian	1.69		0.5 to 5.73	1.80		0.52 to 6.22
	Black	0.52		0.11 to 2.47	0.61		0.13 to 2.88
	Arab/other	7.78	*	1.43 to 42.22	6.80	*	1.21 to 38.21
Time trend (monthly)		1.00		0.99 to 1.02	1.00		0.99 to 1.02
Past year smoker	No	Reference					
	Yes	1.08		0.78 to 1.49	1.17		0.85 to 1.6
Motivation to cut down drinking	None	Reference					
	Moderate	2.74	***	1.98 to 3.8	2.70	***	1.95 to 3.73
	High	4.66	***	3.03 to 7.17	4.61	***	3 to 7.08
AUDIT Score	8-15	Reference					
	16-19	2.62	***	1.68 to 4.09	2.70	***	1.74 to 4.21
	20+	10.77	***	7.38 to 15.73	11.69	***	8.04 to 17
Social grade	AB	Reference					
	C1	1.05		0.71 to 1.55			
	C2	0.89		0.56 to 1.42			
	D	1.32		0.79 to 2.2			
	E	2.09	**	1.28 to 3.41			
Education	University				Reference		
	A-level				1.09		0.7 to 1.69
	GCSE				1.12		0.76 to 1.65
	Other				1.32		0.76 to 2.3
	None				1.36		0.84 to 2.2
Constant		0.01	***	0 to 0.06	0.01	***	0 to 0.05

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S7 - Unweighted logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: socioeconomic-adjusted models 3 & 4

		Socioeconomic-adjusted models 3 & 4					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.83		0.97 to 3.45	1.70		0.91 to 3.18
	35-44	2.91	***	1.6 to 5.27	2.83	**	1.57 to 5.12
	45-54	3.86	***	2.26 to 6.6	3.98	***	2.33 to 6.82
	55-64	3.53	***	2.03 to 6.13	4.30	***	2.43 to 7.61
	65+	4.19	***	2.37 to 7.4	5.94	***	3.3 to 10.69
Gender	Male	Reference					
	Female	0.63	**	0.45 to 0.88	0.67	*	0.48 to 0.93
Region	North	Reference					
	Midlands	1.32		0.91 to 1.9	1.32		0.92 to 1.91
	South	0.95		0.68 to 1.32	0.98		0.7 to 1.36
Children in the household	None	Reference					
	≥1	0.96		0.64 to 1.43	0.96		0.65 to 1.44
Self-reported disability	No	Reference					
	Yes	1.75	**	1.24 to 2.47	1.72	**	1.22 to 2.44
Ethnicity	White	Reference					
	Mixed race	1.58		0.5 to 5.03	1.53		0.49 to 4.81
	Asian	1.84		0.54 to 6.26	1.66		0.48 to 5.74
	Black	0.57		0.12 to 2.73	0.57		0.12 to 2.7
	Arab/other	6.66	*	1.16 to 38.28	7.28	*	1.28 to 41.44
Time trend (monthly)		1.00		0.99 to 1.02	1.00		0.99 to 1.02
Past year smoker	No	Reference					
	Yes	1.17		0.85 to 1.6	1.05		0.76 to 1.45
Motivation to cut down drinking	None	Reference					
	Moderate	2.64	***	1.91 to 3.65	2.73	***	1.97 to 3.78
	High	4.38	***	2.85 to 6.73	4.58	***	2.99 to 7.02
AUDIT Score	8-15	Reference					
	16-19	2.73	***	1.76 to 4.25	2.72	***	1.75 to 4.23
	20+	11.43	***	7.86 to 16.64	11.32	***	7.78 to 16.48
Employment status	Full-time	Reference					
	Other	1.62	**	1.14 to 2.29			
Housing tenure	Owned				Reference		
	Rented				1.65	**	1.18 to 2.3
Constant		0.01	***	0 to 0.05	0.01	***	0 to 0.04

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Figure S1 – Unweighted independent effects of four measures of socioeconomic status on Odds Ratio of receiving a Brief Intervention for smoking or risky drinking

Analysis using complete cases only

Table S8 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: demographic- and behaviour-adjusted models

		Demographic-adjusted model			Behaviour-adjusted model		
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.37	**	1.14 to 1.65	1.34	**	1.1 to 1.63
	35-44	1.54	***	1.27 to 1.87	1.53	***	1.25 to 1.88
	45-54	2.00	***	1.66 to 2.42	1.98	***	1.63 to 2.42
	55-64	2.17	***	1.78 to 2.64	2.19	***	1.77 to 2.71
	65+	2.04	***	1.67 to 2.49	2.13	***	1.71 to 2.64
Gender	Male	Reference					
	Female	1.01		0.91 to 1.13	0.97		0.86 to 1.09
Region	North	Reference					
	Midlands	0.94		0.82 to 1.07	0.93		0.81 to 1.07
	South	0.80	**	0.7 to 0.91	0.78	***	0.68 to 0.89
Children in the household	None	Reference					
	≥1	1.14		1 to 1.31	1.08		0.94 to 1.25
Self-reported disability	No	Reference					
	Yes	1.39	***	1.21 to 1.6	1.42	***	1.23 to 1.64
Ethnicity	White	Reference					
	Mixed race	0.93		0.61 to 1.41	0.86		0.55 to 1.34
	Asian	0.88		0.69 to 1.12	0.81		0.63 to 1.05
	Black	1.14		0.79 to 1.64	0.94		0.64 to 1.4
	Arab/other	0.97		0.56 to 1.67	0.94		0.52 to 1.71
Time trend (monthly)		1.00		0.99 to 1.01	1.00		1 to 1.01
Risky drinker (AUDIT 8+)	No				Reference		
	Yes				0.86	*	0.74 to 0.99
Motivation to cut down smoking	None				Reference		
	Moderate				1.40	***	1.22 to 1.6
	High				2.13	***	1.77 to 2.55
Constant		0.45	*	0.21 to 0.93	0.33	**	0.15 to 0.73

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S9 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: socioeconomic-adjusted models 1 & 2

		Socioeconomic-adjusted models 1 & 2					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.36	**	1.12 to 1.66	1.37	**	1.12 to 1.66
	35-44	1.58	***	1.29 to 1.94	1.58	***	1.28 to 1.94
	45-54	2.03	***	1.66 to 2.48	2.04	***	1.67 to 2.5
	55-64	2.26	***	1.83 to 2.79	2.22	***	1.79 to 2.75
	65+	2.21	***	1.77 to 2.75	2.11	***	1.69 to 2.65
Gender	Male	Reference					
	Female	0.95		0.84 to 1.07	0.96		0.86 to 1.09
Region	North	Reference					
	Midlands	0.94		0.81 to 1.08	0.92		0.79 to 1.06
	South	0.79	**	0.69 to 0.91	0.78	***	0.68 to 0.89
Children in the household	None	Reference					
	≥1	1.07		0.93 to 1.23	1.08		0.93 to 1.24
Self-reported disability	No	Reference					
	Yes	1.35	***	1.16 to 1.57	1.39	***	1.2 to 1.61
Ethnicity	White	Reference					
	Mixed race	0.84		0.54 to 1.33	0.83		0.53 to 1.3
	Asian	0.80		0.62 to 1.03	0.83		0.64 to 1.08
	Black	0.93		0.62 to 1.37	0.97		0.65 to 1.44
	Arab/other	0.96		0.53 to 1.74	0.92		0.51 to 1.68
Time trend (monthly)		1.00		1 to 1.01	1.00		1 to 1.01
Risky drinker (AUDIT 8+)	No	Reference					
	Yes	0.87		0.76 to 1.01	0.87		0.75 to 1
Motivation to cut down smoking	None	Reference					
	Moderate	1.42	***	1.24 to 1.62	1.41	***	1.23 to 1.62
	High	2.18	***	1.81 to 2.62	2.14	***	1.78 to 2.58
Social grade	AB	Reference					
	C1	1.09		0.89 to 1.33			
	C2	0.95		0.77 to 1.17			
	D	1.27	*	1.03 to 1.57			
	E	1.32	*	1.06 to 1.63			
Education	University				Reference		
	A-level				1.23	*	1.01 to 1.51
	GCSE				1.14		0.96 to 1.36
	Other				1.19		0.92 to 1.55
	None				1.24	*	1.02 to 1.5
Constant		0.31	**	0.14 to 0.69	0.28	**	0.13 to 0.64

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Table S10 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking: socioeconomic-adjusted models 3 & 4

		Socioeconomic-adjusted models 3 & 4			
		OR	95% CI	OR	95% CI
Age	18-24	Reference			
	25-34	1.35 **	1.11 to 1.65	1.35 **	1.11 to 1.64
	35-44	1.55 ***	1.26 to 1.9	1.59 ***	1.3 to 1.96
	45-54	1.99 ***	1.63 to 2.43	2.03 ***	1.66 to 2.49
	55-64	2.19 ***	1.78 to 2.71	2.24 ***	1.8 to 2.79
	65+	2.10 ***	1.69 to 2.61	2.24 ***	1.79 to 2.8
Gender	Male	Reference			
	Female	0.96	0.85 to 1.08	0.99	0.87 to 1.11
Region	North	Reference			
	Midlands	0.93	0.81 to 1.08	0.93	0.8 to 1.07
	South	0.78 ***	0.68 to 0.89	0.77 ***	0.67 to 0.88
Children in the household	None	Reference			
	≥1	1.08	0.94 to 1.25	1.07	0.92 to 1.23
Self-reported disability	No	Reference			
	Yes	1.40 ***	1.2 to 1.62	1.41 ***	1.21 to 1.64
Ethnicity	White	Reference			
	Mixed race	0.86	0.55 to 1.34	0.86	0.55 to 1.33
	Asian	0.81	0.63 to 1.05	0.86	0.66 to 1.12
	Black	0.95	0.64 to 1.4	0.95	0.63 to 1.44
	Arab/other	0.95	0.52 to 1.72	0.94	0.52 to 1.7
Time trend (monthly)		1.00	1 to 1.01	1.00	1 to 1.01
Risky drinker (AUDIT 8+)	No	Reference			
	Yes	0.86 *	0.74 to 0.99	0.86 *	0.75 to 1
Motivation to cut down smoking	None	Reference			
	Moderate	1.40 ***	1.22 to 1.6	1.39 ***	1.21 to 1.59
	High	2.13 ***	1.77 to 2.56	2.08 ***	1.73 to 2.49
Employment status	Full-time	Reference			
	Other	1.05	0.92 to 1.2		
Housing tenure	Owned			Reference	
	Rented			1.10	0.97 to 1.24
Constant		0.33 **	0.15 to 0.72	0.31 **	0.14 to 0.69

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Table S11 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: demographic- and behaviour-adjusted models

		Demographic-adjusted model			Behaviour-adjusted model		
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.59		0.84 to 3.01	1.45		0.74 to 2.83
	35-44	2.65	**	1.45 to 4.82	2.28	*	1.2 to 4.31
	45-54	2.82	***	1.65 to 4.82	3.22	***	1.83 to 5.65
	55-64	2.37	**	1.35 to 4.17	3.53	***	1.93 to 6.48
	65+	2.76	**	1.55 to 4.92	5.45	***	2.95 to 10.09
Gender	Male	Reference					
	Female	0.65	*	0.47 to 0.9	0.62	**	0.43 to 0.89
Region	North	Reference					
	Midlands	1.23		0.86 to 1.78	1.21		0.81 to 1.8
	South	0.82		0.6 to 1.14	0.77		0.54 to 1.1
Children in the household	None	Reference					
	≥1	0.79		0.53 to 1.18	1.07		0.7 to 1.65
Self-reported disability	No	Reference					
	Yes	3.52	***	2.57 to 4.83	2.27	***	1.57 to 3.28
Ethnicity	White	Reference					
	Mixed race	2.22		0.74 to 6.63	2.19		0.7 to 6.87
	Asian	1.06		0.27 to 4.24	0.65		0.13 to 3.33
	Black	0.32		0.08 to 1.36	0.17		0.02 to 1.16
	Arab/other	4.61		1 to 21.21	9.03	**	1.87 to 43.55
Time trend (monthly)		1.01		0.99 to 1.02	1.01		0.99 to 1.02
Past year smoker	No				Reference		
	Yes				1.25		0.9 to 1.73
Motivation to cut down drinking	None				Reference		
	Moderate				2.85	***	1.99 to 4.08
	High				5.27	***	3.32 to 8.36
AUDIT Score	8-15				Reference		
	16-19				2.94	***	1.79 to 4.82
	20+				11.76	***	7.68 to 18.02
Constant		0.03	***	0 to 0.21	0.01	***	0 to 0.06

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S12 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: socioeconomic-adjusted models 1 & 2

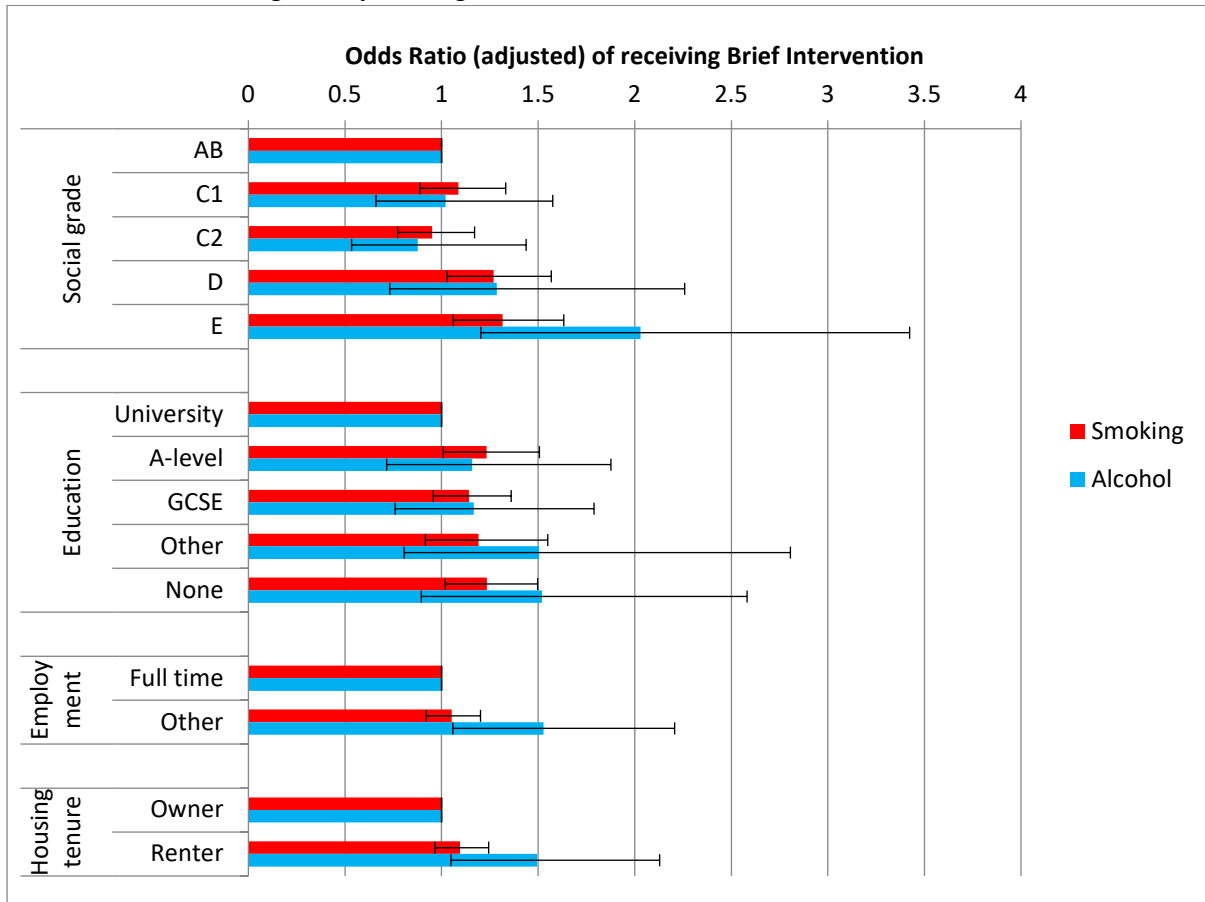|		Socioeconomic-adjusted models 1 & 2					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.49		0.76 to 2.91	1.49		0.76 to 2.89
	35-44	2.25	*	1.19 to 4.26	2.33	*	1.23 to 4.41
	45-54	3.12	***	1.76 to 5.54	3.22	***	1.79 to 5.79
	55-64	3.50	***	1.91 to 6.43	3.35	***	1.8 to 6.24
	65+	5.47	***	2.96 to 10.13	5.23	***	2.78 to 9.85
Gender	Male	Reference					
	Female	0.60	**	0.42 to 0.87	0.63	*	0.44 to 0.9
Region	North	Reference					
	Midlands	1.22		0.82 to 1.81	1.22		0.82 to 1.81
	South	0.80		0.56 to 1.16	0.81		0.56 to 1.16
Children in the household	None	Reference					
	≥1	1.07		0.69 to 1.66	1.07		0.7 to 1.64
Self-reported disability	No	Reference					
	Yes	2.01	***	1.37 to 2.95	2.18	***	1.49 to 3.18
Ethnicity	White	Reference					
	Mixed race	2.28		0.71 to 7.33	2.11		0.68 to 6.59
	Asian	0.64		0.13 to 3.15	0.66		0.13 to 3.34
	Black	0.15	*	0.02 to 0.98	0.17		0.02 to 1.22
	Arab/other	9.81	**	2.03 to 47.41	8.65	**	1.74 to 42.91
Time trend (monthly)		1.00		0.99 to 1.02	1.00		0.99 to 1.02
Past year smoker	No	Reference					
	Yes	1.13		0.81 to 1.58	1.22		0.88 to 1.71
Motivation to cut down drinking	None	Reference					
	Moderate	2.94	***	2.04 to 4.23	2.95	***	2.04 to 4.26
	High	5.35	***	3.36 to 8.53	5.47	***	3.42 to 8.73
AUDIT Score	8-15	Reference					
	16-19	2.78	***	1.67 to 4.64	2.76	***	1.67 to 4.55
	20+	10.91	***	7.1 to 16.78	11.20	***	7.32 to 17.13
Social grade	AB	Reference					
	C1	1.02		0.66 to 1.58			
	C2	0.88		0.53 to 1.44			
	D	1.29		0.73 to 2.26			
	E	2.03	**	1.2 to 3.42			
Education	University				Reference		
	A-level				1.16		0.72 to 1.88
	GCSE				1.17		0.76 to 1.79
	Other				1.50		0.81 to 2.81
	None				1.52		0.9 to 2.58
Constant		0.01	***	0 to 0.06	0.01	***	0 to 0.06

Key: * p<0.05, ** p<0.01, ***, p<0.001

Table S13 - Logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky alcohol use: socioeconomic-adjusted models 3 & 4

		Socioeconomic-adjusted models 3 & 4					
		OR		95% CI	OR		95% CI
Age	18-24	Reference					
	25-34	1.60		0.8 to 3.21	1.59		0.81 to 3.12
	35-44	2.49	**	1.29 to 4.82	2.69	**	1.4 to 5.15
	45-54	3.48	***	1.94 to 6.25	3.81	***	2.13 to 6.82
	55-64	3.44	***	1.88 to 6.3	4.18	***	2.19 to 7.97
	65+	4.78	***	2.6 to 8.8	6.78	***	3.54 to 13.01
Gender	Male	Reference					
	Female	0.58	**	0.4 to 0.84	0.60	**	0.42 to 0.87
Region	North	Reference					
	Midlands	1.19		0.8 to 1.78	1.23		0.82 to 1.83
	South	0.76		0.53 to 1.08	0.77		0.53 to 1.1
Children in the household	None	Reference					
	≥1	1.09		0.7 to 1.69	1.03		0.66 to 1.59
Self-reported disability	No	Reference					
	Yes	2.10	***	1.43 to 3.09	2.10	***	1.43 to 3.08
Ethnicity	White	Reference					
	Mixed race	2.18		0.73 to 6.52	2.15		0.72 to 6.41
	Asian	0.69		0.14 to 3.5	0.62		0.12 to 3.24
	Black	0.15		0.02 to 1.11	0.16		0.02 to 1.1
	Arab/other	8.36	*	1.55 to 45.13	9.37	**	1.86 to 47.14
Time trend (monthly)		1.00		0.98 to 1.02	1.00		0.98 to 1.02
Past year smoker	No	Reference					
	Yes	1.20		0.86 to 1.67	1.08		0.77 to 1.51
Motivation to cut down drinking	None	Reference					
	Moderate	2.93	***	2.04 to 4.22	2.88	***	2 to 4.14
	High	5.25	***	3.3 to 8.37	5.28	***	3.31 to 8.4
AUDIT Score	8-15	Reference					
	16-19	2.88	***	1.74 to 4.76	2.95	***	1.77 to 4.9
	20+	11.09	***	7.2 to 17.1	12.06	***	7.81 to 18.62
Employment status	Full-time	Reference					
	Other	1.53	*	1.06 to 2.21			
Housing tenure	Owned				Reference		
	Rented				1.49	*	1.05 to 2.13
Constant		0.01	***	0 to 0.06	0.01	***	0 to 0.06

Key**:** * p<0.05, ** p<0.01, ***, p<0.001

Figure S2 - Independent effects of four measures of socioeconomic status on Odds Ratio of receiving a Brief Intervention for smoking or risky drinking

Descriptive statistics

Table S14 – Unweighted Ns underlying Table 2

		Past year smokers			Risky drinkers		
		Prevalence in population	Visited GP in past year	Received BI | visited GP	Prevalence in population	Visited GP in past year	Received BI | visited GP
Population		10067	6513	3237	6089	3975	258
Social grade	AB	1186	770	365	1437	995	73
	C1	2639	1698	824	2145	1413	90
	C2	2337	1431	667	1207	747	52
	D	2060	1314	664	715	466	38
	E	1845	1300	717	585	354	71
Education	University	1721	1063	485	1707	1142	82
	A-level	1866	1157	570	1669	980	57
	GCSE	3518	2296	1111	1711	1141	100
	Other	714	474	243	424	301	31
	None	2184	1479	799	556	393	52
Employment	Full time	3593	2051	962	3511	2414	231
	Other	6467	4459	2273	2575	1559	91
Housing tenure	Owner	6043	3889	1952	2621	1600	155
	Renter	3861	2537	1246	3377	2322	166

Main analysis – additional model results

Behaviour-adjusted model results for smoking

Table S15 – Logistic regression results for factors associated with likelihood of receiving Brief Intervention for smoking

		Behaviour-adjusted model		
		OR		95% CI
Age	18-24			
	25-34	1.36	**	1.12 to 1.65
	35-44	1.56	***	1.28 to 1.91
	45-54	1.98	***	1.63 to 2.41
	55-64	2.23	***	1.81 to 2.75
	65+	2.14	***	1.73 to 2.65
Gender	Male			
	Female	0.97		0.86 to 1.09
Region	North			
	Midlands	0.93		0.81 to 1.07
	South	0.78	***	0.68 to 0.89
Children in the household	None			
	≥1	1.08		0.94 to 1.25
Self-reported disability	No			
	Yes	1.40	***	1.21 to 1.62
Ethnicity	White			
	Mixed race	0.87		0.56 to 1.35
	Asian	0.86		0.67 to 1.11
	Black	1.00		0.68 to 1.49
	Arab/other	0.92		0.51 to 1.66
Time trend (monthly)		1.00		1 to 1.01
Risky drinker (AUDIT 8+)	No	Reference		
	Yes	0.84	*	0.73 to 0.97
Motivation to cut down smoking	None	Reference		
	Moderate	1.42	***	1.25 to 1.63
	High	2.14	***	1.79 to 2.57
Constant		0.37	*	0.17 to 0.8

Behaviour-adjusted model results for risky drinking

Table S16– Logistic regression results for factors associated with likelihood of receiving Brief Intervention for risky drinking

		Behaviour-adjusted model		
		OR		95% CI
Age	18-24			
	25-34	1.44		0.76 to 2.75
	35-44	2.11	*	1.12 to 3.96
	45-54	3.00	***	1.72 to 5.23
	55-64	3.30	***	1.8 to 6.03
	65+	5.00	***	2.71 to 9.23
Gender	Male			
	Female	0.64	*	0.45 to 0.91
Region	North			
	Midlands	1.18		0.8 to 1.75
	South	0.80		0.56 to 1.13
Children in the household	None			
	≥1	1.06		0.69 to 1.63
Self-reported disability	No			
	Yes	2.27	***	1.57 to 3.27
Ethnicity	White			
	Mixed race	2.19		0.7 to 6.86
	Asian	3.38		0.68 to 16.88
	Black	0.19		0.02 to 1.62
	Arab/other	8.64	**	1.81 to 41.21
Time trend (monthly)		1.00		0.98 to 1.02
Past year smoker	No	Reference		
	Yes	1.20		0.86 to 1.66
Motivation to cut down drinking	None	Reference		
	Moderate	2.85	***	2 to 4.05
	High	5.17	***	3.29 to 8.14
AUDIT Score	8-15	Reference		
	16-19	2.94	***	1.81 to 4.79
	20+	11.84	***	7.77 to 18.04
Constant		0.01	***	0 to 0.08