Data supplement

Table DS1 Odds ratio (with 95% CI) of association between behavioural and psychological symptoms of dementia and risk factors[a]

	Agitation	Irritability	Wandering	Elation	Sleep problems	Anxiety	Apathy	Depression	Mis-identification	Confabulation	Persecution	Hallucinations
Higher age (per 5 years)	**0.8 (0.8–0.9)**	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	0.9 (0.8–1.0)	**0.6 (0.4–0.8)**	1.0 (0.9–1.1)	**0.7 (0.6–0.8)**	1 (0.9–1.1)	1.0 (0.9–1.2)	0.9 (0.8–1.0)	**0.8 (0.7–0.9)**
Gender	1.1 (0.8–1.5)	0.9 (0.7–1.2)	1.3 (0.9–2.1)	1.5 (1.0–2.3)	0.9 (0.7–1.2)	1.2 (0.6–2.3)	1.0 (0.8–1.3)	1.1 (0.7–1.6)	1.5 (1.1–2.1)	1.3 (0.8–2.3)	1.2 (0.8–1.7)	1.5 (1.0–2.1)
Institutionalised	0.9 (0.7–1.3)	**0.4 (0.3–0.6)**	**1.8 (1.2–2.8)**	1.1 (0.7–1.6)	0.8 (0.6–1.0)	1.0 (0.4–2.1)	1.4 (1.1–1.9)	1.3 (0.8–1.9)	**2.2 (1.6–3.1)**	1.6 (1.0–2.7)	1 (0.7–1.3)	**1.7 (1.2–2.4)**
High social class or well educated	0.8 (0.6–1.2)	1.1 (0.8–1.5)	0.9 (0.5–1.4)	0.9 (0.5–1.4)	0.9 (0.6–1.1)	1.4 (0.7–2.9)	1.1 (0.9–1.5)	0.7 (0.5–1.2)	0.7 (0.5–1.0)	0.6 (0.3–1.1)	1.4 (0.9–2.0)	0.8 (0.6–1.2)
Poor self-reported health	1.0 (0.6–1.5)	0.8 (0.6–1.1)	0.9 (0.5–1.4)	1 (0.6–1.7)	**1.6 (1.2–2.1)**	**2.8 (1.3–6.3)**	1.6 (1.1–2.4)	**2.7 (1.6–4.8)**	1 (0.7–1.6)	0.6 (0.3–1.5)	0.9 (0.6–1.4)	1.7 (1.1–2.6)
Vascular disorders	0.8 (0.6–1.1)	0.9 (0.7–1.2)	0.8 (0.5–1.1)	1.1 (0.8–1.6)	1 (0.8–1.3)	1.3 (0.7–2.4)	**1.4 (1.1–1.8)**	1.6 (1.1–2.3)	0.7 (0.5–0.9)	**0.5 (0.3–0.8)**	0.9 (0.7–1.3)	0.8 (0.6–1.1)
History of brain injury	1.2 (0.8–1.7)	1.4 (1.0–1.9)	0.9 (0.5–1.4)	1.2 (0.8–1.9)	1 (0.7–1.3)	1.4 (0.6–3.1)	**1.6 (1.1–2.1)**	1.5 (1.0–2.3)	1.2 (0.9–1.8)	0.9 (0.5–1.6)	1.3 (0.9–2.0)	1 (0.7–1.5)
MMSE Low	1.2 (0.8–1.6)	**0.5 (0.4–0.7)**	**2.1 (1.3–3.2)**	1.5 (1.0–2.3)	0.8 (0.6–1.1)	0.6 (0.3–1.2)	**1.7 (1.3–2.3)**	0.8 (0.5–1.1)	**1.6 (1.2–2.3)**	1.5 (0.9–2.5)	**1.9 (1.3–2.6)**	**2.0 (1.2–3.4)**
MMSE High	0.2 (0.0–1.4)	**1.9 (1.1–3.2)**	**0.4 (0.1–0.9)**	0.4 (0.1–1.1)	0.8 (0.5–1.3)	1.2 (0.2–6.8)	**0.3 (0.2–0.5)**	1.4 (0.3–5.6)	**0.1 (0.1–0.3)**	0.2 (0.0–0.9)	0.8 (0.4–1.5)	0.9 (0.4–2.0)
History of emotional problems	1.2 (0.8–1.7)	1.1 (0.8–1.6)	1.6 (1.0–2.7)	1.1 (0.6–1.9)	1.5 (1.1–2.0)	**4.2 (1.7–10.2)**	1.2 (0.8–1.7)	**3.9 (2.3–6.7)**	0.9 (0.6–1.4)	0.8 (0.4–1.6)	1.1 (0.7–1.8)	1.4 (0.9–2.1)
Family history of vascular problems	**2.1 (1.4–3.3)**	1.3 (0.9–1.8)	0.8 (0.5–1.4)	1.1 (0.6–1.8)	1.1 (0.8–1.6)	0.8 (0.3–1.7)	1.6 (1.1–2.2)	1.2 (0.8–1.9)	1.4 (0.9–2.1)	0.9 (0.5–1.8)	1.3 (0.9–2.0)	1.5 (0.9–2.4)
Family history of psychiatric problems	**2.3 (1.6–3.5)**	1.5 (1.1–2.1)	**3.9 (2.3–6.6)**	1.7 (1.1–2.8)	1 (0.7–1.2)	0.6 (0.3–1.3)	**2.6 (1.8–3.7)**	0.9 (0.6–1.4)	**2.3 (1.6–3.3)**	**2.5 (1.3–4.9)**	**1.8 (1.2–2.6)**	**2 (1.3–3.0)**
Drinking problem	0.7 (0.3–1.4)	0.5 (0.3–0.9)	**3.2 (1.5–6.6)**	**2.6 (1.3–5.1)**	**3.2 (1.8–5.5)**	0.6 (0.2–2.3)	2.1 (1.0–4.1)	1.8 (0.9–3.4)	**2.4 (1.4–4.3)**	2.0 (0.6–6.6)	1.6 (0.8–2.9)	1.5 (0.8–2.9)
Smoker	1.3 (0.9–2.0)	1.2 (0.8–1.8)	0.9 (0.5–1.6)	0.8 (0.4–1.4)	1 (0.7–1.4)	0.9 (0.4–2.2)	0.9 (0.6–1.3)	0.7 (0.4–1.2)	1 (0.7–1.6)	1.3 (0.6–2.5)	0.9 (0.5–1.4)	0.8 (0.5–1.4)
Recent major loss	0.9 (0.6–1.3)	1.4 (1.0–1.9)	1 (0.7–1.6)	**2.2 (1.5–3.2)**	**2.1 (1.6–2.9)**	1.5 (0.7–3.0)	**1.6 (1.2–2.1)**	**2.0 (1.3–3.0)**	1.3 (0.9–1.8)	1.0 (0.6–1.7)	1.5 (1.1–2.2)	**1.9 (1.3–2.7)**
ApoE e4 allele	1.9 (1.1–3.2)	1.2 (0.7–2.1)	2.4 (0.9–6.6)	1.7 (0.6–4.8)	1.1 (0.7–1.8)	0.7 (0.2–2.1)	0.9 (0.5–1.6)	1.1 (0.5–2.2)	1 (0.5–1.9)	–	1.2 (0.6–2.6)	0.6 (0.3–1.3)

MMSE, Mini-Mental State Examination.
a. Statistically significant comparisons after controlling the false discovery rate at 5% (those with $P<0.0107$) are in bold

Table DS2 Odds ratios of co-occurrence of symptoms adjusted for age, gender, Mini-Mental State Examination scores and sensory impairment[a]

	Agitation	Irritability	Wandering	Elation	Sleep disorders	Anxiety	Apathy	Depression	Mis-identification	Confabulation	Persecution	Distortion
Agitation	262	**2.1 (1.5–2.8)**	**2.4 (1.7–3.5)**	**2.1 (1.4–3.2)**	**2.5 (1.8–3.3)**	1.6 (0.9–2.7)	**2.2 (1.6–3.1)**	1.4 (1.0–2.1)	**2.5 (1.9–3.5)**	1.5 (0.8–2.5)	**2.4 (1.7–3.4)**	**2.9 (2.1–4.2)**
Irritability	139	694	1.3 (0.9–1.8)	1.3 (0.9–2.0)	**1.4 (1.1–1.9)**	1.4 (0.9–2.3)	**1.7 (1.3–2.2)**	**1.6 (1.1–2.3)**	1.3 (1.0–1.8)	0.8 (0.5–1.4)	**4.3 (3.1–6.0)**	1.3 (1.0–1.9)
Wandering	66	103	247	**4.8 (2.7–8.6)**	**3.3 (2.1–5.1)**	1.6 (0.7–3.5)	**5.5 (3.2–9.4)**	1.1 (0.6–1.9)	**5.4 (3.5–8.3)**	**2.4 (1.1–5.0)**	**4.3 (2.6–7.2)**	**4.2 (2.4–7.2)**
Elation	40	65	52	154	**2.4 (1.6–3.4)**	1.2 (0.6–2.5)	**2 (1.3–2.9)**	0.9 (0.5–1.5)	**2.2 (1.5–3.2)**	1.1 (0.5–2.2)	**2.4 (1.6–3.6)**	**3.2 (2.1–5.0)**
Sleep disorders	136	277	130	81	613	**2.6 (1.6–4.3)**	**2.3 (1.8–3.0)**	**1.6 (1.1–2.2)**	**1.8 (1.4–2.4)**	1.3 (0.8–2.2)	**2.5 (1.8–3.3)**	**2.9 (2.1–4.0)**
Anxiety	21	52	16	10	58	105	1.5 (0.8–2.7)	**20 (7.3–54.2)**	1.1 (0.5–2.2)	1.5 (0.4–4.9)	**2.3 (1.1–4.7)**	**4.4 (2.0–9.4)**
Apathy	188	426	202	111	413	65	1002	**1.8 (1.3–2.6)**	**7.2 (4.9–10.7)**	1.5 (0.9–2.5)	**2.6 (1.9–3.5)**	**3.9 (2.6–5.8)**
Depression	46	123	33	19	106	64	163	246	1.1 (0.7–1.6)	1.2 (0.6–2.4)	**1.6 (1.1–2.4)**	**3.3 (2.1–5.2)**
Misidentification	97	154	122	59	168	22	331	53	385	**3.8 (2.3–6.3)**	**2.3 (1.7–3.1)**	**4.7 (3.2–7.0)**
Confabulation	20	32	24	10	38	6	69	14	50	101	1.5 (0.9–2.3)	**2.1 (1.3–3.5)**
Persecution	94	240	106	64	204	36	302	72	144	35	419	**3.6 (2.4–5.4)**
Distortion	73	111	70	50	140	36	210	72	118	26	113	263

a. Top half: Adjusted odds ratios with 95% CI. Bold associations have a false discovery rate of 5% (*P*<0.033). Diagonal: Number of interviews (total=1782) in which the symptom is reported. Bottom half: Number of interviews in which both symptoms are reported.