

Supplementary Table 9: The Associations of the background characteristics with Intercept and Slopes of quality of life of person with dementia (DEMQOL) total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|---|---|------------------------|--------|----------------------|------|----------------------|----------|----------------------|---------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -0.84 | 2.56 | -3.10 | 2.47 | 4.37 | 1.63 ** | 4.40 | 3.14 |
| | London | -1.63 | 2.74 | -4.33 | 2.93 | 3.31 | 1.88 | 2.08 | 3.42 |
| Carer/person with dementia interview (ref= Coresident carer and person with dementia) | | | | | | | | | |
| | Person with dementia only | -3.46 | 2.52 | -0.49 | 3.17 | -0.85 | 1.87 | -0.34 | 3.49 |
| | Non-coresident carer and person with dementia | -2.23 | 2.53 | -0.26 | 3.43 | 4.51 | 2.17 * | 2.93 | 3.60 |
| Age at baseline | | -0.12 | 0.12 | 0.14 | 0.13 | -0.06 | 0.08 | -0.24 | 0.14 |
| Female | | 0.56 | 1.90 | -1.35 | 2.20 | 0.17 | 1.36 | 0.52 | 2.41 |
| Married | | -3.61 | 2.07 | -2.21 | 2.97 | -0.15 | 1.80 | -2.75 | 3.19 |
| Education (ref=No qualification) | Lower secondary | 0.84 | 2.49 | 1.13 | 2.72 | 3.31 | 1.78 | 2.93 | 3.43 |
| | Upper secondary/ vocational | -1.14 | 2.71 | -4.40 | 3.03 | 3.79 | 1.83 * | 2.31 | 3.20 |
| | Higher education degree | -1.07 | 3.39 | 0.39 | 3.69 | 4.85 | 1.99 * | 6.65 | 3.69 |
| Occupational class (ref=Routine) | Intermediate | 2.78 | 2.43 | -2.30 | 2.57 | 0.41 | 1.57 | 1.38 | 2.97 |
| | Professional | 3.43 | 2.40 | -0.09 | 3.05 | -1.24 | 1.43 | -0.35 | 2.58 |
| Home owner | | 4.50 | 2.34 | -0.55 | 2.74 | -1.64 | 2.08 | -5.45 | 3.34 |
| Rural (vs. urban) | | 0.88 | 2.30 | 2.52 | 2.79 | -0.18 | 1.53 | -2.24 | 3.02 |
| IMD | | 0.21 | 0.42 | 0.33 | 0.33 | -0.11 | 0.22 | -0.08 | 0.42 |
| N of months since the diagnosis of dementia at baseline | | -0.51 | 0.26 * | 0.57 | 0.60 | 0.15 | 0.37 | 0.51 | 0.49 |
| N of months between baseline and C19 interview | | -0.58 | 0.48 | 0.07 | 0.54 | -0.66 | 0.35 | -1.40 | 0.58 * |
| MMSE score | | 0.22 | 0.19 | 0.12 | 0.22 | -0.56 | 0.15 *** | -0.76 | 0.27 ** |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 25.77$, $df = 21$, $p = 0.215$, CFI = 0.98, RMSEA = 0.029, SRMR = 0.027

^bPiecewise LCG fit:

$\chi^2 = 22.30$, $df = 21$, $p = 0.382$, CFI = 0.99, RMSEA = 0.015, SRMR = 0.020

Supplementary Table 10: The Associations of the background characteristics with Intercept and Slopes of quality of life of person with dementia (DEMQOL) subscale 'Feelings' total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|---|---|------------------------|------|----------------------|------|----------------------|--------|----------------------|------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -0.13 | 1.36 | -0.54 | 1.29 | 1.45 | 0.98 | 0.36 | 1.83 |
| | London | -0.35 | 1.42 | 0.33 | 1.46 | 0.21 | 0.93 | 1.27 | 1.77 |
| Carer/person with dementia interview (ref= Coresident carer and person with dementia) | | | | | | | | | |
| | Person with dementia only | -2.29 | 1.37 | -1.20 | 1.61 | 0.45 | 0.85 | 1.48 | 1.88 |
| | Non-coresident carer and person with dementia | -0.94 | 1.32 | -1.77 | 1.77 | 2.82 | 1.20 * | 3.23 | 2.19 |
| Age at baseline | | -0.08 | 0.07 | 0.01 | 0.07 | -0.02 | 0.05 | -0.09 | 0.07 |
| Female | | -0.47 | 0.96 | -0.62 | 1.23 | 0.02 | 0.73 | -0.28 | 1.42 |
| Married | | -1.60 | 1.07 | -1.45 | 1.57 | -0.21 | 0.84 | -2.03 | 1.81 |
| Education (ref=No qualification) | Lower secondary | 0.95 | 1.29 | -1.41 | 1.61 | 0.92 | 1.06 | 0.34 | 1.92 |
| | Upper secondary/ vocational | -0.17 | 1.44 | -1.30 | 1.60 | 0.47 | 1.03 | -0.72 | 1.89 |
| | Higher education degree | 0.36 | 1.71 | -0.81 | 1.98 | 2.14 | 1.25 | 3.38 | 2.38 |
| Occupational class (ref=Routine) | Intermediate | 0.19 | 1.23 | 0.44 | 1.33 | 0.66 | 0.92 | 2.64 | 1.60 |
| | Professional | 0.29 | 1.34 | -0.42 | 1.54 | -0.29 | 0.86 | 1.13 | 1.58 |
| Home owner | | 2.06 | 1.24 | -0.88 | 1.41 | -0.53 | 1.11 | -1.38 | 1.70 |
| Rural (vs. urban) | | 0.83 | 1.24 | 0.98 | 1.60 | 0.40 | 0.88 | -0.90 | 1.76 |
| IMD | | 0.08 | 0.21 | 0.25 | 0.18 | -0.01 | 0.13 | 0.05 | 0.24 |
| N of months since the diagnosis of dementia at baseline | | -0.22 | 0.14 | 0.22 | 0.18 | -0.09 | 0.18 | -0.38 | 0.31 |
| N of months between baseline and C19 interview | | 0.04 | 0.26 | -0.07 | 0.29 | -0.40 | 0.21 | -0.86 | 0.38 |
| MMSE score | | 0.14 | 0.10 | 0.11 | 0.13 | -0.24 | 0.10 * | -0.31 | 0.18 |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 35.70$, $df = 21$, $p = 0.024$, CFI = 0.93, RMSEA = 0.052, SRMR = 0.029

^bPiecewise LCG fit:

$\chi^2 = 20.81$, $df = 21$, $p = 0.470$, CFI = 1.00, RMSEA < 0.001, SRMR = 0.022

Supplementary Table 11: The Associations of the background characteristics with Intercept and Slopes of quality of life of person with dementia (DEMQOL) subscale 'Memory' total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|--|---|------------------------|---------|----------------------|--------|----------------------|----------|----------------------|--------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -0.77 | 0.67 | -1.56 | 0.78 * | 1.82 | 0.57 ** | 2.20 | 1.46 |
| | London | -1.59 | 0.80 * | -1.32 | 0.97 | 1.49 | 0.76 * | -0.10 | 1.67 |
| Carer/person with dementia interview (ref= Coresident carer and person with dementia) | Person with dementia only | -0.37 | 0.68 | -0.94 | 1.09 | 0.26 | 0.67 | 0.33 | 1.75 |
| | Non-coresident carer and person with dementia | -0.74 | 0.72 | -0.25 | 1.13 | 1.25 | 0.80 | 0.08 | 1.86 |
| Age at baseline | | -0.02 | 0.03 | 0.04 | 0.05 | 0.01 | 0.03 | -0.10 | 0.08 |
| Female | | 0.57 | 0.54 | -0.72 | 0.70 | 0.43 | 0.48 | 1.17 | 1.22 |
| Married | | -1.13 | 0.59 | -1.64 | 1.05 | 0.65 | 0.67 | 1.07 | 1.61 |
| Education (ref=No qualification) | Lower secondary | 0.56 | 0.67 | 0.48 | 0.82 | 1.27 | 0.66 | 0.52 | 1.48 |
| | Upper secondary/ vocational | -0.03 | 0.82 | -1.86 | 0.88 * | 1.70 | 0.61 ** | 2.25 | 1.35 |
| | Higher education degree | 0.17 | 0.88 | -0.04 | 1.07 | 1.39 | 0.78 | 1.74 | 1.78 |
| Occupational class (ref=Routine) | Intermediate | 1.50 | 0.70 * | -1.19 | 0.79 | -0.25 | 0.53 | -0.98 | 1.21 |
| | Professional | 1.71 | 0.69 * | -0.14 | 0.97 | -0.38 | 0.61 | -0.59 | 1.31 |
| Home owner | | 0.51 | 0.66 | 0.80 | 0.79 | -0.27 | 0.77 | -2.36 | 1.78 |
| Rural (vs. urban) | | 0.19 | 0.62 | 0.49 | 0.75 | -0.10 | 0.59 | -0.71 | 1.40 |
| IMD | | 0.00 | 0.12 | 0.16 | 0.12 | -0.12 | 0.10 | -0.22 | 0.20 |
| N of months since the diagnosis of dementia at baseline | | -0.22 | 0.08 ** | -0.02 | 0.18 | 0.24 | 0.13 | 0.45 | 0.21 * |
| N of months between baseline and C19 interview | | -0.35 | 0.14 * | 0.07 | 0.18 | -0.09 | 0.11 | -0.06 | 0.27 |
| MMSE score | | 0.02 | 0.05 | 0.10 | 0.08 | -0.17 | 0.07 *** | -0.21 | 0.14 |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 23.18$, $df = 21$, $p = 0.335$, CFI = 0.98, RMSEA = 0.020, SRMR = 0.035

^bPiecewise LCG fit:

$\chi^2 = 24.59$, $df = 21$, $p = 0.270$, CFI = 0.97, RMSEA = 0.025, SRMR = 0.030

Supplementary Table 12: The Associations of the background characteristics with Intercept and Slopes of quality of life of person with dementia (DEMQOL) subscale 'Everyday life' total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|--|---|------------------------|--------|----------------------|------|----------------------|---------|----------------------|---------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | 0.21 | 0.95 | -1.57 | 1.16 | 1.93 | 0.73 ** | 3.04 | 1.12 ** |
| | London | 0.75 | 0.88 | -2.65 | 1.48 | 1.36 | 0.90 | 0.53 | 1.37 |
| Carer/person with dementia interview (ref= Coresident carer and person with dementia) | Person with dementia only | -1.03 | 0.88 | 1.68 | 1.38 | -1.61 | 0.78 * | -1.84 | 1.08 |
| | Non-coresident carer and person with dementia | -0.68 | 0.85 | 2.13 | 1.51 | 0.20 | 0.82 | -0.26 | 1.28 |
| Age at baseline | | -0.03 | 0.04 | 0.07 | 0.06 | -0.05 | 0.03 | -0.08 | 0.05 |
| Female | | 0.29 | 0.67 | 0.50 | 1.03 | -0.13 | 0.60 | 0.62 | 0.87 |
| Married | | -0.93 | 0.73 | 1.26 | 1.17 | -0.63 | 0.75 | -0.86 | 1.04 |
| Education (ref=No qualification) | Lower secondary | -1.09 | 0.84 | 1.94 | 1.42 | 1.16 | 0.71 | 2.02 | 1.20 |
| | Upper secondary/ vocational | -1.56 | 0.96 | -0.43 | 1.70 | 1.43 | 0.87 | 1.10 | 1.27 |
| | Higher education degree | -2.06 | 1.30 | 1.33 | 1.72 | 1.48 | 0.86 | 2.28 | 1.37 |
| Occupational class (ref=Routine) | Intermediate | 1.41 | 0.79 | -0.78 | 1.48 | 0.02 | 0.81 | 0.21 | 1.09 |
| | Professional | 1.63 | 0.77 * | 0.65 | 1.55 | -0.61 | 0.75 | -0.50 | 0.92 |
| Home owner | | 1.81 | 0.77 * | 0.04 | 1.52 | -0.75 | 0.91 | -2.31 | 1.29 |
| Rural (vs. urban) | | 0.04 | 0.85 | 1.49 | 1.32 | -1.02 | 0.72 | -1.37 | 1.05 |
| IMD | | 0.14 | 0.15 | -0.06 | 0.17 | -0.04 | 0.09 | -0.06 | 0.15 |
| N of months since the diagnosis of dementia at baseline | | -0.03 | 0.09 | 0.25 | 0.36 | -0.02 | 0.19 | 0.26 | 0.15 |
| N of months between baseline and C19 interview | | -0.26 | 0.16 | 0.07 | 0.29 | -0.30 | 0.16 | -0.60 | 0.22 ** |
| MMSE score | | 0.04 | 0.07 | -0.06 | 0.12 | -0.17 | 0.07 * | -0.23 | 0.10 * |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 25.63$, $df = 21$, $p = 0.221$, CFI = 0.96, RMSEA = 0.029, SRMR = 0.031

^bPiecewise LCG fit:

$\chi^2 = 22.09$, $df = 21$, $p = 0.394$, CFI = 0.99, RMSEA = 0.014, SRMR = 0.041

Supplementary Table 13: The Associations of the background characteristics with Intercept and Slopes of carer assessed quality of life for person with dementia (DEMQOL-Proxy) total score in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept | | Slope 1 | | Slope 2 | | Slope 3 | |
|---|-----------------------------|-----------|----------|---------|---------|---------|---------|---------|----------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -1.68 | 2.66 | -3.37 | 2.86 | 1.74 | 2.67 | 5.46 | 4.95 |
| | London | -1.04 | 2.92 | -5.04 | 3.25 | 5.49 | 2.72 * | 5.51 | 5.48 |
| Age at baseline, person with dementia | | -0.07 | 0.16 | 0.45 | 0.18 * | -0.31 | 0.13 * | 0.12 | 0.26 |
| Female, person with dementia | | 2.20 | 2.61 | -2.50 | 3.22 | 5.01 | 2.62 | 11.36 | 6.60 |
| Married, person with dementia | | -3.48 | 3.30 | -1.69 | 3.48 | 1.14 | 3.18 | 9.54 | 6.10 |
| Home owner, person with dementia | | -0.30 | 2.27 | 3.92 | 3.12 | -2.12 | 2.79 | -6.12 | 4.06 |
| Rural (vs. urban), person with dementia | | -3.55 | 3.17 | -0.21 | 3.90 | -0.80 | 2.23 | 5.88 | 4.97 |
| IMD, person with dementia | | 0.56 | 0.40 | 0.32 | 0.48 | -0.20 | 0.37 | 0.16 | 0.62 |
| Coresident with person with dementia | | 5.46 | 3.16 | 4.90 | 3.38 | -2.30 | 2.19 | 1.98 | 5.30 |
| Age at baseline, carer | | 0.08 | 0.10 | -0.14 | 0.10 | 0.14 | 0.07 * | 0.12 | 0.11 |
| Female, carer | | 6.38 | 2.54 * | -2.88 | 2.79 | 7.26 | 2.24 ** | 16.52 | 6.02 ** |
| Education, carer (ref=No qualification) | Lower secondary | -8.07 | 3.28 * | 9.44 | 4.25 * | -3.43 | 3.24 | -4.89 | 4.36 |
| | Upper secondary/ vocational | -8.74 | 3.24 ** | 8.06 | 4.75 | -3.07 | 3.42 | -7.50 | 6.01 |
| | Higher education degree | -9.80 | 3.64 ** | 10.42 | 5.36 | -3.10 | 3.90 | -11.14 | 7.03 |
| Occupational class, carer (ref=Routine) | Intermediate | -3.66 | 2.98 | -1.91 | 3.37 | 7.99 | 3.33 * | 9.70 | 5.88 |
| | Professional | 1.20 | 2.95 | -7.22 | 3.45 * | 12.02 | 3.50 ** | 25.28 | 5.56 *** |
| N of months since the diagnosis of dementia at baseline | | -0.83 | 0.25 ** | 1.95 | 0.57 ** | -0.80 | 0.45 | -0.33 | 0.62 |
| N of months between baseline and C19 interview | | -0.53 | 0.55 | -0.77 | 0.68 | -0.05 | 0.54 | -1.68 | 0.92 |
| Time-varying CDR score | T1 | 0.13 | 2.58 | | | | | | |
| | C19 | -6.34 | 4.62 | | | | | | |
| | T2 | -18.73 | 5.30 *** | | | | | | |
| | T3 | 6.31 | 2.84 * | | | | | | |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 48.29$, $df = 23$, $p = 0.002$, CFI = 0.88, RMSEA = 0.073, SRMR = 0.034

^bPiecewise LCG fit:

$\chi^2 = 49.20$, $df = 23$, $p = 0.01$, CFI = 0.88, RMSEA = 0.074, SRMR = 0.030

Supplementary Table 14: The Associations of the background characteristics with Intercept and Slopes of assessed quality of life for person with dementia (DEMQOL-Proxy) subscale 'Feelings' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|---|-----------------------------|------------------------|----------|----------------------|--------|----------------------|---------|----------------------|----------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -1.59 | 1.34 | 0.99 | 1.37 | 0.80 | 1.03 | 1.89 | 1.36 |
| | London | -0.64 | 1.24 | 1.33 | 1.54 | 1.99 | 1.24 | 3.28 | 2.11 |
| Age at baseline, person with dementia | | -0.08 | 0.06 | 0.14 | 0.08 | -0.07 | 0.05 | 0.00 | 0.08 |
| Female, person with dementia | | -0.23 | 1.14 | 0.88 | 1.27 | 1.36 | 1.11 | 1.33 | 2.50 |
| Married, person with dementia | | -2.91 | 1.34 * | 2.01 | 1.99 | 1.00 | 1.74 | 0.18 | 2.87 |
| Home owner, person with dementia | | 0.11 | 1.04 | 1.32 | 1.34 | -1.42 | 1.30 | -1.18 | 2.07 |
| Rural (vs. urban), person with dementia | | 0.75 | 1.36 | -0.74 | 1.69 | 0.33 | 0.85 | 1.99 | 1.53 |
| IMD, person with dementia | | 0.28 | 0.18 | 0.06 | 0.18 | -0.05 | 0.15 | -0.08 | 0.22 |
| Coresident with person with dementia | | 2.00 | 1.31 | 0.69 | 1.48 | -0.24 | 1.06 | 0.94 | 1.69 |
| Age at baseline, carer | | 0.02 | 0.04 | -0.03 | 0.05 | 0.02 | 0.04 | 0.04 | 0.05 |
| Female, carer | | 0.65 | 1.03 | -0.12 | 1.10 | 2.19 | 1.15 | 3.08 | 2.36 |
| Education, carer (ref=No qualification) | Lower secondary | -2.90 | 1.40 * | 3.68 | 1.74 * | -0.61 | 1.12 | -0.19 | 1.44 |
| | Upper secondary/ vocational | -4.00 | 1.35 ** | 2.66 | 1.99 | -0.47 | 1.29 | -0.75 | 1.77 |
| | Higher education degree | -3.81 | 1.60 * | 2.78 | 2.14 | -0.44 | 1.40 | -1.19 | 2.18 |
| Occupational class, carer (ref=Routine) | Intermediate | -0.71 | 1.30 | -1.82 | 1.49 | 2.57 | 1.30 * | 1.85 | 2.15 |
| | Professional | 2.02 | 1.32 | -3.21 | 1.60 * | 4.09 | 1.30 ** | 6.17 | 1.71 *** |
| N of months since the diagnosis of dementia at baseline | | -0.30 | 0.11 ** | 0.78 | 0.31 * | -0.30 | 0.20 | -0.24 | 0.20 |
| N of months between baseline and C19 interview | | -0.04 | 0.23 | -0.22 | 0.30 | -0.15 | 0.23 | -0.90 | 0.30 ** |
| Time-varying CDR score | T1 | -0.70 | 1.12 | | | | | | |
| | C19 | -0.64 | 2.24 *** | | | | | | |
| | T2 | -8.05 | 2.10 | | | | | | |
| | T3 | 2.17 | 1.18 | | | | | | |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 67.53$, $df = 23$, $p < 0.001$, CFI = 0.80, RMSEA = 0.097, SRMR = 0.035

^bPiecewise LCG fit:

$\chi^2 = 48.74$, $df = 23$, $p = 0.001$, CFI = 0.88, RMSEA = 0.074, SRMR = 0.025

Supplementary Table 15: The Associations of the background characteristics with Intercept and Slopes of carer assessed quality of life for person with dementia (DEMQOL-Proxy) subscale 'Memory' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|---|-----------------------------|------------------------|---------|----------------------|----------|----------------------|---------|----------------------|--------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | -0.49 | 1.06 | -2.87 | 1.59 | 1.06 | 1.11 | 1.38 | 2.06 |
| | London | -1.29 | 1.25 | -2.30 | 1.85 | 3.42 | 1.01 ** | 3.65 | 1.56 * |
| Age at baseline, person with dementia | | 0.00 | 0.07 | 0.20 | 0.10 | -0.18 | 0.06 ** | -0.02 | 0.09 |
| Female, person with dementia | | 1.65 | 1.12 | -3.30 | 2.10 | 1.79 | 1.19 | 2.99 | 2.49 |
| Married, person with dementia | | 0.77 | 1.44 | -2.72 | 1.83 | -0.22 | 1.27 | 3.64 | 2.08 |
| Home owner, person with dementia | | -0.72 | 0.96 | 2.19 | 1.59 | -1.54 | 1.13 | -3.09 | 1.24 * |
| Rural (vs. urban), person with dementia | | -1.98 | 1.15 | 1.88 | 1.82 | -1.19 | 1.24 | 3.94 | 2.04 |
| IMD, person with dementia | | 0.09 | 0.16 | 0.29 | 0.27 | -0.04 | 0.15 | 0.28 | 0.22 |
| Coresident with person with dementia | | 1.50 | 1.33 | 1.49 | 2.25 | -1.68 | 1.15 | -1.02 | 1.97 |
| Age at baseline, carer | | -0.01 | 0.05 | -0.04 | 0.06 | 0.06 | 0.03 | 0.02 | 0.04 |
| Female, carer | | 2.70 | 1.15 | -2.31 | 1.97 | 1.70 | 1.06 | 3.16 | 2.46 |
| Education, carer (ref=No qualification) | Lower secondary | -1.86 | 1.34 | 2.68 | 2.14 | -0.85 | 1.50 | 1.46 | 2.32 |
| | Upper secondary/ vocational | -2.50 | 1.39 | 4.33 | 2.25 | -1.75 | 1.49 | -1.32 | 2.61 |
| | Higher education degree | -3.05 | 1.56 | 5.39 | 2.71 * | -0.72 | 1.59 | -0.97 | 3.13 |
| Occupational class, carer (ref=Routine) | Intermediate | -2.17 | 1.20 | -0.03 | 1.72 | 1.91 | 1.30 | 0.26 | 2.37 |
| | Professional | -0.63 | 1.23 | -2.17 | 1.81 | 2.34 | 1.39 | 4.02 | 3.36 |
| N of months since the diagnosis of dementia at baseline | | -0.29 | 0.12 | 0.92 | 0.26 *** | -0.49 | 0.21 * | -0.50 | 0.38 |
| N of months between baseline and C19 interview | | -0.20 | 0.23 | -0.34 | 0.34 | 0.16 | 0.21 | -0.02 | 0.35 |
| Time-varying CDR score | T1 | 0.63 | 1.16 | | | | | | |
| | C19 | -3.02 | 1.63 | | | | | | |
| | T2 | -6.50 | 2.07 ** | | | | | | |
| | T3 | 0.88 | 1.53 | | | | | | |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 39.84$, $df = 23$, $p < 0.016$, CFI = 0.91, RMSEA = 0.060, SRMR = 0.028

^bPiecewise LCG fit:

$\chi^2 = 44.59$, $df = 23$, $p = 0.007$, CFI = 0.89, RMSEA = 0.065, SRMR = 0.025

Supplementary Table 16: The Associations of the background characteristics with Intercept and Slopes of carer assessed quality of life for person with dementia (DEMQOL-Proxy) subscale 'Everyday life' in Latent Growth Curve (LCG) models, unstandardised estimates (Est.) and Standard Errors (SE)

| | | Intercept ^a | | Slope 1 ^a | | Slope 2 ^a | | Slope 3 ^b | |
|---|-----------------------------|------------------------|---------|----------------------|---------|----------------------|---------|----------------------|----------|
| | | Est. | SE | Est. | SE | Est. | SE | Est. | SE |
| Location (ref=North-East) | Sussex | 0.38 | 0.99 | -0.46 | 0.93 | -0.69 | 0.94 | 1.35 | 1.93 |
| | London | 0.88 | 1.15 | -3.09 | 1.18 ** | 0.16 | 1.27 | 0.25 | 2.86 |
| Age at baseline, person with dementia | | 0.01 | 0.06 | 0.12 | 0.07 | -0.07 | 0.06 | 0.07 | 0.11 |
| Female, person with dementia | | 0.80 | 0.99 | -0.03 | 1.12 | 2.33 | 1.23 | 7.93 | 2.73 *** |
| Married, person with dementia | | -1.40 | 1.32 | -1.33 | 1.59 | 0.44 | 1.67 | 6.94 | 3.02 * |
| Home owner, person with dementia | | 0.28 | 0.93 | 0.62 | 1.27 | 0.66 | 1.15 | -1.82 | 1.83 |
| Rural (vs. urban), person with dementia | | -2.35 | 1.28 | -1.17 | 1.30 | 0.40 | 0.87 | 1.03 | 2.30 |
| IMD, person with dementia | | 0.17 | 0.17 | -0.03 | 0.18 | -0.03 | 0.15 | 0.26 | 0.28 |
| Coresident with person with dementia | | 1.94 | 1.14 | 2.64 | 1.38 | -0.26 | 1.07 | 1.34 | 2.43 |
| Age at baseline, carer | | 0.07 | 0.04 | -0.05 | 0.04 | 0.07 | 0.04 | 0.09 | 0.06 |
| Female, carer | | 3.00 | 0.92 ** | 0.19 | 1.22 | 3.64 | 1.21 ** | 9.41 | 2.55 *** |
| Education, carer (ref=No qualification) | Lower secondary | -3.23 | 1.26 * | 1.39 | 1.87 | -0.62 | 1.31 | -2.59 | 2.10 |
| | Upper secondary/ vocational | -2.19 | 1.20 | 0.27 | 1.91 | 0.14 | 1.39 | -1.91 | 2.45 |
| | Higher education degree | -3.13 | 1.29 * | 0.88 | 2.14 | -0.69 | 1.75 | -5.48 | 3.44 |
| Occupational class, carer (ref=Routine) | Intermediate | -0.64 | 1.09 | 1.07 | 1.34 | 1.99 | 1.41 | 5.16 | 2.95 |
| | Professional | 0.15 | 1.06 | -0.38 | 1.53 | 4.06 | 1.59 * | 11.63 | 2.38 *** |
| N of months since the diagnosis of dementia at baseline | | -0.29 | 0.09 ** | 0.12 | 0.20 | -0.01 | 0.21 | 0.36 | 0.30 |
| N of months between baseline and C19 interview | | -0.30 | 0.22 | -0.35 | 0.30 | -0.06 | 0.20 | -0.42 | 0.43 |
| Time-varying CDR score | T1 | 0.15 | 0.83 | | | | | | |
| | C19 | -1.16 | 1.35 | | | | | | |
| | T2 | -3.20 | 1.81 | | | | | | |
| | T3 | 3.44 | 1.62 | | | | | | |

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

IMD= Index of Multiple Deprivation, MMSE=Mini-Mental State Examination

^aPiecewise LCG fit:

$\chi^2 = 36.53$, $df = 23$, $p < 0.036$, CFI = 0.91, RMSEA = 0.053, SRMR = 0.068

^bPiecewise LCG fit:

$\chi^2 = 24.98$, $df = 23$, $p = 0.352$, CFI = 0.99, RMSEA = 0.020, SRMR = 0.036