

## Supplementary Information

S1. Multivariable analyses of baseline loneliness and health and social care utilisation after excluding physical impairments and number of chronic diseases

	<b>Home Help</b> IRR (95% CI)	<b>Community Nurse</b> IRR (95% CI)	<b>Meals on Wheels</b> IRR (95% CI)	<b>Day centre</b> IRR (95% CI)	<b>Hospital visits</b> IRR (95% CI)	<b>Time since last saw a GP</b> Beta (95% CI)
Time	1.2 (0.5-2.8)	3.5 (1.2-9.9)	1.1 (0.4-2.8)	0.8 (0.2-2.8)	1.5 (0.8-2.9)	0.1 (-0.2, 0.6)
<b>Loneliness (wave 3)</b>						
Slightly lonely	1.4 (0.5-4.1)	0.5 (0.1-1.9)	2.1 (0.9-4.7)	2.3 (0.6-8.5)	1.4 (0.9-2.3)	<b>-0.6 (-0.9, -0.3)</b>
Lonely	<b>2.9 (1.1-7.7)</b>	1.0 (0.4-2.4)	2.3 (0.9-5.4)	2.0 (0.6-6.3)	1.4 (0.9-2.4)	-0.1 (-0.4, 0.3)
<b>Age</b>						
85-89	0.5 (0.2-1.2)	0.8 (0.4-1.8)	1.0 (0.5-2.1)	1.1 (0.5-2.4)	0.8 (0.5-1.2)	0.2 (-0.1, 0.5)
90+	1.1 (0.3-4.3)	0.8 (0.3-2.2)	0.5 (0.1-3.4)	1.9 (0.3-12.9)	1.3 (0.6-3.0)	0.1 (-0.6, 0.8)
<b>Sex</b>						
Women	1.4 (0.5-3.6)	0.9 (0.3-2.7)	0.7 (0.3-1.4)	1.2 (0.4-3.5)	0.7 (0.4-1.04)	-0.4 (-0.8, -0.1)
<b>Depression</b>						
Yes	0.9 (0.3-2.7)	0.8 (0.2-2.8)	0.8 (0.3-2.2)	0.5 (0.1-1.7)	1.4 (0.8-2.5)	-0.6 (-1.0, -0.2)
<b>Physical functioning</b>						
IADL disability only	3.3 (1.3-8.6)	1.2 (0.4-3.9)	1.0 (0.4-2.5)	3.2 (1.2-8.5)	0.8 (0.4-1.4)	-0.4 (-0.8, 0.01)
IADL & ADL disabilities	4.1 (1.6-10.3)	3.1 (1.2-8.1)	1.7 (0.8-3.6)	4.1 (1.6-11.0)	1.3 (0.8-2.1)	-0.1 (-0.4, 0.2)
<b>Cognition</b>						
	1.0 (0.9-1.1)	1.0 (0.9-1.1)	0.9 (0.8-1.02)	1.0 (0.9-1.1)	1.0 (0.9-1.1)	-0.05 (-0.1, 0.01)

Reference groups: not lonely, 80-84 years old, men, not depressed, and not disabled.  
IRR: incidence rate ratio.

S2. Multivariable analyses of time-varying loneliness and health and social care utilisation after excluding physical impairments and number of chronic diseases

	<b>Home Help</b>	<b>Community Nurse</b>	<b>Meals on Wheels</b>	<b>Day centre</b>	<b>Hospital visits</b>	<b>Time since last saw a GP</b>
	IRR (95% CI)	IRR (95% CI)	IRR (95% CI)	IRR (95% CI)	IRR (95% CI)	Beta (95% CI)
Time	1.0 (0.4, 2.5)	3.1 (1.2, 7.9)	1.0 (0.4, 2.6)	1.3 (0.3, 6.4)	1.4 (0.8, 2.6)	0.1 (-0.3, 0.5)
<b>Loneliness</b>						
Slightly lonely	1.3 (0.6, 2.8)	0.8 (0.3, 2.2)	1.8 (0.8, 4.0)	2.1 (0.7, 7.0)	1.5 (1.0, 2.3)	-0.3 (-0.7, 0.1)
Lonely	<b>2.5 (1.1, 5.6)</b>	<b>3.2 (1.4, 7.2)</b>	<b>3.1 (1.3, 7.1)</b>	1.8 (0.5, 6.3)	<b>1.6 (1.0, 2.6)</b>	-0.1 (-0.5, 0.2)
<b>Age</b>						
85-89	0.5 (0.2, 1.2)	0.7 (0.3, 1.8)	1.1 (0.5, 2.3)	1.1 (0.4, 2.9)	0.8 (0.5, 1.2)	0.1 (-0.2, 0.4)
90+	1.1 (0.3, 5.0)	1.0 (0.4, 3.0)	0.7 (0.1, 6.6)	3.3 (0.5, 20.0)	1.0 (0.4, 2.8)	0.1 (-0.6, 0.8)
<b>Sex</b>						
Women	1.4 (0.6, 3.3)	0.7 (0.2, 2.0)	0.7 (0.3, 1.6)	1.3 (0.4, 4.3)	0.7 (0.4, 1.0)	-0.5 (-0.8, -0.1)
<b>Depression</b>						
Yes	0.9 (0.3, 2.6)	0.6 (0.2, 2.2)	0.8 (0.3, 2.4)	0.6 (0.1, 2.3)	1.4 (0.8, 2.5)	-0.6 (-1.0, -0.2)
<b>Physical functioning</b>						
IADL disability only	2.8 (1.1, 7.2)	1.1 (0.4, 3.3)	0.9 (0.3, 2.4)	3.9 (1.4, 11.0)	0.8 (0.5, 1.5)	-0.4 (-0.9, -0.03)
IADL & ADL disabilities	3.9 (1.5, 10.1)	1.9 (0.7, 4.8)	1.6 (0.7, 3.8)	3.7 (1.1, 11.7)	1.3 (0.8, 2.1)	0.03 (-0.3, 0.4)
<b>Cognition</b>	1.0 (0.9, 1.1)	0.9 (0.8, 1.0)	0.9 (0.8, 1.1)	1.0 (0.9, 1.1)	1.0 (0.9, 1.1)	-0.05 (-0.1, 0.01)

Reference groups: not lonely, 80-84 years old, men, not depressed, and not disabled.

IRR: incidence rate ratio.