Social variations in uptake of disability benefits: a census-based record linkage study

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Abstract

Background: Significant variation in disability-related social security benefits receipt might highlight sub-populations and groups with unmet needs and also have implications for areal indicators of disadvantage that are largely derived from uptake of benefits. In this paper we examine Disability Living Allowance (DLA), a non means-tested contribution towards disability-related living costs for disabled people aged less than sixty-five.

Methodology: Three census-based measures of self-reported health (number of chronic physical disabilities; activity limitation (a little; a lot); and chronic poor mental health) were linked to contemporaneous DLA records. The 2011 Census returns provided individual demographic, socio-economic, social and area-level characteristics. DLA uptake was modelled using logistic regression, stratified into 0-15 and 16-64 year old age groups.

Results: Overall, 118329 (8.4%) of this population received DLA. Poor health outcomes were the main determinants for uptake, which was higher amongst females, those non-married and those of lower socio-economic status: for example those with no qualifications compared against third level education (OR_{ad}=1.80: 95%CI=1.75-1.85); and those social renting compared against those in more expensive owner occupation (OR_{adj}=1.92: 1.83-2.02). Uptake was lower amongst Protestants than Catholics (OR_{adj}=0.75: 0.74-0.77) and amongst immigrants (OR_{adj}=0.36: 0.34-0.39) and slightly lower in rural communities.

Conclusions: Poor health is the predominant determinant of disability benefits uptake but other social and socioeconomic factors have influence. These findings may assist in the reshaping of outreach programmes leading to better targeting of benefits, and therefore a more indirect influence on the derivation of area deprivation measures in the United Kingdom.

Keywords: disability benefits; variation; migrants

Introduction

In the United Kingdom (UK) the welfare response to people with disability has had a long and chequered history, mirroring the ideological and political orthodoxies of their times (Drake, 1999). While early financial relief mechanisms were deliberately pitched at a level below the lowest paid jobs - a deterrent to idleness - this was eventually replaced by compensatory benefits and (latterly) earnings replacement benefits. Finally, what Burchardt has called *extra-costs* benefits (Burchardt, 1999) were introduced, designed to support personal independence and quality of life by offsetting additional expenses that people with disability experience, for example transport and personal support (Martin and White, 1988). Disability Living Allowance (DLA), the subject of this paper, falls into this latter group. It is a tax-free, non means-tested and non-contributory benefit comprising two components, each providing specific assistance with the additional costs associated with the *caring* and/or *mobility* aspects of impairment or ill-health. Claimants must have had these needs for three months and expect to require help for at least another six (NIDirect Government Services). On application individuals complete a lengthy claim form requiring detailed information about the impact their problems have on their ability to manage their own care and get around. DLA awards can be decided on the basis of self-reports of need, and although medical evidence is sought for certain awards, it is neither mandatory nor routinely provided.

There is evidence that DLA fosters independence, improved quality of life and better mental health (Corden *et al*, 2009), and it is therefore important that persons entitled to these benefits receive them. However, under-claiming welfare benefits is a recognised problem with estimations that approximately 33% of the UK population do not claim benefits to which they are entitled (Citizens' Advice Bureaux, 2003). Though the reasons for this are not entirely clear, it is acknowledged that the knowledge-base for targeting needs to be improved, allowing better identification of those less likely to claim and receive appropriate benefits (Social Security Agency, 2012). It is therefore important to determine the extent of the social patterning of Social Security Benefits as this may impact on area-level deprivation indices, themselves derived in part from patterns of benefits receipt, and used to allocate Government funding to areas defined as disadvantaged (Smith, 2015).

The levels of disability benefit in the UK are high and rising, most notably in Northern Ireland (NI). In 2011/12 an estimated 3.25 million people in Great Britain (GB) received DLA (Department of Work and Pensions), an increase of 43% over the previous decade. By 2013 total DLA costs were estimated at £13.7 billion (Department for Work and Pensions, 2016). A phased introduction of Personal Independence Payment (PIP), replacing DLA, began in GB (2013) and NI (2016). NI is both one of the

most economically depressed parts of the UK and the region most dependent on State Benefits, with around 23% of working age people in receipt of a key benefit compared to 16% in GB (Joseph Rowntree Foundation, 2014). In 2018 approximately 27.7% of the NI working-age population (aged 16-64 years) were classified as economically inactive, compared to the UK average of 21.2% (Department for Communities, 2018). Much of the differential is due to higher levels of poor health, with ill-health and disability accounting for 30% of economic inactivity in NI compared to 22% in England. In 2016 it was estimated that one-in-nine of the NI working-age population was in receipt of DLA (with this reaching one-in-six in some areas) compared to one-in-twenty in GB (Department for Communities, 2018). This higher uptake in NI remains unexplained (Rosato and O'Reilly, 2004), though poorer mental health, possibly resulting from the civil unrest known as *The Troubles,* might be significant (O'Reilly and Stevenson, 2003). This study aims to quantify the individual, household and area-level factors related to disability benefit receipt in Northern Ireland.

Methods

In the *classic* disability paradigm benefits uptake should relate to *individual need* and not attendant sociodemographic or socioeconomic factors, once population *need* is adjusted for. Our approach mirrors this - to determine how DLA uptake relates to social and economic factors after adjustment for *need* as assessed by self-reported chronic ill-health indicators.

Data

The study was developed under the auspices of the recent Administrative Data Research initiative funded through the ESRC (ADR-NI, 2020) - and utilises an electronic linkage between the Northern Ireland Census and data on Disability Living Allowance for Northern Ireland, which is held by the Northern Ireland Department for Communities (NI DfC), who provided access to the data solely for this study. The population of interest comprises all 2011 Census-enumerated people aged 0-64 years, usually resident in NI and not in institutional care. The outcome for analysis was receipt of DLA in the twelve months after March 2011 (aligning it with the census). While people aged sixty-five and over may receive DLA if they initially claimed when younger, they were excluded from these analyses as many older people will receive other disability benefits. The analyses use personal and household characteristics drawn from the census, and two census-based self-reported measures of chronic conditions: *activity limitation* and *presence of chronic conditions*. The 2011 NI Census contains two major health and disability measures: the first a question asking if people *had a health problem or disability.. expected to last at least 12 months, and if this limited day-to-day activities a little or a lot* (called *activity limitation*); and the second asking "*Do you have any of the following conditions.. expected to last at least 12 months*?", from which people could select all from a list of nine conditions that applied to them - examples include "*mobility or dexterity difficulties (..substantially limiting.. basic physical activities such as walking, climbing stairs.. or carrying)"*; an "*emotional, psychological or mental health condition (such as depression or schizophrenia)*"; and "..*long-term pain..".* While none of these equate exactly to DLA eligibility, we derived a range of variables to test their sensitivity in relation to uptake. These were used in three ways: (i) *activity limitation* as a sole determinant, as this was - on face value and statistical inspection - closely associated with DLA receipt; (ii) *activity limitation* in combination with any chronic *physical condition* or chronic *mental ill-health*; and (iii) *activity limitation* in combination with multi-morbid states, as defined by simple counts of the chronic physical conditions (categorised as 0, 1.. 4+). The indicator for chronic mental ill-health was analysed separately.

Covariates

Personal characteristics were drawn from census and selected because of known associations with

health or benefits uptake (Rosato and O'Reilly, 2004; Rosato and O'Reilly, 2006). Demographic factors included sex, age and marital status (grouped as married/cohabiting; never married; separated/widowed/ divorced). Given the homogenous nature of NI society ethnicity was dichotomised as white/other and immigrants were classified as those born outside either the UK or Island of Ireland. A question on English as the primary language was included to determine whether this explained lower uptake amongst immigrants or ethnic minority groups. Religious affiliation (Catholic, Protestant, other religions, none stated) was included as earlier findings recorded higher levels of DLA receipt amongst Catholics (Rosato and O'Reilly, 2004). Socioeconomic circumstance was assessed using: household car availability (two or more cars, one only, none); educational attainment (third-level, intermediate, no formal qualifications); and finally, a combination of housing tenure and property capital value. Capital value had been derived by central government (in 2010) to determine the level of local tax payable by each household (Connolly et al, 2010). These data were combined with tenure (census) to produce a meaningful eight-fold classification of tenure/capital value: private renting; social renting; and, for owner-occupiers, six categories ranging from less than £70,000 to over £210,000, with a separate category for owner occupiers with homes as yet unvalued. A three-way classification of rurality based on settlement type (rural, intermediate and urban) was included.

Analysis

The dependent outcome was DLA receipt in 2011 (the same year as the census). For this analysis the *caring* and *mobility* components of DLA were amalgamated as earlier studies showed that over 80% of recipients received both elements (O'Reilly and Stevenson, 2004). Analysis was stratified into 0-15 and 16-64 age-groups as some measures such as marital status or educational attainment were relevant only for adults, while the influence of being in a single parent family was explored amongst children. Measures of area-level deprivation were excluded from analysis: many of these, especially those related to income deprivation, are based on receipt of means-tested social security benefits and inclusion could have led to tautological reasoning.

The resulting linked data were anonymised, held in a safe setting by the Northern Ireland Statistics and Research Agency (NISRA) and made available to the research team for this study. A favourable opinion was received from the Office for Research Ethics Northern Ireland (ORECNI) (11/03/16, ref 14/NI/0026).

Results

This analysis comprises 1,416,562 individuals aged 0-64 years, with 118,329 (8.4%) receiving DLA. Uptake was strongly related to age (Figure 1), rising from 3.8% for children aged <16 years to 20.3% for those aged 55-64, with 57.2% of recipients aged 45-64 years. Slightly higher proportions of women than men received DLA, and at younger ages uptake was more common in males, though more prevalent in women at older ages. Males show a bimodal distribution, peaking at ages 5-14, then dipping before a second increase. Those recording poor health outcomes were more likely to be in receipt of DLA: for example, 69.1% of those with a *disability limiting activity a lot* received DLA; 76.5% of those with *four or more chronic physical health conditions*; 47.8% of those with *chronic poor mental health*; and 98.6% of those reporting *activity limiting disabilities*.

Table 1 shows the socio-demographic variations in uptake for those aged 16-64 years - 1,070,302 enumerated people, with 105,256 (9.8%) receiving DLA. For non-white ethnic minorities (2.6%) and those born outside the UK or Ireland - immigrants (2.2%) - receipt was markedly lower than for white people (10.0%) or those born in the UK/Ireland (10.3%). With religious denomination uptake was highest amongst Catholics (11.3%) and lowest amongst those with *no stated affiliation* (6.4%). Strong socio-economic gradients were evident, as with those in social-rented accommodation, no formal educational attainment or no car access. Uptake was higher in urban than in rural areas (12.8% and 7.9% respectively). These findings were confirmed in the modelling, where adjustment for health attenuates but does not eliminate the noted relationships.

Compared with white groups or those born in the UK/Ireland, non-white minorities and immigrant groups were less likely to receive disability benefits (OR=0.42: 95%CI=0.38-0.48 and OR=0.32: 0.30-0.35 respectively). While uptake was low amongst those stating English as not their primary language (OR=0.42: 0.38-0.45 after full adjustment), the lower uptake amongst immigrants and non-white ethnic minorities altered little when language was included in the models. The difference between ethnic minorities and immigrants requires further explanation - in absolute terms they both recorded low levels of uptake (2.6% and 2.2% respectively), but in the fully adjusted models the relative uptake amongst migrants remained substantially below that of the GB/Ireland born community, while that of ethnic minority communities was similar to the white population (OR=0.91: 0.80-1.03). Further analysis showed this due to the overlap between being an immigrant and ethnic minority status - 79% of those classed as ethnic minority were also UK immigrants and, in terms of DLA receipt migrant status rather than ethnicity dominated (Table 2). Ethnic minority

immigrant residents had lower DLA levels, similar to non-ethnic minority immigrants (fully adjusted OR=0.34: 0.29-0.40), while non-migrant ethnic minority residents recorded DLA receipt levels similar to the GB/Ireland born, though tending towards a lower level than their white peers (fully adjusted OR=0.88: 0.76-1.04).

DLA uptake was associated with religious denomination: in the model (Table 1) fully adjusted for health and socio-economic circumstances Protestants were 25% less likely than Catholics to receive DLA (OR=0.75: 95%CI=0.74-0.77). Again, marked socio-economic gradients in receipt were evident, even after adjustment for health – and those with no formal education, without access to a car, or living in social housing were more likely than their respective more qualified or affluent peers to receive DLA. The likelihood of receiving disability related benefits also varied by area of residence, with those in rural settings 25% less likely than their urban dwelling peers to receive DLA (OR=0.76: 0.74-0.78) after adjustment for demography and health status. While this remained unchanged with further adjustment for education, the inclusion of car availability and housing eliminated the urban-rural gradient. However, this may represent over-adjustment as both car access and housing have distinctive urban-rural profiles: for a given level of income, people in more rural settings are more likely than their urban peers to own their accommodation and have household car access.

Overall, 8.4% (n=13,073) of recipients were children aged <16 years, rising from 1.6% (0-4 years) to 5.2% (10-15 years), with ORs lower in females than males (OR=0.66: 95%CI=0.63-0.69) (Table 3). Children from both ethnic minority and immigrant subpopulations were less likely to receive disability benefits than their white or UK/Ireland born peers (OR=0.67: 0.65-0.82 and OR=0.39: 0.32-0.47 respectively). In fully adjusted models Protestant children were less likely to receive DLA than their Catholic peers (OR=0.93: 0.88-0.98), while children living in social housing where more likely, when compared to their more affluent peers (OR=1.72: 1.55-1.89). While children in single parent households were 60% more likely to receive DLA, this disappeared after adjustment for socio-economic circumstance. Children living in rural areas were less likely than their urban peers to receive DLA (OR=0.85: 0.79-0.92).

Discussion

This study stresses that, while levels of disability benefit uptake are closely related to self-reported ill-health, they are (in line with *a priori* expectation) associated with demographic, socio-economic and area-level factors. The study confirms high DLA uptake in NI (Rosato and O'Reilly, 2006; O'Reilly and Stevenson, 2003). The higher uptake amongst older women has been reported previously O'Reilly and Stevenson, 2003) and persists despite adjustment for self-reported ill-health. While socio-economic differences in uptake appear largely driven by variation in reported *activity limitation*, significant associations between uptake and socio-economic circumstance remain, even after further adjustment for chronic conditions. For given levels of ill-health DLA uptake is 2-3 times more likely amongst least affluent adults. For those more financially secure this is probably due to perceived higher opportunity costs associated with application processes: that differences in uptake between more and less affluent people are more noticeable at lower disability levels may support this supposition. Thomas and Griffiths (2010), amongst others, suggest that DLA is perceived by many as an out-of-work benefit, not claimed while employed but accepted as necessary when unemployed.

Low uptake amongst migrant and ethnic minority groups is concerning: after adjustment for ill-health they were respectively 60% and 70% less likely than either the white or UK/Ireland born communities to receive DLA. Earlier ecological analyses by two of the authors showed reduced uptake in GB areas with higher concentrations of ethnic minorities (Rosato and O'Reilly, 2006). Although lower amongst those for whom English was not their primary language, relative differences in uptake for migrants and ethnic minorities remained unchanged after its inclusion in the models, suggesting the importance of factors other than language when making claims - including socio-cultural differences, ignorance of eligibility, or ability to navigate labyrinthine administrative hurdles (Allmark *et al*, 2010). While over 50% of DLA claims in GB are disallowed - primarily due to ignorance of eligibility criteria and lack of practical experience of form filling (Sainsbury et al, 1995; Thomas, 2008), this may be particularly true for immigrants and ethnic minorities. It would be useful to know if these deficits were due to either proportionately fewer or less successful claims. Further research could examine differences in claim levels and their relative success. Social norms may, in part, explain denominational differences: at given levels of ill-health Protestant adults are about 27% less likely to receive DLA than their Catholic peers, mirroring findings reported fifteen years earlier (Rosato and O'Reilly, 2004).

The narrowing of social and denominational differences amongst children may be evidence of more recent changes, though other explanations are equally valid, for example the perceived educational

utility (additional to financial benefit) of having a child labelled as having difficulties. The lower levels of receipt in rural areas has also been noted previously (Rosato and O'Reilly, 2004; O'Reilly and Stevenson, 2003) and it is possible that a better knowledge base, including information sharing and access to assistance in completing the daunting claim forms, explains the higher urban uptake in both NI and GB regions.

A major limitation concerns reliance on self-reported morbidity as a proxy for DLA eligibility - while this has no exact analogue in the 2011 Census, we believe the indicators of chronic ill-health and activity limitation are close. They have a high degree of face validity, and the twelve month time-period defining both mirrors the time-period for DLA eligibility. Furthermore, the findings are stable irrespective of the indicator or combination of measures of disability used to indicate eligibility. However, because they are self-reported, they are sensitive to reporting bias. We think this may, in some cases, dampen (or reduce) the reported differences in risk – for example, if immigrants and ethnic minorities underreport their ill-health this could mean that, when compared against a reference group, their health status will appear better than it actually is (more like the reference group), further underscoring the tendency towards lower receipt. Similarly, there is evidence to suggest that some Protestant denominations may understate ill-health in comparison to Catholics (O'Reilly and Rosato, 2008), and in such cases adjustment for self-reported ill-health may amount to statistical over-adjustment and therefore under-reporting of the true differences in met need between denominations. It should also be noted that, because the study is cross-sectional, the direction of the relationship between DLA and socioeconomic status cannot be determined and an alternative (opposing) interpretation is equally tenable: that poor health (and DLA uptake) results in poor educational and occupational outcomes. Finally, 8.9% of DLA records could not be linked to a census record, probably as a consequence of the nature of non-enumeration in the census. However, this should not significantly bias the conclusions, other than underestimating the relationship between deprivation (and urban dwelling) and DLA receipt.

Policy implications

Studies of uptake variation invariably leads to interpretation in terms of over and under use. However, as all analyses in this study are based on proxy measures of need it is not possible to adjudicate and compare against any *correct* level - all that can be said is that one group has higher or lower levels than another. That said, the lower uptake levels amongst migrants, ethnic minorities and those resident in rural areas probably reflect unmet need and are a matter for concern,

suggesting a need for additional or refocused outreach activities tailored towards these groups (Social Security Agency, 2012).

Although this study focuses on disability it is probable that similar social variations are evident in uptake of other social security benefits, which may have implications for area-based indicators of deprivation used in the UK (English Indices of Deprivation, 2015; Scottish Index of Multiple Deprivation; Welsh Index of Multiple Deprivation). These are largely based on indicators derived from receipt of social security benefits on the premise that uptake is an unbiased indicator of need. This study suggests this may not be so, and may be likely to underestimate need in less densely populated areas or in areas with high proportions of immigrants.

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Figure 1. Proportion of population aged 0-64 in receipt of DLA, by age and sex

Table 1. Social factors and DLA uptake amongst people aged 16-64 years: data represent (a) numbers in groups (and proportions receiving benefits) and (b) Odds Ratios (and 95% confidence intervals) from three incrementally developed logistic regressions with DLA uptake as outcome

Table 2. DLA uptake levels by ethnicity and migrant status: data represent (a) numbers in groups, and (b) Odds Ratios (and 95% confidence intervals) from three incrementally adjusted logistic regressions

Table 3. Social factors and DLA uptake amongst children aged 0-15 years: data represent (a) numbers in groups (and proportions receiving benefits) and (b) Odds Ratios (and 95% confidence intervals) from three incrementally developed logistic regressions with DLA uptake as outcome

Figure 1. Proportion of population aged 0-64 in receipt of DLA, by age and sex

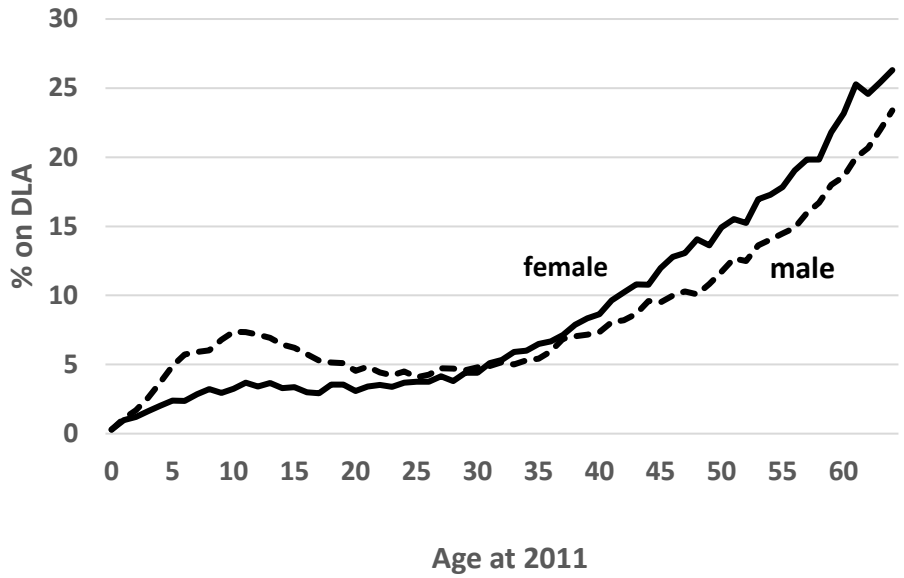

Table 1. Social factors and DLA uptake amongst people aged 16-64 years: data represent (a) numbers in groups (and proportions receiving benefits) and (b) Odds Ratios (and 95% confidence intervals) from three incrementally developed logistic regressions with DLA uptake as outcome

		N (%) receiving DLA	adjusted: age/sex OR (95% CI)	+ adjusted for health OR (95% CI)	fully adjusted* OR (95% CI)
age group (years)	**16-24**	197,122 (4.1)	1.00	1.00	1.00
	25-34	221,924 (4.7)	1.14 (1.11, 1.18)	0.87 (0.84, 0.91)	1.01 (0.97, 1.05)
	35-44	233,552 (8.1)	2.06 (2.00, 2.11)	1.00 (0.96, 1.03)	1.26 (1.22, 1.31)
	45-54	233,772 (13.0)	3.46 (3.38, 3.55)	1.09 (1.06, 1.13)	1.42 (1.36, 1.47)
	55-64	183,932 (20.3)	5.93 (5.78, 6.08)	1.28 (1.24, 1.33)	1.62 (1.56, 1.69)
Sex	**male**	522,095 (9.2)	1.00	1.00	1.00
	female	548,207 (10.5)	1.16 (1.15, 1.18)	1.20 (1.18, 1.22)	1.25 (1.22, 1.27)
marital status	**married**	507,683 (8.5)	1.00	1.00	1.00
	never married	436,024 (8.1)	2.63 (2.58, 2.68)	1.77 (1.72, 1.81)	1.39 (1.36, 1.43)
	sep/wid/div	126,595 (20.9)	2.55 (2.51, 2.59)	1.37 (1.34, 1.41)	1.08 (1.05, 1.11)
ethnicity	**white**	1,052,596 (10.0)	1.00	1.00	1.00
	other	17,706 (2.6)	0.30 (0.27, 0.33)	0.42 (0.38, 0.48)	0.91 (0.80, 1.03)
migrant status: born,,	**UK/Ireland**	1,012,896 (10.3)	1.00	1.00	1.00
	born elsewhere	57,406 (2.2)	0.25 (0.24, 0.27)	0.32 (0.30, 0.35)	0.36 (0.34, 0.39)
religious denomination	**Catholic**	472,263 (11.3)	1.00	1.00	1.00
	Protestant	469,926 (9.3)	0.71 (0.70, 0.72)	0.73 (0.72, 0.75)	0.75 (0.74, 0.77)
	Other	9,726 (7.8)	0.66 (0.62, 0.72)	0.58 (0.53, 0.65)	0.80 (0.72, 0.89)
	None stated	118,387 (6.4)	0.55 (0.54, 0.57)	0.54 (0.52, 0.56)	0.60 (0.58, 0.63)
educational attainment	**third level**	322,984 (4.3)	1.00	1.00	1.00
	secondary	518,864 (7.0)	1.93 (1.89, 1.97)	1.33 (1.29, 1.36)	1.20 (1.17, 1.23)
	none	228,454 (24.1)	6.07 (5.95, 6.19)	2.31 (2.25, 2.37)	1.80 (1.75, 1.85)
housing tenure/ rateable value of property (OO=owner occupation, measured in £1,000s)	**OO: £210+**	110,558 (3.5)	1.00	1.00	1.00
	OO: £160-£209	113,222 (5.3)	1.61 (1.54, 1.68)	1.34 (1.27, 1.41)	1.25 (1.18, 1.31)
	OO: £115-159	186,654 (7.1)	2.25 (2.16, 2.33)	1.56 (1.49, 1.63)	1.34 (1.28, 1.41)
	OO: £90-114	141,649 (8.4)	2.90 (2.79, 3.01)	1.80 (1.72, 1.88)	1.43 (1.36, 1.50)
	OO: £70-89	100,729 (11.1)	3.91 (3.76, 4.06)	2.10 (2.00, 2.20)	1.52 (1.44, 1.59)
	OO: < £70	64,243 (11.4)	3.97 (3.81, 4.13)	2.07 (1.96, 2.17)	1.50 (1.42, 1.58)
	OO: not valued	66,365 (6.9)	2.24 (2.14, 2.34)	1.58 (1.49, 1.67)	1.30 (1.23, 1.38)
	private renting	164,755 (10.2)	4.97 (4.79, 5.15)	1.92 (1.84, 2.01)	1.42 (1.36, 1.50)
	social renting	122,127 (25.0)	11.8 (11.4, 12.3)	3.05 (2.92, 3.19)	1.92 (1.83, 2.02)
household car access	**two or more**	566,229 (5.3)	1.00	1.00	1.00
	one only	357,321 (12.4)	2.52 (2.48, 2.56)	1.49 (1.46, 1.52)	1.22 (1.19, 1.25)
	none	146,752 (21.0)	5.37 (5.27, 5.46)	1.92 (1.87, 1.96)	1.24 (1.20, 1.28)
locale of residence	**urban**	216,461 (12.8)	1.00	1.00	1.00
	intermediate	563,987 (9.7)	0.68 (0.67, 0.69)	0.83 (0.81, 0.85)	0.99 (0.96, 1.01)
	rural	289,854 (7.9)	0.52 (0.51, 0.53)	0.76 (0.74, 0.78)	0.99 (0.96, 1.02)

**Fully adjusted* for all variables listed in the table.

Table 2. DLA uptake levels by ethnicity and migrant status: data represent (a) numbers in groups, and (b) Odds Ratios (and 95% confidence intervals) from three incrementally adjusted logistic regressions

		Likelihood of being on DLA		
	(n)	adjusted for age/sex OR (95%CI)	fully adjusted* OR (95%CI)	Fully adjusted* plus primary language OR (95%CI)
UK/Ireland born: non-Ethnic Minority	1,009,120	1.00	1.00	1.00
UK/Ireland born: Ethnic Minority	3,776	0.87 (0.76, 0.99)	0.88 (0.73, 1.04)	0.89 (0.77, 1.06)
Migrant: non-Ethnic Minority	43,475	0.29 (0.27, 0.31)	0.36 (0.33, 0.39)	0.39 (0.36, 0.43)
Migrant: Ethnic Minority	13,930	0.16 (0.14, 0.19)	0.34 (0.29, 0.40)	0.39 (0.33, 0.46)

*adjusted for all the other variables in Table 1.

Table 3. Social factors and DLA uptake amongst children aged 0-15 years: data represent (a) numbers in groups (and proportions receiving benefits) and (b) Odds Ratios (and 95% confidence intervals) from three incrementally developed logistic regressions with DLA uptake as outcome

		N (%) receiving DLA	Adjusted for age/sex OR (95% CI)	+ adjustment for health OR (95% CI)	Fully adjusted model OR (95% CI)
age (years)	**0-4**	111,837 (1.6)	1.00	1.00	1.00
	5-9	101,841 (4.4)	2.89 (2.73, 3.06)	2.25 (2.09, 2.43)	2.32 (2.15, 2.50)
	10-15	132,582 (5.2)	3.50 (3.32, 3.70)	2.78 (2.59, 2.98)	2.87 (2.67, 3.08)
Sex	**Male**	177,415 (5.0)	1.00	1.00	1.00
	Female	168,845 (2.5)	0.49 (0.47, 0.51)	0.66 (0.63, 0.69)	0.66 (0.63, 0.69)
Ethnicity	**White**	337,663 (3.8)	1.00	1.00	1.00
	Other	8,597 (2.1)	0.60 (0.52, 0.69)	0.67 (0.55, 0.82)	0.81 (0.66, 0.99)
migrant status: born..	**in UK/Ireland**	335,548 (3.9)	1.00	1.00	1.00
	born elsewhere	10,712 (1.5)	0.33 (0.29, 0.39)	0.39 (0.32, 0.47)	0.37 (0.30, 0.45)
religious denomination	**Catholic**	169,215 (3.9)	1.00	1.00	1.00
	Protestant	135,673 (3.7)	0.91 (0.87, 0.94)	0.93 (0.89, 0.98)	0.93 (0.88, 0.98)
	other	2,701 (2.6)	0.71 (0.55, 0.90)	0.66 (0.48, 0.91)	0.82 (0.58, 1.15)
	none stated	38,671 (3.6)	1.00 (0.94, 1.06)	0.88 (0.81, 0.95)	0.86 (0.79, 0.93)
single parent	**No**	252,694 (3.3)	1.00	1.00	1.00
	Yes	93,566 (5.2)	1.61 (1.55, 1.67)	1.13 (1.08, 1.19)	0.98 (0.92, 1.04)
housing tenure/ rateable value of property (OO=owner occupation, measured in £1,000s)	**OO: £210+**	43,545 (2.2)	1.00	1.00	1.00
	OO: £160-£209	39,875 (2.9)	1.28 (1.17, 1.39)	1.23 (1.1, 1.38)	1.21 (1.08, 1.35)
	OO: £115-159	56,486 (3.4)	1.59 (1.47, 1.72)	1.38 (1.25, 1.53)	1.33 (1.20, 1.48)
	OO: £90-114	40,542 (3.5)	1.72 (1.59, 1.87)	1.45 (1.30, 1.62)	1.38 (1.24, 1.54)
	OO: £70-89	24,217 (4.1)	1.98 (1.81, 2.16)	1.54 (1.37, 1.73)	1.46 (1.29, 1.65)
	OO: < £70	14,598 (4.4)	2.12 (1.92, 2.35)	1.57 (1.37, 1.79)	1.50 (1.31, 1.73)
	OO: not valued	22,203 (2.7)	1.25 (1.13, 1.39)	1.07 (0.94, 1.23)	1.08 (0.94, 1.24)
	private renting	60,072 (4.0)	2.14 (1.99, 2.31)	1.44 (1.31, 1.60)	1.51 (1.36, 1.69)
	social renting	44,740 (6.8)	3.27 (3.03, 3.52)	1.72 (1.55, 1.89)	1.70 (1.52, 1.91)
household car access	**two or more**	180,058 (2.9)	1.00	1.00	1.00
	one only	118,736 (4.6)	1.63 (1.57, 1.69)	1.28 (1.21, 1.34)	1.10 (1.04, 1.18)
	none	47,466 (5.1)	1.91 (1.82, 2.01)	1.14 (1.06, 1.22)	0.87 (0.80, 0.96)
locale of residence	**urban**	62,443 (4.8)	1.00	1.00	1.00
	intermediate	182,847 (3.9)	0.80 (0.77, 0.84)	0.92 (0.87, 0.98)	0.96 (0.90, 1.02)
	rural	100,970 (3.0)	0.60 (0.57, 0.64)	0.77 (0.72, 0.83)	0.85 (0.79, 0.92)

**Fully adjusted* for all variables listed in the table