

**Supplementary Table 3: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	1.19	3.22	-5.34	2.71 *	-1.39	3.05	5.01	7.69
	London	2.75	3.80	-6.81	3.55	-5.78	5.65	20.35	19.79
Age at baseline, carer		0.12	0.12	-0.06	0.14	-0.04	0.10	0.10	0.16
Female, carer		-5.45	3.27	0.84	3.03	1.80	2.74	5.16	5.25
Married, carer		3.54	3.61	-5.55	3.99	3.75	2.97	13.93	4.82 **
Education, carer (ref=No qualification)	Lower secondary	-3.59	4.12	-0.91	4.64	1.24	3.47	-0.99	5.22
	Upper secondary/ vocational	-7.29	3.89	6.55	5.00	3.15	3.36	1.67	5.56
	Higher education degree	-9.90	4.53 *	6.80	5.20	2.47	4.55	-5.14	6.41
Occupational class, carer (ref=Routine)	Intermediate	-0.09	3.52	-2.42	4.14	-4.34	3.19	-1.57	6.71
	Professional	1.12	3.47	-0.12	3.90	-4.15	3.30	1.89	6.19
Home owner, carer		4.33	3.27	1.40	3.71	-1.83	2.59	-3.90	4.97
Rural (vs. urban), carer		5.18	2.93	-7.65	3.80 *	1.71	2.45	10.17	4.62 *
IMD, carer		-0.54	0.46	1.13	0.46 *	-0.83	0.34 *	0.02	0.89
Coresident with person with dementia		-6.34	0.32	0.46	3.56	0.02	2.93	-1.87	4.56
Age at baseline, person with dementia		0.12	0.19	0.18	0.19	0.01	0.15	-0.19	0.22
Female, person with dementia		0.32	3.49	-2.96	3.37	-1.00	2.70	8.86	4.89
N of months since the diagnosis of dementia at baseline		-0.92	0.46 *	0.67	0.68	-0.99	0.49 *	-1.60	0.67 *
N of months between baseline and C19 interview		-0.97	0.75	0.58	0.69	-0.33	0.47	-0.54	0.94
Time-varying CDR score	T1	-13.06	3.06 ***						
	C19	-9.34	3.85 *						
	T2	-12.37	6.49						
	T3	0.13	6.49						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 33.82$ ,  $df = 23$ ,  $p = 0.068$ , CFI = 0.96, RMSEA = 0.048, SRMR = 0.034

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 35.55$ ,  $df = 23$ ,  $p = 0.046$ , CFI = 0.96, RMSEA = 0.051, SRMR = 0.021

**Supplementary Table 4: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) subscale 'Meeting personal needs' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	1.22	0.89	-2.18	0.97 *	1.08	0.86	6.33	9.21
	London	1.45	1.08	-1.94	1.17	0.63	1.55	15.30	28.74
Age at baseline, carer		0.04	0.03	0.00	0.05	-0.04	0.03	-0.07	0.11
Female, carer		-1.80	0.92	-0.20	1.09	0.50	0.92	0.78	4.90
Married, carer		0.04	1.05	-2.05	1.37	1.82	0.96	3.05	2.86
Education, carer (ref=No qualification)	Lower secondary	-0.51	1.20	-2.23	1.29	1.12	1.28	1.29	3.14
	Upper secondary/ vocational	-1.93	1.16	-0.26	1.30	1.13	1.26	0.29	4.01
	Higher education degree	-2.55	1.36	0.96	1.49	0.82	1.51	1.21	5.09
Occupational class, carer (ref=Routine)	Intermediate	0.19	1.07	-0.35	1.28	-0.04	1.37	4.21	7.98
	Professional	0.60	1.03	-1.66	1.26	-0.44	1.22	1.07	3.64
Home owner, carer		1.67	0.91	-0.70	1.22	-0.25	1.05	1.63	3.31
Rural (vs. urban), carer		-0.16	0.86	-0.97	1.07	0.69	0.86	4.70	4.93
IMD, carer		-0.11	0.13	0.28	0.15	-0.08	0.11	0.37	0.74
Coresident with person with dementia		-2.84	0.94 **	-1.09	1.18	0.39	0.87	0.08	2.85
Age at baseline, person with dementia		-0.06	0.05	0.05	0.07	0.05	0.05	0.08	0.14
Female, person with dementia		0.17	0.99	-1.77	1.08	0.97	0.93	6.65	5.12
N of months since the diagnosis of dementia at baseline		-0.32	0.12 **	0.26	0.24	-0.19	0.18	0.11	0.91
N of months between baseline and C19 interview		-0.10	0.20	0.03	0.23	-0.21	0.17	-0.04	0.68
Time-varying CDR score	T1	-4.59	1.09 ***						
	C19	-2.86	1.18 *						
	T2	-4.35	2.36						
	T3	0.75	0.84						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 28.33$ ,  $df = 23$ ,  $p = 0.204$ , CFI = 0.98, RMSEA = 0.034, SRMR = 0.033

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 38.39$ ,  $df = 23$ ,  $p = 0.023$ , CFI = 0.94, RMSEA = 0.057, SRMR = 0.036

**Supplementary Table 5: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) subscale 'Wellbeing' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	0.69	0.94	-0.86	0.92	-0.24	1.02	1.21	1.50
	London	1.12	1.06	-2.30	1.19	-0.69	2.13	2.80	1.99
Age at baseline, carer		0.02	0.04	-0.05	0.05	0.01	0.03	0.05	0.05
Female, carer		-2.12	0.97 *	0.55	0.97	-0.43	0.75	-0.45	1.40
Married, carer		0.37	1.06	-0.65	1.29	0.31	0.92	1.66	1.80
Education, carer (ref=No qualification)	Lower secondary	-1.24	1.15	-1.07	1.41	0.68	1.01	0.10	1.92
	Upper secondary/ vocational	-1.29	1.09	0.25	1.41	1.31	0.97	2.22	1.81
	Higher education degree	-2.33	1.33	0.31	1.43	2.48	1.24 *	1.98	2.38
Occupational class, carer (ref=Routine)	Intermediate	0.16	1.07	-2.11	1.20	0.17	0.90	-1.83	1.77
	Professional	0.04	1.05	-0.52	1.15	-1.16	0.96	-2.02	1.85
Home owner, carer		1.63	0.94	0.78	1.15	-0.83	0.82	0.13	1.40
Rural (vs. urban), carer		1.08	0.82	-2.91	0.98 **	0.91	0.78	0.91	1.35
IMD, carer		-0.11	0.13	0.23	0.14	-0.14	0.11	-0.05	0.17
Coresident with person with dementia		-0.75	1.08	0.35	1.18	0.07	0.81	-0.71	1.27
Age at baseline, person with dementia		0.05	0.06	0.06	0.06	-0.01	0.04	-0.01	0.08
Female, person with dementia		-0.49	1.00	-1.12	1.03	0.72	0.79	2.12	1.42
N of months since the diagnosis of dementia at baseline		-0.22	0.11 *	0.17	0.22	-0.14	0.15	-0.13	0.39
N of months between baseline and C19 interview		-0.37	0.21	0.32	0.20	-0.18	0.14	-0.27	0.28
Time-varying CDR score	T1	-2.60	0.95 **						
	C19	-2.85	1.11 *						
	T2	-4.78	1.80 **						
	T3	-1.10	1.35						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 38.78$ ,  $df = 24$ ,  $p = 0.029$ , CFI = 0.93, RMSEA = 0.055, SRMR = 0.039

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 48.20$ ,  $df = 24$ ,  $p = 0.002$ , CFI = 0.91, RMSEA = 0.070, SRMR = 0.037

**Supplementary Table 6: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) subscale 'Carer-patient relationship' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	-0.99	0.57	-0.62	0.62	-0.97	0.62	-4.46	4.76
	London	0.11	0.68	0.00	0.63	-3.43	0.90 ***	-8.53	13.44
Age at baseline, carer		0.01	0.03	0.00	0.02	-0.03	0.03	0.02	0.07
Female, carer		-0.88	0.69	0.68	0.67	-0.03	0.64	0.30	1.85
Married, carer		0.17	0.78	-1.31	0.56 *	0.50	0.65	0.31	2.31
Education, carer (ref=No qualification)	Lower secondary	-0.42	0.64	-0.52	1.29	0.50	0.71	-1.50	1.73
	Upper secondary/ vocational	-1.75	0.78 *	-0.61	1.34	2.25	0.75 **	2.62	2.49
	Higher education degree	-1.57	0.83	-0.49	1.31	1.43	0.92	-0.06	2.60
(ref=Routine)	Intermediate	-0.53	0.67	0.94	1.00	-2.18	0.69 **	-3.00	2.89
	Professional	-0.39	0.73	1.38	0.97	-1.76	0.86 *	0.64	2.28
Home owner, carer		0.21	0.66	-0.23	0.62	0.90	0.59	-1.09	1.20
Rural (vs. urban), carer		0.66	0.61	0.44	0.71	-0.47	0.49	-1.36	2.11
IMD, carer		0.02	0.10	0.13	0.10	-0.22	0.08 **	-0.20	0.33
Coresident with person with dementia		-1.04	0.80	0.15	0.81	-0.45	0.73	-0.97	1.98
Age at baseline, person with dementia		0.04	0.04	-0.01	0.03	0.04	0.03	0.06	0.08
Female, person with dementia		-0.10	0.68	0.24	0.65	-1.19	0.56 *	-2.98	2.17
N of months since the diagnosis of dementia at baseline		-0.03	0.08	-0.07	0.13	-0.01	0.12	0.08	0.28
N of months between baseline and C19 interview		0.03	0.16	-0.08	0.16	0.03	0.12	0.03	0.47
Time-varying CDR score	T1	-1.69	0.76 *						
	C19	-2.12	1.08 *						
	T2	1.20	1.23						
	T3	-1.18	1.14						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 68.00$ ,  $df = 24$ ,  $p < 0.001$ , CFI = 0.84, RMSEA = 0.094, SRMR = 0.042

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 28.86$ ,  $df = 24$ ,  $p = 0.225$ , CFI = 0.98, RMSEA = 0.031, SRMR = 0.023

**Supplementary Table 7: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) subscale 'Confidence in future' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	-0.34	0.85	-1.20	1.09	1.27	0.74	-0.67	0.63
	London	1.31	0.99	-2.62	1.23 *	2.51	0.95 **	-0.98	0.84
Age at baseline, carer		-0.01	0.03	0.03	0.04	-0.01	0.03	-0.04	0.02
Female, carer		-1.49	0.87	-0.07	1.10	0.19	0.83	-0.35	0.67
Married, carer		1.18	1.01	0.14	1.33	0.23	1.03	0.05	0.72
Education, carer (ref=No qualification)	Lower secondary	-1.00	1.13	2.98	1.35 *	-0.39	1.17	0.89	0.77
	Upper secondary/ vocational	-0.32	1.07	4.24	1.28 **	-1.17	1.07	1.55	0.77 *
	Higher education degree	-1.31	1.16	4.36	1.42 **	-0.63	1.34	1.98	0.81 *
(ref=Routine)	Intermediate	-0.12	0.96	0.07	1.57	-0.06	0.94	0.23	0.86
	Professional	0.33	0.91	0.84	1.30	-0.99	1.01	0.02	0.74
Home owner, carer		-0.04	0.81	0.84	1.20	-0.97	0.95	-0.03	0.64
Rural (vs. urban), carer		2.24	0.87 *	-2.26	1.19	-0.27	0.70	-1.66	0.85
IMD, carer		-0.10	0.13	0.15	0.14	-0.18	0.10	-0.02	0.10
Coresident with person with dementia		-0.07	0.92	-0.35	1.01	1.00	0.89	0.78	0.59
Age at baseline, person with dementia		0.12	0.05 *	0.01	0.07	-0.01	0.05	0.03	0.03
Female, person with dementia		-0.12	0.80	-0.05	1.07	0.20	0.80	-0.56	0.66
N of months since the diagnosis of dementia at baseline		-0.13	0.11	0.04	0.17	-0.19	0.15	-0.04	0.09
N of months between baseline and C19 interview		-0.19	0.19	0.42	0.22	-0.11	0.15	0.26	0.12
Time-varying CDR score	T1	-1.01	0.64						
	C19	-1.00	1.04						
	T2	-6.51	1.33 ***						
	T3	-0.55	1.10						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 37.24$ ,  $df = 24$ ,  $p = 0.041$ , CFI = 0.93, RMSEA = 0.052, SRMR = 0.038

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 41.93$ ,  $df = 24$ ,  $p = 0.013$ , CFI = 0.91, RMSEA = 0.060, SRMR = 0.034

**Supplementary Table 8: The Associations of the background characteristics with Intercept and Slopes of carer quality of life (C-DEMQOL) subscale 'Feeling supported' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)**

		Intercept <sup>a</sup>		Slope 1 <sup>a</sup>		Slope 2 <sup>a</sup>		Slope 3 <sup>b</sup>	
		Est.	SE	Est.	SE	Est.	SE	Est.	SE
Location (ref=North-East)	Sussex	0.68	1.13	-0.81	1.27	-0.46	0.82	-0.23	1.84
	London	-0.77	1.20	-1.57	1.42	2.17	1.01 *	6.58	1.78 ***
Age at baseline, carer		0.06	0.06	-0.11	0.05 *	0.03	0.03	0.11	0.06
Female, carer		1.43	0.94	-1.50	1.25	1.68	0.81 *	1.95	1.75
Married, carer		1.58	0.98	0.30	1.16	0.28	1.09	-0.68	2.48
Education, carer (ref=No qualification)	Lower secondary	-0.49	1.46	-0.67	1.58	-1.76	1.33	-0.75	3.78
	Upper secondary/ vocational	-2.15	1.29	2.38	1.56	-1.82	1.27	-2.38	3.91
	Higher education degree	-2.24	1.41	0.39	1.71	-1.76	1.60	-1.75	5.28
(ref=Routine)	Intermediate	-1.00	1.23	-0.45	1.44	-0.44	0.96	-0.19	1.92
	Professional	-0.01	1.20	0.73	1.38	-0.26	1.19	-1.52	1.98
Home owner, carer		0.95	1.09	1.96	1.19	0.53	0.90	-0.46	1.44
Rural (vs. urban), carer		1.35	1.09	-1.49	1.34	2.28	0.85 **	6.08	1.39 ***
IMD, carer		-0.12	0.15	0.25	0.18	-0.06	0.11	0.26	0.22
Coresident with person with dementia		-2.15	1.00 *	1.84	1.29	-1.13	0.86	-0.77	1.37
Age at baseline, person with dementia		-0.06	0.05	0.10	0.06	-0.07	0.04 *	-0.04	0.08
Female, person with dementia		1.58	1.01	-1.34	1.31	0.51	0.86	1.55	1.52
N of months since the diagnosis of dementia at baseline		-0.28	0.13 *	0.18	0.18	-0.13	0.16	-0.35	0.68
N of months between baseline and C19 interview		-0.24	0.26	-0.04	0.29	0.25	0.17	-0.15	0.44
Time-varying CDR score	T1	-2.11	0.88 *						
	C19	-0.26	0.60						
	T2	-0.73	0.82						
	T3	0.79	0.78						

\*\*\*  $p < 0.001$ , \*\*  $p < 0.01$ , \*  $p < 0.05$ .

IMD= Index of Multiple Deprivation, CDR = Clinical Dementia Rating

<sup>a</sup>Piecewise LCG fit:

$\chi^2 = 34.23$ ,  $df = 24$ ,  $p = 0.081$ , CFI = 0.91, RMSEA = 0.045, SRMR = 0.037

<sup>b</sup>Piecewise LCG fit:

$\chi^2 = 41.93$ ,  $df = 24$ ,  $p = 0.013$ , CFI = 0.91, RMSEA = 0.060, SRMR = 0.034