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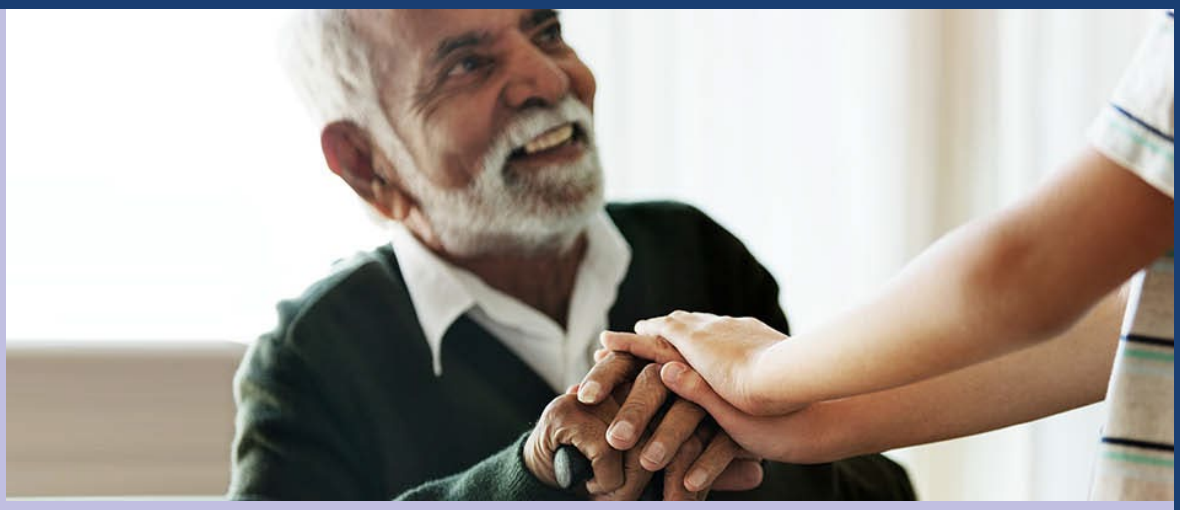

Using individual and neighbourhood profiles and trends to understand frailty with nationally representative population data

Part 2: Frailty and receipt for care in England

Asri Maharani, David Sinclair, Peter Bower, Tarani Chandola, Barbara Hanratty, James Nazroo, Gindo Tampubolon, Terence O'Neill, Chris Todd, Raphael Wittenberg, Fiona Matthews, Neil Pendleton

Final Report

June 2021

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**these authors contributed equally to this work*

National Institute for Health Research (NIHR) Older People and Frailty Policy Research Unit, Population Health Sciences Institute, Newcastle University, Newcastle-upon-Tyne, NE4 5PL, UK.

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Contents

Background

With advancing chronological age individuals begin to find usual daily activities more difficult to undertake (1). While some difficulties can be accommodated by older adults adjusting their lifestyle, using aids or physical adaptations, for more severe impairments individuals require support from others to undertake usual daily activities. The provision of this support is the basis of social care, provided either by family and friends, or by social care providers funded either privately or by local authorities. Demands on care services for older people increase with population ageing. In 2017, there were around 10 million individuals aged 65 and older in the UK, and this number is projected to increase by 49% to 14.9 million by the year 2040 (2). Furthermore, the population aged 85 and over - the group most likely to need health and care services – is expected to increase from 1.4 to 2.7 million over the same period (2).

The need for care among older adults varies according to their health and disability status, including the presence of co-morbidities, activities of daily living (ADL) dependency, cognitive impairment or dementia, and self-rated health (3-7). One of these reports examined the amount of care service received in Canada. It found that, despite age and sex similarities, comorbidity predicted the amount of short-term care received, while region was an important determinant of the amount of long-term care (3).

Frailty, which describes how our bodies gradually lose their in-built reserves as we age (8), is increasingly used as a framework for understanding health discrepancies among older adults and as a significant predictor of care receipt (9). Frailty can be categorised by membership of one of three categories: robust, pre-frail and frail (8). Frailty is associated with higher use of health care resources, including institutionalisation and home care services (10-12). On average, older people with severe frailty received twice as many home help hours than those in the least frail category (11). Research using The Irish Longitudinal Study of Ageing (TILDA) further shows that prefrail and frail respondents had 1.7- and 6.3-times higher odds of receiving home care, respectively (12).

Evidence from nationally representative panel surveys has previously been used to estimate unmet care needs in England (7, 13). The sources of care are categorised as informal or formal. Informal care is care delivered without receipt of payment; formal care is paid (either publicly, privately, or through the voluntary sector). A report by the National Audit Office estimates that the aggregate cost of publicly funded care in England (£20.4 bn) was almost double that of self-funded care (£10.9 bn) in 2016-2017 (14). The same report estimated the value of care provided by voluntary sector care services as £3.2 bn in the same year and the value of informal care as almost £100 bn per year.

Despite the high value of informal, privately funded and voluntary funded care, data on these care sources is limited (15). The absence of official data sources makes it difficult to estimate the size and scale of informal, privately funded and voluntary

funded care. This report thus focuses only on publicly funded care. Adult social care is a devolved policy; this report focuses on England, where local authorities are responsible for adult social care.

Local authority districts in England are expected to see an increase in the number of older people over the next decade. The number of local authority districts in England where at least 25% of the population is aged 65 years and over is estimated to increase from 36 authorities to 97 authorities out of 343 by 2026 (2). Prior studies have recorded higher rates of mortality and worse health of general population living in urban areas in the England and Wales (16-19). For example, a study using individual-level data from the 2001 UK census showed that urban local authority districts are associated with lower levels of limiting long-term illness after accounting for individual-level predictors (16).

This report aims to use the predicted size of the pre-frail and frail population within local authorities and the prevalence of local authority funded care recipients in each local authority in England to identify the relationship between frailty levels and receipt of care at local authority level. We report on the 151 'upper-tier' local authorities (as of August 2020): county councils, unitary authorities, metropolitan districts and London boroughs (which we will collectively refer to as local authorities), but not district councils (which are the constituent 'lower-tier' governments of county councils). The aim is to highlight areas where there is a difference between the prevalence of frailty and pre-frailty and the number of people in receipt of local authority funded care.

Approach

We performed our analysis in two steps. In the first step, we estimated the small-area profiles of the pre-frail and frail populations for each local authority in England. We then merged those profiles with local authority funded care receipt data for each local authority to investigate geographical similarities between care receipt and pre-frail and frail population estimates.

Data sources

For the first step, this study drew on four different data sources for the analysis: i) the English Longitudinal Study of Ageing (ELSA) (20); ii) the Cognitive Function and Ageing Study II (CFAS II) (21); iii) 2011 UK Townsend Deprivation Scores (22); and iv) 2020 Office for National Statistics population projections for local authorities (2). The explanation on methods and data used to generate the geographical patterns of frailty and pre-frailty for the first step is available in the OPF PRU Project 2 Report Part 1: Frailty among older adults and its distribution in England (available online: https://www.opfpru.nihr.ac.uk/our-research/project-2-frailty-data/).

For the second step, this study used information from the Short and Long Term Support (SALT) and Adults Social Care Finance Return (ASC-FR) 2018-2019 (available online: https://digital.nhs.uk/data-and-information/publications/statistical/adult-social-care-activity-and-finance-report/2018-

19). Adult Social Care Activity and Finance collected information on adult social care activity and expenditure submitted by 152 local authorities with Adult Social Services Responsibilities in England for the period 1 April 2017 to 31 March 2018.

A small number of local authority boundaries have changed since the publication of SALT and ASC-FR data (23-27). Most changes involved the merging of local authority districts to form larger authorities. In these cases, we simply summed the data of the precursor local authority districts to calculate data for the merged authorities. Boundary changes moved the Christchurch local authority district from Dorset county council to the newly formed Bournemouth, Christchurch and Poole unitary authority. We used the population fraction of Christchurch in the precursor Dorset authority to determine the number of care receivers to move to the Bournemouth, Christchurch and Poole unitary authority.

Frailty measures

A frailty index was constructed using ELSA wave 4 and CFAS II, from variables or deficits representing conditions that a) accumulate with age and b) are associated with adverse outcomes. Deficits included functional and sensory impairments, clinical diagnoses, and poor cognitive function. ELSA and CFAS contain similar, but not identical, variables which led us to use a different frailty index for each study, following guidelines (28, 29). For ELSA, we used the frailty index described by Wade and colleagues (28). We adapted the frailty index previously used by Mousa and colleagues in their comparison of CFAS I and CFAS II, adding 12 variables which are present in CFAS II, but not CFAS I (29).

The frailty index was categorised into frailty (>0.36), pre-frailty (>0.24-0.36) and non-frailty (≤0.24) (30). We previously estimated 1.2% and 2.7% of adults in England are frail and pre-frail respectively (31).

In the first section, we performed the analysis using the predicted prevalence of frailty in each local authority. We then conducted the analysis using the sum of predicted prevalence of pre-frailty and frailty in the second section.

Care receipt measures

Care receipt is adults aged 65 and over who received long-term formal care from local authority during the year of 2018-2019. This comprised nursing care, residential care, community care and, for a very small number of individuals, care in prison. Long-term care is provided as long as it is required, rather than for a fixed time period.

Data analysis

Firstly, we generate the area level distribution of frailty in England using small area estimation. The description of the method used is available in the OPF PRU Project 2 Report Part 1: Frailty among older adults and its distribution in England (summary available online: https://www.opfpru.nihr.ac.uk/our-research/project-2-frailty-data/). Briefly, frailty and pre-frailty prevalence for both CFAS and ELSA combined are modelled against age, sex and deprivation. These prevalence estimates are then used

to predict frailty and pre-frailty for each local authority from their population characteristics. This method gives an estimation of the prevalence of pre-frailty and frailty in each local authority, based on its age-banded population size, proportion of male and females, and its deprivation score/level (measured by Townsend deprivation index (22)).

We compared the area-level distribution of frailty with the prevalence of care recipients in each local authority (calculated as the proportion of the age 65 and over population receiving care). Care deficit scores were generated using the difference between the prevalence of pre-frailty and frailty in the over 65 population and the prevalence of local authority funded formal care receipt. Higher deficit scores represent higher discrepancies between prefrailty and frailty prevalence and the prevalence of such care receipt.

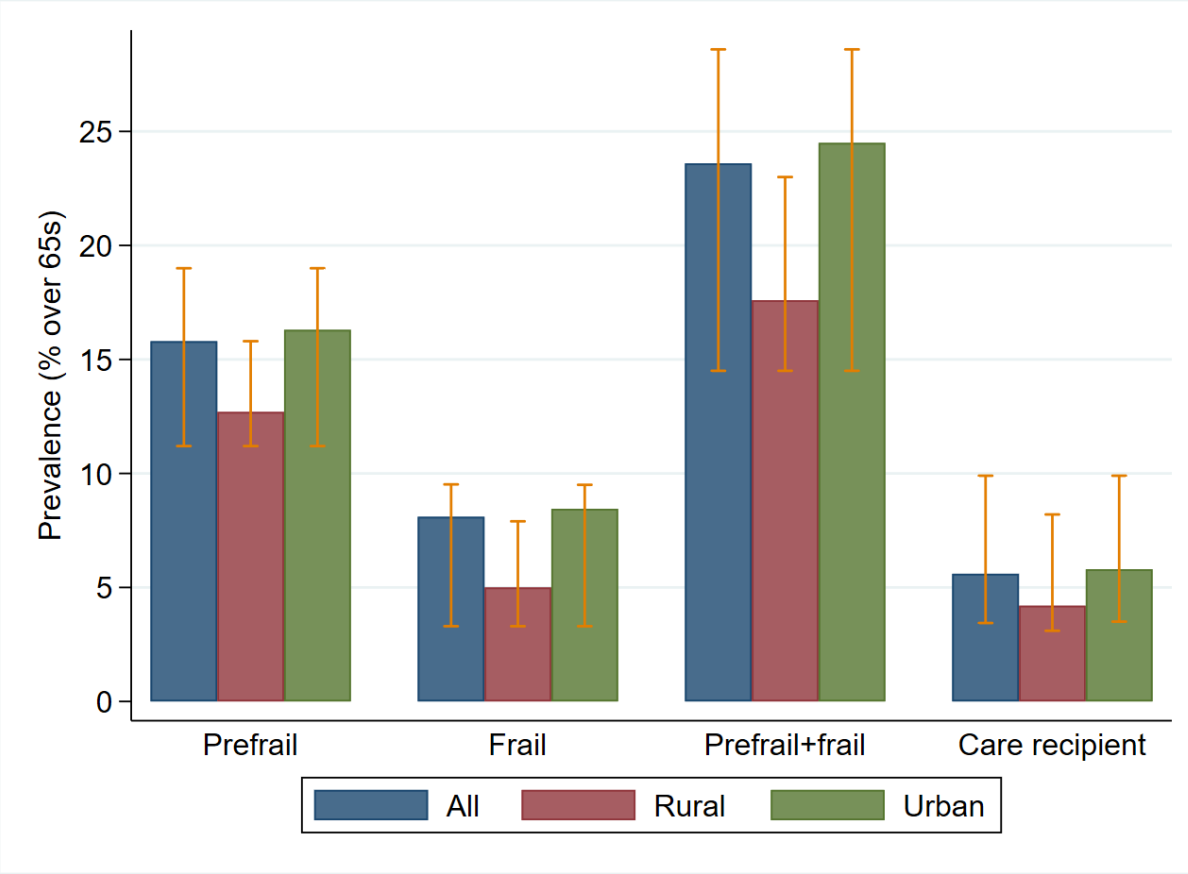
Local authorities were categorised as urban or rural according to the Office of National Statistic's 2011 rural-urban classification (32). This assigns a score of 1 to 6 to each local authority, where 1 is the most rural and 6 the most urban. Scores of 1-2 indicates predominantly rural local authorities and 3-6 predominantly urban.

Results

This study includes 151 local authorities, which consist of 130 urban and 21 rural local authorities. Using these methods, we estimate that in 2018, approximately 1.6 and 0.7 million people aged 65 and older in England were pre-frail and frail, respectively. The SALT and ASC-FR data show that 0.5 million adults in the same age group received long-term care in 2018-2019. The median estimated prevalence of pre-frailty and frailty in each local authority in 2018 is estimated at 16% of the >65 population pre-frail (median, 95% confidence interval - 2.5 and 97.5 percentiles) and 8 (3-10)%, respectively (Figure 1). The median prevalence of care receipt was 6 (3-10)%. On average, urban areas had a higher prevalence of prefrailty and frailty and local authority funded care recipients than rural areas.

In CFAS, 26.0% (95% CI 21.3-30.8%) frail people over the age of 65 report receipt of paid-for care, where we considered paid-for care to comprise any of the following being reported as a person's main source of help: local authority care, meals on wheels, home help, care worker, community worker or community nurse. Among both pre-frail and frail people over the age of 65, 15.1% (13.0-17.2%) report receipt of paid-for care. ELSA data provides a slightly lower value of 20.6% (16.9-24.7%) of frail people over the age of 65 receiving paid-for care, and 11.8% (9.9-13.9%) of pre-frail and frail over 65s. For ELSA, we considered paid-for care to comprise any of receiving meals on wheels, attending a day centre, or getting help from any of: home help, a care worker, a personal assistant, the reablement / intermediate care staff team, or care/nursing home staff. Both studies show that both a high proportion of both frail and pre-frail individuals receive paid-for-care.

Figure 1 The prevalence of prefrail and frail older adults and care recipients in local authorities. Bars shows median (2.5 and 97.5 percentiles).



All frailty (frailty and pre-frailty) and receipt of care

In this section we sum the estimated prevalence of pre-frailty and frailty in each local authority to measure the needs of care. The prevalence of pre-frailty and frailty exceeded the prevalence of formal care receivers in every local authority, with a median difference of 18 (11-22)% (Figure 2). If pre-frail individuals typically need care, this suggests a large deficit in care. Some needs can be assumed to be provided by informal care, but there may also be pre-frail and frail people who receive no care despite a need.

In CFAS, 15.1% (95% CI 13.0-17.2%) of pre-frail or frail people over the age of 65 report receipt of paid for care, where paid for care comprises local authority care, meals on wheels, home help, care worker, community worker or community nurse. ELSA reports 11.8 (9.9-13.9%).

Figure 2 Distribution of the difference in prefrailty and frailty prevalence and care recipient prevalence in each local authority in England. Care is only formal care.

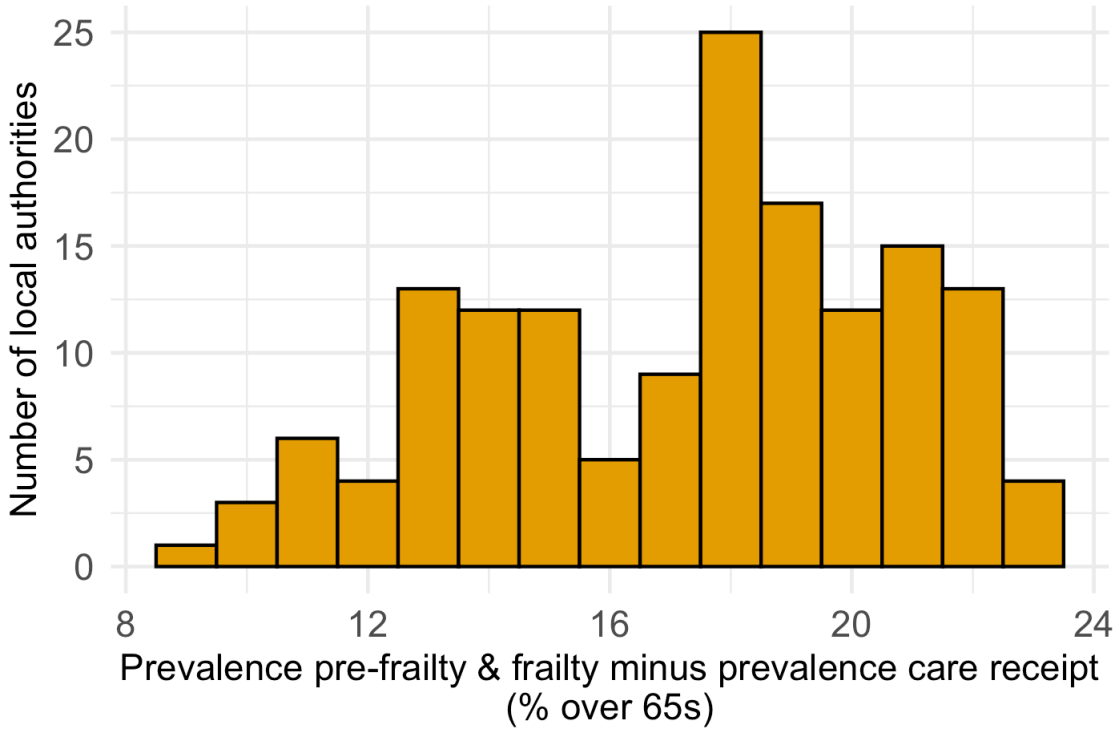


Figure 3 shows the spatial distribution of care deficits in England. A quarter of local authorities had deficits of 20%, with Walsall, Reading and Hillingdon having the largest. For example, 5.1% of adults aged 65 years and older in Walsall received formal care, yet the prevalence of pre-frailty and frailty for that same age group in Wallsall was 28.2%. The local authorities with the lowest care deficit score are West Berkshire, South Gloucester and North Somerset, with deficits of 10% or less. For example, the prevalence of people aged 65 years and older receiving long-term care in West Berkshire was 4.4%, while the predicted prevalence of prefrail and frail adults in the same age group was 13.8%.

Figure 3 Difference in pre-frailty and frailty prevalence and care recipient prevalence in each Local Authority in England, 2020. Care is only formal care. Larger difference indicates more care deficit.

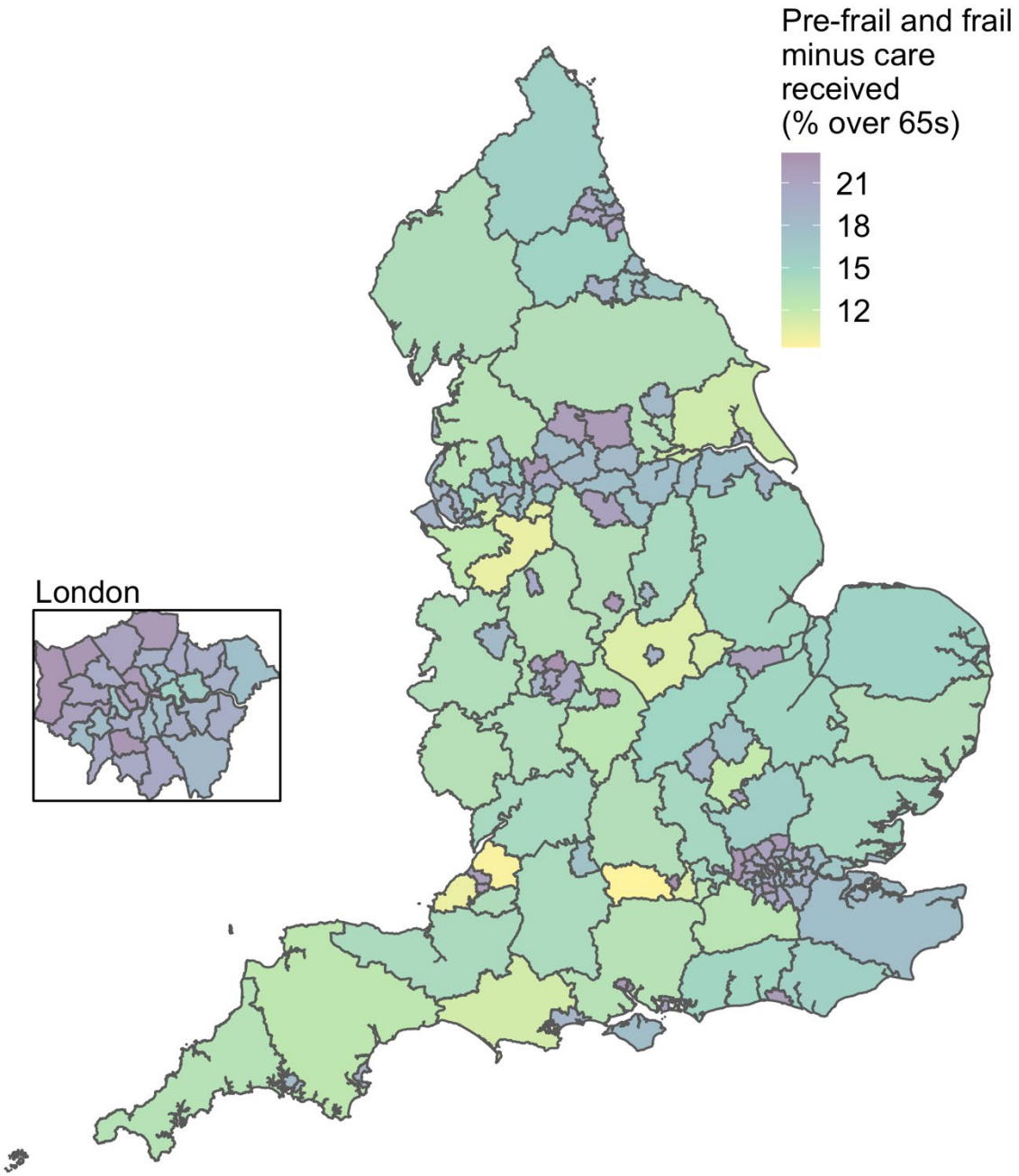
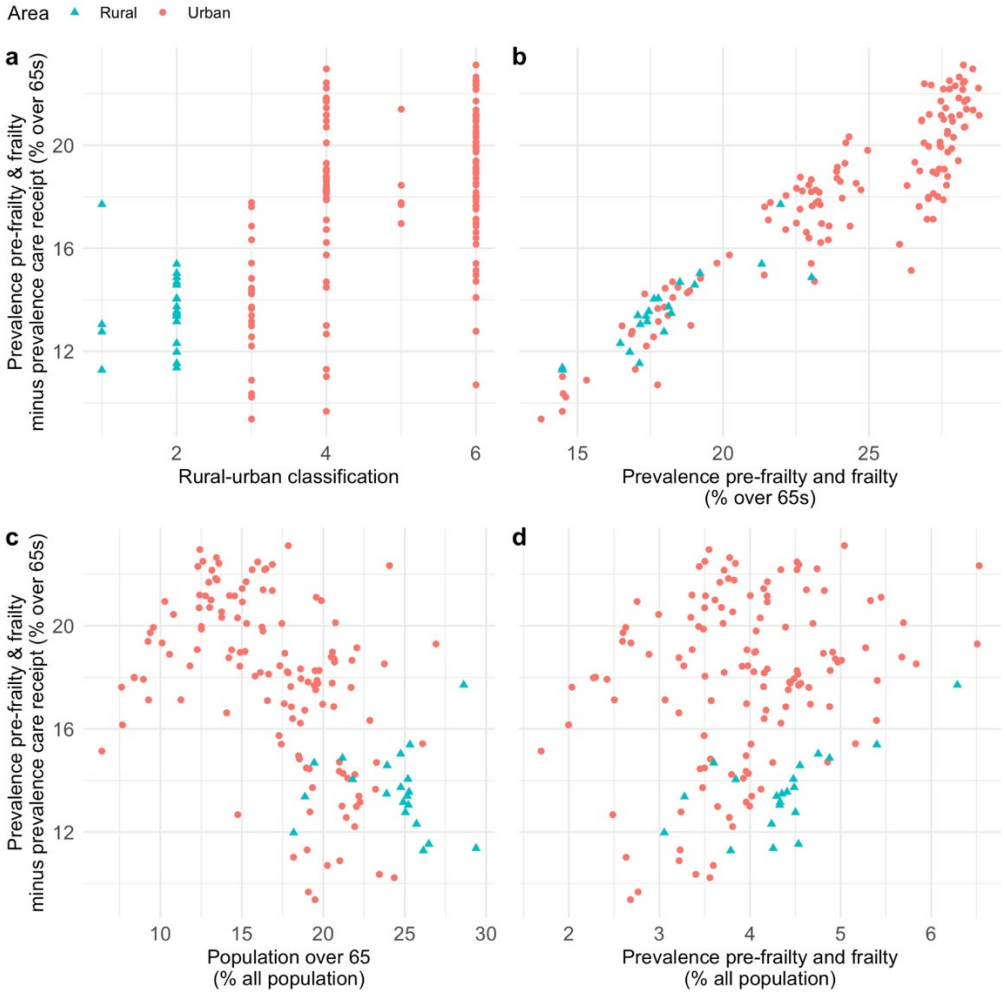


Figure 4(a) below plots the difference between potential care deficits (as estimated by total pre-frailty and frailty prevalence versus prevalence of local authority care receipt) for local authorities in each rural-urban classification. A strong association between urbanicity and care deficit is shown: more urban areas have larger difference in prevalence of pre-frailty and frailty and the receipt of care. There is a strong association between the care deficit pre-frail and frail over 65s and the prevalence of pre-frailty and frailty among over 65s (Figure 4(b)). This is also true to a lesser extent (with wide variation) for the whole population (Figure 4(d)). However, local authorities with larger proportions of their overall population over age 65 appear to have smaller care deficits (Figure 4(c)).

Figure 4 Difference in prevalence of frailty (including pre-frailty) and care among over 65s plotted against each local authority's (a) rural-urban classification; (b) prevalence of pre-frailty and frailty among over 65s; (c) percent of population over 65; and (d) prevalence of pre-frailty and frailty among the whole population. Increasing rural-urban classification scores indicate more urbanised local authorities. 1-2 indicates predominantly rural authorities, 3-6 predominantly urban. Rural and urban classification using 2011 Rural-Urban Classification of Local Authority Districts (32).



Frailty and receipt of care

In this section, we limit the scope of care need to only those categorised as frail in each local authority (we previously used the prevalence of both pre-frailty and frailty). As we do not include pre-frailty here, these results account for only the frailest among the over 65 population. Frail people can be expected to have the greatest need for care.

The median potential care deficit (as estimated by the gap between the prevalence of frailty and the prevalence of care receipt) among local authorities was 1.4% (95 C.I.: -1.3-4.2%) (Figure 5). 124 (82.1%) of local authorities have a potential care deficit by this measure. This suggests the majority of areas have a deficit of care.

Figure 5 Distribution of the difference in frailty prevalence and care recipient prevalence in each local authority in England. Care is only formal care.

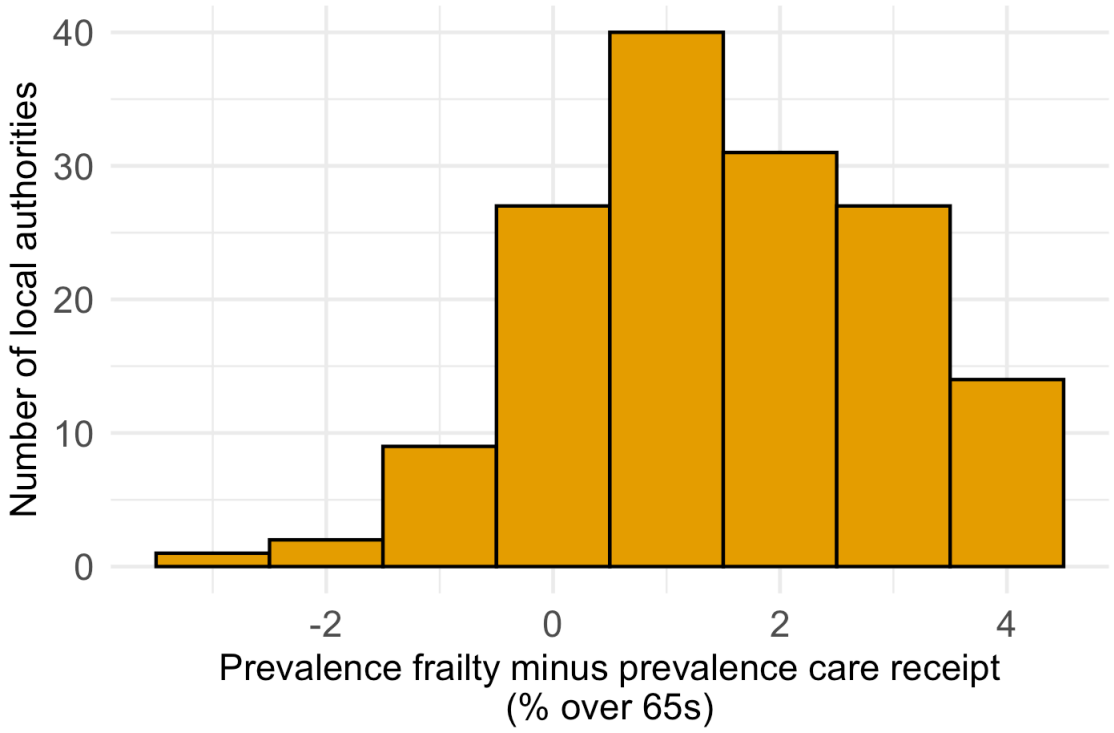


Figure 6 shows the spatial distribution of deficit care. Rochdale, Kingston upon Thames, and Walsall were among the local authorities with highest care deficits, while Tower Hamlets, Stockport, and South Gloucestershire had the lowest care deficits.

Figure 6 Difference in frailty prevalence and care recipient prevalence in each Local Authority in England, 2020. Care is only formal care. Larger difference (positive number) indicates more care deficit.

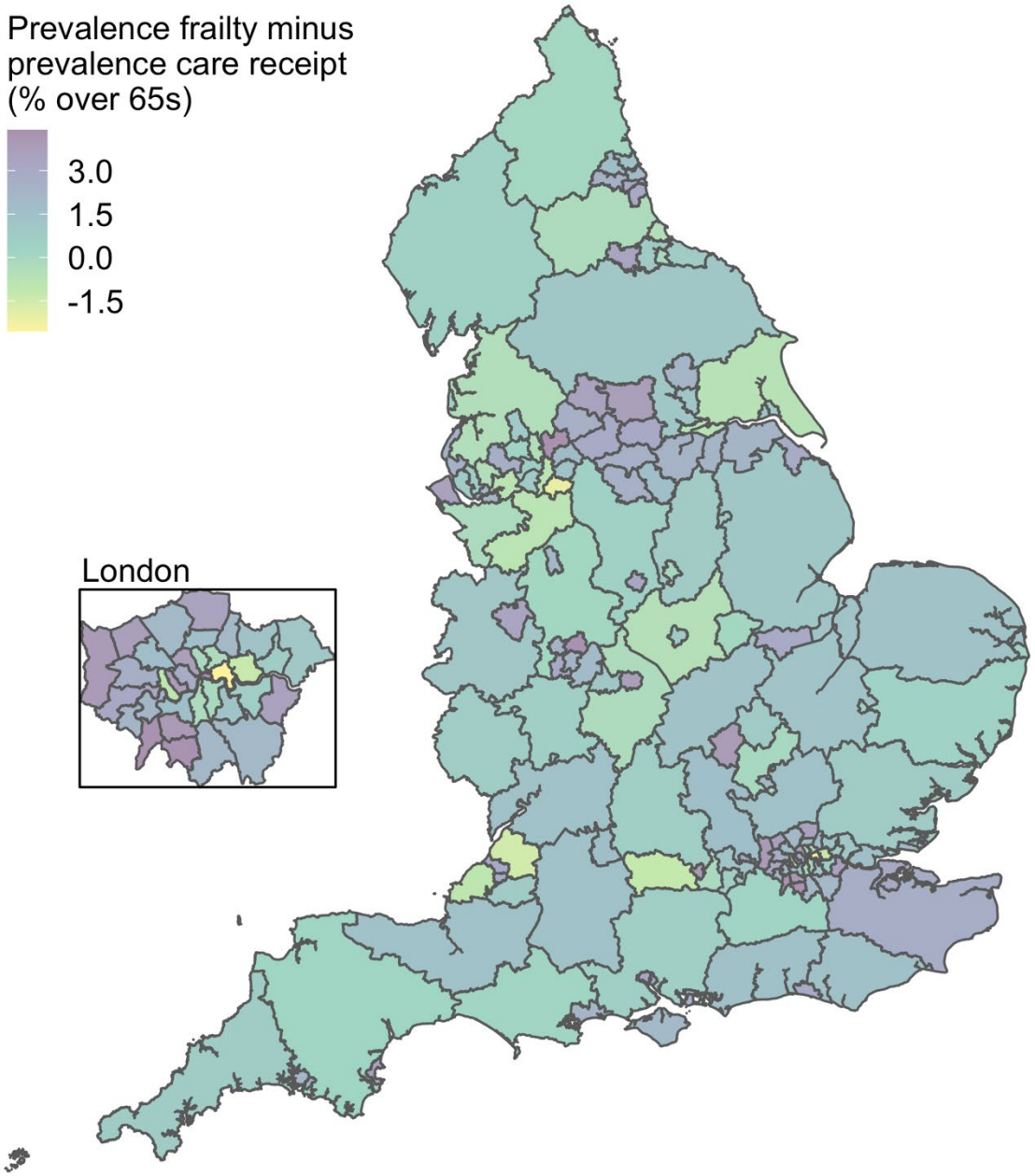


Figure 7(a) plots the difference in prevalence of frailty and care recipients for local authorities in each rural-urban classification. There is wide variation in the difference between care receipt and frailty prevalence but there does not appear to be an

association between urbanicity and potential care deficit**.** Figure 7(b) shows a strong association between potential care deficit and the prevalence of frailty among over 65s. No significant association was observed between care deficit and proportion of population aged 65 years and older (Figure 7(c)). Finally, Figure 7(d) reveals that local authorities with a higher prevalence of frailty appear to have greater care deficits.

Figure 8 shows that there is no association between area deprivation and the area's care deficit. However, there are large variances in the care deficit of each quintile suggesting the presence of inequalities in access to care between areas.

Figure 7 Difference in prevalence of frailty and care among over 65s plotted against each local authority's (a) rural-urban classification; (b) prevalence of frailty among over 65s; (c) percent of population over 65; and (d) prevalence of frailty among the whole population. Increasing rural-urban classification scores indicate more urbanised local authorities. 1-2 indicates predominantly rural authorities, 3-6 predominantly urban. Rural and urban classification using 2011 Rural-Urban Classification of Local Authority Districts (32).

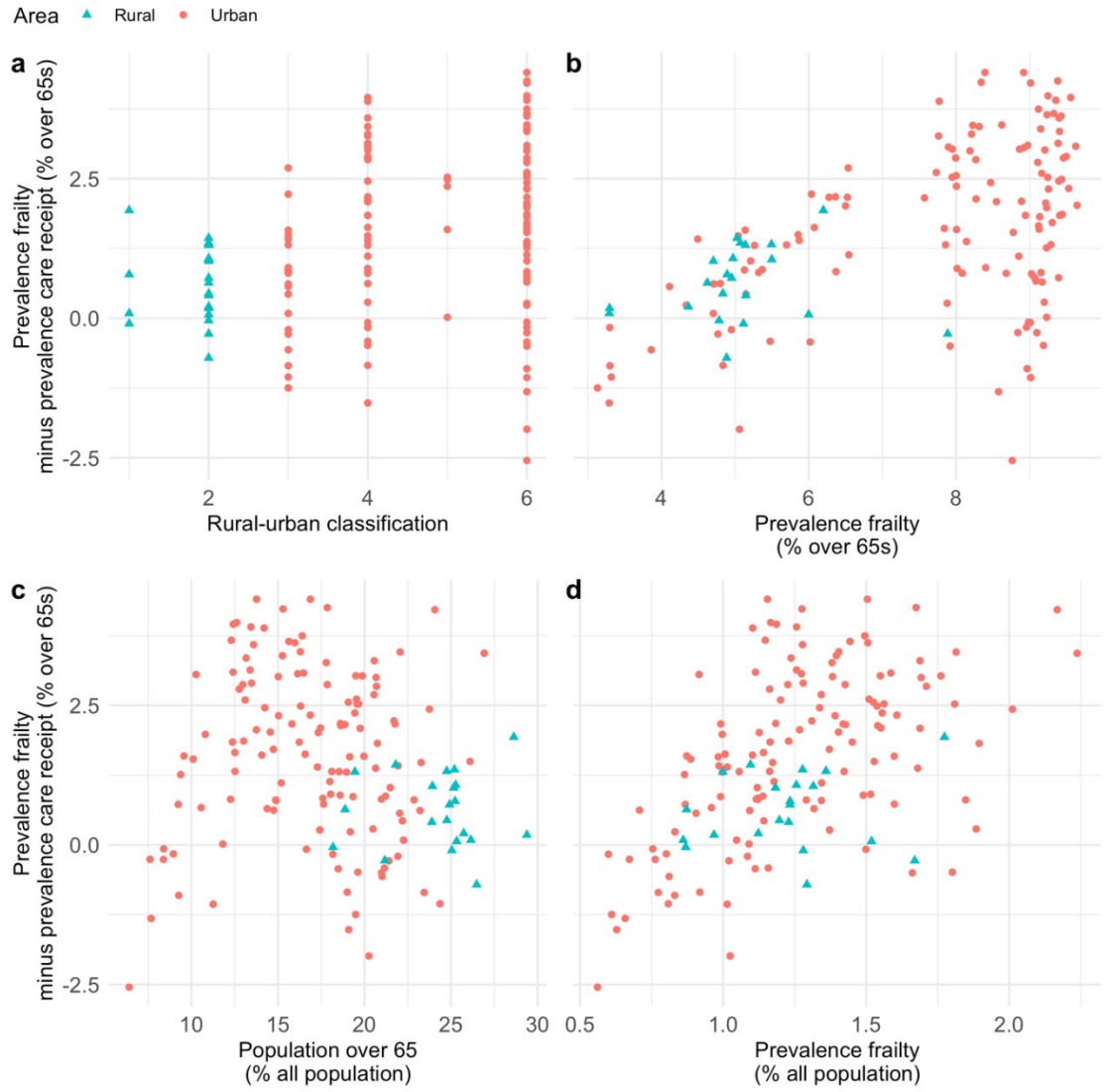
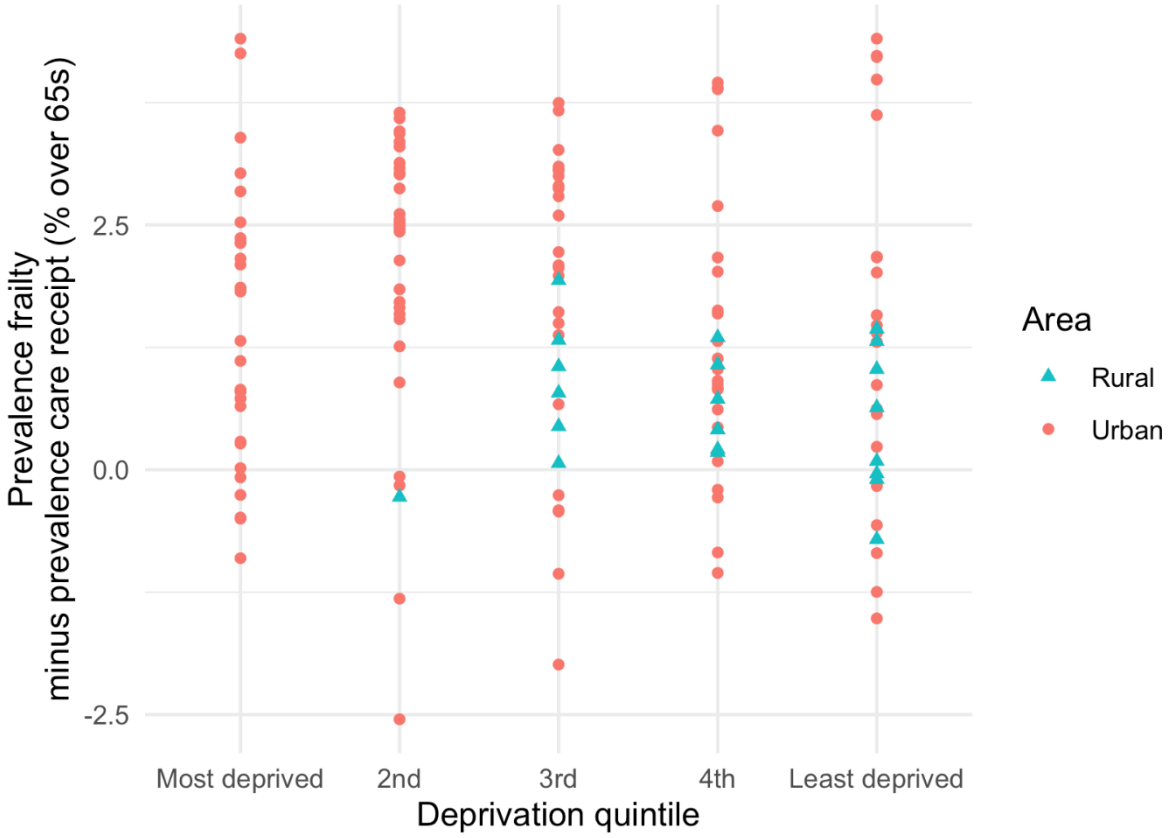


Figure 8 The frailty care deficit for each local authority plotted against their deprivation quintile. Each local authority is assigned to one-of-five deprivation quintiles based on their IMD (English Indices of Multiple Deprivation) score. Similar results are found for the pre-frailty and frailty care deficit against deprivation quintile (not plotted).


Prevalence frailty
minus prevalence care receipt (% over 65s)
2.5
0.0
-2.5
Most deprived
2nd
3rd
4th
Least deprived
Deprivation quintile
Area
Rural
Urban

Strengths and Limitations

A key strength is the use of information on the number of long-term support recipient from Short- and Long-Term Support (SALT) and Adults Social Care Finance Return (ASC-FR) 2018-2019 in all 151 local authorities in England. Additionally, estimates of the prevalence of pre-frailty and frailty in local authorities have not previously been used to evaluate care need. As such, we have been able to compare an estimate of the proportion of adults over age 65 who prefrail and frail, and an independent estimate of the proportion of that population receiving long-term care, for each local authority in England.

The main limitation is that due to a lack of frailty and pre-frailty information within specific geographical areas, frailty prevalence has been estimated by combining two population-based studies. The use of one geographical source for care and another source for a geographical estimate of frailty, means we are not able to identify whether long-term care recipients are in fact frail or prefrail. Another limitation is that our study only measures the number of individuals who received services, but not the amount of service received. Finally, our study is limited to a focus on formal care which is funded (provided or arranged) by local authorities. Further studies which include private paid-for care and informal care (not paid for care) is required to get a better picture of care provision in England.

Comparison with other work

This study is among the first that has compared an estimation of the pre-frail and frail population aged 65 years and older from national cohort studies with the number of care recipients in same age group, for local authorities in England. Our investigation supports previous studies which found that frailty is associated with high levels of home care usage (12, 33). Assuming frail individuals typically need care, our findings suggest the majority of local authorities in England may have an unmet need of care, thus increasing the need of informal care and health care. Informal care is a major source of care for frail older people and substitutes formal care (34).

Publicly funded care provided by local authorities is means tested. Older people who need care are eligible only if their savings are less than £23,250 (14). The care deficit in each local authority may thus be affected by the wealth of the people who need care. Our analysis suggests that there is no consistent pattern between the care deficit between areas with differing levels of deprivation. However, local authorities in wealthy areas may record greater care deficits as they are only obliged to provide care to a small proportion of their older population, compared to more deprived areas.

Care deficits are currently met through informal, privately funded and voluntary funded care, or they are unmet. The majority of the older people receiving long-term care at home rely on assistance from family members and friends. Population ageing due to increasing life expectancy and decreasing fertility will likely increase the need for paid care, as there will be fewer healthy family and friends able to provide unpaid care per

older person (35). In 2018/2019 alone, local authorities collectively received an extra 195 requests for adult social care support per day over the prior year (15). Local authorities with larger care deficits now thus need to put more attention in meeting this increasing need.

Conclusion

- The number of adults aged 65 years and older with prefrailty or frailty in England was estimated to be 1.6 and 0.7 million, respectively, in 2018. The most recent survey for the same age group shows that 0.5 million individual received formal care in the same year.
- There is a variation between areas of the number of prefrail and frail adults aged 65 and older in local authorities and the number of long-term care recipients in the same age group.
- 124 local authorities (82.1%) have a greater number of persons with frailty over the age of 65 than care recipients within the same age range. It is likely that all frail people require some care, suggesting there is a formal care deficit is present in much of the country. It is unclear how much of this discrepancy in care needs is made up for by unpaid and privately paid care.

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Additional resources

Appendix 1 Prevalence of prefrailty and frailty, care recipients, deficit score and area type for each local authority in England. Prevalence calculated using population of over 65s in each local authority.

Area	Pre-frail (%)	Frail (%)	Total frail (%)	Care recipients (%)	Frail minus care (%)	Total frail minus care (%)	Area type	Rural-urban class
Barking and Dagenham	18.7	9.4	28.1	8.7	0.7	19.4	Urban	6
Barnet	19.1	9.6	28.8	7.6	2.0	21.2	Urban	6
Barnsley	15.2	7.9	23.2	5.4	2.5	17.8	Urban	5
Bath and North East Somerset	12.9	5.1	18.0	4.3	0.9	13.7	Urban	3
Bedford	16.0	8.4	24.4	7.5	0.9	16.9	Urban	3
Bexley	16.3	8.6	25.0	5.2	3.5	19.8	Urban	6
Birmingham	18.9	9.4	28.3	7.6	1.9	20.7	Urban	6
Blackburn with Darwen	17.6	8.7	26.3	7.9	0.8	18.4	Urban	4
Blackpool	18.5	9.2	27.7	8.9	0.3	18.8	Urban	4
Bolton	15.1	7.9	23.0	7.6	0.3	15.4	Urban	6
Bournemouth, Christchurch and Poole	16.5	6.5	23.0	4.4	2.2	18.7	Urban	4
Bracknell Forest	12.1	4.8	16.8	4.2	0.6	12.7	Urban	4
Bradford	18.3	9.1	27.5	5.8	3.4	21.7	Urban	6
Brent	18.3	9.1	27.4	7.5	1.7	20.0	Urban	6
Brighton and Hove	18.9	9.5	28.4	6.6	2.9	21.8	Urban	4
Bristol, City of	18.8	9.5	28.3	6.6	2.9	21.7	Urban	4
Bromley	16.4	6.5	22.9	4.5	2.0	18.5	Urban	6
Buckinghamshire	12.9	5.1	18.0	3.6	1.6	14.5	Urban	3
Bury	15.4	6.0	21.4	6.4	-0.4	15.0	Urban	6
Calderdale	15.3	8.0	23.3	5.4	2.6	17.8	Urban	6
Cambridgeshire	13.4	5.1	18.5	3.8	1.3	14.7	Rural	2
Camden	18.6	9.3	28.0	5.7	3.7	22.3	Urban	6
Central Bedfordshire	12.0	4.8	16.8	4.8	0.0	12.0	Rural	2
Cheshire East	11.2	3.3	14.5	4.2	-0.9	10.4	Urban	3
Cheshire West and Chester	12.4	5.0	17.4	5.2	-0.2	12.2	Urban	3
City of London	18.1	9.0	27.1	4.8	4.2	22.3	Urban	6
Cornwall	12.3	4.9	17.2	4.1	0.8	13.0	Rural	1

Area	Pre-frail (%)	Frail (%)	Total frail (%)	Care recipients (%)	Frail minus care (%)	Total frail minus care (%)	Area type	Rural-urban class
County Durham	15.2	7.9	23.0	8.2	-0.3	14.9	Rural	2
Coventry	18.8	9.4	28.2	5.8	3.6	22.4	Urban	4
Croydon	18.5	9.2	27.7	7.2	2.1	20.5	Urban	6
Cumbria	13.3	4.8	18.1	4.4	0.4	13.7	Rural	2
Darlington	15.7	8.2	23.9	4.9	3.3	19.0	Urban	4
Derby	19.1	9.6	28.8	6.5	3.1	22.2	Urban	4
Derbyshire	13.0	5.1	18.1	4.7	0.4	13.4	Urban	3
Devon	12.1	4.4	16.5	4.2	0.2	12.3	Rural	2
Doncaster	15.3	8.0	23.3	5.6	2.4	17.7	Urban	5
Dorset	11.2	3.3	14.5	3.1	0.2	11.4	Rural	2
Dudley	15.7	8.2	23.9	5.2	3.0	18.7	Urban	6
Ealing	18.4	9.2	27.6	6.6	2.6	21.0	Urban	6
East Riding of Yorkshire	12.2	4.9	17.1	5.6	-0.7	11.5	Rural	2
East Sussex	13.9	5.9	19.8	4.4	1.5	15.4	Urban	3
Enfield	18.8	9.4	28.2	6.1	3.3	22.2	Urban	6
Essex	13.5	5.3	18.9	4.5	0.8	14.4	Urban	3
Gateshead	18.6	9.2	27.8	6.7	2.5	21.1	Urban	6
Gloucestershire	12.8	4.5	17.3	3.1	1.4	14.2	Urban	3
Greenwich	18.2	9.1	27.3	8.4	0.7	18.9	Urban	6
Hackney	17.9	8.8	26.7	9.1	-0.3	17.6	Urban	6
Halton	14.6	7.6	22.1	5.4	2.2	16.7	Urban	4
Hammersmith and Fulham	18.2	9.0	27.2	10.1	-1.1	17.1	Urban	6
Hampshire	12.4	4.1	16.5	3.5	0.6	13.0	Urban	3
Haringey	17.8	8.8	26.6	7.2	1.5	19.3	Urban	6
Harrow	18.9	9.4	28.3	5.8	3.6	22.5	Urban	6
Hartlepool	18.4	9.2	27.6	9.7	-0.5	17.9	Urban	4
Havering	16.5	6.5	23.0	5.4	1.1	17.6	Urban	6
Herefordshire, County of	12.4	5.0	17.4	4.2	0.7	13.2	Rural	2
Hertfordshire	14.3	5.9	20.2	4.5	1.4	15.7	Urban	4
Hillingdon	18.7	9.4	28.1	5.4	3.9	22.6	Urban	6
Hounslow	18.1	9.0	27.1	5.9	3.1	21.2	Urban	6
Isle of Wight	15.8	6.2	22.0	4.3	1.9	17.7	Rural	1
Isles of Scilly	12.9	5.1	18.0	5.2	-0.1	12.8	Rural	1
Islington	18.1	9.0	27.0	9.1	-0.2	17.9	Urban	6
Kensington and Chelsea	18.4	9.1	27.5	5.4	3.7	22.2	Urban	6
Kent	15.1	6.5	21.6	3.8	2.7	17.8	Urban	3

Area	Pre-frail (%)	Frail (%)	Total frail (%)	Care recipients (%)	Frail minus care (%)	Total frail minus care (%)	Area type	Rural-urban class
Kingston upon Hull, City of	17.9	8.9	26.7	7.7	1.1	19.0	Urban	4
Kingston upon Thames	15.9	8.4	24.3	4.0	4.4	20.3	Urban	6
Kirklees	15.3	8.0	23.3	5.1	2.9	18.2	Urban	6
Knowsley	18.2	9.1	27.3	8.3	0.7	18.9	Urban	6
Lambeth	18.3	9.1	27.4	9.4	-0.3	18.0	Urban	6
Lancashire	13.4	5.5	18.9	5.9	-0.4	13.0	Urban	4
Leeds	18.5	9.2	27.8	5.6	3.6	22.2	Urban	6
Leicester	18.3	9.2	27.4	8.3	0.8	19.1	Urban	4
Leicestershire	11.5	3.9	15.3	4.4	-0.6	10.9	Urban	3
Lewisham	18.5	9.2	27.7	8.0	1.3	19.7	Urban	6
Lincolnshire	13.5	5.5	19.0	4.4	1.1	14.6	Rural	2
Liverpool	18.2	9.0	27.2	8.2	0.8	19.0	Urban	6
Luton	18.9	9.4	28.3	7.6	1.8	20.7	Urban	4
Manchester	18.0	9.0	27.0	9.9	-0.9	17.1	Urban	6
Medway	15.1	7.9	23.0	4.8	3.1	18.2	Urban	4
Merton	18.5	9.2	27.8	5.3	4.0	22.5	Urban	6
Middlesbrough	18.2	9.0	27.2	9.1	-0.1	18.1	Urban	4
Milton Keynes	14.9	7.8	22.6	3.9	3.9	18.8	Urban	4
Newcastle upon Tyne	18.6	9.3	27.9	7.6	1.7	20.3	Urban	6
Newham	17.5	8.6	26.0	9.9	-1.3	16.2	Urban	6
Norfolk	13.7	5.5	19.2	4.2	1.3	15.0	Rural	2
North East Lincolnshire	15.8	8.3	24.0	5.4	2.8	18.6	Urban	4
North Lincolnshire	15.4	6.0	21.4	3.8	2.2	17.6	Urban	3
North Somerset	11.3	3.3	14.6	4.4	-1.1	10.2	Urban	3
North Tyneside	15.5	8.1	23.6	6.8	1.4	16.9	Urban	6
North Yorkshire	12.4	4.7	17.1	3.7	1.0	13.4	Rural	2
Northamptonshire	13.5	5.7	19.2	4.4	1.3	14.8	Urban	3
Northumberland	15.3	6.0	21.3	5.9	0.1	15.4	Rural	2
Nottingham	18.4	9.2	27.7	9.2	0.0	18.4	Urban	5
Nottinghamshire	13.4	5.4	18.8	4.5	0.9	14.3	Urban	3
Oldham	18.1	8.9	27.1	7.1	1.8	20.0	Urban	6
Oxfordshire	12.7	4.6	17.4	4.0	0.6	13.4	Rural	2
Peterborough	18.4	9.2	27.6	6.2	3.0	21.4	Urban	4
Plymouth	15.8	8.3	24.1	6.1	2.1	17.9	Urban	4
Portsmouth	18.7	9.4	28.1	6.9	2.5	21.2	Urban	4
Reading	19.0	9.6	28.6	5.6	4.0	23.0	Urban	4

Area	Pre-frail (%)	Frail (%)	Total frail (%)	Care recipients (%)	Frail minus care (%)	Total frail minus care (%)	Area type	Rural-urban class
Redbridge	18.6	9.3	27.8	8.0	1.3	19.9	Urban	6
Redcar and Cleveland	15.5	8.1	23.6	7.3	0.8	16.3	Urban	3
Richmond upon Thames	15.9	6.3	22.2	4.1	2.2	18.0	Urban	6
Rochdale	18.0	8.9	26.9	4.5	4.4	22.4	Urban	6
Rotherham	15.4	8.0	23.4	6.4	1.6	17.0	Urban	5
Rutland	11.2	3.3	14.5	3.2	0.1	11.3	Rural	1
Salford	18.4	9.2	27.6	8.5	0.6	19.1	Urban	6
Sandwell	18.6	9.3	27.9	6.9	2.3	20.9	Urban	6
Sefton	16.1	8.5	24.6	6.0	2.4	18.5	Urban	6
Sheffield	18.9	9.4	28.3	6.9	2.5	21.4	Urban	5
Shropshire	12.5	5.0	17.4	3.9	1.1	13.6	Rural	2
Slough	17.9	8.9	26.8	5.9	3.1	20.9	Urban	4
Solihull	13.1	5.2	18.3	4.2	1.0	14.1	Urban	6
Somerset	12.7	5.1	17.8	3.7	1.4	14.1	Rural	2
South Gloucestershire	11.2	3.3	14.5	4.8	-1.5	9.7	Urban	4
South Tyneside	18.3	9.1	27.4	7.3	1.8	20.1	Urban	6
Southampton	18.7	9.4	28.1	6.2	3.1	21.8	Urban	4
Southend-on-Sea	16.2	8.5	24.7	6.5	2.1	18.3	Urban	4
Southwark	18.1	9.0	27.0	9.1	-0.1	18.0	Urban	6
St. Helens	15.2	7.9	23.1	8.4	-0.5	14.7	Urban	6
Staffordshire	13.1	4.7	17.8	4.6	0.1	13.2	Urban	3
Stockport	12.7	5.1	17.8	7.0	-2.0	10.7	Urban	6
Stockton-on-Tees	15.3	8.0	23.3	7.1	0.9	16.2	Urban	4
Stoke-on-Trent	18.0	8.9	26.9	6.8	2.1	20.1	Urban	4
Suffolk	13.1	5.1	18.2	4.7	0.4	13.5	Rural	2
Sunderland	18.0	8.9	26.8	5.8	3.0	21.0	Urban	6
Surrey	12.5	4.3	16.9	4.1	0.2	12.8	Urban	6
Sutton	15.9	8.3	24.2	4.1	4.2	20.1	Urban	6
Swindon	15.5	6.1	21.5	4.4	1.6	17.1	Urban	4
Tameside	15.1	7.9	22.9	6.5	1.3	16.4	Urban	6
Telford and Wrekin	15.0	7.8	22.7	4.5	3.3	18.2	Urban	4
Thurrock	15.0	7.8	22.9	6.2	1.6	16.6	Urban	6
Torbay	15.9	8.3	24.2	4.9	3.4	19.3	Urban	4
Tower Hamlets	17.7	8.8	26.5	11.3	-2.5	15.1	Urban	6
Trafford	16.1	6.4	22.5	5.5	0.8	17.0	Urban	6
Wakefield	15.2	7.9	23.2	4.9	3.0	18.3	Urban	4
Walsall	18.9	9.4	28.2	5.1	4.3	23.1	Urban	6

Area	Pre-frail (%)	Frail (%)	Total frail (%)	Care recipients (%)	Frail minus care (%)	Total frail minus care (%)	Area type	Rural-urban class
Waltham Forest	18.5	9.2	27.7	7.2	2.0	20.4	Urban	6
Wandsworth	18.3	9.1	27.5	7.5	1.6	19.9	Urban	6
Warrington	12.2	4.8	17.0	5.7	-0.8	11.3	Urban	4
Warwickshire	12.8	4.8	17.6	5.0	-0.3	12.6	Urban	3
West Berkshire	10.6	3.1	13.8	4.4	-1.2	9.4	Urban	3
West Sussex	13.2	5.0	18.3	3.6	1.5	14.7	Urban	4
Westminster	18.4	9.1	27.5	6.3	2.8	21.2	Urban	6
Wigan	14.9	7.7	22.6	5.1	2.6	17.5	Urban	6
Wiltshire	12.6	5.0	17.6	3.6	1.4	14.0	Rural	2
Windsor and Maidenhead	13.2	5.3	18.4	4.0	1.3	14.5	Urban	4
Wirral	15.7	8.2	23.9	4.8	3.5	19.1	Urban	6
Wokingham	11.2	3.3	14.5	3.5	-0.2	11.0	Urban	4
Wolverhampton	19.0	9.5	28.6	7.2	2.3	21.4	Urban	6
Worcestershire	13.0	4.7	17.8	4.1	0.6	13.7	Urban	3
York	16.2	6.4	22.5	4.2	2.2	18.3	Urban	4

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