Local Government Association

Research

Explaining Variation in Spending – Adults' Services for Older People

August 2020

To view more research from the Local Government Association's Research and Information team please visit: https://www.local.gov.uk/our-support/research

Contents

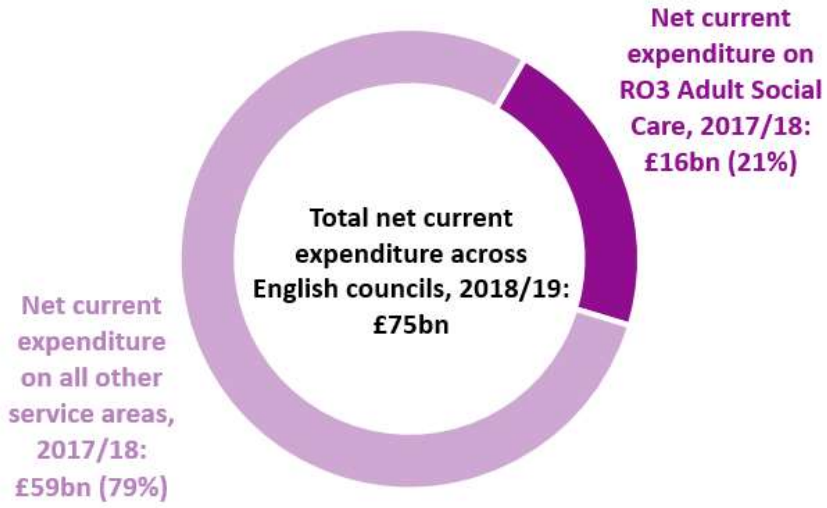
Executive summary

Rationale

This analysis seeks to explain differences in spending on adults' social care per adult aged 65 and over. An analysis of this variation was carried out, applying to all upper and single-tier councils in England, excluding Isles of Scilly, City of London and one other council, Tower Hamlets, which were outliers on the measure of spend per older adult and are thus unrepresentative of other councils. We cannot prove causal relationships with this analysis, we only explore which factors are related to the rate of spending per adult aged 65 and over.

Background

English councils spent over £16bn on adults' social care in 2018/19 – that's 21 per cent of total council service expenditure in that financial year.



The highest spending subdivisions of adults' social care were learning disability support for working age adults (31 per cent of total net current expenditure on adults' social care in 2018/19), physical support for older people (22 per cent), social care activities (10 per cent) and physical support for working age adults (8 per cent). Total spend on adults' social care, adjusted for inflation, increased by £568m (four per cent) between 2014/15 and 2018/19.

According to research by the Local Government Association, even before COVID-19 adult social care faces cost pressures of around £1.3 billion per year due to inflation and increases in demand alone[1]. This represents the amount of money

[1] https://www.local.gov.uk/sites/default/files/documents/Technical%20Document%202020.pdf

required to maintain services at current levels; it does not include funding to increase provision or tackle unmet need.

The applicable population of potential service users of adults' social care is UK residents aged 18 or over. At an estimated 44m in mid-2018[2], this represented 79 per cent of the total English resident population. Of the adult population, 10m were older people aged 65 and over and disproportionately likely to require adult social care services.

Spending and population

In general, although most adults did not require assistance from adults' social care services, there was a strong positive relationship between an authority's expenditure on adults' social care and the size of its older person population. This means that local authorities with larger numbers of those aged 65 and over tended to spend more on adults' social care.

Dividing an authority's total expenditure on adults' social care by its number of people aged 65 and over (with adjustments made for area costs: see Technical Appendix) gives its rate of spending on adults' social care per older person. This measure uses total expenditure on adults' social care rather than expenditure specific to those aged 65 and over because some forms of expenditure, such as social care activities, are not split by age group, so it is necessary to use a broader numerator to capture the full range of spending.

In 2018/19 this spending rate, not including the three excluded councils, varied from around £946 per person aged 65 and over to around £4,229. A typical value, the median, was around £1,567 per older person. This means that there was a difference of around £3,283 per older person between the council with the lowest spending rate and the council with the highest. A typical spending rate for a lower spending council, the lower quartile, was around £1,370 per older person, and a typical rate for a higher spending council, the upper quartile, was around £1,903 per older person. The difference between these quartiles – the interquartile range – was £533 per older person, representing the level of variation between the most typical councils.

Explaining variation in spending rate

To try to understand why some councils have a higher spending rate than others, and to measure how much of this variation could be the result of factors beyond local authority control, the LGA identified a set of 222 factors of local areas, such as their level of deprivation and age profile, which were considered to be outside

[2] Please note that population data for 2019 was available at the time of writing, but that 2018 data was used instead to provide a better match to the financial year 2018/19, the latest available year for council expenditure.

direct council control. These factors were tested in a series of statistical models which explored whether they were related to spend per older person in 2018/19.

A ‘model’ is small collection of factors from the overall list of 222, which are tested to measure their relationship to the spending rate. An optimal model was constructed which contained the factors with the strongest links to the spending rate, and which could therefore explain the largest variation in the spending rate out of all the models available. The model chosen could explain 78 per cent of variation in spend per person aged 65 or over through a combination of four different factors.

The remaining variation which has not been explained by the model is not necessarily within local authority control – it could also be due to other factors outside their control which have not been measured and are not provided in the available statistics. The model therefore represents the *minimum* amount of variation which is beyond councils’ control to alter, and the *actual* amount of variation of this kind may be considerably higher.

The spending rate on people aged 65 and over tended to be higher among authorities with a greater proportion of residents in rural areas and authorities with a higher score on the Income Deprivation Affecting Older People Index (IDAOPI), whereas the spending rate on this age group tended to be lower among authorities with a greater proportion of households aged 65 and over consisting of couple households, and authorities with a greater old age dependency ratio.
The reasons behind some of the relationships in the model are clear, whilst others are less clear, although potential explanations can be offered. However, all of these relationships have been identified by robust statistical modelling. An identical analysis run previously, using the same four factors to explain variation in spend per older person in 2017/18, produced results which were almost exactly identical, and which also explained around 78 per cent of variation in this metric, showing that the relationships uncovered are stable over time.

In conclusion, adults’ social care is a highly important area of council expenditure facing increasing funding pressures. At least 78 per cent of variation in spend per older person is outside of local authority control. The remaining variation is unknown – it is not necessarily within local authority control, and may be the result of other factors beyond their control which have not been measured. Furthermore, within the remaining variation, even if it was possible to reduce some spending, it is likely that councils would not be able to change their spending rate significantly without investment and time.

Technical report

Introduction

The Local Government Association (LGA) has undertaken a series of statistical analyses which seek to understand differences in spending per unit of population between councils. The overall finding is that local factors outside of councils' control are responsible for almost four fifths of variation in spend on adult social care per older person between English councils.

This report uses data extracted from Government outturn reports and a variety of other metrics which describe councils and local areas, most of which is available from LG Inform[3]. This data was fed into statistical models in a widely recognised process known as linear regression analysis, which explains variation in one metric based on a number of other metrics.

In this case, the models were looking to explore how much of the variation in spending on adults' social care can be explained using factors which are beyond councils' control. As such, the variation explained by the model is a figure which councils would find very difficult to reduce. The unexplained variation which falls outside of the model is not necessarily easy to reduce; it may be within or outside of councils' control.

This report uses statistical analysis to describe and identify factors commonly associated with variation in spending, although statistical associations cannot be used to prove causal relationships.

The analysis applies to all upper and single-tier councils in England. Please note, however, that due to their unusual demographics, the City of London Corporation and the Council of the Isles of Scilly have not been included in the analysis. One other atypical council, Tower Hamlets, was also excluded because it was an outlier on this measure[4].

It is notoriously difficult to explain variation in spend on local government services, since the factors or combination of factors are invariably complex. In this report the LGA sets out some first thoughts towards explaining why particular variables have an impact, but we would welcome thoughts or evidence from others.

[3] LG Inform is the Local Government Association's data benchmarking tool, available at https://lginform.local.gov.uk/

[4] This is common practice in modelling, where analysts may remove a data point that differs considerably from other observations, since it may indicate measurement error.

The measure for spend per older person

The metric which forms the basis of this report is net current expenditure on adults' social care per person aged 65 and over in the resident population (henceforth spend per older person), for the financial year 2018/19, the latest period available at the time at which the analysis was conducted.

Total service expenditure by councils (excluding other types of local authority, such as fire authorities) in 2018/19 was approximately £75bn[5]. Adults' social care service expenditure in the same financial year was over £16bn. This makes spending on adults' social care around 21 per cent of councils' service expenditure[6].

Spending figures for each authority have been obtained from the UK Government's local authority revenue expenditure and financing data[7]. The metric of spending used was net current expenditure, which excludes spending funded by sales, fees and charges. This is because the categorisation of grant income was not always uniform across councils. Net current expenditure includes all forms of grant income by default, and as such represents the most consistent available measure of spending for comparison between councils.

The denominator of residents aged 65 and over was taken from the Office of National Statistics (ONS) mid-year population estimates 2018[8]. This denominator was highly and significantly positively correlated with the numerator (net current expenditure on adults' social care) across councils, suggesting that overall levels of spend on adults' social care are closely related to the number of older people resident in a local area[9].

The measure for spend per older person was calculated according to the following formula:

$$\frac{Spend\ on\ adults'\ social\ care}{Number\ of\ older\ people\ x\ area\ cost\ adjustment}$$

[5] This calculation was based on data obtained from 'Revenue outturn summary (RS) 2018 to 2019', available at https://www.gov.uk/government/statistics/local-authority-revenue-expenditure-and-financing-england-2018-to-2019-individual-local-authority-data-outturn

[6] Total service expenditure by councils recorded here includes significant amounts of spending that is not directly under councils' control but is not separately identified – for example spending by local authority schools funded by Dedicated Schools Grant.

[7] Available at: https://www.gov.uk/government/collections/local-authority-revenue-expenditure-and-financing

[8] Available at: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates

[9] Correlation coefficient 0.95 (perfect positive relationship would be 1.00), significance: 99.9%.

It was not possible to separate expenditure by age group, because although some spending categories within adult social care are split by age, others are not. As such, the spending rate makes use of the broad measure of overall net current expenditure on adults' social care.

Area cost adjustment refers to a weighting calculated by the UK Government to compensate English authorities for differences in costs in different parts of the country due to variations in labour costs and business rates[10]. A measure which includes and thus removes the effects of area costs provides a more comparable metric between different councils.

Variation in spending rate between councils

Levels of spend per older person varied from £946 to £4,229[11]. The 'median' or middle-ranked council spent approximately £1,567 per older person[12]. The lower and upper quartiles for spend per older person - that is, the value for the councils ranked halfway between the lowest and the median, and between the median and the highest council - were £1,370 and £1,903 respectively. There was a £3,283 difference between the lowest and highest spending rate councils, and a £533 difference between the lower and upper quartile councils (the interquartile range)[13].

[10] For a guide to the methodology behind these adjustments, see here: http://webarchive.nationalarchives.gov.uk/20140505105916/http://www.local.communities.gov.uk/finance/1314/methacas.pdf

[11] All currency figures in this report have been rounded to the nearest whole pound.

[12] The mean, another kind of average, for councils was £1,703. Both mean and median figures are valid averages for spend per older person, but as the median cannot be distorted by outliers it is a more reliable figure.

[13] The standard deviation of council spending rates for older people was £531. Just as the mean and median are different but valid measures of an average, so the standard deviation and interquartile range are different but valid measures of variation. The standard deviation should be used in conjunction with the mean, as it is the average distance of a given council from the mean, and the interquartile range should be used in conjunction with the median, as both are based on ranking the councils in order of spend per older person and choosing the central, lowest quarter and highest quarter cases.

Table 1. Summary statistics for the spending rate	
	£ per older person
Minimum (lowest spending rate)	£946
Lower quartile (typical for lower spending rate)	£1,370
Median (typical for councils overall)	**£1,567**
Upper quartile (typical for higher spending rate)	£1,903
Maximum (highest spending rate)	£4,229
Range between minimum and maximum	£3,283
Interquartile range between lower and upper quartiles	**£533**
Mean (total of all councils' spending rate divided by the number of councils)	£1,703
Standard deviation (average distance from the mean for any particular council)	£531

Note: excludes the City of London Corporation and the Council of the Isles of Scilly.

The accepted statistical convention is to consider a case which is more than three standard deviations above or below the mean to be an outlier, and to remove these cases from further analysis. This is for two main reasons: an unusually high or low value may be the result of measurement error and, even if not, it is likely to have unique circumstances which cannot be generalised to other cases. There was one council – Tower Hamlets – which qualified as an outlier on the spending rate per older person, and it was therefore excluded from the analysis of spend per older person which follows.

Explanatory metrics

To explore which factors may be connected with variation in spend per older person[14], a number of other metrics were obtained for each council. These provided a statistical profile of the councils and their local areas, including details such as council type, population and population density, educational attainment, economic conditions and health and disability. Metrics included both overall figures for the last available period, and per cent change scores from the previous period. The full list of the 222 metrics considered can be found in Annex A to this report, along with the source from which each metric has been extracted.

Explanatory metrics associated with the spending rate

The explanatory metrics were used to attempt to explain variations in spend per older person across councils, in a process known as linear regression analysis. This is a statistical model which measures the extent to which variations in one metric (in this case, spend per older person) are associated with corresponding variations in a set of other metrics. The aim of such modelling is to explain as much

[14] Please note that it is not possible to use anything in this analysis to confirm causal relationships, only to establish patterns of association which may, or may not, represent causal effects by which the explanatory metrics influence the level of spend per older person.

of the variation in the target metric as possible, although in practice explaining 100 per cent of variation is unheard of and in complex fields like the social sciences the amount explained rarely exceeds 50 per cent. Different combinations of the 222 metrics were tested together to assess their overall contribution to explaining each spending rate, with factors that are shown not to have an association excluded and factors with an association reused in further models. The end result was a model which was able to explain the greatest amount of variation in the spending rate using the factors available. It is also possible that there are other metrics outside an authority's control, which are not currently available in statistical collections, which explain a still greater proportion of this variation.

The final model was able to explain 78 per cent of variation in spend per older person. This model included four factors. Two of these factors had a positive association and the other two had a negative association, meaning that councils with a higher value on either of the two latter factors tended to have a lower spending rate. The two factors with a positive association were the percentage of residents living in rural areas and the authority's score on the Income Deprivation Affecting Older People Index (IDAOPI). The two factors with a negative association were the percentage of 65 and over households that are couple households and the old age dependency ratio (the number of people aged 65 and over for every working age adult).

It would make sense that areas with greater rurality have higher costs per older person, as rurality requires increased travel time and fuel costs. It also makes sense that areas with a relatively greater extent of older people with income deprivation pay more per older person, as a greater proportion of older people in these areas will be unable to pay for their own care. The negative relationship between couple households as a per cent of older people's households and the spending rate also makes sense, as a spouse or partner provides help, support and psychologically beneficial social contact which may otherwise be required from adult social services. The one relationship in this model which is not intuitive is that areas with a greater old age dependency ratio, that is, a greater number of older people per working age person, tend to have a lower spending rate. It is not certain why this might be, although it is possible that councils in areas with a greater number of older people are better able to develop economies of scale in commissioning care packages, or that informal peer networks between older people are stronger and more supportive.

It should be noted that these results are a replication of an almost identical analysis previously run by the LGA which sought to explain differences in spend per older person using 2017/18 data. In the 2017/18 model the same four factors were included and revealed the same relationships with spend per older person. This previous model also explained around 78 per cent of variation in the spending rate. The LGA retains the results of this previous model but have not published them as they are almost indistinguishable from the results of this more recent model. This demonstrates that the relationships uncovered are persistent and stable over time.

Table 2. Summary of factors which explain variation in the spending rate	
Factor	**Association with spend per older person**
Couple households as % of total 65+ households	**Associated with lower spending rate**
% of residents in rural areas	**Associated with higher spending rate**
Old age dependency ratio	**Associated with lower spending rate**
Income Deprivation Affecting Older People Index (IDAOPI) score	**Associated with higher spending rate**

Annex A – Potential explanatory metrics tested

Metrics marked with an asterisk (*) were used in two distinct ways: the value for the most recent time period, and the per cent difference between this value and the value for the previous time period. This latter method represents the level of change in the metric. There is no necessary statistical link between the two aspects of the same metric, and so for the purpose of the analysis they are treated as distinct metrics. Hence whilst there are only 140 rows in the following table, the fact that 82 of these metrics were used in two distinct ways adds up to the total of 222 metrics quoted in the report.

Metric description	Source
Council type: Unitary, London Borough, Metropolitan District, or County	Extracted from LGA records
Total resident population *	http://id.esd.org.uk/metricType/1
Population density *	http://id.esd.org.uk/metricType/176
IMD: Overall (2015) - score	http://id.esd.org.uk/metricType/3902
IMD: Employment (2015) - score	http://id.esd.org.uk/metricType/3904
IMD: Crime (2015) - score	http://id.esd.org.uk/metricType/3907
IMD: Income Deprivation (2015) - score	http://id.esd.org.uk/metricType/3903
IMD: Education Skills and Training Deprivation (2015) - score	http://id.esd.org.uk/metricType/3905
IMD: Health Deprivation and Disability (2015) - score	http://id.esd.org.uk/metricType/3906
IMD: Barriers to Housing and Services (2015) - score	http://id.esd.org.uk/metricType/3908
IMD: Living Environment Deprivation (2015) - score	http://id.esd.org.uk/metricType/3909
IMD: IDAOPI (2015) - score	http://id.esd.org.uk/metricType/3911
Long-term sick or disabled (%)	http://id.esd.org.uk/metricType/2038
Median age	http://id.esd.org.uk/metricType/1941
Higher managerial, administrative and professional (NS-SeC %)	http://id.esd.org.uk/metricType/2079
Routine occupations (NS-SeC %)	http://id.esd.org.uk/metricType/2087
Never worked and long-term unemployed (NS-SeC %)	http://id.esd.org.uk/metricType/2088
Full time student (%)	http://id.esd.org.uk/metricType/2034
Out of work benefits (working age population) *	http://id.esd.org.uk/metricType/148
Percentage change in Core Spending Power from current period to period +4	http://id.esd.org.uk/metricType/5338
Gross Value Added (GVA) per head *	http://id.esd.org.uk/metricType/10255
Qualified to level 2 and above (working age population) *	http://id.esd.org.uk/metricType/35

Total households on the housing waiting list at 1st April per 1,000 households *	http://id.esd.org.uk/metricType/3484
Fuel poverty *	http://id.esd.org.uk/metricType/2131
Fast food outlets per 100,000 population	http://id.esd.org.uk/metricType/3358
Violence against the person offences - annual per 1000 *	http://id.esd.org.uk/metricType/443
Homeless and in priority- Total per 1000 households (Annual) *	http://id.esd.org.uk/metricType/8159
% residents in rural areas	http://id.esd.org.uk/metricType/4617
Median house price (affordability ratio) *	http://id.esd.org.uk/metricType/9148
Cannot speak English well or at all (%)	http://id.esd.org.uk/metricType/3300
Net internal migration to authority area *	http://id.esd.org.uk/metricType/7026
Net international migration to authority area *	http://id.esd.org.uk/metricType/7029
Natural change *	http://id.esd.org.uk/metricType/521
Overcrowded households	http://id.esd.org.uk/metricType/3172
Binge drinking adults (3 year average, %)	http://id.esd.org.uk/metricType/3350
Very bad health (%)	http://id.esd.org.uk/metricType/1971
Households where occupiers living rent free (%)	http://id.esd.org.uk/metricType/1916
Median gross annual pay of employees by residence *	http://id.esd.org.uk/metricType/3475
Households in receipt of housing benefits *	http://id.esd.org.uk/metricType/3490
Average monthly private sector rent for a 2 bed property *	http://id.esd.org.uk/metricType/3477
Per cent of individuals over-indebted	http://id.esd.org.uk/metricType/6009
Possession claims issued by landlords per 10,000 households *	http://id.esd.org.uk/metricType/3498
Possession claim orders issued by mortgage lenders per 10,000 households *	http://id.esd.org.uk/metricType/3520
Population aged 18 to 64 *	http://id.esd.org.uk/metricType/175
Population aged 65 and over *	http://id.esd.org.uk/metricType/106
Percentage Of all usual residents - female	http://id.esd.org.uk/metricType/1802
Households rented from council or equivalent	http://id.esd.org.uk/metricType/1907
Adults with excess weight *	http://id.esd.org.uk/metricType/3356
Hospitals per 1000 people	http://id.esd.org.uk/metricType/10323
Hospitals - Mental health/capacity per 1000 people	http://id.esd.org.uk/metricType/10321
Digital exclusion composite – score *	http://id.esd.org.uk/metricType/3886
Average household size	http://id.esd.org.uk/metricType/1983
Old age dependency ratio *	http://id.esd.org.uk/metricType/5155
Retired (%)	http://id.esd.org.uk/metricType/2035
Local Authority: Care home or other home	http://id.esd.org.uk/metricType/3451

Adults with learning disabilities in employment *	http://id.esd.org.uk/metricType/134
Households where occupiers living rent free (%)	http://id.esd.org.uk/metricType/1916
Excess winter deaths index (3 years, all ages) *	http://id.esd.org.uk/metricType/3360
Median housing affordability ratio (residence-based) *	http://id.esd.org.uk/metricType/9150
Ratio of dental surgeries per 10,000 population	http://id.esd.org.uk/metricType/3705
Ratio of pharmacies per 10,000 population	http://id.esd.org.uk/metricType/3707
Ratio of opticians per 10,000 population	http://id.esd.org.uk/metricType/3709
Life expectancy at birth – male *	http://id.esd.org.uk/metricType/95
Life expectancy at birth – female *	http://id.esd.org.uk/metricType/96
HLE (male) *	http://id.esd.org.uk/metricType/3155
HLE (female) *	http://id.esd.org.uk/metricType/3156
DFLE (male) *	http://id.esd.org.uk/metricType/3157
DFLE (female) *	http://id.esd.org.uk/metricType/3158
Households with dependent children in Temporary Accommodation per 1,000 *	http://id.esd.org.uk/metricType/6008
Road deaths and serious injuries, all *	http://id.esd.org.uk/metricType/304
Pensioners living alone - %	http://id.esd.org.uk/metricType/3328
Annual crime per 1k – annual *	http://id.esd.org.uk/metricType/1070
Gap between Local Housing Allowance & private sector rent for 2 bed property *	http://id.esd.org.uk/metricType/3479
Mortality rate - circulatory, all persons under 75 *	http://id.esd.org.uk/metricType/16
Emergency hospital admissions for hip fracture 65+ (SAR) *	http://id.esd.org.uk/metricType/3189
Requests for support received from new clients, aged 18-64, 2018/19	http://id.esd.org.uk/metricType/11308
Requests for support received from new clients, aged 65+, 2018/19	http://id.esd.org.uk/metricType/11309
Requests for support received from new clients, all adults, 2018/19	http://id.esd.org.uk/metricType/11495
Requests for support received from new clients per 100 adults in population aged 18 to 64, 2018/19	http://id.esd.org.uk/metricType/11506
Requests for support received from new clients per 100 adults in population aged 65 and over, 2018/19	http://id.esd.org.uk/metricType/11514
Requests for support received from new clients per 100 adults in population, all adults, 2018/19	http://id.esd.org.uk/metricType/11539
Proportion of population aged 65 to 74	http://id.esd.org.uk/metricType/11492
Proportion of population aged 75 to 84	http://id.esd.org.uk/metricType/11493

Proportion of population aged 85 and over	http://id.esd.org.uk/metricType/3293
Proportion of population belonging to White ethnic groups	http://id.esd.org.uk/metricType/2123
Proportion of population belonging to Asian ethnic groups	http://id.esd.org.uk/metricType/2125
Proportion of population belonging to Black ethnic groups	http://id.esd.org.uk/metricType/2121
Average happiness rating *	http://id.esd.org.uk/metricType/9102
Average life satisfaction rating *	http://id.esd.org.uk/metricType/9092
Average anxiety rating *	http://id.esd.org.uk/metricType/9107
Average worthwhile rating *	http://id.esd.org.uk/metricType/9097
Percentage of people aged 17 years and over with diabetes *	http://id.esd.org.uk/metricType/3699
New HIV diagnosis rate / 100,000 aged 15+ *	http://id.esd.org.uk/metricType/8187
Smoking Prevalence in adults - current smokers (APS) *	http://id.esd.org.uk/metricType/10337
Personal Independence Payment (PIP) claims in payment *	http://id.esd.org.uk/metricType/3506
People aged 60+ living in pension credit households	http://id.esd.org.uk/metricType/3279
% of users who feel safe *	http://id.esd.org.uk/metricType/10689
Long-term support needs of older adults met by admission to residential and nursing care homes per 100,000 *	http://id.esd.org.uk/metricType/4282
Emergency hospital admissions (SAR) *	http://id.esd.org.uk/metricType/3175
Emergency hospital admissions for hip fracture 65+ (SAR) *	http://id.esd.org.uk/metricType/3189
Emergency hospital admissions for heart attack (SAR) *	http://id.esd.org.uk/metricType/3180
Emergency hospital admissions for COPD (SAR) *	http://id.esd.org.uk/metricType/3181
Emergency hospital admissions for CHD (count) *	http://id.esd.org.uk/metricType/3251
Emergency hospital admissions for stroke (SAR) *	http://id.esd.org.uk/metricType/3179
Elective hospital admissions (SAR) *	http://id.esd.org.uk/metricType/3176
Elective hospital admissions for CHD (count) *	http://id.esd.org.uk/metricType/2035
Elective hospital admissions for hip replacement (SAR) *	http://id.esd.org.uk/metricType/3190
Elective hospital admissions for knee replacement (SAR) *	http://id.esd.org.uk/metricType/3191
Hospital stays for alcohol related harm (SAR) *	http://id.esd.org.uk/metricType/3188
Hospital stays for self harm (SAR) *	http://id.esd.org.uk/metricType/3187
Average time to hospital by PT/walk *	http://id.esd.org.uk/metricType/10238

Average time to hospital by car *	http://id.esd.org.uk/metricType/10240
Average time to hospital by cycle *	http://id.esd.org.uk/metricType/10239
Number of GP Surgeries in an area *	http://id.esd.org.uk/metricType/3710
Home hospice care per 1000 people *	http://id.esd.org.uk/metricType/10319
Hospices per 1000 people *	http://id.esd.org.uk/metricType/10315
Doctors/GPs per 1000 people *	http://id.esd.org.uk/metricType/10287
Mobile doctors per 1000 people *	http://id.esd.org.uk/metricType/10289
Deaths from all causes (SMR) *	http://id.esd.org.uk/metricType/3192
Cause of death, cancer, all ages (SMR) *	http://id.esd.org.uk/metricType/3344
Deaths from all causes, under 65 (SMR) *	http://id.esd.org.uk/metricType/3193
Deaths from all causes, under 75 (SMR) *	http://id.esd.org.uk/metricType/3194
Deaths from circulatory disease (SMR) *	http://id.esd.org.uk/metricType/3195
Deaths from CHD (SMR) *	http://id.esd.org.uk/metricType/3197
Incidence of cancer (SRR) *	http://id.esd.org.uk/metricType/3182
Private sector enterprises *	http://id.esd.org.uk/metricType/5485
Private sector employment – people *	http://id.esd.org.uk/metricType/10267
Total income (median) per taxpayer in an area *	http://id.esd.org.uk/metricType/3773
CIN with disability: Learning *	http://id.esd.org.uk/metricType/8891
Unit cost, adults 18-64 with learning disability support, long term nursing *	http://id.esd.org.uk/metricType/6151
Unit cost, adults 18-64 with learning disability support, long term residential *	http://id.esd.org.uk/metricType/6152
One person Hhlds (2014 Based) *	http://id.esd.org.uk/metricType/10213
Percentage of clients that are full cost	Derived internally by the LGA
Proportion of people aged 16-64 with day-to-day limited activities in total 16-64 population (2011)	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
% share of people in one-family households	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
% of population aged 16 - 24 in total 16-64 population	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
Income benefits aged 16+ as % of population aged 16-59	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources

% of properties banded A-E (2018)	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
% of 65+ claiming attendance allowance	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
Proportion of older people aged 85+ and with long term health problem or disability - limited a lot	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
Couple households as % of total 65+ households	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
% of older people who are aged 80+ and claim pension credit	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources
% of households aged 65+ which are home-owner households	https://www.gov.uk/government/consultations/fair-funding-review-a-review-of-relative-needs-and-resources

Annex B – Full summary of the optimal regression model

Explanatory metrics related to spend per person aged 65 and over		
	Association with spending rate	**Significance (per cent)**
Couple households as % of total 65+ households (fair funding model)	**Associated with lower spending rate**	99.9
% of residents in rural areas	**Associated with higher spending rate**	99.9
Old age dependency ratio	**Associated with lower spending rate**	99.9
Income Deprivation Affecting Older People Index (IDAOPI) score	**Associated with higher spending rate**	99.9

Local Government Association
18 Smith Square
London
SW1P 3HZ

Telephone 020 7664 3000
Fax 020 7664 3030
Email info@local.gov.uk
www.local.gov.uk

For a copy in Braille, larger print or audio,
please contact us on 020 7664 3000.
We consider requests on an individual basis.