

## Appendix 20.3

### INDEX OF MULTIPLE DEPRIVATION 2010 METHODOLOGY1

#### The concept of multiple deprivation

The English Indices of Deprivation 2010 are measures of multiple deprivation at the small area level. The model of multiple deprivation which underpins the Indices of Deprivation 2010 is based on the idea of distinct domains of deprivation which can be recognised and measured separately. These domains are experienced by individuals living in an area. People may be counted in one or more of the domains, depending on the number of types of deprivation that they experience.

Each domain represents a specific form of deprivation experienced by people and each can be measured individually using a number of indicators. Seven distinct domains have been identified in the English Indices of Deprivation; Income Deprivation, Employment Deprivation, Health Deprivation and Disability, Education Skills and Training Deprivation, Barriers to Housing and Services, Living Environment Deprivation, and Crime. Individual domains can be used in isolation as measures of each specific form of deprivation. They can also be combined, using appropriate weights, into a single overall Index of Multiple Deprivation which can be used to rank every small area in England according to the deprivation experienced by the people living there. Along with two supplementary indices, Income Deprivation Affecting Children Index and Income Deprivation Affecting Older People Index, they form the English Indices of Deprivation. These statistics allow the most, and least, deprived areas of the country to be identified as well as providing information about the issues faced by people living in different parts of the country.

#### Data time point, spatial scale and denominators

This update to the English Indices of Deprivation was constructed during 2010. Where possible the indicators used in this release relate to 2008, for many indicators more recent data was not available at the time of index construction. Moreover, LSOA denominators (see below) for any date later than 2008 were not available at this time.

As has been indicated, the ID2010, component domains and the supplementary indices are all presented at LSOA level. LSOAs are homogenous small areas of relatively even size (around 1,500 people), and are an improvement on the previous ward geography used in the ID2000 which were larger and subject to frequent change. Summaries of the ID2010 are presented at local authority district level.

Population estimates at LSOA level for mid-2008 were provided by the Office for National Statistics' Small Area Population Estimation Unit. The majority of the indicators in the ID2010 use denominators derived from these population estimates. Certain indicators use numerators and denominators derived from the same data source, including the few indicators derived from the 2001 Census.

#### The Domains

Seven domains of deprivation are combined to produce the overall Index of Multiple Deprivation. Each domain contains a number of component indicators. The criteria for inclusion of these indicators are that they should be 'domain specific' and appropriate for the purpose of measuring major features of that deprivation; up-to-date; capable of being updated on a regular basis; statistically robust; and available for the whole of England at a small area level in a consistent form.

#### Income Deprivation Domain

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1 Note this information is taken from CLG Guidance available from:  
<http://www.communities.gov.uk/publications/corporate/statistics/indices2010guidance>

This domain measures the proportion of the population in an area experiencing deprivation related to low income. A combined count of income deprived individuals per LSOA is calculated by summing the following five indicators:

- Adults and children in Income Support families
- Adults and children in Income-Based Jobseeker's Allowance families
- Adults and children in Pension Credit (Guarantee) families
- Adults and children in Child Tax Credit families (who are not in receipt of Income Support, Income-Based Jobseeker's Allowance or Pension Credit) whose equivalised income (excluding housing benefits) is below 60 per cent of the median before housing costs<sup>2</sup>
- Asylum seekers in England in receipt of subsistence support, accommodation support, or both.<sup>3</sup>

In addition to this domain index two supplementary indices concerning income deprivation are also produced, an Income Deprivation Affecting Children Index and an Income Deprivation Affecting Older People Index. These two indices represent the proportion of children aged 0-15 living in income deprived households and the proportion of older people aged 60 and over living in income deprived households respectively.

### **Employment Deprivation Domain**

This domain measures employment deprivation in an area conceptualised as involuntary exclusion of the working age population from the labour market. A combined count of employment deprived individuals per LSOA is calculated by summing the following seven indicators:

- Claimants of Jobseeker's Allowance (both Contributory and Income-Based) women aged 18-59 and men aged 18-64, averaged over 4 quarters
- Claimants of Incapacity Benefit women aged 18-59 and men aged 18-64, averaged over 4 quarters
- Claimants of Severe Disablement Allowance women aged 18-59 and men aged 18-64, averaged over 4 quarters
- Claimants of Employment Support Allowance women aged 18-59 and men aged 18-64
- Participants in New Deal for the 18-24s who are not in receipt of Jobseeker's Allowance, averaged over 4 quarters
- Participants in New Deal for 25+ who are not in receipt of Jobseeker's Allowance, averaged over 4 quarters
- Participants in New Deal for Lone Parents (after initial interview) aged over 18, averaged over 4 quarters.

### **Health Deprivation and Disability Domain**

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<sup>2</sup> Child Tax Credit is payable to families who are either: (i) claiming out-of-work benefits, or (ii) in work and claiming Working Tax Credit, or (iii) claiming neither out-of-work benefits nor Working Tax Credit but whose household income does not exceed the Child Tax Credit income threshold.

<sup>3</sup> Excludes unaccompanied asylum seeking children supported by local authorities (estimated to be approximately 4,600 in September 2008), and those in initial accommodation (1,280 at the end of September 2008).

<sup>4</sup> Employment and Support Allowance was introduced in October 2008 and so is only contained within the final of the four quarterly cuts of data. See the section on 'Changes since the ID 2007' for more details.

This domain measures premature death and the impairment of quality of life by poor health. It considers both physical and mental health. The domain measures morbidity, disability and premature mortality but not aspects of behaviour or environment that may be predictive of future health deprivation. Four indicators are used to calculate this domain:

- Years of Potential Life Lost – an age and sex standardised measure of premature death
- Comparative Illness and Disability Ratio – an age and sex standardised measure of morbidity and disability
- Measures of acute morbidity – an age and sex standardised rate of emergency admissions to hospital
- Proportion of adults under 60 suffering from mood or anxiety disorders – a modelled indicator for the proportion of adults suffering from mood and anxiety disorders.

### **Education, Skills and Training Deprivation Domain**

This domain measures the extent of deprivation in terms of education, skills and training in an area. The indicators are structured into two sub-domains: one relating to children and young people and one relating to adult skills. These two sub-domains are designed to reflect the 'flow' and 'stock' of educational disadvantage within an area respectively. Seven indicators are used to calculate this domain:

#### ***Sub-domain: Children/young people***

- Average points score of pupils taking English, Maths and Science Key Stage 2 exams
- Average points score of pupils taking English, Maths and Science Key Stage 3 exams
- Average capped points score of pupils taking Key Stage 4 (GCSE or equivalent) exams
- Proportion of young people *not* staying on in school or non-advanced education above age 16
- Secondary school absence rate – the proportion of authorised and unauthorised absences from secondary school
- Proportion of those aged under 21 *not* entering Higher Education.

#### ***Sub-domain: Skills***

- Proportion of adults aged 25-54 with no or low qualifications.

### **Barriers to Housing and Services Domain**

This domain measures the physical and financial accessibility of housing and key local services. The indicators fall into two sub-domains: 'geographical barriers', which relate to the physical proximity of local services, and 'wider barriers' which includes issues relating to access to housing such as affordability. Seven indicators are combined to calculate this domain:

#### ***Sub-domain: Wider barriers***

- Household overcrowding – the proportion of households within an LSOA which are judged to have insufficient space to meet the household's needs
- Homelessness – the rate of acceptances for housing assistance under the homelessness provisions of the 1996 Housing Act (at local authority district level)
- Difficulty of access to owner-occupation (local authority district level) – proportion of households aged under 35 whose income means they are unable to afford to enter owner occupation.

### ***Sub-domain: Geographical barriers***

- Road distance to a GP surgery
- Road distance to a supermarket or convenience store
- Road distance to a primary school
- Road distance to a Post Office.

### **Crime Domain**

- This domain measures the rate of recorded crime in an area for four major crime types representing the risk of personal and material victimisation at a small area level.
- Violence – number of reported violent crimes (19 reported crime types) per 1000 at risk population
- Burglary – number of reported burglaries (4 reported crime types) per 1000 at risk population
- Theft – number of reported thefts (5 reported crime types) per 1000 at risk population
- Criminal damage – number of reported crimes (11 reported crime types) per 1000 at risk population.

### **Living Environment Deprivation Domain**

This domain measures the quality of individuals' immediate surroundings both within and outside the home. The indicators fall into two sub-domains: the 'indoors' living environment, which measures the quality of housing, and the 'outdoors' living environment which contains two measures relating to air quality and road traffic accidents. Four indicators are combined to calculate this domain:

#### ***Sub-domain: The indoors living environment***

- Social and private housing in poor condition
- Houses without central heating.

#### ***Sub-domain: The outdoors living environment***

- Air quality
- Road traffic accidents.

Chapter 3 of the English Indices of Deprivation 2010 report which accompanies this release provides further details about the purpose of each domain, the indicators and denominators used and an assessment of the data quality of each of the indicators. Detailed information about the sources used for the various indicators can also be found in Annex C of the full report.

### **Combining the domains**

Each domain was constructed separately, from the component indicators, and each LSOA was assigned a domain score representing the combination of these indicators and then ranked according to this domain score. The domain ranks were then transformed to the exponential distribution and combined into the overall Index of Multiple Deprivation.

Table 5 below sets out the weights used to combine the domains. These are the same as in the ID2007. Chapter 2 of the English Indices of Deprivation 2010 report provides a more detailed description of how the overall index is calculated, with Annexes E, F, and G providing technical information regarding the statistical techniques that have been used.

**Table 5 –Domain Weights for the IMD 2010**

	<b>Domain Weight</b>
Income Deprivation Domain	22.5
Employment Deprivation Domain	22.5%
Health Deprivation and Disability Domain	13.5%
Education, Skills and Training Domain	13.5%
Barriers to Housing and Services Domain	9.3%
Crime Domain	9.3%
Living Environment Deprivation Domain	9.3%