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Variations in access to social care for vulnerable older people in England: Is there a rural dimension?

This work was prepared by Professor Sheena Asthana, Commissioner to support the Commission for Rural Communities' report on the **Social Isolation experienced by Older People in Rural Communities**.

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Executive summary

There is growing concern about the extent to which access to social care is subject to a postcode lottery. To date, however, there has been surprisingly little research directed at quantifying and understanding the nature, scale, causes and consequences of geographical differences in the support available to vulnerable adults. As a result, the extent to which variations in access are random or subject to systematic (e.g. urban-rural) variation is unknown.

There is evidence of age discrimination in social care. As rural areas tend to have older demographic profiles than their urban counterparts, the obvious question is whether there is a concomitant rural dimension to social care inequity. There is also evidence that people with similar care needs are assessed very differently in different places, in part as a response to pressure on resources. Again, rural areas have lower *per capita* allocations. However, because it is generally assumed that robust mechanisms are in place to ensure that statutory funding is distributed in relation to population need, the role that resource allocation may play in reinforcing inequalities in access to social care has rarely been considered.

This report outlines reasons to question whether local government allocations are robust or fair. One is the inherent circularity of the utilisation-based approach which has been used to derive most of the key Relative Needs Formulae (RNF), including those for Personal Social Services. These involve the use of regression models to describe how the historic use of services by small populations relates to their socio-economic characteristics. The problem is that, as models are developed in order to maximise best fit with past utilisation, there is a tendency to reinforce patterns of historic funding, however inequitable. The four-block model into which RNF are incorporated has also been criticised for producing allocations that are arbitrary, inequitable, opaque and subject to political interference. However, despite the introduction of the radically new Business Rates Retention formula, the now discredited four-block model will continue to influence local allocations for many years to come.

Against this background, the need for independent research into inequalities in social care is pressing. However, the practical investigation of social care equity is beset by a range of evidential and methodological challenges. Until relatively recently, centralised data on social care activity were rudimentary. Although more information on activity and expenditure is becoming available, this is not as detailed as NHS statistics, nor available at such a fine-grained spatial scale. Establishing *a priori* measures of need against which actual social care use can be compared is also very challenging. Although the techniques of quantitative modelling of area-based data are well-known and well-developed, it remains difficult to disentangle 'legitimate' from 'illegitimate' sources of variation.

One strategy to overcome such difficulties is to consider the relationship between need and receipt of services at an individual level. Due to the widespread introduction of a common Resource Allocation System (RAS) there is, for the first time, an opportunity to examine the level of social care support that similar individuals would receive across different local authorities. In addition to undertaking such analysis, this report explores the nature and scale of variations in social care expenditure, activity rates and charges at the Local Authority level. To this end, national activity and expenditure data on social care have been obtained from the NHS Information Centre for Health and Social Care. A Freedom of Information (FOI) Request was also sent (in January, 2012) to all Local Authorities requesting information on social care charges and their RAS methodologies.

Variations in social care expenditure and activity

There are huge variations in social care expenditure on older people. At one extreme, Tower Hamlets spent £2,551.69 on each person aged 65 or more in 2009-10, nearly five times more than Cornwall (£520.12). This reflects a more general pattern with expenditure across the twelve Inner London Boroughs amounting to, on average, £1,750 per person aged 65+ compared to just £773 *per capita* across the 27 Shire Counties.

Per capita expenditure on social services (65+) is strongly correlated with both overall local government allocations and (utilisation-based) RNF scores for Personal Social Services for Older People. These respond primarily to the pattern of deprivation. Indeed, social care expenditure (65+) is not at all related to the demographic structure of older populations (which one would expect to be a major predictor of mental and physical disability). The relationship between expenditure and potential proxy measures of the physical and cognitive needs of populations is also much weaker.

There are marked differences in the *per capita* provision of home care, day care, meals, direct payments and residential and nursing care, the most rural areas having the lowest proportions of 65+ in receipt of services, the most urban, the highest. Again, rates of activity are most strongly correlated with indicators of deprivation, although the greater proportion of variation cannot be explained through regression modelling.

In contrast to non-residential services, care home activity rates (residential and nursing) are correlated with measures of physical and cognitive needs and the percentage of people aged 65+ acting as carers. In this case, then, rates of activity are associated with a range of plausible needs indicators (although nursing home activity also responds positively to increases in the *per capita* grant awarded to local authorities).

Geographical differences in allocations and, in turn, expenditure reflect the relatively small weight assigned to demography as opposed to deprivation in the construction of the RNF formula and explain why rural areas, which tend to have older but less deprived populations, receive lower *per capita* allocations. It is, however, difficult to conclude whether the formula (and subsequent expenditure) is equitably capturing the needs of older people or responding to historic variations in expenditure on social care – which need not be equitable.

Variations in charges for social care

If access to social care is to be deemed geographically equitable, then one would expect charges for specific services to show limited variation between local authorities. This is not the case. There are statistically significant systematic variations in the hourly charges made for home care. These are higher in authorities with older populations, a larger percentage of people living in rural settlements, a lower proportion of households in poverty, lower *per capita* expenditure on people aged 65+ and with lower *per capita* Formula Grant allocations. Variations in the charges made for meals or for transport to day care are not statistically significant, although charges do appear to be somewhat higher in authorities with lower *per capita* Formula Grant allocations. Authorities with lower grant allocations were also significantly more likely to have removed the cap on the maximum charge individuals are expected to contribute to their social care costs.

Variations in home care charges provide *prima facie* evidence that, relative to the needs they must satisfy, rural, older and less deprived authorities receive lower Formula Grant allocations and spend less on social care than local authorities serving urban, younger and more deprived populations.

Variations in personal budgets

The results of this analysis, the first to examine whether different LAs using the Common RAS would offer similar indicative budgets to individuals with similar needs, must be treated as provisional, not least because the final sample size (n-33 councils) was disappointing. The findings nevertheless show gross inequality in the indicative personal budgets that identical individuals would receive from different councils. In the case of the modelled individual with substantial needs, weekly personal budgets varied from £41 to £410. LAs with higher RNF scores and higher *per capita* expenditure on social care were able to offer significantly more generous indicative budgets than poorer funded LAs. Although not statistically significant, urban authorities awarded higher indicative budgets than rural. Variations in personal budgets offer clear evidence of territorial injustice.

Conclusion

The huge disparity in social care expenditure/activity and the weak (and sometimes non-existent) correlation between expenditure/activity and other plausible needs indicators (such as demographic composition and measures of physical and cognitive needs) should give rise to concern as to whether the current distribution of resources, expenditure and activity is, in fact, equitable. The analysis presented in this report suggests that it is not, and that rural authorities – that have older populations, lower deprivation scores and lower RNF scores – are able to spend less on social care relative to underlying needs than their urban counterparts.

The investigation of geographical variations in specific service charges and in the personal budgets awarded to individuals with similar needs lends weight to this argument. Charges levelled against individuals in receipt of social care are significantly lower in authorities with higher funding allocations, and indicative personal budgets allocated for an identical individual using the Commons RAS methodology are significantly higher. The findings thus suggest that the 'postcode lottery' in social care is not a reflection of variation in underlying need or an outcome of democratically-mandated localism. It is likely to be at least partly a function of how much money a flawed resource allocation methodology gives to Local Authorities.

1.   Introduction

The idea that the provision of social care in England is subject to significant variation has been around for many decades (Bebbington and Davies, 1983). This has resulted in a focus on area-level differences in organisational characteristics such as commissioning, contracting and care management arrangements (Challis *et al*, 2001; Weiner *et al*, 2002; Chester *et al*, 2010), but less attention has been paid to studying and quantifying variations in service outcomes, including access to care. The belief that social care is subject to a postcode lottery is nevertheless pervasive. According to the House of Commons Health Committee (2010)

> ". . . people encounter various forms of rationing, including by eligibility criteria, means-testing and charging, with much local variation. Care can be insufficiently focused on helping people to remain independent and avoid developing greater needs, as well as limited in scope and not always of good quality. In these respects too, there is marked variation between areas. All these factors mean there is a great deal of unmet need."

The extent to which variations in access are random or subject to systematic variation is unknown, although there is some evidence of age discrimination in social care (CPA, 2009). Historically, *per capita* expenditure on older people using social care services has been lower than for other adult client groups, and there is evidence that at an individual level, after controlling for needs and outcomes, the support received by older people is significantly less than the support received by younger people (Forder, 2008). As rural areas tend to have older demographic profiles than their urban counterparts, an obvious question is whether there is a concomitant rural dimension to demographic variation in access to social care.

There is also evidence that people with similar care needs are assessed very differently in different places, in part as a response to pressure on resources (Henwood and Hudson, 2008). This might have raised questions as to the distribution of resources for social care but, until recently, it has been generally assumed that robust mechanisms are in place to ensure that statutory funding is distributed in relation to population need. The role that resource allocation may play in reinforcing inequalities in access to social care has thus rarely been considered even though, as discussed in Section 2, there are now very good reasons to question whether the allocations made to local authorities are in fact either robust or fair. If existing funding allocations are inequitable, then individual's access to social support would be expected to be inequitable too.

Given the widespread belief that the provision of social care is subject to territorial injustice, there has been surprisingly little research directed at quantifying and understanding the nature, scale, causes and consequences of geographical differences in the support available to vulnerable adults. This contrasts to the extensive body of quantitative evidence on inequalities in access

to health care (for overviews see Goddard and Smith, 2001; Gibson *et al*, 2002; Dixon-Woods *et al*, 2005; Quatromoni and Jones, 2008). There are a number of reasons for this.

First, as discussed in Section 3, researchers face key methodological difficulties when trying to quantify either the uptake of services by different communities or the underlying level of need for social care in those communities. Second, universal entitlement to free-at-the-point-of-use National Health Services has made equity a core policy and research issue. Indeed, the allocation of resources for health care across geographical areas in the NHS is based on the principle that "*individuals in equal need should have equal access to care* [our emphasis], irrespective of where they live" (Sutton *et al*, 2002). By contrast, social care is not a universal service. It is subject to means-testing. Finally, some local variation in social care provision has been accepted as an inevitable (and perhaps desirable) consequence of a system that embraces local determination, place shaping and 'managed difference' (Lyons, 2007).

Yet, the policy context is changing. Despite the lack of empirical evidence, geographical variation in the social care system is strongly perceived as unfair, leading to growing calls for the introduction of universal entitlement to at least some level of service. There are also concerns that inequity in the distribution of social care funding removes incentives for promoting key policy objectives. Areas with limited resources are forced to focus on individuals with substantial or critical needs. As a result, people who could benefit from key preventative/early intervention measures (such as day care, aids and adaptations, telecare products and extra-care housing) are being identified too late, with important implications for their independence and quality of life (Centre for Social Justice, 2010). There are also implications for other service providers. Financial uncertainty can compromise the very community and voluntary sector groups that often provide 'that bit of help'. An emphasis on crisis intervention is also likely to result in higher costs to the NHS and social care in the longer run (CPA, 2011).

If factors beyond the control of local authority care management are contributing to geographical variation in service outcomes, a postcode lottery in social care cannot be justified as a consequence of democratically-mandated localism. Principles of natural justice – specifically the rule against bias – imply that the level of support available to individuals should not depend on where they live. Inequalities in funding and provision also contribute to service inefficiencies. It is therefore important to a) develop a clear understanding of the nature and scale of variations in the social care support offered to older people in different localities, b) investigate whether access to social care is subject to systematic variation, and c) explore whether any systematic inequalities that exist reflect how resources have been allocated to councils providing social services.

These are the aims of this report. After describing the resource allocation context and methodological challenges to investigating variations in social care, it presents a quantitative analysis of area-level variations in funding allocations, fees/charges for support and personal budget allocations.

2.   Allocating resources for social care in England

In England many civic functions, including the provision of social services, are devolved to a variety of sub-national tiers of government. These local authorities have had insufficient 'own' resources to fund the responsibilities assigned to them and have therefore had to rely on a 'vertical transfer' of revenue support from national government. Reflecting a long-standing concern with equity in the provision of public services in England, this came to incorporate mechanisms of resource and need equalisation to counter variations in, respectively, (a) the tax base available to local authorities and (b) the service needs of the populations they serve. Resource equalisation first appears as part of the 1948 'exchequer equalisation grant', but it was with the 1958 'general' grant that both resource and need equalisation were brought together as part of an explicit resource allocation formula.

Since then, a series of increasingly sophisticated formula-based methods for allocating resources to local authorities have been used. The goal throughout was to ensure that all local authorities, whatever their particular circumstances, should be able to provide individuals with a broadly comparable level of public service. This approach culminated in 2006 with the introduction of the so-called 'four-block model' – an approach which, in its pursuit of equity, constitutes what has been described as one of the most complex resource allocation methodologies in the world (Lyons, 2007). At the heart of the four-block model are a series of Relative Needs Formulae (RNF) intended to measure each local authority's resource needs across sixteen service blocks and sub-blocks (DCLG, 2012). Balancing RNF scores against measures of the amount of revenue each authority can raise directly, the result is a huge variation in *per capita* allocations. As can be seen in Table 1 below, which subdivides local authorities according to their service responsibilities, the most extreme contrast between directly comparable authorities is between Wokingham and Hackney, the latter receiving over eight-times as much *per capita* as the former.

Such disparities may, as intended, properly reflect differences between the needs of local populations and the resources available to meet those needs, but the magnitude of variation should give rise to concerns. More generally, these funding differentials indicate a willingness to engage in a large-scale redistribution of resources in order to ensure that similar service levels can be maintained across the country as a whole. In this light, claims that the support available to individuals varies hugely from one local authority to the next must raise questions as to whether the current redistribution of resource is, in fact, equitable.

Table 1 Highest and lowest *per capita* Formula Grant allocations, 2012-13

Type of Local Authority	*Local Authority*	*Per capita Formula Grant*
Shire Counties with responsibility for Fire Services (n=11)	Surrey CC	£131.22
	Cumbria CC	£305.65
Unitary Authorities with responsibility for Fire Services (n=3)	Cornwall UA	£378.07
	Isle of Wight Council UA	£416.17
Shire Counties without responsibility for Fire Services (n=16)	Buckinghamshire CC	£127.82
	Lancashire CC	£268.30
London Boroughs, Metropolitan Districts and Unitary Authorities without responsibility for Fire Services (n=120)	Wokingham UA	£119.94
	Hackney ILB	£967.00
Shire Districts (n=200)	East Dorset District	£28.04
	Burnley District	£96.85

In this respect it may be significant that most of the key Relative Needs Formulae, including those for Personal Social Services for both Younger Adults and Older People, are derived from regression models describing how the historic use of services by small populations relates to their socio-economic characteristics. Generically described as the utilisation-based approach, this has been criticised on the grounds that a population's *use of services* provides an inadequate measure of its *need for services* (Mays, 1995; Asthana *et al*, 2004a; Stone and Galbraith, 2006; Asthana and Gibson, 2008; 2011). Systematic patterns of unmet need, as well as the geographically-varied impact of supply-side factors, are difficult to isolate (Sheldon and Carr-Hill, 1992; Galbraith and Stone, 2011) and can distort the relationship between the need for and use of services. It is, in particular, argued that utilisation-based allocation methodologies will tend to perpetuate existing patterns of service provision precisely because the allocation of resources to different client groups will reflect the use they make of services that are already differentially available.

The scenario is simple: where services are better funded (relative to need) they will tend to be more accessible and thus more heavily used (relative to need). This will be reflected in utilisation data and result in models – and allocations – which overestimate the actual level of need. Services remain well-funded, utilisation remains high and a positive funding feedback loop is created. Conversely, of course, utilisation-based models risk underestimating the needs of populations which make poor use of services precisely because service provision is already poor. The danger, particularly where utilisation methods have been used over long periods, is that the link between allocations and *actual* service need becomes increasingly attenuated and inequalities in individuals' access to social care can emerge.

As utilisation-based formulae have been used to determine revenue support allocations for local authorities since 1974 (Hendry, 1998) there has, in theory, been ample time for systematic funding inequalities to have emerged. These would, moreover, have been exacerbated by the catastrophic failure of the four-block model itself. It is now widely accepted that the complexity of the four-block model, along with its lack of transparency and susceptibility to unaccountable political interference (London Councils, 2009; National Audit Office, 2011), fatally undermined its credibility and, as discussed below, it is to be replaced by a radically new approach to funding local government in 2013-14. It is also clear that, as detailed elsewhere (Gibson and Asthana, 2011a, b), technical shortcomings in the construction of the four-block model resulted in allocations that were arbitrary, inequitable and likely to have undermined the capacity of some local authorities to meet the needs of their populations.

Guaranteed minimum year-on-year increases in revenue support mitigated the worst aspects of the four-block model, even if this resulted in some huge disparities between what the model deemed to be equitable allocations and what local authorities actually received. In 2012-13, for instance, Wokingham received £20.2 million even though its equitable allocation, according to the four-block model, was just £9.96 million[1]. Notwithstanding this damping, the fact remains that a half century of formula funding has resulted in allocations in which there can be very little confidence. This greatly strengthened the Coalition Government's case for introducing a radically new system for funding local government (DLCG, 2011a).

It is intended that the new Business Rate Retention formula – to be introduced for the 2013-14 financial year and still, at the time of writing, under development – should 'maintain a *degree* [our emphasis] of redistribution of resources to ensure that authorities with high need and low tax bases are still able to meet the needs of their areas' (DLCG, 2011a), but this cannot hide a dramatic shift in the emphasis being placed on equity. By allowing local authorities to retain a proportion of their business rates, the new system explicitly seeks to 'provide a clear incentive for local authorities to find new ways to support businesses, to invest in local infrastructure and to build their economies year on year' (DLCG 2011b). The proposed mechanism is complex but, in essence, local authorities will only be able to maintain real-term revenue relative to their 2012-13 baseline if they are able to increase revenue from business rates. The long-term impact of this new approach on the provision of services in different areas must be of great concern for, as the DCLG recognises, 'there may come a time when the spending needs of councils become out of balance with the resources that they receive'

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[1]   In these terms, Hackney's equitable allocation in 2012-13 (£831.34 *per capita*) was over 14 times that of Wokingham (£59.14 *per capita*) rather than the 8 times greater allocated in the formula grant

(DLCG, 2011c) and the system would need to be 'reset'. Their current aspiration, however, is that this would only need to be done every 10 years, implying a willingness to accept the emergence of further disparities in service provision.

This marks a profound shift in thinking. No longer will the resources available to local authorities be calculated with regard to the cost of meeting the needs of their populations. What will matter is the income generated through the collection of business rates. The key issue in the present context, however, is that the Business Rate Retention formula will take the 2012-13 distribution of revenue support as its baseline funding level (subject to some limited technical adjustments to relative need formulae to address long-standing concerns regarding the costing of rural services and concessionary travel). To that extent the allocative consequences of the discredited four-block model will continue to influence local allocations for many years to come. Interestingly, the DCLG recognised this problem but decided to emphasise stability over equity and eschewed a full-scale reassessment of the needs of local populations:

> "Although criticised, the formula grant process is a known process and local authorities' current spending levels will be based on [the 2012-13] formula grant allocation. So we believe this is the only way to ensure budget stability for local authorities. Introducing a new process for deriving baseline funding allocations would create massive upheaval in the system which would undoubtedly make it more challenging for authorities to adapt to the new scheme." (DLCG 2011a)

The point, then, is that existing disparities in funding will continue and, in so far as this might change in the foreseeable future, it will be in response to how local economies fare rather than due to any attempt to redress either the specific failings of the four-block model or more generic problems associated with the application of utilisation-based formulae. There can be no expectation, therefore, that any existing geographic inequalities in service provision will be addressed unless there is a significant shift in policy or, at the very least, unequivocal evidence that the system must be 'reset' because variations in the support available to individuals are so extreme as to be clearly contrary to any sense of natural justice. The problem, as noted in the introduction, is that at present there is very little substantive evidence regarding the nature and scale of supposed differences in the support available to vulnerable adults. Without a concerted research effort it will be impossible to monitor the equity impact of what could be the most far-reaching change to local government funding in a generation.

3.   Methodological challenges to investigating variations in social care

The four-block model was heavily criticised by members of the Settlement Working Group – the body officially tasked to examine issues relating to the distribution of the formula grant – when it was first proposed (DLCG, 2005). Being unable to muster, at short notice, clear evidence regarding its shortcomings, members' misgivings were ignored. Thereafter, even where local authorities had concerns about funding levels, there was little appetite – and perhaps limited capacity – to engage in a critical review of the system as a whole. Local authorities are by their nature inward-looking; primarily concerned with providing cost-effective services on the basis of available resources rather than with questioning the legitimacy of the formulae which underpin their allocations. Any arguments put forward would, in any case, appear self-serving and could be readily dismissed as such. The fact that the four-block model survived as long as it did is testament to the inherent inertia of such mechanisms, but also to a continuing lack of detailed comparative evidence on the provision of services in different areas.

With the introduction of the radically new Business Rates Retention formula – and the underlying policy shift away from equalisation – the need for independent research into inequalities in social care becomes pressing. As noted above, however, there is a dearth of research on social care equity. This partly reflects the quantitative deficit in social work research in the UK (Hussein, 2011; Maxwell *et al*, 2012). However, it should also be acknowledged that, as has long been apparent in health services research, the practical investigation of equity is beset by a range of evidential and methodological challenges. In order to explore potential inequalities in service provision, it is necessary to establish indicators of service activity and underlying need. In both cases, the ease with which measures can be derived has been far greater for health than social services.

3.1.   Activity data on social care

As noted above, there is a longstanding tradition of research on health care equity. This has been made possible by the quantity and quality of information that is available on the NHS, a health care system which produces large data requirements by virtue of the fact that health services are commissioned (and thus contractual arrangements required which stipulate service quantity, quality, costs etc). Reflecting the fact that commissioning primarily involves hospital and specialist services, data on hospital activity are particularly rich. Hospital Episode Statistics (HES) were introduced in 1987. Since 1989 these have been collected for all NHS hospital admissions (and, since 2003, all outpatient appointments). They record for each patient their age, sex, referring GP, postcode, diagnosis/diagnoses and procedure(s) received. Comparable (i.e. individual-level) data are not available on primary care. However, information on prescribing

activity and key indicators under the Quality and Outcomes Framework (QOF) are collected at practice level.

Until relatively recently, centralised data on social care activity were rudimentary. In 2007, the NHS Information Centre developed the National Adult Social Care Intelligence Service (NASCIS). NASCIS data are not as detailed as NHS statistics (particularly HES) and certain information (e.g. on fees and charges, resource allocation systems etc) can only be sourced from local authorities themselves (n=152 in 2012-13[2]). However, information is centrally held (going back to 2005/06) on the numbers of adults receiving assessments, home care, day care or living in residential/nursing accommodation in each local authority. Expenditure data are also available for these categories. Thus, in the past few years, new opportunities have arisen for the quantitative analysis of variations in social care provision and expenditure, albeit at a much cruder spatial scale than can be achieved in health services research.

3.2. Establishing estimates of the service needs of populations

In order to assess whether access to social care is subject to inequality, it is not enough to examine variations in activity alone. It is also necessary to establish *a priori* measures of need against which actual use can be compared. This is not straightforward. For instance, the numbers of older people requiring social care support might be expected to reflect the number of very elderly people in each local authority. There is strong evidence, however, that the prevalence of physical disability is also associated with socio-economic status (SES) (Grundy and Glaser, 2000; Grundy and Holt, 2000; Melzer *et al*, 2000; Melzer *et al*, 2001; Huisman *et al*, 2003; Martin *et al*, 2011) and mixed evidence that SES may be associated with cognitive decline (Fischer *et al*, 2009; Muniz-Terrera *et al*, 2009). Thus, consideration must be given to the way in which SES might be factored into any measure of underlying need.

In addition to age and SES, the number of older people requiring social support is likely to reflect socio-cultural factors. For example, people with dementia, at least in its milder forms, can be looked after by their families – if they have families who are able and willing to look after them. This, in turn, is likely to reflect factors such as family formation, cohesion and migration (is there a family to offer care?). Cultural background may be important in how people perceive the effects of dementia and respond to them (Lawrence *et al*, 2008; Botsford *et al*, 2011). For example, there may be differential expectations of the 'duty' younger family members feel towards looking after elderly family members. There is also the question of the financial position of the wider family and their capacity to

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[2] This includes two small and anomalous local authorities; the Council of the Isles of Scilly (pop. 2,100) and the City of London Corporation (pop. 11,700). These have been excluded from all analyses.

look after elderly relatives with dementia. One might expect, therefore, that the need for social care support for people with dementia services will reflect a variety of demographic, cultural and socio-economic characteristics of populations. How should a quantitative measure of such need be constructed?

This is an interpretative minefield, which partly explains continuing debates within health services research around even the most fundamental concepts such as the Inverse Care Law, empirical evidence for which remains contradictory (Dixon-Woods *et al*, 2005). In the health sector, the approach has tended towards the construction of quantitative models seeking to 'explain' variations in the uptake of services by defined populations. In effect, the goal is to establish whether, once one has taken account of all 'legitimate' sources of variation (i.e. those which might properly be expected to result in different levels of need for a particular service), there remain 'illegitimate' or 'unexplained' variations in uptake. This is, however, far less straightforward than might at first appear, even when appropriately detailed and reliable quantitative evidence is available. Should, for instance, the ethnic composition of populations be viewed as a marker of 'legitimate' cultural differences in the likelihood that families will desire nursing home support for relatives with dementia, or as a marker of the 'illegitimate' barriers different ethnic groups may experience obtaining the support they require? Quantitative models are less 'objective' than is often assumed as they are inevitably influenced by the prior expectations of researchers.

Model-based approaches are also interpretatively difficult because of the high level of correlation that can exist between different factors. The classic example of this is the fact that areas with older populations tend to be less deprived than those with younger populations; i.e. demography and deprivation are negatively correlated. Assuming that the need for a particular service varies with age, but the concern is that individuals with low income and/or poor education are unable to negotiate access to services as effectively as more affluent and better educated individuals, what should one make of a situation in which the uptake of services appears relatively low in younger, more deprived areas? Would this primarily be a function of demography (reduced need) or deprivation (reduced access)? The point is that although the techniques of quantitative modelling of area-based data are well-known and well-developed, the interpretative difficulties should not be underestimated. Thus even when based on sound theoretical reasoning rather than, as is so often the case, 'data ransacking' (Galbraith and Stone, 2011), it is often difficult to establish whether or not local variations in service activity are equitable.

3.3. Strategies for improving research on social care equity

These difficulties are explored further in the analysis of social service activity for older people in Sections 5.1 and 5.2 below. Indeed, such is the level of interpretative uncertainty that any genuine insights into territorial equity should perhaps be sought elsewhere. To this end, there are strong grounds for considering the relationship between need and receipt of services at an individual level. Studies based on individual data are generally considered to be the 'gold standard' in research of this kind, because potential problems of both ecological fallacy and model uncertainty are avoided. The problem has always been, however, that individual-level data are either not readily available or are costly to obtain. As a result, few studies have examined the relationship between need and service use at the individual level, even within the well-established field of health care equity research (for examples see Reid *et al*, 2002; Britton *et al*, 2004; Ramsay *et al*, 2005; Morris *et al*, 2005; and Sekhri *et al*, 2008). Fortunately, recent policy developments concerning the delivery of social care mean that, for the first time, there is an opportunity to examine the level of social care support that similar individuals would receive across different local authorities.

The introduction of the personalisation agenda has meant that councils have had to develop mechanisms for setting individual personal budgets. Many (122 councils in 2010) are using a common Resource Allocation System (RAS) developed by *ADASS* and *In Control* (Audit Commission, 2010). The basis of this is a personal needs questionnaire. This instrument asks about the needs of each person and any informal care they receive. A questionnaire scoring sheet then converts assessed needs into points. In theory, therefore, a nationally-standardised points-based system is now being used to assess individual's social care needs, although in practice there is some variation in the way in which councils have developed their needs questionnaires. The key, however, is that each council then converts these points scores into indicative personal budgets.

This conversion methodology varies considerably between local authorities. Some assume a linear relationship between points and personal budgets, others assume non-linear relationships, but all explicitly relate the sums allocated to individuals to the overall resource available for social care. The personal budgets allocated to individuals with similar needs in different local authorities will vary and this will, in theory, reflect the local balance between aggregate demand and aggregate need. As described in Sections 4.2 and 4.3 below, obtaining data on RAS questionnaires, scoring methodologies and conversion algorithms is not straightforward. The data are not held centrally and have had to be collected using Freedom of Information (FoI) requests sent to each English local authority (n=152). Not all authorities were willing to divulge the required information, and the completeness of the responses from those that did varied markedly, but it has been possible to obtain full information on how indicative personal budgets are

set in 33 authorities. These data, along with information on the cost of specific social services for older people, are examined in Sections 5.3 and 5.4 below.

4.   Methodology

As discussed in Section 1, the aims of this report are to examine the nature and scale of variations in the social care support offered to older people in different localities; to investigate whether access to social care is subject to systematic variation; and to explore whether any systematic inequalities that exist reflect how resources have been allocated to councils providing social services. To this end, three sets of data on social care activity have been collected together with a group of variables describing the characteristics of local authority populations and which provide theoretically plausible indicators of both legitimate and illegitimate variation.

4.1.   National activity and expenditure data

The first set of indicators on social care provision has been obtained from the NHS Information Centre for Health and Social Care (and is also available via NASCIS). It

Numerator	Denominator
People 65+ receiving Home Care Services, 31/3/2010	Pop aged 65+
People 65+ receiving Day Care Services, 31/3/2010	Pop aged 65+
People 65+ receiving Meals, 31/3/2010	Pop aged 65+
People 65-74 receiving Direct Payments & Personal Budgets, 31/3/2010	Pop aged 65+
People 75-84 receiving Direct Payments, 31/3/2010	Pop aged 75+
People 85+ receiving Direct Payments, 31/3/2010	Pop aged 85+
People 65+ receiving Direct Payments and/or Personal Budgets, 31/3/2010	Pop aged 65+
People 65+ in residential or nursing care, excl. full cost paying residents and residents wholly funded by NHS, 31/3/2010	Pop aged 65+
Total number of weeks spent by people 65+ in residential and nursing care during the year, excl. full cost paying residents and residents wholly funded by NHS, 31/3/2010	Pop aged 65+
Total number of weeks spent by people 65+ in nursing care during the year, excl. full cost paying residents and residents wholly funded by NHS, 31/3/2010	Pop aged 65+
Total number of weeks spent by people 65+ in residential care during the year, excl. full cost paying residents and residents wholly funded by NHS, 31/3/2010	Pop aged 65+
Total number of weeks spent in residential or nursing care during the year: Full Cost Residents aged 65+	Pop aged 65+
Total number of weeks spent in residential or nursing care during the year: residents aged 65+ wholly funded by NHS	Pop aged 65+
Average weekly number of day care or day services clients aged 65+	Pop aged 65+

includes local authority level data on total social care expenditure during 2009-10 on older people (aged 65+), and activity data for older people receiving home care, day care/day services and residential /nursing care (The NHS Information Centre, 2011). Expenditure data on these categories are also available, although

the analyses focus on activity data to avoid problems with regional cost variations. Denominators used to calculate activity rates have been extracted from ONS Mid-2010 LA Population Estimates (ONS, 2011).

4.2. Data on charges made by local authorities for social care

Reflecting concerns that charges for care vary significantly across the country, a Freedom of Information (FoI) Request was sent (in January 2012) to all Local Authorities requesting information on:

- the hourly charge made to individuals aged 65+ for home care (n=144; n/a= 0; v=28),
- the charge made per meal received under meals on wheels schemes (n=146; n/a=26 ; v=1),
- the average charge made to older people for transport to day care facilities (n=145; n/a=2; v=20), and
- the maximum amount per week (if any) that individuals are expected to contribute towards their community care services and/or personal budgets (n=143; n/a= 0).

The number (n) of meaningful responses received from local authorities (out of a possible maximum of 152) is given above. Of these, a number stated that the question was not applicable (n/a) because they didn't provide such services, and others stated simply that their charges were variable (v). This reflects the fact that as councils move increasingly towards the use of resource allocation systems, charges for home care, transport etc are becoming less transparent. Some RAS effectively operate as 'black box' systems in which adjustments for service needs, carer involvement, financial circumstances and service costs cannot be readily isolated. Many councils thus responded that they had no 'standard charges' as such and that costs were thus charged on an individual basis to reflect needs and ability to pay.

4.3. Data on resource allocation systems (RAS)

In addition to requesting information on charges made for social care, councils were asked for information about their RAS; namely (a) whether they used a points-based system based on the *Common/In Control* RAS, (b) another points-based system, (c) another type of RAS that is not based on points, or (d) whether they had no resource allocation system. Responses were received from 134 Local Authorities. 58 claimed to use the Common RAS (though, on further investigation, several describing the use of another points-based system used a very similar personal questionnaire tool).

Councils that operated a points-based RAS were asked to provide a copy of the questionnaire used to identify an individuals' social care needs (i.e. the "personal

needs questionnaire" or equivalent); documentation describing how needs identified in the questionnaire are converted into points (i.e. the "questionnaire scoring sheet" or equivalent); and details of how the number of points is translated into a cash amount for setting an indicative personal budget (e.g. in the form of an allocation table or equivalent). The goal was to obtain sufficient information to calculate the indicative personal budget that would be awarded to individuals in similar circumstances across all local authorities. Not all respondents were either willing or able to provide the required information, and in the end sufficient information was obtained to be able to predict indicative personal budgets for comparable individuals across 34 local authorities. Unfortunately, as one of these was the atypical City of London Corporation, the study set comprises just 33 local authorities. Further work, including appeals to the Information Commissioner, would doubtless increase the sample available, though this has not been possible in the time available.

Many of the local authorities responding to the FoI request imposed restrictions on the publication of the information provided. Thus, all individual-level responses remain anonymised. The profile of authorities in the sample in terms of council types and DEFRA's classification of rurality is given below.

Table 2 Profile of Local Authorities in Common RAS Analysis Sample (n=33)

LA Type	n		LA Rurality Category	n
Inner London Borough	2		Large Urban	6
Outer London Borough	2		Major Urban	12
Metropolitan District	8		Other Urban	5
Unitary Authority	11		Rural	10
Shire Council	10			

As detailed in Section 5.4 below, the RAS questionnaires provided by each of the 33 local authorities were completed consistently (and without knowledge as to their provenance) with respect to (a) an older person with moderate-substantial needs, and (b) an older person with substantial needs. Using this method, it has been possible to compare the indicative budgets that would have been allocated to identical 'individuals' in different local authorities.

4.4. Describing Local Authority Populations: Predictor variables

As described below, there is considerable variation in social care activity, the charges made for key social services, and the indicative personal budgets awarded to individuals in similar circumstances. Variations in social care activity is to be expected as this will reflect variations in the need for social care which, as discussed above, will respond to a range of social, economic and cultural factors. The issue here is to identify a series of 'independent' or 'predictor' variables

which might explain variations in social care activity. Adopting the language used in health services research, these predictor variables may be deemed 'legitimate' or 'illegitimate' depending on *a priori* judgements concerning how appropriate it is that they should drive levels of social care activity. Traditionally, health service researchers will include scores, perhaps hundreds, of potential variables in modelling how a response variable (e.g. service use) varies across thousands of small areas such as wards or Middle Layer Super Output Areas (MSOAs). This is simply not possible with respect to social care as the data set comprises just 150 local authorities[3.] In view of this, and reflecting the overwhelming importance (and potentially distorting effect) of funding, a more restricted set of predictor variables is used to inform a rather more straightforward analysis of variations in social care activity.

Variations in service charges and the personal budgets awarded to individuals in similar circumstances should, one would expect, be marginal. In fact they are not, and here the issue is to establish whether the observed variation reflects systematic differences between local authorities. In the present context, of particular interest is whether service charges and/or personal budgets are significantly different in rural areas as opposed to urban areas, or whether they are influenced by the distribution of resources under the aegis of the current resource allocation methodology. In the following paragraphs, the range of predictor variables used to describe local authorities and their populations and which are deployed in Section 5 to investigate whether access to social care services is territorially equitable are described.

Legitimate factors that drive need for social care clearly include health and disability-related impairment (physical and cognitive), housing circumstances, and family/carer provision (Wanless, 2006, p.32). With most chronic diseases having a more pronounced demographic than socio-economic gradient (Asthana *et al*, 2004b), old age is the major determinant of mental and physical disability. For example, the percentage of people with severe cognitive impairment increases from 1.5% for people aged 65-74 to 3.1% for those aged 75-84, and then to 13.8% for 85-94 year olds and 40.2% for those aged 95+ (Wanless, 2006). Age is also the most significant risk factor for cancer, heart disease, arthritis and other physical disabilities.

Insofar as various types of ill-health and disability are subject to well-known socio-economic gradients, these tend to narrow with increasing age and are less important amongst older populations (although this trend is expected to reverse with the growth of the affluent elderly and an associated increase in socio-

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[3]   As noted above, the small and anomalous City of London Corporation and the Council of the Isles of Scilly must be excluded from all analyses.

economic polarisation within this group). Thus, while there is strong evidence of health inequalities among older people with respect to physical disability and psychological health (most particularly depression), evidence for social gradients in other health indicators (including cognitive decline) has been more mixed. Against this background, the age distribution of populations (particularly the percentage of people aged 65+ who are 90 or over) is a plausible predictor of need for social care services amongst older people and this data has been extracted from the ONS's Mid-2010 population estimates for local authorities (ONS, 2011).

To obtain a more direct indicator of dependency rates, Quality and Outcomes Framework (QOF) data on dementia prevalence has been collected (The Health and Social Care Information Centre, Prescribing Support Unit, 2011). Insofar as QOF data are a measure of expressed demand, this introduces potential problems of bias. For example, if deprived patients with symptoms of dementia are less likely to consult their GP or to be accurately diagnosed, then QOF data may underestimate prevalence rates in poorer areas. The extent to which such factors affect QOF derived prevalence estimates is, however, unclear. Data on primary care utilisation suggest that socially disadvantaged people make as good if not better use of general practice as other population cohorts (Dixon-Woods *et al*, 2005; Morris *et al*, 2005). It is also worth noting that QOF dementia prevalence rates are significantly related to lower socio-economic status whereas the prevalence estimates developed by the Mental Health Observatory (Glover, 2008) are not.

As there are no comparable contemporary indicators providing a plausible indicator of physical dependency rates, the number of people aged 65+ living with Limiting Long Term Illness (LLTI) - as reported in the 2001 Census – has been used. These data have been extracted from CAS Table 16 using NOMIS's 'advanced query facility' (https://www.nomisweb.co.uk/) and are, of course, now seriously dated. They will be superseded by 2011 census data in late 2012 / early 2013. An alternative approach would have been to generate synthetic prevalence estimates on the basis of morbidity models derived from an analysis of individual level survey data and applying these models to local populations, an option for which there was insufficient time.

While the relationship between socio-economic status and ill health/disability appears to vary by condition, SES is nevertheless an obvious predictor of social care need in part because older people living in poverty are more likely to also be living in poor housing that is unsuitable for their needs. More importantly, access to social services is means tested and is rarely offered to people with more than £23,250 of savings. Interpreting the equity implications of this financial threshold is complicated. There are concerns (addressed by the Dilnot Commission) that this system penalises older people who have built up small private pensions/savings

that yield very modest incomes. Indeed, without spending savings, the resources available to this group may be less than the support provided by Social Services to individuals who receive personal budgets.

Such equity considerations aside, poverty is likely to be a strong predictor of demand. The percentage of pensioners receiving the guaranteed pension credit (sourced from NOMIS) has been used as an indicator of SES. However, take-up rate (amongst those eligible) for this benefit is much higher for those in rented accommodation than for those in owner occupation. As a result, the relative ranking of areas with relatively little rented accommodation (e.g. rural areas) will tend to be suppressed (http://www.poverty.org.uk/02/ index.shtml). Thus the ONS's model-based estimates of households in poverty in 2007-08 have also been used as the basis of a more general measure of SES (ONS, undated). These MSOA-level estimates (aggregated to LA-level) are for all households, rather than being restricted to older people, but nevertheless provide a widely-accepted and useful measure of the proportion of households in poverty.

The proportion of people aged 65+ not living as a part of a couple is another plausible indicator of need for social care support that can be derived from 2001 Census data (extracted from Standard Table 4 using NOMIS (https://www.nomisweb.co.uk/), although this does not quite equate to the more directly appropriate, but unavailable, information on the number of people aged 65 and above living alone. NOMIS has been used to extract data from 2001 Census Standard Table 25 on the proportion of people aged 65 and above who are caring for others; first for at least 1 hour per week, and second, for at least 20 hours per week. The problem here is that whilst this indirectly addresses the need for care, it explicitly measures care being provided by individuals rather than social services. Like all of the other predictor variables its interpretation is not entirely straightforward.

A key focus of interest is on whether rural populations receive a lower level of social care support than might be expected relative to the underlying burden of need. To that end it is necessary to measure rurality. Three alternative schema have been utilised. First, a five-fold classification (Major Urban, Large Urban, Other Urban, Significant Rural and Rural) has been constructed based on DEFRA's rural-urban classification of post-2009 local authorities (DEFRA, undated). This only differs from DEFRA's original insofar as the original classification is of lower tier authorities and it has been necessary to aggregate these in order to categorise the shire counties. Second, data published by DEFRA have been used to calculate (a) the proportion of people in each local authority living in rural areas (including large market towns), and (b) the proportion of people living in villages or dispersed settlements. These continuous ratio-scale variables are more useful for statistical analysis than DEFRA's ordinal classification of local authorities.

Finally, and crucially, data on Formula Grant allocations and the underlying measures of need used to determine those allocations (DCLG, 2012) have been collated. Allocations, which are not ring-fenced and cover all council activity, must be used with care as different councils are responsible for different sets of services. Nevertheless *per capita* allocations can be correlated with social care activity across councils which provide the same set of functions. More directly applicable are the Relative Need Formula (RNF) scores used to measure the 'need' for Personal Social Services for Older People (which is multiplied by 1,000,000 for each of presentation). The problem, as discussed in the next section, is that these scores are derived from an analysis of historic patterns of social care utilisation and, being then used to set allocations, are inevitably very strongly correlated with current patterns of use. The difficulty, in essence, lies in deciding whether these RNF scores can be viewed as a genuine measure of the need for social care, or merely as a proxy measure of the (potentially inequitable) use that is already being made of social care services.

5.   Results

5.1.   Variations in social care expenditure

Social care expenditure is notable for the extent to which it varies across the country. This is illustrated by Figure 1 below, which maps *per capita* social care expenditure on older people (aged 65 or over) during 2009-10[4]. At one extreme, Tower Hamlets spent £2,551.69 on each person aged 65 or more, nearly five times more than Cornwall (£520.12). This reflects a more general pattern, as illustrated by Table 3 below, with expenditure across the twelve Inner London Boroughs amounting to, on average, £1,750 per person aged 65+ compared to just £773 *per capita* across the 27 Shire Counties.

Table 3 Allocations, RNF Need Scores & Expenditure on Older People, by LA Class

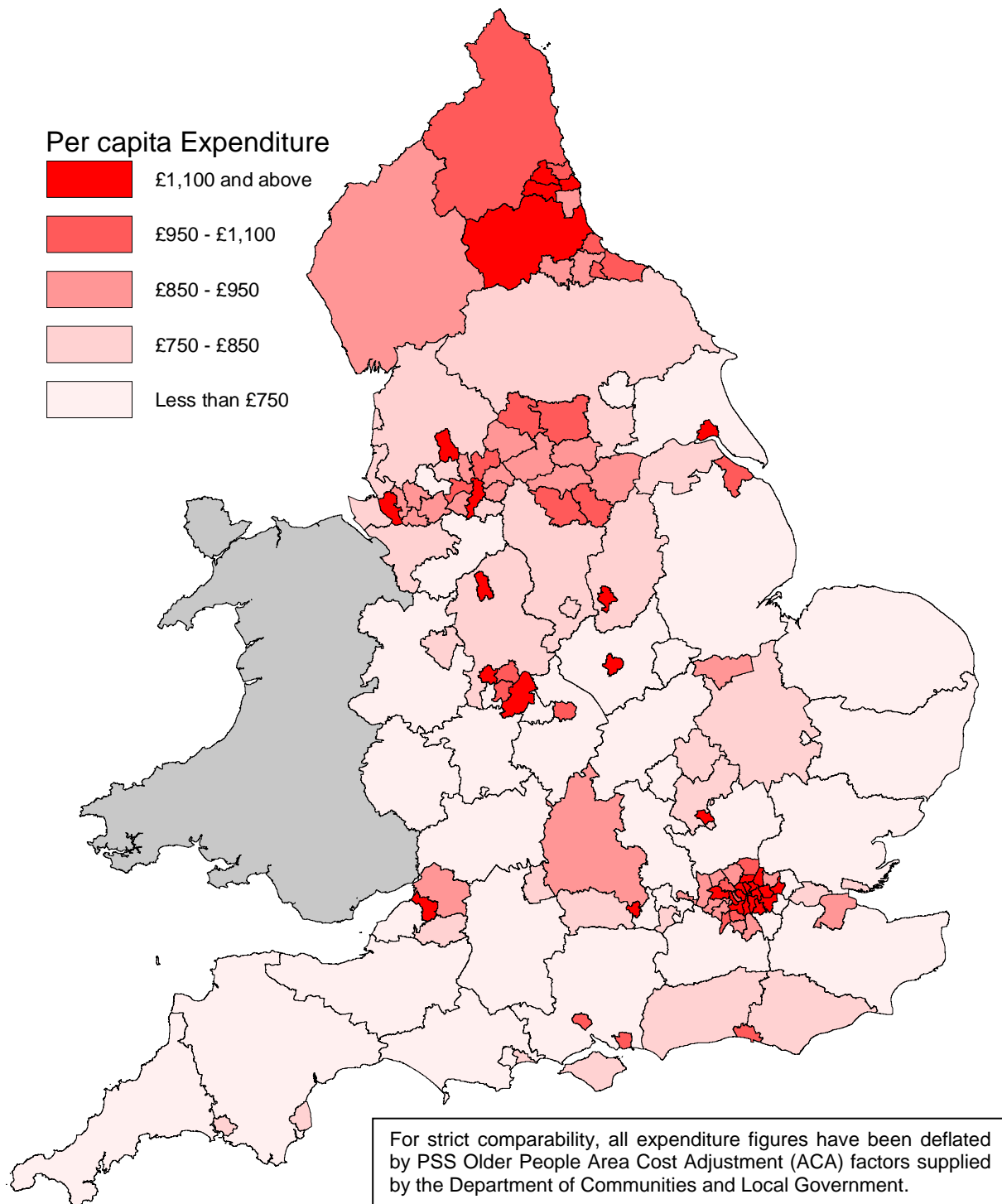| LA Class	N	*Per capita* Expenditure on Older People	*Per capita* Formula Grant Allocations	*Per capita* RNF for Social Services for Older People (× 1,000,000)
Inner London Boroughs	12	£1,750	£773	0.028231
Outer London Boroughs	20	£1,106	£403	0.018194
Metropolitan Districts	36	£963	£510	0.017579
Unitary Authorities	55	£884	£385	0.015296
Shire Counties	27	£737	£218	0.013366
Total	150[†]	£976	£418	0.016918

[†] This excludes the City of London Corporation (and Inner London Borough) and the Isles of Scilly Council (a unitary authority).

As one might expect, *per capita* expenditure on social services for people aged 65+ is strongly correlated with both overall local government allocations (r=0.791, p<0.001, against *per capita* 2009-10 Formula Grant allocations) and the measure of need for 'Personal Social Services for Older People' used in the formula funding methodology (r=0.916, p<0.001, against RNF scores per person aged 65+). Expenditure also correlates strongly with the percentage of pensioners receiving the guaranteed element of Pension Credit (r=0.873, p<0.001) and the percentage of people over 65 not living in couples (r=0.848, p<0.001). This is precisely as might be expected, as these (or very similar) variables appear in the formula used to calculate RNF scores for older people. Also used in the formula is the

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[4]   It is possible to deflate expenditure (and allocations) to take account of the varying cost of providing social care for older people. The DCLG provides PSS Older People Area Cost Adjustment (ACA) factors for all local authorities (DCLG, 2012) and these can be applied to expenditure and allocation data to derive a more genuinely comparable set of data. However, as the analysis reported here is not meaningfully affected by the use of ACA-deflated as opposed to raw expenditure and allocations data, we decided that, Figure 1 excepted, it would be more straightforward and transparent to use and report actual rather than deflated figures. As Figure 1 explicitly seeks to portray geographic variations in *per capita* social care expenditure it is appropriate that this uses ACA deflated expenditure data.

proportion of people aged 65+ who are aged 90 or more, although in this case there is no relationship with expenditure (r=0.070, p=0.394) or, indeed, RNF scores (r=0.122, p=0.138). This reflects the relatively small weight assigned to demography as opposed to deprivation in the construction of the RNF formula and thus to the allocation of resources for servicing the social care needs of older people.

Figure 1 *Per capita* social care expenditure (ACA deflated) on older people (65+), 2009-10

Per capita Expenditure

£1,100 and above

£950 - £1,100

£850 - £950

£750 - £850

Less than £750

For strict comparability, all expenditure figures have been deflated by PSS Older People Area Cost Adjustment (ACA) factors supplied by the Department of Communities and Local Government.

The strength of the relationship which exists between LA-level *per capita* RNF scores, allocations and expenditure could be taken at face value and used to argue that the needs of older people are being properly and equitably met across the country as a whole. Certainly, when modelled against need (as measured by RNF scores), none of the predictor variables used in this study (covering demography, rurality and deprivation, as well as a series of more direct proxies of physical and cognitive needs) play a statistically significant role determining levels of expenditure. The problem, as intimated in Section 2 above, is that needs are measured (using RNF scores) on the basis of an analysis of previous patterns of utilisation, i.e. expenditure. It is a question, in other words, of causality. Does local authority expenditure on social care for older people respond to their needs – which would be a demonstrably equitable response – or does the measure of needs (RNF scores) respond to pre-existing variations in expenditure on social care for older people – which need not be equitable?

This is a subtle but critical distinction, and one that is difficult to evaluate on the basis of a statistical analysis of variations in expenditure or, as in the next section, with respect to variations in activity data. It may nevertheless be significant that the relationship between expenditure and other measures of deprivation (i.e. that are not actually included in the formula calculating RNF values), and between expenditure and potential proxy measures of the physical and cognitive needs of populations, are much weaker. Thus *per capita* expenditure on people aged 65+ is less strongly related to ONS estimates of the proportion of households in poverty (r=0.697, p<0.001), and not at all related to the demographic structure of older populations (which, as discussed in Section 4.4 above, one would expect to be a major predictor of mental and physical disability)[5]. Weak, but statistically significant, correlations exist between *per capita* expenditure and the proportion of people aged 65+ who have limited long term illness (r=0.367, p<0.001), and between expenditure and the proportion of people aged 65+ who are on GP dementia registers (r=0.298, p0.001). Even if taken together to model variations in expenditure, the combined effect of these proxies for physical and cognitive needs is relatively modest (r=0.415, p<0.001). This may all be indicative of a situation in which expenditure is more responsive to RNF scores *per se* than to objective levels of need for social care although, as considered further below, it could equally be argued that the proxy measures in fact provide an inadequate guide to underlying variations in need.

The point is that without recourse to robust and independent measures of need it can be very difficult to demonstrate whether or not expenditure is territorially equitable. Systematic variations in expenditure can be found, but these tend to

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[5]   Correlations between LA-level (n=150) *per capita* expenditure on social care for people aged 65+ and the percentage of people aged 65 and above who are (a) 75+, (b) 85+ and (c) 90+ are 0.027 (p=0.740), 0.135 (p=0.101) and 0.070 (p=0.394) respectively.

be both relatively weak (compared to the relationship with allocations and the RNF-based measure of need) and essentially secondary. For instance, *per capita* expenditure on social services for people aged 65+ is negatively correlated with the proportion of residents in each local authority living in settlements classified by DEFRA as rural (r=-0.504, r<0.0001). But this negative relationship reflects the fact that rural areas tend to have less deprived populations, attract lower *per capita* RNF scores and thus receive lower *per capita* allocations.

Even an apparently distinct and clear cut 'London effect' can be difficult to interpret. Consider, as portrayed in Figure 2 below, the relationship between actual and 'expected' rates of *per capita* expenditure on social care for older people. Here the 'expected' rates are calculated using parameters from the model described above relating *per capita* expenditure to the proportion of people 65+ with a limiting long term illness (LLTI) and the proportion of people 65+ on GP dementia registers. 'Predicted' expenditure is thus what one might expect given what we know about the level of physical and cognitive disability in each local authority. The group of clearly anomalous authorities which receive far more than might be expected are all London Boroughs.

Figure 2 'Expected' and Actual *per capita* Social Care Expenditure on Older People
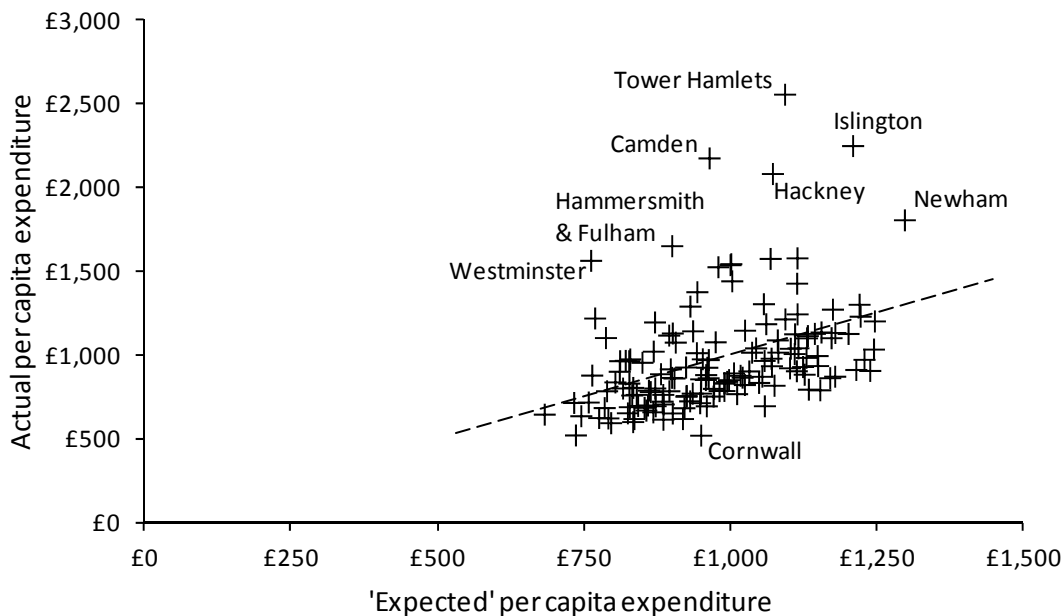
In this analysis Cornwall and Camden would, on the basis of the level of physical and cognitive disability in each authority, expect to spend similar amounts, in *per capita* terms, on social care for older people (£949 and £963 respectively). In fact, *per capita* expenditure in Cornwall is just £521 compared to £2,176 *per capita* in Camden – a greater than four-fold discrepancy in real terms (and a 3.5-fold discrepancy if the expenditure figures are deflated using DCLG Area Cost Adjustment factors).

Whilst it seems difficult to justify such a huge disparity in expenditure relative to our proxy measure of physical/cognitive disability, the fact remains that it is not possible to determine whether the difference between expenditure levels in Cornwall (and many other rural authorities) and Camden (and many other London authorities) it is an *appropriate* response to variations in underlying levels of 'need for social care', or an *inappropriate* response to a situation in which some authorities are able to spend considerably more on social care simply because they have been generously funded relative to those levels of 'need for social care'. The problem, as previously noted, is a lack of an independent and robust measure of needs.

A potential solution lies with a methodology known as synthetic estimation. Developed for use in health services research, this aims to derive direct estimates of need based on an analysis of large-scale surveys. In essence, survey data are used to develop multi-level models relating a variety of individual-level characteristics to needs, and model parameters are than applied to local populations to build up population-level estimates of the need for care. This is, however, a complex, demanding and time-consuming methodology. Thus, alternative methods have been deployed in order to assess equity. These involve examining variations in (a) the charges made by different councils for the services they provide, and (b) the personal budgets awarded to individuals with similar level of need

5.2. Variations in social care activity rates

Before considering evidence on how charges and personal budgets vary between authorities, it is necessary to briefly review the evidence regarding variations in various types of social care activity. This is subject to precisely the same interpretative problems that beset the analysis of LA-level variations in expenditure. Thus, only limited conclusions can be drawn.

5.2.1. Older people in receipt of home care, day care, meals and personal budgets

Looking at national trends, it is clear that access to care has been progressively cut back for those deemed to have lower level needs. A Freedom of Information (FOI) request issued by *Which?* in October 2010 found that that two thirds of Local Authorities provided support only for those with critical or substantial needs. A few supported only critical needs (*Which?*, 2011 http://www.which.co.uk/news/2011/01/home-care-charges-lottery-revealed-by-which-242460).

The targeting of resources at those requiring more intensive support is reflected in the decline in number of people receiving home care. Thus while the number of contact hours for home care provided has doubled since 1997, the actual number

of people supported has decreased by 18% since 2000 (Francis, 2012). This has resulted in a significant number of older people in need who either have a shortfall in support or receive no formal support at all. Prior to the tightening of the eligibility thresholds, when the majority of councils were offering services to those with substantial/moderate needs, 450,000 older people were estimated to be experiencing some care shortfall. Simulating the impact of increasing councils to the substantial or critical threshold, a PSSRU study estimated an increase in unmet need of around 15% (Forder, 2007).

Our particular concern is whether such levels of unmet need vary geographically – in other words, whether social care activity rates respond to anything other than variations in needs. Considering first the number of people who were, as of the 31 March 2010, receiving home care, day care, meals and personal budgets, the fact that rates vary geographically is, of course, without question. As illustrated in Table 4 below, there are marked differences in the *per capita* provision of home care, day care, meals and direct payments with respect to rurality, and similar patterns emerge if local authorities are categorised in terms of demography or deprivation.

Table 4 Social Care Activity Rates, 31/3/2010, by rurality

%pop in rural settlements	Percent population 65+ receiving:			
	Home Care	Day Care	Meals	Direct Payments &/or Personal Budgets
29 most rural LAs (44.3%-100%)	2.65%	0.85%	0.62%	0.66%
next 28 LAs (15.9%-43.9%)	2.65%	0.74%	0.68%	0.68%
next 29 LAs (1.84%-14.9%)	3.26%	0.96%	0.73%	0.99%
next 28 LAs (0.02%-1.8%)	3.47%	1.01%	0.76%	1.19%
36 LAs with 0% pop in rural areas	4.38%	1.12%	1.18%	0.94%
Correlation between %pop in rural settlements and activity rates:	r=-0.517 p<0.001	r=-0.326 p<0.001	r=-0.388 p<0.001	r=-0.172 p=0.036

Much can, and has been, made of these differences, but the problem is that there is no sound basis upon which to demonstrate statistically whether or not any of these factors play an independent role in determining levels of activity over and above need – simply because there are no robust measures of need for each of the individual categories of social care activity. The fact that rates of home care correlate most strongly with RNF scores (r=0.653, p<0.001), day care rates with levels of household poverty (r=0.352; p<0.001), the provision of meals with the proportion of pensioners receiving the guaranteed element of pension credit (r=0.441; p<0.001), and direct payments with the proportion of people aged 65+ living alone (r=0.249; p=0.002), suggests that, in a general sense, deprivation is a key driver across all social care activities, but there is no sense that any of these

particular measures adequately capture the underlying need for each of these services. For instance, Figure 3, which plots rates of home care against RNF scores (the latter explaining r^2=42.6% of the variation in the proportion of people aged 65+ receiving home care), illustrates just how incomplete this leaves our understanding of home care rates in some authorities. Regression modelling provides no additional insights in that, in each case, once the main factor was accounted for, there is no evidence that the inclusion of additional factors significantly improves our ability to predict variations in any of these types of social care activity. On this basis, it appears that neither rurality nor demography has any significant independent effect, and nor do any of the other potential predictor variables discussed in Section 4.4 above.

Figure 3 Percent Population 65+ receiving Home Care, 31/3/2010, against PSS Older People RNF Scores
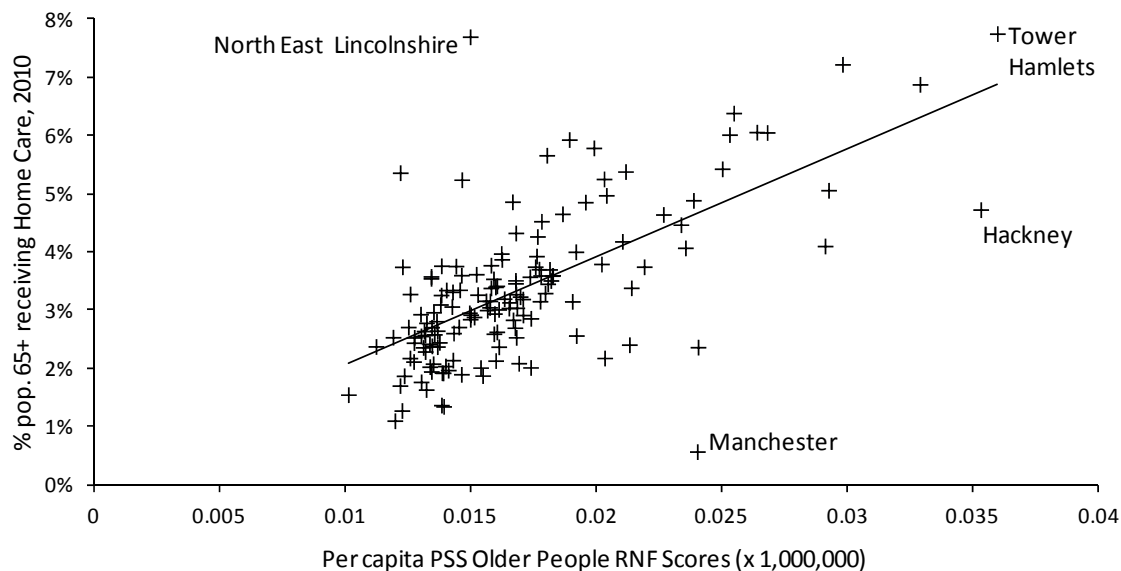
This might be taken to suggest that a key variable is local variation in practice and policy towards the management of social care needs, including the differential application of eligibility thresholds. This policy component may indeed have a role to play (Forder, 2007) – and this may help explain extreme outliers on Figure 3 such as North East Lincolnshire and Manchester. However, it is more likely that this failure to adequately explain variations in activity is primarily an evidential failure. This is, as previously stated, an inherent problem of area-based analyses. Further progress in convincingly modelling levels of need for non-residential services will rest on the development of more direct (e.g. synthetic) estimates of specific social care needs. Only then will it be possible to establish with any confidence whether or not these types of social care activity respond to inappropriate drivers such as rurality.

5.2.2. Older people living in residential or nursing care homes

Very similar observations are to be made regarding residential social care activity. There are, once again, considerable variations in rates between different types of local authority, whether they are classified in terms of demography, deprivation or, as in Table 5 below, rurality.

Table 5 Proportion of People 65+ in care homes, 31/3/2010, by rurality

%pop in rural settlements	% people 65+ in residential or nursing care[†], 31/3/2010	Weeks care per 1,000 people 65+ during 2009-10	
		in nursing homes[†]	In residential homes[†]
29 most rural LAs (44.3%-100%)	1.92%	300	718
next 28 LAs (15.9%-43.9%)	1.85%	308	691
next 29 LAs (1.84%-14.9%)	2.23%	308	878
next 28 LAs (0.02%-1.8%)	2.40%	380	835
36 LAs with 0% pop in rural areas	2.35%	434	833
Correlation between %pop in rural settlements and activity rates:	r=-0.342 p<0.001	r=-0.297 p<0.001	r=-0.185 p=0.023

[†] Excludes full cost paying residents and those wholly funded by the NHS

In terms of individual correlates with general population characteristics, the percentage of people in care homes on 31/3/2010 and the number of weeks in residential care are most strongly correlated with the proportion of households in poverty (r=0.554; p<0.001 & r=0.468; p<0.001 respectively), whilst the number of weeks care in nursing homes is most strongly correlated with the proportion of people 65+ living alone (r=0.531, p<0.001). Once again, therefore, it is against indicators of deprivation that measures of care home activity are most strongly correlated.

What distinguishes the care home activity variables from those describing non-residential services is that these respond to a potentially more direct measure of need (constructed using the proportion of people aged 65+ with limiting long term illness alongside the proportion of patients aged 65+ on GP dementia registers). Once physical and cognitive disability is captured in this way, additional independent effects do emerge. Thus, the number of people in care homes on the 31/3/2010 tends to fall as the percentage of people aged 65+ acting as carers (p=0.001) increases. The level of nursing home activity similarly drops in response to an increase in the percentage of people aged 65+ acting as carers for more than 20 hours per week (p=0.016), but nursing home activity also responds positively to increases in the *per capita* grant awarded to local authorities (p=0.003). No comparable additional independent effects can be established with respect to the provision of residential home care.

Whilst these observations appear entirely plausible – that there is a tendency for care home activity to increase where the level of care provided by individuals in their own homes is lower and where *per capita* allocations to local authorities are higher – one must remain interpretatively cautious because, as previously emphasised, these simple models are being constructed without recourse to demonstrably robust measures of need. This is a constraint which affects all such analyses of LA-level variations, even if it is one that is seldom sufficiently acknowledged.

The conclusion is that, whilst substantial variations in social care activity can readily be identified – including with reference to rurality, there is insufficient evidence to determine whether such variations exist *over and above* what might be expected given variations in need. This is demonstrably the case with respect to activities such as home care, day care, residential care, etc. because no sufficiently *specific* measures of need are available or can be modelled, but it also applies to more general variations in overall levels of expenditure. Here, as discussed in Section 5.1, it is the circularity of the relationship between RNF-scores and expenditure that poses the problem. RNF scores may appear to measure the overall need for social care, but it is far more likely that they simply measure previous levels of expenditure. Short of generating synthetic estimates of need – a complex and time-consuming exercise which has not been possible as part of this project – insights into geographical equity must address aspects of social care that do not need to be contextualised with reference to variations in the need for social care. To this end, it is fruitful to explore individuals' experience of social care; specifically geographical variations in specific service charges and variations in the personal budgets awarded to individuals with similar needs.

5.3. Variations in charges for social care

Over the past few years, concern has also been expressed about a potential postcode lottery in the sums local authorities charge for key services. A *Which?* survey published in early 2011 (see http://www.which.co.uk/news/2011/01/home-care-charges-lottery-revealed-by-which-242460) found wide variations in hourly costs for home care. In late 2010, Derbyshire, Newham and Tower Hamlets provided home care free (as do authorities in Scotland). The most expensive hourly charges were found in Surrey (£21.66), Cheshire East (£19.80) and Poole (£19.70) whilst, at the other end of the scale, Barnsley charged just £5 an hour. As the *Which?* Report points out, not all recipients of home care pay this much. Those with savings of less than £14,250 receive care free, while those with less than £23,250 may have their fees reduced. Nevertheless, anyone with over £23,250 is usually expected to pay the full cost, unless their local authority operates a weekly cap on charges.

The *Which?* survey found that this maximum weekly cap also varied hugely between Local Authorities. In Barnsley the amount per week that individuals were expected to contribute was capped at £60. In Haringey the cap was £550, while in Brighton it was £850. In the past year, however, many councils have either increased their caps or abolished them altogether. Charges for home care, meals on wheels etc have also reportedly risen in response to widespread cuts to council allocations. A new Freedom of Information request was therefore issued as part of this research, addressing key Local Authority charges. This has allowed the collection of up-to-date information and an exploration of whether the charges imposed on individuals are not so much a lottery but vary systematically in response to particular characteristics of the local authorities providing the services.

**Table 6** Correlations between social service charges and LA characteristics

	For clients aged 65+:		
	Hourly charges for home care (n=115)	Charge per meal (n=118)	Ave. charge for transport to day-care facilities (n=121)
%pop 65+ aged 90+	0.248 (p=0.007) **	0.233 (p=0.011) *	0.123 (p=0.179)
%pop in rural settlements	0.225 (p=0.016) *	-0.051 (p=0.583)	0.035 (p=0.701)
%households in poverty	-0.448 (p<0.001) **	-0.153 (p=0.098)	-0.197 (p=0.030) *
Per capita social care expenditure	-0.305 (p=0.001) **	-0.043 (p=0.645)	-0.095 (p=0.298)
Per capita Formula Grant	-0.477 (p<0.001) **	-0.195 (p=0.035) *	-0.194 (p=0.033) *

As noted in Section 4.2, it is becoming increasingly difficult to obtain information on social care charges and a number of local authorities responded to the FoI request by stating, not very helpfully, that charges made to individuals were variable. The number of local authorities included in the analyses of charges thus varied; from 115 (out of 152) LAs reporting specific hourly charges for home (domiciliary) care, to 121 reporting the charge made for transporting clients aged 65+ to day care facilities. As illustrated in Table 6 above, there is little evidence of widespread statistically significant systematic variations in the charges made for meals or for transport. That said, charges do appear to be somewhat higher in authorities with lower *per capita* Formula Grant allocations.

Hourly charges for home care are, however, characterised by marked variations between different types of local authorities. Thus charges tend to be higher in authorities with older populations (r=0.248; p=0.007), a larger percentage of people living in rural settlements (r=0.225; p=0.016), a lower proportion of households in poverty (r=-0.448; p<0.001), lower *per capita* expenditure on people aged 65+ (r=-0.305; p=0.001), and with lower *per capita* Formula Grant allocations (r=-0.477; p<0.001). Figure 4, which maps hourly charges for home

care at Local Authority level, illustrates the geographic pattern and reveals a significant urban-rural and perhaps north-south bias.

Figure 4 Hourly Charges for Home (Domiciliary) Care, January 2012
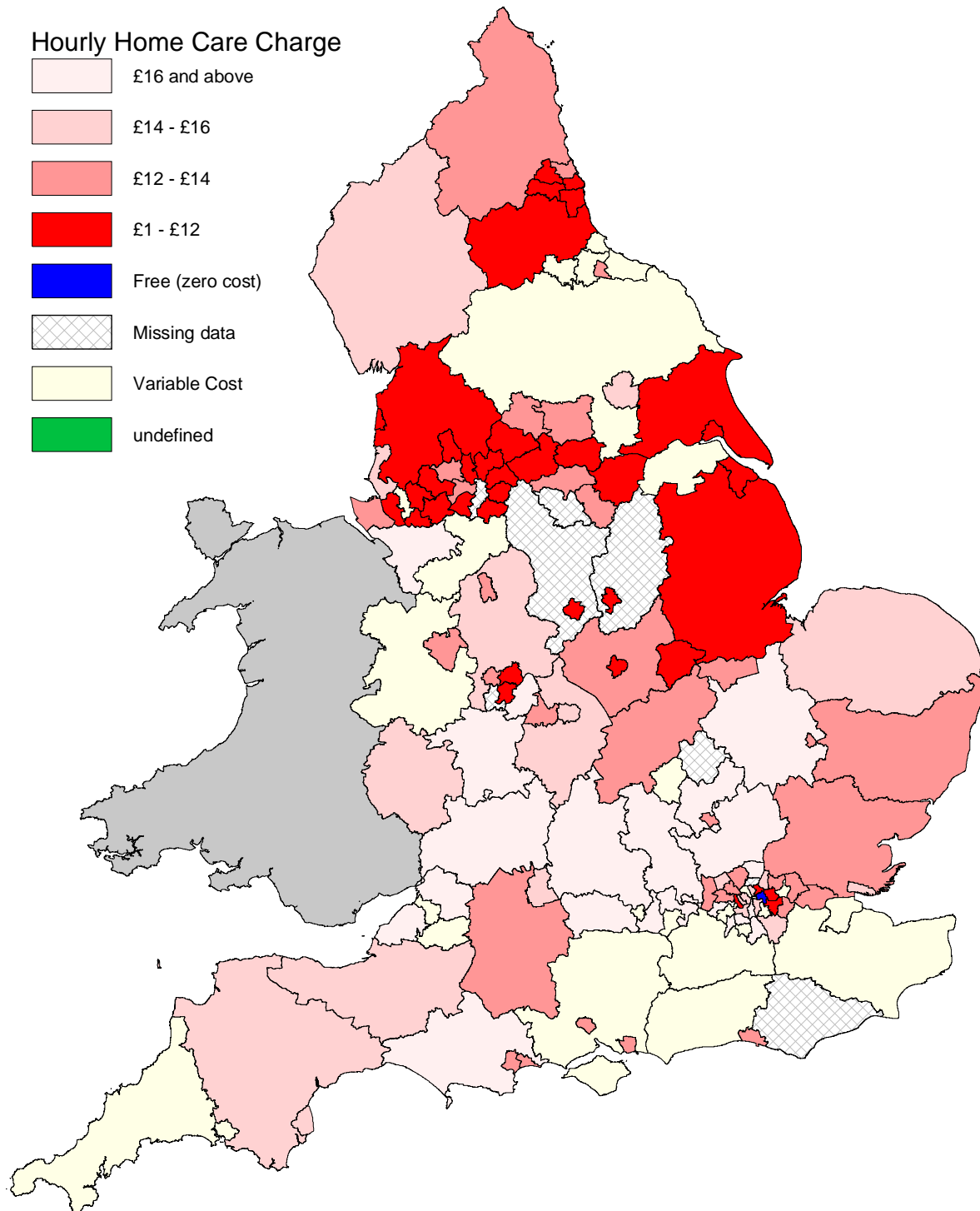
There is now no question of having to interpret the variation in charges relative to some measure of needs. If access to social care is to be deemed geographically equitable then one would expect charges for specific services to show limited

variation between local authorities. That, for instance, hourly charges for home care vary from zero (i.e. is provided free of charge) in Tower Hamlets to £20.60 in Worcestershire clearly shows that, at least with respect to this core service, access to care is far from equitable. More significantly, the fact that these differences are systematically linked with demography, deprivation, rurality and, critically, funding and expenditure, is strongly suggestive that the cost of home care (and, albeit to a lesser degree, the cost of meals and transport) is directly linked with resources available to different types of local authority. This, in other words, provides *prima facie* evidence that, relative to the needs they must satisfy, rural, older and less deprived authorities receive lower Formula Grant allocations and spend less on social care than local authorities serving urban, younger and more deprived populations.

Whilst such a conclusion must be tempered by a recognition that about a quarter of local authorities were unable or unwilling to provide specific information on charges, it is nevertheless reinforced by evidence on the limits set by local authorities on the maximum weekly contribution individuals would be expected to make towards their social care costs. As illustrated in Table 7 below, 59 (of 140 authorities which provided adequate responses) were able to set an upper limit, and these authorities tend to serve younger populations, with higher rates of limiting long term illness and, crucially, higher *per capita* Formula Grant allocations. Moreover, amongst the 54 local authorities which set fixed maxima (five authorities set percentage-based maxima), a similar relationship is to be found. In particular, the maximum amount that will be charged increases as the *per capita* Formula Grant allocation decreases. Again, the evidence points towards a mismatch between allocations and needs.

Table 7 Maximum Weekly Contributions

	Comparison between LAs imposing an upper limit and those which have no upper limit			Correlations between with imposed upper limit amounts (n=54)
	Upper Limit set (n=59)	No Upper Limit set (n=81)	t-test statistic	
%pop 65 who are 95+	4.54%	4.87%	-2.325 (p=0.022)	-0.3707(p=0.006)
Per capita Formula Grant	£460.83	£387.49	2.252 (p=0.026)	-0.2789(p=0.041)
%pop 65+ with LLTI	52.35%	48.34%	4.774 (p<0.001)	-0.3054(p=0.025)

5.4.   Variations in personal budgets

As noted in Section 4.3, the goal of this part of the analysis was to use Common RAS personal needs questionnaires and their associated scoring sheets and points allocations tables to calculate the indicative personal budgets that would be allocated to similar individuals across the 33 councils for which sufficiently

detailed responses were obtained. The size of the sample was disappointing due to a refusal of some councils to provide the requested data and the inadequacy of responses from others. Also disappointing was the fact that, because of 'commercial confidentiality', it was not possible to undertake a parallel analysis of the indicative budgets awarded using the FACE methodology – an alternative resource allocation system which 18 authorities reported using (see http://www.face.eu.com/our-products/resource-allocation-system/).

Obtaining and, in particular, collating the information required to generate the indicative personal budgets was also extremely time-consuming, not least so as to ensure that details could be entered and scored as consistently as possible and without any knowledge of the local authorities for which the information pertained. Given that, in the end, it was only possible to produce indicative personal budgets for just two 'exemplar' clients across just 33 authorities, the analysis must be considered tentative and exploratory. It nevertheless represents a first attempt at a quite novel method of obtaining demonstrably comparable data on geographical equity in the provision of social services across England. As the personalisation agenda bears fruit with more and more local authorities developing and implementing formal, points-based RAS, it seems likely that this focus on the budgets that different local authorities are able to afford has great potential.

This is, in other words, an approach worth exploring further, though it will require both a concerted effort (including via the Information Commissioner) to prise the required information from some local authorities as well as replication across a far larger range of client types. Also clearly important will be some further exploration of the extent to which the actual budgets awarded to individuals in different LAs match the indicative budgets set by their Common RAS. There may by systematic differences, but the focus on indicative (rather than actual) budgets can be justified by the fact that the allocation mechanisms used to set indicative budgets are explicitly designed to match the aggregate needs of each authority's client base with the resources it has available to meet those needs.

Turning to the results for the two types of client across the 33 local authorities, the first observation is that the personal budgets awarded to both (a) an older person with moderate-substantial needs and (b) an older person with substantial needs (see Box 1 below) vary hugely - from £16 to £331 for person A and from £41 to £410 for person B (see Figures 5 and 6). Whatever shortcomings there may be in terms of sample size and/or the scoring of individuals' needs, there can be no doubt that there is gross inequality in the personal budgets that individuals might expect to receive from different councils.

Box 1:   When completing the Common RAS personal needs questionnaire the researcher did so with two well-defined individuals in mind

Person A: An older person with moderate-substantial needs

Mrs H is a 77 year old widow with restricted mobility, who can get out of bed and dress herself in the mornings, although this takes a long time. She is able to prepare and eat her own meals. However, she finds shopping difficult, in part because of decreasing confidence and a reluctance to go out into the community. She is also occasionally incontinent. Thus, she does need help with some day to day tasks such as shopping, laundry and heavier housework. She is getting increasingly forgetful, also fearful. Sometimes she has done things that present risks to her safety and that cause concern to others. She lacks confidence and does very little in her local community. She has adult children but they live far away and do not contact her very regularly. She is very lonely but feels unable to go out without support. She does not want to work or gain access to learning opportunities.

Person B: An older person with substantial needs

Mrs M is a 84 year old widow whose mobility is very restricted. She needs help meeting her personal needs – getting in and out of bed, dressing herself, bathing and using the toilet. She can manage with the support of one person. She is also willing to be left alone at night provided that she can get occasional support. Due to her level of disability, she needs help preparing meals and snacks (she can eat and drink without support) and to carry out daily tasks to maintain her home. She enjoys friendships and doing activities in her community. However, she is unable to leave her home and travel without support. She has never done things that could hurt herself or others and there are no concerns about her behaviour being a risk to physical safety. She does, however, need help in ensuring that her physical environment is safe as well as help moving around her home as she is at risk of falling. She is able to make and communicate decisions about most aspects of her life, though requires advice and support about important decisions.

Figure 5 Personal Budgets for an Older Person with moderate-substantial needs
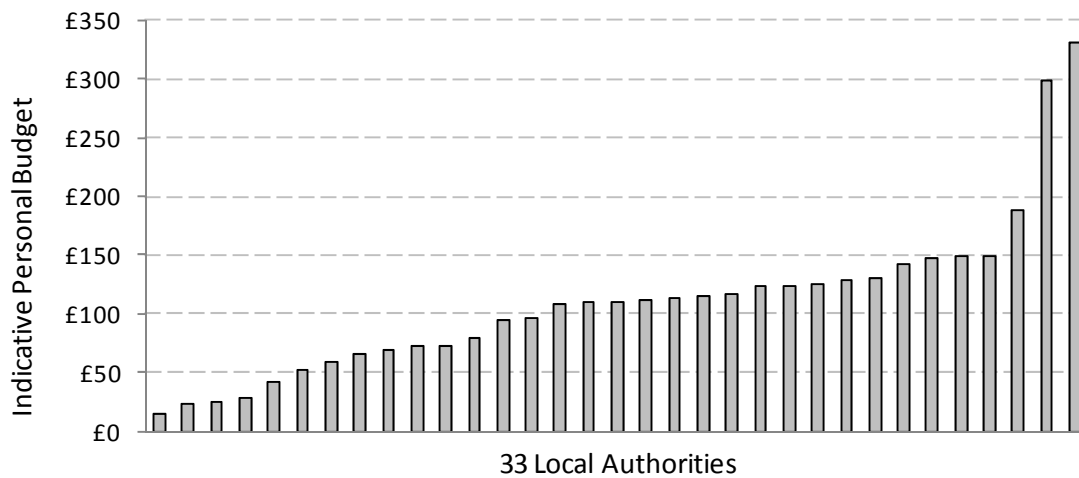
Figure 6 Indicative Personal Budgets for an Older Person with substantial needs
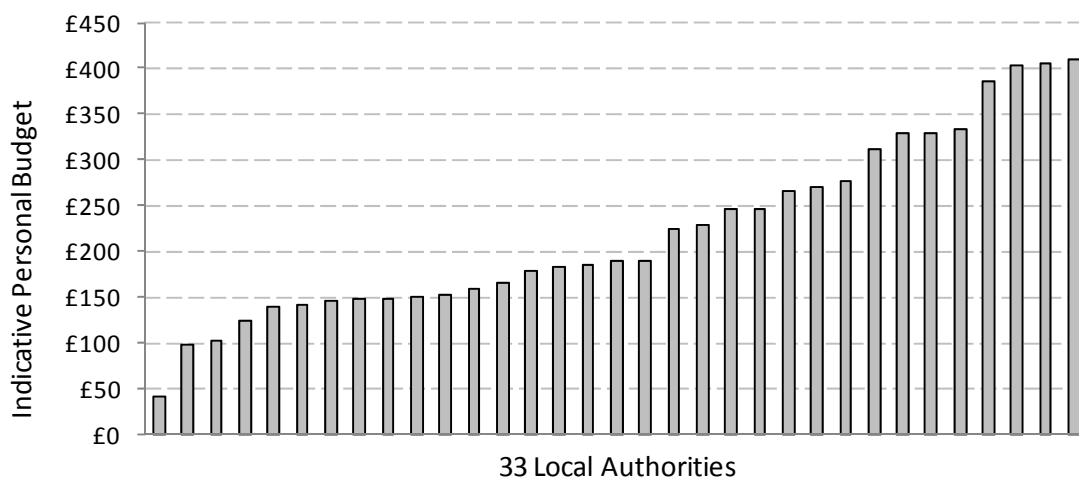
Explaining such variation is more problematic, as might be expected given the limited sample size. There is certainly no statistically significant correlation between the indicative personal budgets awarded to person A (with moderate-substantial needs) and any of the predictor variables describing various aspects of the 33 local authorities. In fact, it is quite possible that the key factor determining what will be offered to this person will be how different authorities operate their eligibility thresholds. However, person B will certainly be deemed eligible across all authorities and in this case there are statistically significant correlations with both *per capita* RNF scores (p=0.405; r=0.019) and *per capita* expenditure on social care (p=0.426; r=0.013). In other words, the tendency is that local authority's with higher *per capita* RNF scores and, no doubt as a result, with higher *per capita* expenditures on social care, allocated larger indicative budgets to individuals with comparable needs.

This observation is statistically significant at the 5% level. Despite this, for the reasons given above, the conclusion must be tentative and provisional. Nevertheless it would appear that the current resource allocation methodology does impact on the level of social care that is available to individuals in different places – and the pattern is now a familiar one. In the 23 authorities in the study set classified by DEFRA as urban (i.e. Major, Large or Other Urban), person A would, on average, have been awarded an indicative budget of £113.73 per week. In the 10 rural authorities they would have received just £100.79. Person B, meanwhile, would have received £231.74 in the urban authorities compared to just £197.80 per week in the rural authorities. Similar, and entirely consistent, differences are to be found when authorities are classified in terms of demography, deprivation or, indeed, in terms of the proportion of people living in rural settlements. These are not, however, statistically significant differences. The question is whether, with a larger sample of local authorities and a wider range of client types, statistical significance would emerge to reflect the more clear-cut relationship that can already be seen between the size of personal budgets and the funding allocations made available to local authorities.

6.   Conclusion

Despite the profound implications for social justice, evidence on the extent to which inequalities in access to social care are subject to systematic geographic variation has been elusive. This in part reflects a tendency to assume that local government allocations are robust and fair. Thus, any variation in social care provision may be dismissed as a legitimate outcome of democratically-mandated localism. The practical investigation of social care equity has also been limited by a relative scarcity of good quality data and the problem of distinguishing 'legitimate' from 'illegitimate' sources of variation.

This report has examined whether factors beyond the control of individual local authorities account for geographical variations in access. A main focus of interest here has been on the role played by formula funding which, it has been argued, suffers both from the inherent circularity of the utilisation-based approach and the many shortcomings of the four-block model. As a result, the funding system is unlikely to have resulted in equitable allocations.

Acknowledging the interpretative problems that beset the investigation of local authority level variations in expenditure and activity, the analysis of centralised data has been supplemented with an analysis of data procured through a Freedom of Information (FOI) request to all LAs. This pertained to charges for specific services and to the Resource Allocation Systems (RAS) that are being used by individual councils to set indicative personal budgets. This is the first time that the budgets similar individuals would receive across different local authorities has been analysed.

As is the case with NHS resource allocation, the RNF formula for Personal Social Services gives relatively little weight to demography as opposed to deprivation. Consequently, authorities with younger populations, more urban populations and a higher proportion of households living in poverty receive the highest formula grant allocations, spend the greatest amount *per capita* on social care for the over 65s and have the highest rates of home care, day care, residential and nursing care and personal budgets. The scale of variation in funding, expenditure and activity rates is very marked, Inner London Boroughs spending, on average, £1,750 on social care per person aged 65+ compared to just £773 *per capita* across the 27 Shire Counties.

Establishing whether this is fair or not is an interpretative minefield and depends, to an extent, on whether one has confidence in both the utilisation-based methodologies that are used to derive RNFs and the four-block model itself. However, the huge disparity in expenditure and the weaker (and sometimes non-existent) correlation between expenditure and other plausible needs indicators (such as demographic composition and measures of physical and cognitive needs)

should give rise to concerns as to whether the current distribution of resources, expenditure and activity is, in fact, equitable. If it is not, then it would reasonable to propose that rural authorities – which have older populations, lower deprivation scores and lower RNF scores – are able to spend less on social care relative to underlying needs than their urban counterparts.

The investigation of geographical variations in specific service charges and in the personal budgets awarded to individuals with similar needs lends some weight to this argument. Rural authorities make significantly higher hourly charges for home care. While there is little evidence of widespread statistically significant systematic variations in the charges made for meals on wheels or for transport to day care, charges for these services do appear to be somewhat higher in authorities with lower *per capita* Formula Grant allocations. Authorities with lower grant allocations were also significantly more likely to have removed the cap on the maximum charge individuals are expected to contribute to their social care costs. The findings confirm the existence of a 'postcode lottery' in social care, but suggest that this is unlikely to be an outcome of democratically-mandated localism. A key factor is likely to be the long-term operation of a flawed resource allocation methodology.

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