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Need and unmet need among older people in the community

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CONTENTS

ABSTRACT 1

INTRODUCTION 2

METHODS 3

Data Source 3

Care receipt 4

Needs threshold construction 4

Exploring the impact of the data source 7

Calculating unmet need 9

RESULTS 10

Proportions by type of care received 10

Proportions with care needs meeting thresholds 10

Proportions amongst those with needs similar to LA funded care recipients 13

Subdividing the HSE older population 14

Hierarchical sensitivity analysis 15

DISCUSSSION 15

LIMITATIONS 17

REFERENCES 18

APPENDIX 19

ABSTRACT

Objectives: This paper aims to estimate the proportion of older individuals (aged 65 and over) living in the community and not receiving local authority (LA) funded home care that are eligible for LA funded care services (as outlined in the Care Act) on the basis of their ADL/IADL related care needs and availability of unpaid care, whether or not they meet the financial eligibility criteria. The paper also estimates the proportion of those with needs similar to those of recipients of LA funded support that do not have any of their care needs met, receiving neither unpaid care, nor formal care nor attendance allowance (AA).

Methods: Health Survey for England (HSE) data for 2015 to 2018 (N=8,777 older people) were analysed. Limitations with Activities of Daily Living (ADLs) or Instrumental Activities of Daily Living (IADLs) were used as a measure of care need. A threshold level of care needs was postulated on the basis of the observed care needs of recipients of LA funded support differentiating by probability of unpaid care being available: people with care needs above this threshold were considered eligible to receive LA funded care and those below the threshold considered to be ineligible. This was on the assumption that eligibility for LA support could be treated as an indicator of care needs. Individuals were categorised into mutually exclusive groups comprising: no support, unpaid care only, attendance allowance (AA), privately funded home care and LA funded home care. A primary threshold of eligibility was set at two or more IADL limitations if living alone or three or more IADL limitations if living with others. This was used to determine how many respondents not receiving LA funded home care had similar levels of needs as recipients of LA funded care and could be regarded as eligible for LA support. Sensitivity analyses explored alternative needs thresholds and examined using the English Longitudinal Survey of Aging (ELSA) pooled wave 6-8 data (N=6,698 adults aged 65+) in place of the HSE.

Results: Due to differences in underlying ADL and IADL distributions, results were sensitive to the choice of threshold and choice of dataset, with lower estimated proportions of people in the no support, unpaid care, AA and private care groups meeting the threshold for eligibility for LA funded care when ELSA data were analysed instead of HSE data. Private purchasers of home care had similar rates of eligibility compared to those in receipt of LA funded home care, while all other care groups had significantly ($p<0.01$) lower rates regardless of data source or threshold. Under the primary threshold, 86% of privately purchased home care recipients with at least one ADL or IADL limitation had care needs exceeding the threshold. This percentage was lower for those receiving AA (46%), and for those receiving only unpaid care (39%) or receiving no support (10%). Depending on the threshold used, those with unmet needs accounted for 6.3-10.8% of all of those with needs sufficient for receipt of LA funded care, and 0.8-1.9% of all older people in the sample had needs in line with recipients of LA funded care but received neither formal care nor unpaid care nor AA such that their needs were unmet.

Conclusions: Four needs-based thresholds were constructed using HSE data. Depending on which threshold was adopted, between 1.6% and 2.0% of the older HSE sample both a) met the threshold and b) were in receipt of Local Authority funded homecare. Also depending on the threshold used, the proportion of the older sample that met the threshold but were not in receipt of any support (neither formal care, nor unpaid care nor AA) varied from 0.8% to 1.9%. Among those meeting the threshold, the most common form of support received was AA (in some cases in conjunction with unpaid care). Those receiving privately purchased homecare had similar ADL/IADL distributions to those in receipt of Local Authority funded homecare, and therefore had a similar proportion meet each threshold considered. Differences were found when ELSA was used as a data-source instead of HSE. ADL/IADL data were collected using differently worded questions in these datasets. Further research into the consequences of differences in question wording could help explain the differences in prevalence of ADL and IADL limitations between the HSE and ELSA.

INTRODUCTION

Within the context of an aging population, it is vital to understand for financing, planning and policy purposes how many older people currently require long-term care and how many more will do so in the future. Recent estimates suggest that long term care expenditure for Local Authorities in England in 2019–2020 was £15.4 billion, with requests for support from 1.4 million new individuals (NHS Digital, 2020). Projections up to 2040 suggest that the number of older publicly funded users of care will increase from an estimated 214,000 in 2020 to 390,000, an increase of 82% (Wittenberg et al, 2018).

However, it is known that not all older individuals with needs will receive publicly funded long-term care. Moreover, not all individuals with a high level of need will go on to receive publicly funded long-term care. This subgroup of individuals not receiving publicly funded support but with great enough needs to be eligible to do so is particularly important to consider. This relative size of this group will determine how sensitive numbers of publicly funded care recipients are to changes in eligibility criteria for publicly funded care on other metrics (i.e. financial eligibility). Those who have needs that are to some degree unmet may go on to develop further needs leading to a catastrophic care cost if eventually assessed. This opposes the emphasis on prevention and the right to Local Authority funded care highlighted by recent policy (Care Act, 2014).

The objective of this paper is to estimate (1) what proportion of older people in England receiving different types of support for their care needs may be eligible for publicly funded care under the Care Act on the basis of care need and perceived availability of unpaid care, or would be eligible if they had lower resources (incomes and savings), and (2) what percentage of older people with care needs sufficient for Local Authority funded support may have unmet needs.

The first part of this paper maps care needs to eligibility criteria for publicly funded care and seeks to understand what proportion of individuals might have sufficiently high care needs (factoring in potential unpaid care availability) to be eligible to receive Local Authority funded support. While the focus of this paper is on the relationship between care needs, it is vital to recall that eligibility for publicly funded support also depends on other factors. This includes the financial situation of the potential care recipient and how their needs impact on their quality of life (Care Act, 2014). Financial eligibility in particular is important since, given a sufficiently high income/wealth, individuals will not be eligible to receive publicly funded support even with a high level of care need. Limitations with the data (as described in the methods section) meant that financial eligibility and how care needs impacted on quality of life could not be adequately incorporated into these analyses. Nevertheless, care need is a major component of determining eligibility of publicly funded support, and it is this driver that forms the focus of this paper.

This paper also estimates what proportion of those with care needs that may be sufficiently high to be eligible for Local Authority funded support have unmet needs. As described by Vlachantoni, the conceptualisation of unmet need may adopt an 'absolute' approach, identifying whether or not an individual is receiving any assistance with tasks for which they have a need, or a 'relative' approach estimating the adequacy of support received, which may be partially meeting needs resulting in 'undermet' needs (Kennedy, 2001).

Age UK adopted the relative approach when they estimated that, on the bases of difficulties relating to Activities of Daily Living (ADLs; encompassing personal care tasks such as washing and dressing), approximately 1.4 million older adults (or 14% of older adults) in England had unmet needs (Age UK, 2018). When including instrumental Activities of Daily living (IADLs; encompassing non-personal tasks needed to live independently including shopping and managing medication) this estimate rose to 1.6 million individuals, equating to approximately 16% of older adults. This analysis was conducted using English Longitudinal Study of Aging (ELSA) data, including waves 7 and 8 of the survey (Banks et al, 2018).

This paper adopts the absolute approach to estimating unmet need, which unlike the

relative approach does not differentiate between those with needs completely met and those with under-met needs. Under this approach, those receiving neither formal care (paid for privately or through the LA) nor AA nor unpaid care for their needs are defined as having unmet need. Those with needs who receive either AA, unpaid care or formal care (often in conjunction with unpaid care) are classified as having their needs met.

An advantage of adopting this approach is that is it clear what level of unmet need those classified as having unmet need have, which assists in assessing potential eligibility for Local Authority funded support. This would not be as clear for those with under-met need. Assessing the degree to which those with under-met needs might be eligible for Local Authority funded support would be made more difficult by the fact that, while the Care Act requires assessments of eligibility to be carer-blind, data suggests that in practice this is not always the case (Fernandez et al, 2015). Thus for any estimation of potential eligibility for those with undermet need, an accurate estimate of to what degree needs are unmet would be vital. Variables to estimate the degree to which needs are partially met are however not included in the Health Survey for England (HSE) (Brown et al, 2018), the primary data source for the analysis for reasons outlined in the methods section. While included in ELSA, these are limited by the subjective nature of the possible response categories, as described below.

This paper will consider the community-dwelling subset of older people, which constitutes the majority of older people in England (Office for National Statistics, 2011). Using the absolute approach, those living in residential care establishments can be considered to have their needs met, though adopting a relative approach their needs many not necessarily be met entirely.

METHODS

DATA SOURCE

The analyses were performed separately on data collected from two large surveys, the Health Survey for England (HSE) and English Longitudinal Survey of Aging (ELSA).

The HSE (Brown et al, 2018) is an annual survey that collects information from representative community-dwelling samples of individuals living in England. Responses from all individuals living in selected households are included, with proxy responses being permitted for those unable to participate themselves. From 2011, the HSE has included a social care module, capturing data on needs of older people related to Activities of Daily Living/Instrumental Activities of Daily Living (ADLs/IADLs, as described below), provision and receipt of support with ADL/IADL tasks, payment for care, receipt of Local Authority funded support and Personal Budgets. Questions on receipt of care within the survey are asked of those aged 65+. Combined HSE 2015-2018 data were analysed, with a total sample size of 8,777 older people, comprising 20% of the 44,047 respondents of any age recorded over the four years.

To assess the robustness of findings to the choice of data source, an equivalent analysis was conducted using ELSA data (Banks et al, 2018). ELSA is a longitudinal survey of community-dwelling individuals aged 50+ previously surveyed within HSE. Individuals are interviewed every two years. To achieve a sufficient sample size, the analyses used data pooled across waves 6–8 of ELSA, capturing data from a combined sample of 6,698 individuals from 2012 to 2017.

Weights to account for sampling biases were supplied and utilised within both HSE and ELSA analyses. Analyses were conducted using STATA version 16 (StataCorp, 2019).

CARE RECEIPT

The analyses estimate what proportions of individuals with care needs within the sample have needs in line with those receiving LA funded support, by type of care received. With respect to types of care, five mutually exclusive categories were created, as follows:

1. Recipients of partly- or fully-funded LA support for homecare
2. Recipients of entirely self-funded homecare
3. Recipients of Attendance Allowance
4. Recipients of unpaid care
5. Those who receive no support

Those belonging to a particular category may in addition receive any other form of support listed in a latter category. For example, those in the LA funded support category may be receiving unpaid care, privately funded home care and/or attendance allowance. Those in the AA care category may receive unpaid care but could not be receiving LA funded support or self-funded homecare.

Recipients of AA are not required to spend this on formal care and may for example elect to spend this allowance on, amongst other things, special diets or to share it with family members. Receipt of AA therefore does not necessarily imply a greater level of need compared to receipt of only unpaid care. To explore the potential effects of changes in this hierarchy, a sensitivity analysis was conducted effectively swapping categories 3 and 4 on the hierarchy. Within this alternative setup, those in the unpaid care category might be in receipt of AA, and those in receipt of AA could not be in receipt of any other type of care, in particular unpaid care.

NEEDS THRESHOLD CONSTRUCTION

Eligibility for publicly funded support depends on a number of factors, including level of care need, how care needs impact on an individual's quality of life, the extent to which the individual's needs are already met through for instance support provided by their family and the financial situation of the potential care recipient.[1] Local authority funded support would typically be received by those with a considerable level of limitation in two or more tasks needed for daily living. As discussed below, the HSE dataset captures care needs in variables with four possible response categories, more finely distinguishing between severity, whereas the ELSA dataset captures this using binary variables. The combined HSE data also had a larger number of individuals receiving LA funded care than the combined ELSA dataset. Due to these factors, the HSE dataset was selected as the primary dataset for the analyses.

The analyses focused on care needs and estimating what level of care needs, in the presence of different levels of potentially available unpaid care, may indicate eligibility for publicly funded support. While data related to income is captured within HSE, this was insufficiently detailed to estimate whether the individual would meet the means test for LA funded care. The impact that limitations in activities of daily living have on their quality of life was not captured within either the HSE or ELSA.

The analysis aimed to identify a needs threshold differentiating individuals not receiving LA funded care into (a) having needs similar or (b) having needs dissimilar to those of LA funded care recipients. In order to ensure consistency, a majority of recipients of LA funded homecare should themselves meet this needs-based threshold.

A threshold met by all LA funded care users was infeasible, since the needs of those receiving LA funded care in the sample range from relatively low (no ADL limitations) to very high limitations. There are several reasons why some of those in the sample that indicate receiving LA funded care may report relatively low levels

1. Eligible care needs, which are identified purely in terms of the impact of the inability of individuals to carry out key activities of daily living on their wellbeing, do not always translate into eligibility for care services. This depends on whether the person's strengths (including their access to unpaid care support) offset the impact of their disability on their wellbeing.

of need. This could include the possibility that the level of impairment they had while relatively low greatly impacted on their quality of life, non-ADL/IADL related care needs (e.g. cognitive impairment), a delay between when data was collected and when the assessment was made allowing for the potential of recovery, or error/underreporting of care needs.

A threshold met by all LA funded carer users would be set at a relatively low level of need, resulting in almost all older people in different care receipt groups meeting the threshold and suggesting that the vast majority of these individuals have care needs in line with recipients of LA funded care. Therefore, a threshold was required that was met by most LA funded care recipients, but not those reporting a very low level of need. Guidance was not found on what proportion of LA funded care recipients should meet the threshold. Therefore, to explore the impact of this decision on the results sensitivity analyses were performed, setting an initial proportion of 85% of LA funded care recipients meeting the selected threshold and varying this from 75% to 95% in sensitivity analyses.

A criterion based on difficulties with ADLs (Activities of Daily Living) and IADLs (Instrumental Activities of Daily Living) was explored. ADLs encompass personal care tasks, and the HSE captures difficulties with eight of these: getting in and out of bed, washing, bathing or showering, dressing or undressing, toileting, eating, getting around indoors and getting up and down stairs. The five Instrumental Activities of Daily Living (non-personal care tasks) identified in the HSE include difficulties with: taking medication, getting out of the house, shopping, doing routine housework or laundry and paperwork or paying bills. For each task, individuals responded with either: (a) I can do this without help, (b) I have difficulties but can manage, (c) I can only do this with help or (d) I cannot do this.

To incorporate differences in perceived availability of unpaid care, the analysis differentiated between those living alone and those living with others. The presence of a co-resident unpaid carer is noted within needs assessment (Care Act, 2014), and is likely to affect (and more specifically increase) the level of need at which LA funded care is first considered eligible for care and when this care is first provided.

The analysis described within this paper compares ADL/IADL related care needs of LA funded care recipients to those not receiving LA funded support. People require a relatively high level of need with tasks to qualify for LA supported support. Therefore, older people in the pooled 2015–2018 HSE dataset are considered to have a need related to an ADL or IADL task if they indicated they could only do the task with help or cannot do the task (response options (c) or (d) noted above). In this way, LA funded care recipients and those not receiving LA funded support were compared on the basis of the number of tasks for which they had high level care needs. Two respondents reported receipt of LA funded care but no ADL or IADL needs under this definition, and these were excluded from the analyses.

Within the combined 2015–2018 HSE sample, 175 older respondents identified both (i) at least one high level ADL or IADL need (response option (c) or (d) as discussed above) and (ii) receipt of LA funded care. The distribution of ADL and IADL needs by living alone or with others is shown in Table 1, with equivalent tables for those receiving different forms of care in the appendix. As described above, those included within the table indicating no ADL need must have at least one IADL need and vice versa.

The distributions for certain subgroups (IADLs for those living with others receiving LA funded care, as well as ADLs and IADLs for those receiving no support) exhibit a very high number of indications of the maximum number of limitations, with few if any respondents indicating 5–7 ADL limitations. One possible explanation of this may be that this reflects individuals living alone with moderate to high levels of need moving into care homes and thus not appearing in the HSE sample. It may also be possible that a number of individuals reporting receiving no support and the maximum number of limitations are in receipt of unpaid care but do not consider themselves to be. Alternatively, this may be indicative of those with a moderate to high level of limitations being more likely to experience a crisis, propelling the individual into the highest level of limitation category.

This observation may also be in line with other data collections, where a number of respondents tend to consistently pick the same response to all questions asked of a related set of questions, possibly to reduce the time spent on the interview.

It is clear from the distributions that an initial threshold that 85% of those receiving LA funded care met would not be feasible if this were based on ADL needs. The lowest feasible threshold, which as described above would assign a need level for those living with others at least as high as that set for those living alone and that would differentiate individuals into two categories would be: at least 1 ADL limitation if living alone and 1 ADL limitation if living with others. This would mean however that overall only 78%[2] of those with needs and receiving LA funded care meet the threshold based on their needs distribution, falling short of the 85% target. As described above, there are a number of reasons why overall approximately 22% of those receiving publicly funded care report 0 ADL limitations.

We therefore construct a threshold based on the IADL distributions shown in Table 1 and adopt as the primary threshold for analysis a level of need of two or more IADL limitations if living alone and three or more IADL limitations if living with others. This threshold is exceeded by 85%[3] of those receiving LA supported care who have ADL/IADL needs.

Sensitivity analyses surrounding the choice of threshold was conducted, relaxing the requirement for at least 85% of those receiving LA funded care to meet or exceed the threshold, and varying this from approximately 75% to 95%. This included the following scenarios:

1. An ADL based threshold of one or more ADL limitation if living alone and two or more ADL limitations if living with others.
2. A less severe IADL based threshold of one or more IADL limitation if living alone and two or more IADL limitations if living with others.
3. A hybrid threshold of two or more IADL limitations if living alone and one or more ADL limitation if living with others.

For each of these sensitivity thresholds, for either those living alone or those living with others, one or more limitation with ADLs or IADLs are considered sufficient to be categorised as having needs similar to those in receipt of LA support/sufficiently high needs to be eligible to receive formal care. It should be noted that these thresholds do not align exactly with the Care Act eligibility criteria which requires an inability to achieve two or more 'outcomes' (Social Care Institute for Excellence, 2015), as evidenced by the fact that a proportion of those in receipt of LA funded support indicate fewer than two ADL/IADL limitations. However, it is expected that regional variations will exist as to how strictly the requirement of an inability to achieve at least two outcomes will be adhered to, and some Local Authorities may be more generous than required. These sensitivity thresholds allow for this possibility.

The third sensitivity analysis aimed to incorporate data on both ADLs and IADL needs to create a threshold. As noted previously however the level of need at which Local Authority care is provided is likely higher for those living with others compared to those living alone, and, unlike the primary threshold and other sensitivity thresholds, the third sensitivity threshold uses different measures for those living alone and with others (IADLs and ADLs respectively). Therefore, judgements must be made as to how much weight an ADL limitation carries with respect to level of disability compared to an IADL limitation. Difficulties with ADL tasks typically manifest after difficulties with IADL tasks (Kingston et al, 2012) suggesting a greater level of disability. For the purposes of this analysis, it was assumed that an ADL

2. 26.1% of the 95 individuals with care needs, receiving LA funded care and living alone fail to meet the proposed threshold, as do 16.9% of those with care needs who receive LA funded care and live with others. This means overall that 22% of the total 175 LA funded care recipients fail to meet the proposed threshold, and therefore the remaining 78% do meet this.

3. Using the same calculation as previously, 14.4% of those living alone (N=95) and 19.1% (N=80) of those living with others fail to meet the threshold, resulting in an overall proportion of 14.9% with needs falling under the threshold and 85.1% with needs at least as high as the threshold.

TABLE 1: NUMBER OF ADL AND (SEPARATELY) IADL LIMITATIONS FOR OLDER USERS OF LA FUNDED CARE WITH AT LEAST ONE ADL OR IADL NEED IN THE POOLED 2015–2018 HSE SAMPLE, BY LIVING ALONE OR WITH OTHERS

	Living alone (N=95)		Living with others (N=80)	
Number of tasks for which help is needed	ADL proportion (%)	IADL proportion (%)	ADL proportion (%)	IADL proportion (%)
0	26.1	1.1	16.9	1.5
1	19.7	10.3	6.2	8.1
2	13.3	18.4	10.8	9.5
3	16.2	22.6	11.3	10.1
4	9.8	20.5	15.5	15.0
5	3.5	27.2	7.4	56.0
6	4.4	–	4.6	–
7	3.1	–	3.6	–
8	3.8	–	23.7	–

limitation carried more weight in estimating level of disability and is indicative of at least as high a level of need as two IADL limitations.

The threshold for the third sensitivity analysis differs for those living with others while it remains the same as the primary threshold for those living alone. For this hybrid threshold the group living with others was chosen to use an ADL based threshold and not the group living alone as, owing to the potential presence of co-resident assistance, it might be anticipated that those living alone might seek LA funded support with IADL limitations whereas those living with others may be more likely to do so only after the point at which ADL limitations present.

The proportion of individuals in different care receipt groups that exceed the primary and variant (sensitivity) thresholds were then calculated. T-tests adopting survey weights were conducted to determine whether the proportions in different care groups were similar or dissimilar to the proportion exceeding the threshold within the LA funded care group.

EXPLORING THE IMPACT OF THE DATA SOURCE

As mentioned previously, calculating the proportions of respondents within ELSA that met the primary threshold to explore sensitivity around data source was also a key objective. A number of adaptations were made to apply this methodology to the ELSA dataset.

ADL and IADL measures vary both in terms of the individual activities described and the response categories used to report limitations: ELSA records whether or not adults have difficulty performing each task using binary indicators, whereas HSE records whether adults can perform tasks without help, with difficulty, only with help or not at all. As previously mentioned, IADL thresholds established using HSE data were defined in terms of adults able to perform tasks 'only with help' or 'not at all'.

In order to apply the methodology to ELSA data, the aim was to derive an IADL count within ELSA that was broadly comparable

BOX 1: COMPARISON OF ACTIVITIES USED TO DERIVE IADL COUNTS IN ELSA AND HSE SAMPLES

Health Survey for England IADL indicators (proportions reporting limitation)

- Taking the right amount of medicine at the right times (4.3%)
- Getting out of the house, for example to go to the doctors or visit a friend (11.7%)
- Shopping for food including getting to the shops, choosing the items, carrying the items home and then unpacking and putting the items away (16.9%)
- Doing routine housework or laundry (13.3%)
- Doing paperwork or paying bills (8.8%)

English Longitudinal Study of Ageing IADL indicators (proportions reporting difficulty)

- Taking medications (3.8%)
- Preparing a hot meal (7.8%)
- Shopping for groceries (14.9%)
- Doing work around the house and garden (22.3%)
- Managing money, e.g. paying bills, keeping track of expenses (5.5%)

to the HSE indicator in terms of (a) the types of activities included and (b) the overall need distribution by IADL count. A comparison of activities used to derive IADL counts in each sample is described in Box 1.

As shown in Box 1, the set of ELSA IADL indicators that most closely matched the IADL tasks asked about in the HSE were taking medication, preparing a hot meal, shopping for groceries, doing work around the house and garden, and managing money. Four of the HSE tasks could be matched to broadly equivalent tasks within ELSA (e.g., 'doing paperwork or paying bills' being matched with 'managing money'), however a broadly equivalent match for 'getting out of the house' was not possible and 'preparing a hot meal' was included as a substitute.

Proportions reporting difficulty for matched pairs appear to be broadly equivalent across datasets (e.g., approximately 4% report help with taking the right amount of medication at the right times in HSE and 4% report help with taking medications in ELSA). One noticeable difference however is the higher proportion reporting 'doing work around the house and garden' in ELSA compared to doing routine housework or laundry' in HSE (22% vs 13%), which may be anticipated as the former includes gardening whereas the latter does not.

The distribution of IADL needs across the combined ELSA sample compared to the HSE sample are shown in Table 2. The ELSA distribution appears to be broadly in line with the HSE distribution, differing more on the lower end of need with 6% more respondents reporting 1 IADL difficulty and 5% fewer reporting no difficulty.

TABLE 2: DISTRIBUTION OF IADL DIFFICULTIES FOR OLDER RESPONDENTS WITHIN HSE AND ELSA SAMPLE

	Proportion of weighted older sample respondents (%)	
Number of IADL difficulties	HSE	ELSA
0	79%	74%
1	6%	12%
2	5%	7%
3	5%	4%
4	3%	2%
5	3%	2%

The purpose of examining ELSA data was to explore the potential impact of a different data source. Naturally, a degree of difference in rates of older people experiencing difficulties with tasks might be expected given differences in how data are collected and what variables are captured. Nevertheless, there was a substantial degree of overlap between the tasks being recorded between ELSA and HSE as illustrated in Box 1, and the distribution of difficulties illustrated in Table 2 are similar enough to suggest the same construct is being estimated in by both data sets. Therefore, we conclude that comparing results based on both data sources would be meaningful.

The proportion of respondents by type of care received (constructed in the same with as within HSE) that exceed the primary threshold for care need were then calculated.

CALCULATING UNMET NEED

Having estimated the proportions of individuals in different care groups with care needs exceeding the threshold, the total number of individuals within the sample exceeding the threshold can be estimated by care group. These estimates are then expressed as a percentage of the total number of individuals within the sample exceeding the threshold to identify what proportion of individuals with care needs sufficient for eligibility for LA funded support belong to each care receipt group, in particular those receiving no support. This calculation is performed for each of the sensitivity thresholds in turn. In order to illustrate the overall estimate of unmet need amongst older people within the sample, these percentages were recalculated subdividing all those aged 65+ within the sample into mutually exclusive groups which differentiated between those without care needs and those with care needs by type of care received and simultaneously whether they exceeded the threshold or not.

As noted previously, due to the focus on eligibility for publicly funded care and consequently higher levels of need, the HSE, which more finely distinguishes between level of need (by adopting a four-category variable as opposed to a binary indicator) was used as the primary data source for the analysis instead of ELSA. As variables capturing the adequacy of support received for ADLs and IADLs were not included within this data source, an absolute approach to measuring unmet need is adopted.

Variables capturing to what degree support was received for needs are included within ELSA, but these were not included in the analysis. One merit of adopting the absolute approach is that there is a clear understanding of to what degree those with needs receive assistance for their needs; adopting an absolute approach it is known that they receive no support for their needs whatsoever. The inclusion of ELSA variables capturing degree of need being met might suggest that estimating unmet need using a relative approach is feasible, however one limitation with the data collected is the broadly defined categories. Individuals may note whether their need for a particular need is met 'all the time', 'usually', 'sometimes' or 'hardly ever'. The proportion of needs being met by individuals responding 'usually', 'sometimes' and 'hardly ever' is likely to vary considerably due to the subjective wording of the categories. Furthermore, incorporating these variables within the analysis in the form of taking a relative approach to estimating unmet need would mean applying equal weight to individuals who have their needs met 'usually', 'sometimes' or 'hardly every'. This introduces variability into the understanding of what degree of needs are unmet for this group.

RESULTS

PROPORTIONS BY TYPE OF CARE RECEIVED

Table 3 illustrates how older people in the HSE sample with at least one ADL or IADL limitation are distributed by type of care received. As noted previously these groups are mutually exclusive, with those in a particular group potentially being in receipt of any other type of support listed below it in the table, but not in receipt of support listed above it (those receiving AA may be in receipt of unpaid care but not LA funded homecare for example). As shown from the table, about 40% of individuals with an ADL or IADL related need are in receipt of AA (potentially in conjunction with unpaid care), and 30% are in receipt of unpaid care and no other type of care 17% are in receipt of formal homecare, with slightly over half of those receiving homecare having this funded in part or in full by the Local Authority.

TABLE 3: DISTRIBUTION OF TYPE OF CARE RECEIVED AMONG THOSE WITH AT LEAST ONE ADL OR IADL RELATED LIMITATION, HSE 2015–2018 (N=1987)

Type of care received	%
LA funded homecare	8.8
Privately purchased homecare	8.2
Attendance Allowance	40.8
Unpaid care	29.6
No support	12.6

PROPORTIONS WITH CARE NEEDS MEETING THRESHOLDS

Table 4 shows the proportions (with any positive level of care need) within the pooled HSE data and ELSA data meeting the primary and alternative thresholds, by type of care received.

T-tests were conducted (separately by dataset) adopting the primary threshold and separately under each sensitivity threshold to determine whether the proportion exceeding the threshold for each group was statistically significantly different from the proportion of LA funded care recipients exceeding the threshold. A clear pattern emerges, with the rates of private home care purchasers exceeding the threshold not differing to a statistically significant extent from the rates of LA funded care recipients exceeding the threshold. For each other group, however, the proportions exceeding the threshold are highly statistically significantly lower than the proportion of LA funded care recipients exceeding the threshold, in each case at the 1% level.

The primary threshold, that is 2 or more IADL limitations if living alone and 3 or more IADL limitations if living with others, is considered first. The results observed from adopting this primary threshold are in line with expectations, in that those in receipt of formal care (whether privately purchased or publicly funded) are more likely to have higher levels of need and consequently exceed the threshold. Those in receipt of no support, who are more likely to have lower levels of need, are less likely to exceed the threshold. By construction, 85% of LA funded care recipients with at least one ADL/IADL limitation met this threshold. The IADL distribution of those receiving privately purchased homecare was similar to LA funded care recipients (Appendix

TABLE 4: PROPORTIONS OF OLDER PEOPLE MEETING OR EXCEEDING THRESHOLDS, BY TYPE OF CARE RECEIVED AND THRESHOLD AMONG THOSE WITH CARE NEEDS

	HSE									ELSA		
		Primary threshold		Sensitivity threshold 1		Sensitivity threshold 2		Sensitivity threshold 3		Primary threshold		
Group	N	%	P-value*	%	P-value*	%	P-value*	%	P-value*	N	%	P-value*
LA funded care recipients	175	85	–	75.3	–	94.9	–	86.0	–	155	83.1	.
Private homecare purchasers	169	85.6	0.88	67.0	0.095	91.8	0.24	86.5	0.89	329	78.4	0.06
Receiving Attendance Allowance	1,006	46.4	<0.01	36.5	<0.01	64.8	<0.01	53.5	<0.01	629	44.4	<0.01
Receiving unpaid care	716	39.2	<0.01	20.7	<0.01	64.1	<0.01	40.7	<0.01	1,803	32.3	<0.01
Receiving no support	760	9.5	<0.01	12.3	<0.01	21.7	<0.01	11.3	<0.01	1,418	7.9	<0.01

* t-test p-value comparing proportion exceeding the threshold to the proportion of LA funded care recipients exceeding the threshold.

Primary threshold: 2+ IADL limitations if living alone, 3+ IADL limitations if living with others

Sensitivity threshold 1: 1+ ADL limitation if living alone, 2+ ADL limitations if living with others

Sensitivity threshold 2: 1+ IADL limitation if living alone, 2+ IADL limitations if living with others

Sensitivity threshold 3: 2+ IADL limitations if living alone, 1+ ADL limitation if living with others

Table A1), and consequently a very high percentage of privately purchased home care recipients of any positive level of care need (85.6%) also exceed the threshold set. About 40% of those receiving unpaid care meet the threshold, as did approximately 46% of those receiving Attendance Allowance and 10% of individuals receiving no support. This finding reflects the differences observed in IADL distributions (appendix Tables A2, A3 and A4), with a substantially higher proportion of individuals with at least one limitation receiving no support, Attendance Allowance or unpaid care identifying no IADL limitation or just one IADL limitation. Consequently, those with at least one ADL/IADL limitation receiving AA, only unpaid care or no support appear to be less comparable to recipients of LA funded care on the basis of needs.

The consequences of changing this threshold are then explored as part of sensitivity analysis, again allowing these to be more generously set at one ADL or IADL related need for some individuals. The first sensitivity threshold explored is a cut-off of one or more ADL related needs if living alone and two or more ADL related needs if living with others. Difficulties with IADL tasks typically manifest earlier than difficulties with ADL related tasks, and therefore a higher level of difficulty and associated lower percentage meeting or exceeding the threshold might be anticipated. The results in general appear to be in line with this hypothesis, with a lower proportion among recipients of LA funded or privately funded homecare as well as among those receiving AA or only unpaid care meeting or exceeding the threshold. However, the proportion of those receiving

no care meeting the threshold increased from 9.5% to 12.3%

As can be seen from the AppendixTables A1–A4, this is due to a higher concentration of individuals with 0, 1 or 2 IADL limitations in the no support group compared to those in other groups. Use of an ADL based threshold results in a smaller proportion of individuals with needs under the threshold, which is not the case for those in the groups reporting some type of support, who have proportionally fewer individuals with a small number of IADL limitations, resulting in higher proportions falling beneath an ADL based threshold. This finding somewhat contrasts with existing literature suggesting ADL limitations manifest later than IADL limitations, but this may be a consequence of an unequal number of ADL (8) and IADL (5) tasks included within the data collection.

The second sensitivity analysis is, like the primary threshold, based on IADL needs, but set at a lower level relative to the primary threshold, at one or more IADL limitation if living alone or two or more IADL limitations if living with others. As such, across each category of care type the proportion meeting or exceeding the threshold is higher. The consequence of this is particularly evident for the unpaid care group (24.9 percentage point increase compared to the primary threshold), and the AA group (18.4 percentage point increase).

The third sensitivity analysis adopted a hybrid approach, setting the threshold at two or more IADL limitations if living alone and one or more ADL limitation if living with others, keeping the proportion within the LA funded care group that meet or exceed the threshold (86%) at approximately the same proportion as under the primary threshold (85%). With respect to those living alone, this threshold is identical to the primary threshold investigated, and thus a smaller degree of difference compared to other sensitivity thresholds may be anticipated. In general, this is observed in the results with little difference compared to the primary threshold for the LA funded care group (1%), private homecare group (0.9%), unpaid care group (1.5%) and no support group (1.8%). The difference is more pronounced for the Attendance Allowance group, however, at a 7.1 percentage point difference. This is a consequence of about 70% of individuals living with others in this group reporting one or more ADL limitations compared to about half reporting 3 or more IADL limitations.

Finally, the results of applying the same methodology (adapted as outlined previously) to pooled ELSA data is also presented. With respect to the LA funded care group, the percentage exceeding the primary threshold of 2 or more IADL related needs if living alone or 3 or more IADL related needs if living with others is similar to that calculated within HSE (83% versus 85%). The results are also similar across datasets for the AA group and the group receiving no support (2 percentage points lower and 1.6 percentage points lower respectively). The results for the other categories are, however, more different. The proportion estimated for the private homecare purchaser group is 7.2 percentage points lower compared to the equivalent estimate under HSE and the estimate for the unpaid care group is 6.9 percentage points lower.

There appear to be moderate differences, in particular in the unpaid care group and privately funded home care group, when ELSA is used as the data source as opposed to HSE, given the same threshold. As shown in table 4, however, the proportions exceeding the threshold are generally lower compared to HSE. This might suggest the observed differences are a consequence of structural difference between how data is being reported by individuals. In particular, it is important to recall that variables related to ADL/IADL limitations were captured in variables with four response categories in HSE and only two in ELSA. Therefore, it is possible that respondents assumed they were being asked to report positively to ELSA questions on limitations only if their level of need was very high, whereas in HSE moderate limitations were also reported.

Across all sensitivity analyses, however, including the use of different thresholds and data source, there appears to be a clear hierarchical ordering with respect to probability of having needs in line with LA funded care recipients. Privately funded home care purchasers are far more likely to have their needs in line with those receiving LA funded users compared to the other service receipt categories. Those in receipt of AA were then next most similar to recipients of LA funded care, but there was

a substantial difference between this group and private homecare purchasers. Those receiving only unpaid care were the second least likely to have needs in line with LA funded care recipients, with the group in receipt of no support having consistently the lowest estimated proportion exceeding the threshold set.

PROPORTIONS AMONGST THOSE WITH NEEDS SIMILAR TO LA FUNDED CARE RECIPIENTS

The distribution across care categories for those with needs above a specific care threshold can also be considered. This is shown, for each threshold in turn, in Table 5. The results suggest that, on the basis of needs, those receiving no support constitute between 6.3% and 10.8% of those with needs exceeding the threshold. The highest estimated percentage (10.8%) corresponds to the lowest threshold (sensitivity threshold 1: one or more ADL limitations if living alone or 2 or more ADL limitations if living with others). As discussed previously this is due to differences in IADL distribution between the group receiving no support and other groups.

Since the HSE is representative of private households in England, this suggests that among those living within the community with care needs exceeding a threshold constructed based on the needs exhibited by LA funded care recipients, approximately 6–11% are currently not in receipt of support. This also suggests that amongst those living within the community in England with needs in line with recipients of LA funded care, only between approximately 11% and 16% are currently in receipt of LA funded care. For some of those with needs above the threshold for LA funded care, the reason that they do not receive LA funded care is likely to be that their savings or incomes render them ineligible for LA funded support.

TABLE 5: DISTRIBUTION OF TYPE OF CARE RECEIVED AMONG THOSE OLDER PEOPLE IN THE POOLED 2015–2018 HSE DATASET MEETING OR EXCEEDING THRESHOLD, %

Type of care received	HSE								ELSA	
	Primary threshold		Sensitivity threshold 1		Sensitivity threshold 2		Sensitivity threshold 3		Primary threshold	
	N	%	N	%	N	%	N	%	N	%
No support	71	6.3	94	10.8	163	10.2	85	7.0	85	6.4
Unpaid care	284	25.5	152	17.5	463	29.0	295	24.3	471	35.5
Attendance Allowance	461	41.4	368	42.5	643	40.3	531	43.8	358	27.0
Privately funded homecare	144	12.9	114	13.2	154	9.7	145	12.0	268	20.2
LA funded (in part or whole) homecare	154	13.8	139	16.0	172	10.8	156	12.9	146	11.0
Number of respondents exceeding the threshold	1114	100	866	100	1595	100	1213	100	1327	100

Primary threshold: 2+ IADL limitations if living alone, 3+ IADL limitations if living with others
Sensitivity threshold 1: 1+ ADL limitation if living alone, 2+ ADL limitations if living with others
Sensitivity threshold 2: 1+ IADL limitation if living alone, 2+ IADL limitations if living with others
Sensitivity threshold 3: 2+ IADL limitations if living alone, 1+ ADL limitation if living with others

SUBDIVIDING THE HSE OLDER POPULATION

Having calculated the proportions of HSE respondents receiving different types of care and the subsequent proportions of the subgroups by type of care with needs in line with LA funded care recipients, it is possible to subdivide the sample of 8,775 older people within the pooled dataset into mutually exclusive need categories, including those with no ADL/IADL needs. As the HSE sample is representative of the household population in England, this will provide proportional estimates for the wider England household population. It should be noted that two observations reporting no IADL or ADL related needs but receipt of LA funded homecare are excluded.

The results of this subdivision are shown in Table 6. Here, those with no identified ADL or IADL related limitation (defined as a response of 'I can only do this with help' or 'I cannot do this' to an ADL or IADL question) are further sub-divided into those with low level limitations and no limitations. A classification of low-level limitations corresponds to a respondent indicating that they experience difficulties with an IADL or ADL related task but can manage (response option (b) for at least one task, but not indicating a more severe level of need for any other ADL or IADL related task.

TABLE 6: PROPORTION (%) OF OLDER ADULTS WITHIN POOLED HSE 2015–2018 SAMPLE BY TYPE OF CARE RECEIVED, LIMITATIONS RELATED TO ADL/IADL RELATED TASKS AND LIMITATIONS EXCEEDING THE THRESHOLD (N=8,775)

Type of difficulty	Type of care received	Meets threshold	Primary threshold	Sensitivity threshold 1	Sensitivity threshold 2	Sensitivity threshold 3
No ADL/IADL related limitation	–	–	67.9	67.9	67.9	67.9
Low-level ADL/IADL related limitation	–	–	9.3	9.3	9.3	9.3
At least one ADL/IADL related limitation	No support	No	2.0	1.8	1.0	1.9
		Yes	0.8	1.0	1.9	1.0
	Only unpaid care	No	3.6	5.2	1.6	3.5
		Yes	3.2	1.7	5.3	3.4
	Attendance Allowance	No	3.9	5.0	1.8	3.1
		Yes	5.3	4.1	7.3	6.1
	Privately purchased homecare	No	0.2	0.6	0.1	0.2
		Yes	1.6	1.3	1.8	1.7
	LA funded homecare (part or full)	No	0.3	0.5	0.1	0.3
		Yes	1.8	1.6	2.0	1.8

Primary threshold: 2+ IADL limitations if living alone, 3+ IADL limitations if living with others
Sensitivity threshold 1: 1+ ADL limitation if living alone, 2+ ADL limitations if living with others
Sensitivity threshold 2: 1+ IADL limitation if living alone, 2+ IADL limitations if living with others
Sensitivity threshold 3: 2+ IADL limitations if living alone, 1+ ADL limitation if living with others

As shown in the table, about two thirds of older adults in the sample do not have an ADL or IADL related limitation. Approximately 9% have low-level limitations and the remaining 23% have more severe ADL or IADL related limitations. Overall, 6.9% of older people in the sample had at least one ADL/IADL difficulty and received unpaid care. The equivalent percentages were approximately 1.9% for privately purchased home care, 2.1% for LA funded home care, 9.1% for Attendance Allowance and 6.9% for those receiving no support.

HIERARCHICAL SENSITIVITY ANALYSIS

As previously noted, sensitivity analysis was performed on the hierarchical clustering of individuals into mutually exclusive groups regarding type of care received. The sensitivity analysis effectively swapped the position of unpaid care receipt and receipt of AA in the hierarchy. Within the sensitivity analysis, the unpaid care group could include individuals in receipt of AA, but the AA group could not include individuals in receipt of any other type of (formal or unpaid) care.

The results of this sensitivity analysis are shown in Appendix Table A5. As can be seen from the table, the conclusions drawn for the groups including those in receipt of unpaid care and the group receiving attendance allowance is affected drastically by whether those in receipt of both unpaid care and AA are grouped with the former or the latter. Those in receipt of both unpaid care and AA appear to have higher needs than those in receipt of just one of these two types of support. When those in receipt of both types of care are grouped together with those in receipt of only AA, the proportion in the resulting group increases considerably (by at least 17.4 percentage points, depending on the selected threshold) compared to the group including those in receipt of AA only. Likewise, the proportion exceeding the selected threshold for the group in receipt of only unpaid care is lower (by approximately 6 to 13 percentage points) compared to the group including those with both unpaid care and AA.

Comparing the group receiving only unpaid care (Table 4) to the group receiving only AA (Table A5), the proportion of individuals exceeding the threshold is lower for the latter than the former. Depending on the threshold set this can be a minor difference (1.6 percentage points under sensitivity threshold 1) or a considerable difference (26.8 percentage points under the primary threshold).

DISCUSSSION

The analysis aimed to map ADL/IADL related care needs, accounting for the potential presence of an unpaid carer, to eligibility criteria set out by the Care Act. This was achieved through creating an IADL/ADL needs-based threshold to distinguish between individuals with needs similar and dissimilar to those of approximately 85% of LA funded homecare recipients within a pooled 2015–2018 HSE dataset. Considering the distribution of ADL and IADL related needs of this subgroup, a threshold of 2 or more IADL limitations if living alone or 3 or more IADL limitations if living with others was established and variation in threshold and dataset were explored as part of sensitivity analyses.

Using the primary threshold, within the pooled HSE dataset, among all older adults in the HSE sample with care needs of any level, about 86% of privately funded homecare recipients met or exceeded the threshold, as did about 46% of those receiving AA, 40% of those receiving unpaid care and approximately 10% of those receiving no support. Among those exceeding this need threshold, about 41% receive AA, 26% received only unpaid care, 27% received either LA funded or privately funded care, and approximately 6% received no support (had needs entirely unmet). Overall, 5.3% of older people within the pooled HSE 2015-18 sample met the primary threshold and received AA. 3.2% of the older pooled sample met the primary

threshold and received unpaid care, 3.4% met the threshold and received (private or publicly funded) homecare and 0.8% met the threshold and received no support (AA, unpaid care or privately purchased/publicly funded formal care).

Those within the unpaid care group, the AA group and the group receiving no care were found to have a significantly lower rate of exceeding the threshold compared to the LA funded care group under each threshold set and regardless of whether HSE or ELSA was used as the data source. Those in receipt of privately purchased homecare were found to have similar proportion of individuals meeting the thresholds compared to those in receipt of LA funded care. Regardless of whether HSE or ELSA was used as the data source, the difference between these groups was not significant at the 5% level.

Whether one would expect the proportion of private homecare purchasers to have a similar level of need compared to LA funded homecare recipients or not is unclear. On one hand, given that some proportion of private purchasers may be expected to purchase care at needs levels below those which would be deemed eligible for LA funded support, one may have expected a smaller proportion of individuals privately purchasing homecare to meet this threshold. On the other hand, some proportion of homecare purchasers will have equivalent or greater needs compared to LA funded recipients but have savings or incomes too large to be eligible for LA funded care.

There are a number of possible explanations for the phenomena observed. Firstly, the data does not necessarily reflect needs at the point at which support was first sought, and differences in progression of needs over time between LA supported individuals and private purchasers of care might explain the similar level of needs observed when comparing the two groups. Secondly, the two groups differ more on ADL distribution than IADL distribution (Table 1 and Appendix Table A1), especially at the lower end of limitations where the threshold is set. Indeed, for the first sensitivity threshold we see the greatest difference in proportions exceeding the threshold for the group privately purchasing homecare, so this phenomenon may be a reflection of the choice to, as part of these analyses use IADLs to set thresholds as opposed to ADLs. Lastly, it may be that, due to the observed proportions of LA funded care recipients reporting relatively low level needs, which could be for many reasons as previously discussed, the threshold was set at a relatively low level, masking the difference in needs between these two groups, which is more pronounced at higher numbers of limitations.

Overall, between 0.8% and 1.9% of older people in the HSE sample (depending on the threshold chosen were estimated to have needs exceeding eligibility criteria for LA funded care) but received neither formal care, unpaid care nor Attendance Allowance and were considered to have needs wholly unmet. This estimate is not comparable with the Age UK estimate of 16% of older adults having unmet need (Age UK, 2018) for a number of reasons. First, this study adopted an absolute approach to measuring unmet need as opposed to a relative approach. As described previously this meant differentiating between those receiving no support at all for their needs as opposed to considering separately those with partially met needs. Also, critically, the analyses presented in this paper focused on those with needs comparable to those in receipt of publicly funded care. These estimates nevertheless provide valuable insight into the types of care received by those with high levels of care needs.

The sensitivity of the results to the choice of threshold was explored, and thresholds were created that were likely more generous for certain individuals than stipulated by the Care Act 2014, requiring one ADL or IADL limitation from either those living alone or with others. As the ADL/IADL distributions of those receiving privately purchased homecare and LA funded homecare were similar, the proportion estimated to meet or exceed each threshold were comparable between these two groups. With the distributions for those receiving unpaid care, AA or no support being more different compared to those receiving LA funded homecare, the resulting proportions estimated to meet or exceed the threshold were more sensitive to the choice of threshold. Across each sensitivity analysis, however, there was a consistent hierarchy, with those not in receipt of any care having the lowest

proportion of individuals reporting needs exceeding the threshold set.

The sensitivity of the results to hierarchical groupings was also explored. The results reinforced the importance of considering how groupings were made, in particular how those in receipt of multiple forms of support, who the data suggests have a higher level of need than those receiving only one form of support, are grouped.

The methodology was also applied to pooled ELSA data to explore the impact of a different data source. While the proportion of LA funded homecare recipients in ELSA exceeding the primary threshold was similar to that of HSE (83% verses 85%), the proportions in other subgroups meeting or exceeding the threshold were typically lower, possibly due to ELSA capturing care needs using binary variables. Some of those indicating no need on these binary variables in ELSA may have indicated a moderate level of need if they were asked the HSE questions, resulting in a higher proportion estimated to exceed the threshold.

The sensitivity of the results to the choice of threshold and choice of dataset suggests that, for the purposes of distinguishing between those with care needs similar and dissimilar to recipients of publicly funded support, it is crucial to ensure that the relative severity of limitations is accurately measured.

LIMITATIONS

Some limitations regarding the analyses should be noted. The overall HSE subsample of LA funded care recipients was relatively small at 175 individuals. The data are self-reported, which may mean that limitations performing ADL or IADL tasks are sometimes underreported, and the distinction between LA funded and privately funded care may be misunderstood, for example by users required to meet user charges for their LA funded care. The analysis adopted an absolute approach to estimating unmet need instead of a relative one due to data limitations, potentially underestimating the extent to which people have needs not being met by not treating as unmet needs those needs that are partially met. Help received may also be underestimated due to potential sources of assistance being excluded (for example, adaptations or community groups that are not volunteers or neighbours).

Further limitations relate to how well needs related ADL/IADL tasks map on to eligibility for publicly funded care more generally. Among those in receipt of LA funded care, 17% of those living with others and 26% of those living alone reported 0 ADL limitations, suggesting that this is not an exact mapping. As previously discussed, the analysis did not include an assessment of financial eligibility, and also did not include an estimate of how ADL/IADL limitations impact on the individual's wellbeing, which is considered when determining eligibility for publicly funded formal support (Care Act, 2014). Furthermore, it is possible that a number of individuals may have had needs that do not impact significantly on the range of ADL/IADL limitations covered in the HSE but do affect the individual in other ways, for example cognitive impairment. Finally, the survey records level of difficulties with ADL/IADL tasks at the time of interview, not level of difficulty when LA funded care was originally sought. It is possible that people had fewer limitations when they were assessed for LA funded care, in which case the need threshold for eligibility would be lower and the proportion of people not receiving publicly funded care who meet the eligibility threshold would be underestimated.

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APPENDIX

The following tables show the distribution of ADL and IADL needs among those receiving privately funded home care, Attendance Allowance, unpaid care only, and no support. The tables include only those with at least one ADL or IADL limitation, therefore those reporting 0 ADL limitations must have an IADL limitation and those reporting 0 IADL limitations must have an ADL limitation.

TABLE A1: DISTRIBUTION OF ADL AND (SEPARATELY) IADL LIMITATIONS FOR OLDER INDIVIDUALS IN RECEIPT OF **PRIVATELY PURCHASED HOME CARE** BY LIVING ALONE OR WITH OTHERS (POOLED 2015–2018 HSE SAMPLE)

	Living alone (N=114)		Living with others (N=49)	
Number of limitations	ADL proportion (%)	IADL proportion (%)	ADL proportion (%)	IADL proportion (%)
0	22.7	3.7	12.4	0.0
1	32.2	5.9	35.2	7.8
2	20.8	25.2	7.4	7.6
3	15.2	28.3	15.2	24.3
4	2.6	28.3	5.7	28.1
5	3.7	8.6	1.1	32.2
6	1.0	–	10.6	–
7	1.7	–	4.2	–
8	0	–	8.1	–

Note: 6/169 (3.6%) of respondents receiving privately purchased home care reported 0 ADL and 0 IADL limitations and were excluded from the table

TABLE A2: DISTRIBUTION OF ADL AND (SEPARATELY) IADL LIMITATIONS FOR OLDER INDIVIDUALS IN RECEIPT OF **ATTENDANCE ALLOWANCE** BY LIVING ALONE OR WITH OTHERS (POOLED 2015–2018 HSE SAMPLE)

	Living alone (N=297)		Living with others (N=514)	
Number of limitations	ADL proportion (%)	IADL proportion (%)	ADL proportion (%)	IADL proportion (%)
0	45.2	10.4	32.2	9.4
1	41.5	26.0	28.1	15.7
2	9.1	29.5	18.0	20.8
3	3.1	22.3	8.4	23.9
4	0.4	9.8	4.8	17.4
5	0.4	2.0	3.4	12.8
6	0.3	–	1.5	–
7	0.0	–	0.9	–
8	1.5	–	2.7	–

Note: 649/1460 (44%) of those reporting receiving Attendance Allowance (and potentially unpaid care) aged 65+ indicated 0 ADL limitations and 0 IADL limitations and were excluded from the table

TABLE A3: DISTRIBUTION OF ADL AND (SEPARATELY) IADL LIMITATIONS FOR OLDER INDIVIDUALS IN RECEIPT OF **ONLY UNPAID CARE** BY LIVING ALONE OR WITH OTHERS (POOLED 2015–2018 HSE SAMPLE)

	Living alone (N=266)		Living with others (N=322)	
Number of limitations	ADL proportion (%)	IADL proportion (%)	ADL proportion (%)	IADL proportion (%)
0	65.3	3.6	59.7	6.5
1	28.1	36.3	23.1	31.5
2	4.2	25.5	8.2	24.9
3	0.4	22.9	4.5	20.8
4	0.4	9.6	3.0	11.5
5	0.8	2.0	0.3	4.9
6	0.8	–	0.7	–
7	0.0	–	0.6	–
8	0.4	–	1.2	–

Note: 128/716 (17.9%) of respondents receiving only unpaid care reported 0 ADL and 0 IAL limitations and were excluded from the table

TABLE A4: DISTRIBUTION OF ADL AND (SEPARATELY) IADL LIMITATIONS FOR OLDER INDIVIDUALS IN RECEIPT OF **NO SUPPORT** BY LIVING ALONE OR WITH OTHERS (POOLED 2015–2018 HSE SAMPLE)

	Living alone (N=137)		Living with others (N=113)	
Number of limitations	ADL proportion (%)	IADL proportion (%)	ADL proportion (%)	IADL proportion (%)
0	52.2	18.6	57.1	10.8
1	26.6	54.6	19.7	44.2
2	2.9	5.9	2.0	14.3
3	0.0	3.6	0.0	2.9
4	0.0	0.0	1.1	6.5
5	0.0	17.2	0.0	21.1
6	0.0	–	0.0	–
7	1.1	–	0.4	–
8	17.2	–	19.6	–

Note: 6005/6255 (96%) of those reporting receiving no support aged 65+ indicated 0 ADL limitations and 0 IADL limitations and were excluded from the table.

TABLE A4: (ALTERNATIVE HIERARCHY SPECIFICATION): PROPORTIONS OF OLDER PEOPLE MEETING OR EXCEEDING THRESHOLDS, BY TYPE OF CARE RECEIVED AND THRESHOLD AMONG THOSE WITH CARE NEEDS

	HSE									ELSA		
		Primary threshold		Sensitivity threshold 1		Sensitivity threshold 2		Sensitivity threshold 3		Primary threshold		
Group	N	%	P-value*	%	P-value*	%	P-value*	%	P-value*	N	%	P-value*
LA funded care recipients	175	85	–	75.3	–	94.9	–	86.0	–	155	83	–
Private homecare purchasers	169	85.6	0.88	67.0	0.095	91.8	0.24	86.5	0.88	329	78	<0.01
Receiving unpaid care	1,435	49.7	<0.01	32.0	<0.01	72.6	<0.01	53.8	<0.01	2,310	38	<0.01
Receiving Attendance Allowance	287	12.4	<0.01	19.1	<0.01	24.5	<0.01	20.0	<0.01	122	16	<0.01
Receiving no support	760	9.5	<0.01	12.3	<0.01	21.7	<0.01	11.3	<0.01	1,418	8	<0.01

* t-test p-value comparing proportion exceeding the threshold to the proportion of LA funded care recipients exceeding the threshold.

Primary threshold: 2+ IADL limitations if living alone, 3+ IADL limitations if living with others

Sensitivity threshold 1: 1+ ADL limitation if living alone, 2+ ADL limitations if living with others

Sensitivity threshold 2: 1+ IADL limitation if living alone, 2+ IADL limitations if living with others

Sensitivity threshold 3: 2+ IADL limitations if living alone, 1+ ADL limitation if living with others

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