



Department for
Communities and
Local Government

Updating the English Indices of Deprivation

Report for Consultation



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The consultation process and how to respond

To:	Users of the English Indices of Deprivation
Body responsible for the consultation:	Department for Communities and Local Government
Duration:	13 November – 19 December, 5:00pm
Enquiries:	Please e-mail: Indices.Deprivation@communities.gsi.gov.uk or telephone Sarah Ginder: 0303 44 41411
How to respond:	<p>Please complete the consultation response form provided and either</p> <p>e-mail to: Indices.Deprivation@communities.gsi.gov.uk</p> <p>or post to: Sarah Ginder Analysis and Innovation Directorate, Department for Communities and Local Government, 4th floor (SW quadrant), Fry building, 2 Marsham Street, London, SW1P 4DF</p>
Additional ways to become involved:	<p>The department is holding some events in November to give users the opportunity to learn about the proposals for updating the Indices. For more details including how to register, please see: http://www.ocsi.co.uk/news/2014/10/29/indices-of-deprivation-event/</p> <p>Please note that attendees will still need to submit a formal response to the consultation.</p>
After the consultation:	Responses to this consultation will inform the final shape of the updated Indices. The department will publish a response to this consultation in 2015.
Compatibility with the Consultation Principles:	<p>This consultation is compatible with the Cabinet Office's Consultation Principles: https://www.gov.uk/government/publications/consultation-principles-guidance</p> <p>Are you satisfied that this consultation has followed the Consultation Principles? If not, or you have any other observations about how we can improve the process, please contact the department's Consultation Co-ordinator either</p>

by email: consultationcoordinator@communities.gsi.gov.uk

or write to:

Consultation Co-ordinator
Department for Communities and Local Government,
4th floor (SW quadrant), Fry building,
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Section 1 Introduction

1.1 Overview

- 1.1.1 The Department for Communities and Local Government is updating the Indices of Deprivation, including the Index of Multiple Deprivation, for publication in summer 2015. The work is being carried out by Oxford Consultants for Social Inclusion. This consultation asks for your views on the final proposals for updating the Indices. These proposals were developed following extensive data exploration and were informed by early engagement exercises with users. Responses to this consultation will inform the final shape of the updated Indices. The department will publish a response to this consultation in 2015.

1.2 Background to the Indices of Deprivation 2010

- 1.2.1 The Indices of Deprivation 2010 provide a relative measure of deprivation for small areas (Lower-layer Super Output Areas) across England. The Index of Multiple Deprivation combines indices for seven different domains of deprivation:
- Income Deprivation
 - Employment Deprivation
 - Education, Skills and Training Deprivation
 - Health Deprivation and Disability
 - Crime
 - Barriers to Housing and Services
 - Living Environment Deprivation
- 1.2.2 There are two supplementary indices: the Income Deprivation Affecting Children Index and the Income Deprivation Affecting Older People Index.
- 1.2.3 Six summary measures are available for higher-level geographies including local authority districts and counties.

1.3 The scope of the project to update the Indices of Deprivation 2010

- 1.3.1 The aim of this project is to update and refine, rather than make major changes to, the Indices of Deprivation 2010. The project objectives are to:
- review the indicators included in the Indices of Deprivation 2010 to determine if they remain fit for purpose and where there is a clear rationale for doing so, identify potential changes to the basket of indicators in each domain
 - assess the current data landscape, identify changes to (or outdatedness of) previously used sources, as well as any new sources
 - review whether the statistical methods used in the production of the Indices of Deprivation 2010 are still justified and assess if alternative methods are available and the strengths and weaknesses of any such alternatives
- 1.3.2 The updated Indices will be based on the same theoretical model of deprivation that underpins the Indices of Deprivation 2010. Changes to existing domains and sub-domains are outside the scope of the update, although there may be changes

to the basket of indicators used in the domains. The updated Indices will continue to be based on the Lower-layer Super Output Area geography.

- 1.3.3 Feedback from users has been supportive of the decision to not make major changes to the Indices. Maintaining comparability with previous versions of the Indices is important to them.
- 1.3.4 It is part of the remit of this project to review the future sustainability of the Indices, including anticipated changes to the data landscape.
- 1.3.5 The updated Indices of Deprivation are referred to in this document as the Indices of Deprivation 2015.

1.4 Research leading up to this consultation

- 1.4.1 The proposals in this consultation document have been developed following extensive exploration of data sources, review of methodology and testing of indicators within the scope of the project outlined above. They also take into account the range of views gathered prior to and during the earlier phases of this project, including:
 - feedback from users gathered during a session on the Indices at the department's Statistics User Engagement Day in November 2013
 - the views of the Government Statistical Service Methodology Advisory Committee on a paper on methodology and indicators presented in November 2013¹
 - responses from almost 250 users to a survey which took place in July 2014
 - the views of the department's Project Board and its Advisory Group, comprising representatives from central and local government and other interest groups, including the voluntary and community sector
- 1.4.2 The July survey of users invited ideas for updating and strengthening the Indices. It gave users the opportunity to comment on an initial assessment of the availability of data for use in this update and on the statistical techniques underpinning the methodology. Responses to the survey have been considered in the development of the proposals for updating the indicators and methodology in this consultation document.
- 1.4.3 The survey also aimed to improve the department's understanding of how the Indices of Deprivation are used. Responses helped inform the dissemination and outputs section of this consultation document.

1.5 Summary of points for consultation

- 1.5.1 The focus of this consultation is on the changes proposed to the approach used in the Indices of Deprivation 2010. Changes have been proposed to a minority of indicators and are outlined in Section 3.2 and summarised in Figure 3.1. The department is also interested in your views on dissemination and outputs. Questions on these topics are presented within this report and in the

¹ Government Statistical Service Methodology Advisory Committee 26 minutes and papers:
<http://www.ons.gov.uk/ons/guide-method/method-quality/advisory-committee/26th-meeting/index.html>

accompanying consultation response form. There are no changes proposed to the statistical methods and therefore no consultation questions on these.

- 1.5.2 The full set of consultation questions is listed in the accompanying consultation response form. There is also an opportunity to make general comments on indicators or statistical methods and to raise issues or make suggestions for the future development of the Indices.

1.6 Structure of the report

- 1.6.1 This report contains the full set of proposals for updating the Indices of Deprivation, and is supported by a technical annex.

- 1.6.2 The chapters in this report cover:

- Outputs and dissemination (Section 2)
- Indicators of deprivation (Section 3)
- Statistical methods (Section 4)

- 1.6.3 The outputs and dissemination section summarises how the updated Indices will be disseminated and asks for your views.

- 1.6.4 The indicators of deprivation section presents, for each domain:

- the questions for consultation
- indicators proposed for inclusion in the update
- explanation of any proposed new indicators
- explanation of any changes to indicators
- a list of indicators considered but which were found unsuitable for inclusion in this update (see below)

- 1.6.5 Although there are no changes proposed to the statistical methods used to combine indicators and domains, these are described for completeness in Section 4 of this consultation document.

- 1.6.6 The accompanying technical annex contains, for each domain:

- a full description of the proposed indicators, including further technical details on changes being proposed
- an account of other issues explored relating to data sources, data quality or methodological issues relating to the data
- the reasons for rejection of indicators which were explored for possible inclusion in this update
- a description of the denominators used across the domains, and the principles underpinning them

Section 2 Outputs and dissemination

2.1 Geography and spatial scale of outputs

2.1.1 The updated Indices of Deprivation will be produced at Lower-layer Super Output Area level, using the current (2011) Lower-layer Super Output Areas. As was produced for the Indices of Deprivation 2010, scores and ranks will be provided for:

- the seven domains
- the Index of Multiple Deprivation
- the Income Deprivation Affecting Children Index
- the Income Deprivation Affecting Older People Index
- as many sub-domains and indicators as possible

Population denominators will also be published as they were for the Indices of Deprivation 2010.

2.1.2 Summary measures will be produced for the following higher-level geographies: local authority districts, county councils and Local Enterprise Partnerships.

2.1.3 The summary measures for higher-level geographies will include: average rank; average score; extent; local concentration; income scale; and employment scale, as for the Indices of Deprivation 2010². In response to feedback from users, the department intends to provide clearer guidance on how to use and interpret these measures.

2.1.4 In addition, summary measures for higher-level geographies will be provided for each of the seven domain indices, as well as the two supplementary indices (Income Deprivation Affecting Children Index and Income Deprivation Affecting Older People Index). This is in response to demand from users.

2.1.5 Guidance will be provided on how to aggregate the Indices to other geographies such as wards or bespoke local areas, as requested by a number of users.

2.2 Format of outputs and dissemination

Questions for consultees:

1. For the [Indices of Deprivation 2010](#), the department published a statistical release, guidance note and technical report alongside the data. Do you have any comments on how these documents could be improved?
2. Is there anything you try to do with Indices of Deprivation data that could be made easier?

2.2.1 The updated Indices will be published as a set of data downloads and documents on the gov.uk website. The data will also be made available on the Neighbourhood

² Department for Communities and Local Government (2011), English Indices of Deprivation 2010: technical report, pp. 54-57 <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2010-technical-report>

Statistics website³ and loaded into the department's Open Data Communities platform⁴.

- 2.2.2 The majority of users reported finding the Indices easy to use and interpret in the July user survey but there was demand for clearer guidance. Some users indicated difficulty communicating the Indices to others, particularly to non-specialists. In response to this feedback, the department intends to provide clearer guidance on using and interpreting the Indices. The structure of the reports produced for the Indices of Deprivation 2010 (statistical release, guidance note, technical report) will be reviewed to ensure guidance is accessible.

³ <http://www.neighbourhood.statistics.gov.uk/dissemination/>

⁴ <http://opendatacommunities.org/>

Section 3 Indicators of deprivation

3.1 Introduction

- 3.1.1 For each of the seven domains of deprivation, the project team has assessed whether the indicators in the Indices of Deprivation 2010:
- are still appropriate measures of deprivation for that domain
 - can be updated
 - can be strengthened, for example due to better available data
- 3.1.2 In addition, the project team has conducted considerable work to explore whether there are possible new indicators which would improve the measure of deprivation captured by each domain.
- 3.1.3 To be considered for inclusion, any new or modified indicator must meet the criteria as for the Indices of Deprivation 2010 and its predecessors. Indicators should:
- be 'domain specific' and appropriate for the purpose (as far as possible, being direct measures of that form of deprivation)
 - measure major features of that deprivation (not conditions just experienced by a small number of people or areas)
 - be up-to-date and (as far as possible) updateable⁵
 - be statistically robust at the small area level
 - be available for the whole of England at a small area level in a consistent form
- 3.1.4 Proposed new indicators must have sufficiently robust data that would be readily available to use in updating the Indices without significant extra work.

3.2 Summary of changes proposed

- 3.2.1 In summary almost all of the indicators in the Indices of Deprivation 2010 can be updated with little or, at most, minor changes. Figure 3.1 summarises the updated, new and modified indicators for each of the domains:
- two new indicators are proposed, based on improved availability of robust data
 - four modifications to indicators, due to improved data or estimation methods
 - four indicators will be dropped, as these are no longer available or appropriate to include

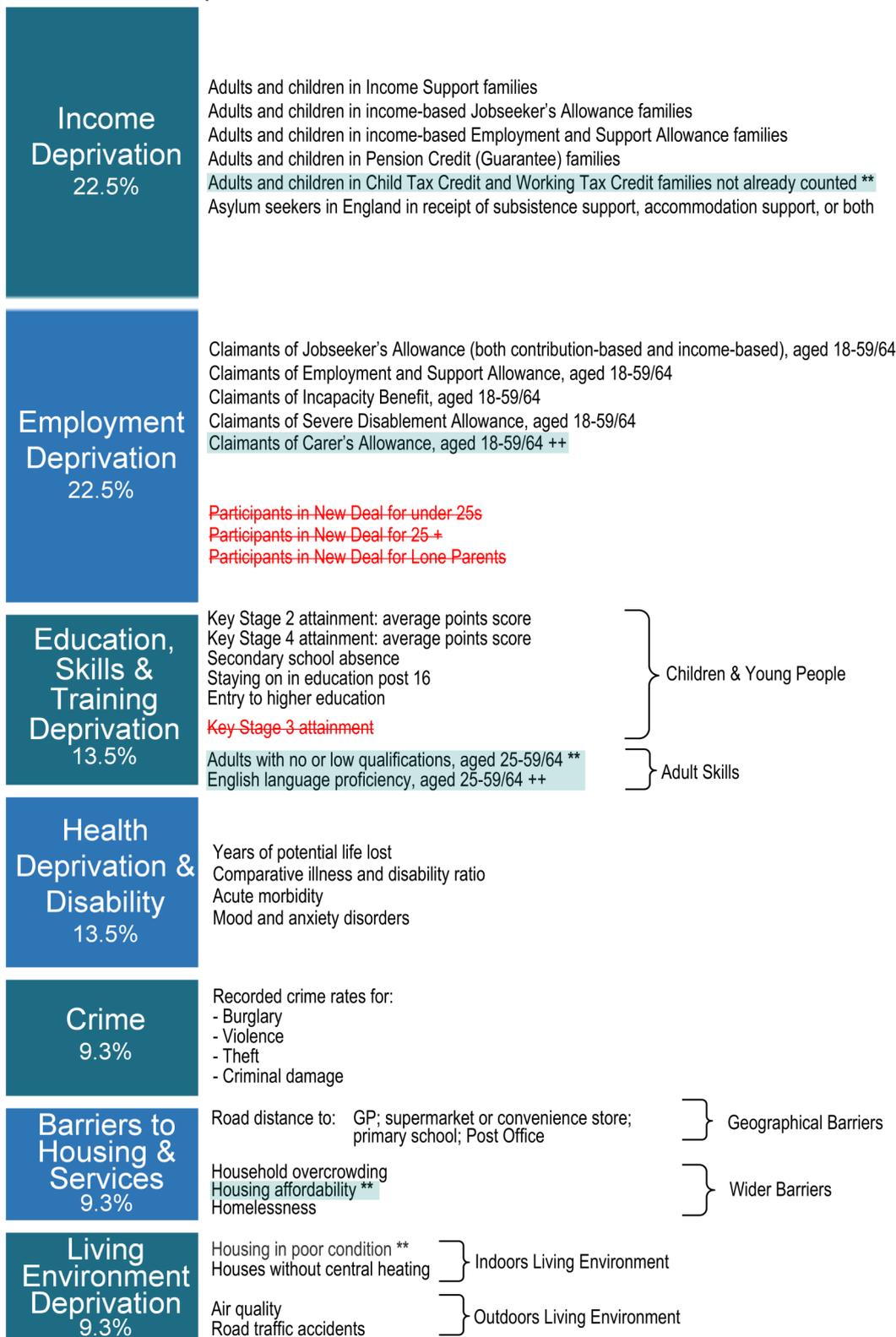
Minor changes to indicators, for example due to changes in available data, are described in the text in the following sections.

- 3.2.2 As far as is possible, each indicator will be based on data from the most recent time point available. Using the latest available data in this way means that there is not a single consistent time point for all indicators, however in practice most indicators in the Indices of Deprivation 2015 will relate to the tax year 2012/13.

⁵ Wherever possible, indicators are used that can be regularly updated. However not all indicators can be regularly updated, for example those based on Census 2011.

3.2.3 As a result, the indicators proposed do not take into account changes to policy since the time point of the data used. Examples include Universal Credit, which is replacing certain income related benefits.

Figure 3.1. Domains and indicators for the updated Indices, showing changes to the Indices of Deprivation 2010



++ New indicators

** Modified indicators

Indicators that are no longer advisable/viable

(% illustrates the weight of each domain in the Index of Multiple Deprivation)

3.3 Income Deprivation Domain

Aside from enhancing the indicator as described in the box below, there will be no significant changes to the Income Deprivation Domain. Therefore there are no consultation questions on this domain.

- 3.3.1 The Income Deprivation Domain measures the proportion of the population in an area experiencing deprivation relating to low income. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, except for an enhancement to the Working Tax Credit/Child Tax Credit indicator:
- Adults and children in Income Support families (source: Department for Work and Pensions, HM Revenue & Customs, August 2012)
 - Adults and children in income-based Jobseeker's Allowance families (source: Department for Work and Pensions, HM Revenue & Customs, August 2012)
 - Adults and children in income-based Employment and Support Allowance families (source: Department for Work and Pensions, HM Revenue & Customs, August 2012)
 - Adults and children in Pension Credit (Guarantee) families (source: Department for Work and Pensions, HM Revenue & Customs, August 2012)
 - Adults and children in Working Tax Credit and Child Tax Credit families not already counted, that is those who are not in receipt of Income Support, income-based Jobseeker's Allowance, income-based Employment and Support Allowance or Pension Credit (Guarantee) and whose equivalised income (excluding housing benefit) is below 60 per cent of the median before housing costs (source: HM Revenue & Customs, August 2012) [*MODIFIED*]
 - Asylum seekers in England in receipt of subsistence support, accommodation support, or both (source: Home Office, August 2012)
- 3.3.2 In addition, an Income Deprivation Affecting Children Index and an Income Deprivation Affecting Older People Index will be created.
- 3.3.3 The Income Deprivation Affecting Children Index comprises children aged 0 to 15 living in income deprived families. For this index, income deprived families are defined as families that either receive Income Support or income-based Jobseekers Allowance or income-based Employment and Support Allowance or Pension Credit (Guarantee) or families not in receipt of these benefits but in receipt of Working Tax Credit or Child Tax Credit with an equivalised income (excluding housing benefit) below 60 per cent of the national median before housing costs. The Income Deprivation Affecting Children Index is expressed as the proportion of all children aged 0 to 15 living in income deprived families.
- 3.3.4 The Income Deprivation Affecting Older People Index captures deprivation affecting older people defined as those adults aged 60 or over living in Income Support or income-based Jobseekers Allowance or income-based Employment and Support Allowance or Pension Credit (Guarantee) families as a proportion of all those aged 60 or over.

Changes to the Indices of Deprivation 2010

Change	<p>Enhancing the indicator - adults and children in Working Tax Credit and Child Tax Credit families not already counted: Cases of Working Tax Credit where no Child Tax Credit is in payment (for single people and childless couples) will now be included, in addition to cases where there is also Child Tax Credit in payment. As with Child Tax Credit, 'Working Tax Credit only' cases will only be included up to the income threshold - that is those whose equivalised income (excluding housing benefits) is below 60 per cent of the median before housing costs. The change to this indicator means that the Income Deprivation Domain will now include all people receiving tax credits who are below the income threshold.</p> <p>There has been support for the enhancing of this indicator from the Advisory Group and in the July user survey. The department is not consulting on the change to this indicator because, at this stage, there is no alternative way that this indicator can be produced.</p>
Changes to data and definitions ⁶	<ul style="list-style-type: none"> • Income-based Employment and Support Allowance replaced Income Support paid because of an illness or disability for new claims (from October 2008). To account for this, adults and children in income-based Employment and Support Allowance families will be included in the domain in addition to adults and children in Income Support families. • New sanctions regulations were introduced in 2012 for claimants of Jobseeker's Allowance and Employment and Support Allowance⁷. The effect of a sanction is that the benefit is stopped or reduced for a period of time. Those adults and their families affected by sanctions, but who otherwise would be eligible for income-based Jobseeker's Allowance or income-based Employment and Support Allowance, will not be counted in the domain despite meeting the low income criteria. Although it would strengthen the Income Deprivation Domain to include those affected by sanctions, unfortunately no suitable data is available to do this. The data required would be a count of those sanctioned at any

⁶ Universal Credit is replacing certain income related benefits. This will not affect the updated Indices since this change was introduced after the time point of the data used.

⁷ See Department for Work and Pensions Jobseeker's Allowance and Employment and Support Allowance sanctions statistics for further details: <https://www.gov.uk/government/collections/jobseekers-allowance-sanctions>.

	given point in time. Data is only available on sanctions decisions taken during a particular month.
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Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.3.5 The following indicators have been considered, but are not recommended for inclusion: Housing Benefit and Council Tax Benefit. See Section 2.5 in the Technical Annex for details.

3.4 Employment Deprivation Domain

Questions for consultees:

3. The box below describes the proposal to include a new indicator on **claimants of Carer's Allowance**. Do you agree with this proposed change?

3.4.1 The Employment Deprivation Domain measures the proportion of the working age population in an area involuntarily excluded from the labour market. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, except for the proposed new indicator on claimants of Carer's Allowance and the removal of indicators based on New Deal claimants. The domain will comprise the following indicators:

- Claimants of Jobseeker's Allowance (both contribution-based and income-based), women aged 18 to 59 and men aged 18 to 64 (source: Department for Work and Pensions, four quarters from May 2012 to February 2013)
- Claimants of Employment and Support Allowance, women aged 18 to 59 and men aged 18 to 64 (source: Department for Work and Pensions, four quarters from May 2012 to February 2013)
- Claimants of Incapacity Benefit, women aged 18 to 59 and men aged 18 to 64 (source: Department for Work and Pensions, four quarters from May 2012 to February 2013)
- Claimants of Severe Disablement Allowance, women aged 18 to 59 and men aged 18 to 64 (source: Department for Work and Pensions, four quarters from May 2012 to February 2013)
- Claimants of Carer's Allowance, women aged 18 to 59 and men aged 18 to 64 (source: Department for Work and Pensions, four quarters from May 2012 to February 2013) [NEW]

Changes to the Indices of Deprivation 2010

Proposed change	<p>New indicator proposed – claimants of Carer's Allowance: This indicator would capture adults who are involuntarily excluded from the labour market due to caring responsibilities. The indicator would be a non-overlapping count of Carers Allowance claimants of working age excluding those who receive Jobseeker's Allowance, Employment and Support Allowance, Incapacity Benefit or Severe Disablement Allowance⁸. Carers Allowance is payable to people aged 16 and over who provide unpaid</p>
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⁸ Note, not all claimants of Incapacity Benefit, Severe Disablement Allowance, contribution-based Employment and Support Allowance and contribution-based Jobseeker's Allowance are eligible for Carer's Allowance but it is payable to claimants of income-based Jobseeker's Allowance and income-based Employment and Support Allowance.

	<p>care for at least 35 hours a week to someone who is in receipt of disability or social care benefits⁹ and who are a) not in full-time education or studying for more than 21 hours a week and b) earn less than £102 a week¹⁰.</p>
<p>Changes to data and definitions</p>	<ul style="list-style-type: none"> • New Deal and Flexible New Deal have been replaced by the Work Programme, so the three New Deal indicators included in Indices of Deprivation 2010¹¹ have been removed from the domain. Participants in the Work Programme are still in receipt of Jobseeker's Allowance so do not need to be included separately in the domain. • There has been progressive replacement of Incapacity Benefit and Severe Disablement Allowance by contribution-based Employment and Support Allowance and income-based Employment and Support Allowance. This change will be reflected by including claimants of income-based Employment and Support Allowance as well as the contributory claimants. In addition, four quarters of data will be used rather than the previous single quarter, to be consistent with the other indicators in the domain. • From May 2012, any lone parents whose youngest children are aged 5 and over are no longer eligible for Income Support and are now eligible for Jobseeker's Allowance. Accordingly this group will now be counted in this domain if they receive Jobseeker's Allowance. • New sanctions regulations were introduced for Jobseeker's Allowance claimants in October 2012 and for Employment and Support Allowance claimants in December 2012. The effect of a sanction is that the benefit is stopped or reduced for a period of time. The domain would be strengthened by inclusion of those adults currently excluded from receipt of Jobseeker's Allowance/Employment and Support Allowance. Unfortunately no suitable data is available to enable inclusion of this group. The data required would be a count of

⁹ The social care benefits comprise: Personal Independence Payment daily living component, Disability Living Allowance - the middle or highest care rate, Attendance Allowance, Constant Attendance Allowance at or above the normal maximum rate with an Industrial Injuries Disablement Benefit, or basic (full day) rate with a War Disablement Pension or Armed Forces Independence Payment.

¹⁰ These are earnings after the deduction of taxes, care costs while at work and 50% of pension contributions.

¹¹ As shown in Figure 3.1.

	those sanctioned at any given point in time. Data is only available on sanctions decisions taken during a particular month.
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Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.4.2 The following indicators have been considered, but are not recommended for inclusion in the update: hidden unemployment and under-employment; lone parents receiving Income Support; zero-hours contracts. See Section 3.5 in the Technical Annex for details.

3.5 Education, Skills and Training Deprivation Domain

Questions for consultees:

4. The box below describes the proposal to include a new indicator on **English language proficiency**. Do you agree with this proposed change?

5. The box below describes the proposal to extend the upper age band of the **adult skills** indicator from age 54 to retirement age. Do you agree with this proposed change?

3.5.1 The Education, Skills and Training Domain measures the lack of attainment and skills in the local population. The indicators fall into two sub-domains: one relating to children and young people and one relating to adults. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, except for the removal of the Key Stage 3 attainment indicator, the proposed addition of the indicator on English language proficiency, and the proposed change in the upper age band of the adult skills indicator.

Children and Young People sub-domain

- Key Stage 2 attainment: The average points score of pupils taking English and mathematics Key Stage 2 exams¹² (source: Department for Education, 2010/11-2012/13)
- Key Stage 4 attainment: The average capped points score of pupils taking Key Stage 4 (GCSE or equivalent) exams (source: Department for Education, 2010/11-2012/13)
- Secondary school absence: The proportion of authorised and unauthorised absences from secondary school (source: Department for Education, 2010/11-2012/13)
- Staying on in education post 16: The proportion of young people not staying on in school or non-advanced education above age 16 (source: HM Revenue & Customs, 2010-2012)
- Entry to higher education: The proportion of young people aged under 21 not entering higher education (source: Higher Education Statistics Agency, 2009/10-2012/13)

Adult Skills sub-domain

- Adult skills: The proportion of working age adults with no or low qualifications, women aged 25 to 59 and men aged 25 to 64 (source: Census 2011) [*MODIFIED*]
- English language proficiency: The proportion of working age adults who cannot speak English or cannot speak English well, women aged 25 to 59 and men aged 25 to 64 (source: Census 2011) [*NEW*]

¹² In 2012/13 the reading and writing components of English were assessed separately.

Changes to the Indices of Deprivation 2010

<p>Proposed changes</p>	<p>New indicator proposed – English language proficiency: This indicator would capture those adults who experience barriers to learning and disadvantage in the labour market because of lack of proficiency in English. Based on Census 2011 data, this indicator would measure the proportion of the working age population who cannot speak English, or cannot speak English 'well', and would be combined with the adults skills indicator to provide a non-overlapping count of adults with no or low qualifications and/or lack of English language proficiency.</p> <p>Enhancing the adult skills indicator: It is proposed to change the upper age threshold, from 54 in the Indices of Deprivation 2010, to 59 for women and 64 for men. This would reflect that the majority of people aged 55 to retirement age are economically active. This indicator would be consistent with indicators in the Employment Deprivation Domain.</p>
<p>Changes to data and definitions</p>	<ul style="list-style-type: none"> • The Key Stage 3 attainment indicator included in the Indices of Deprivation 2010 will be removed from the Children and Young People sub-domain. This is because statutory tests were abolished and Key Stage 3 assessments became teacher assessment only from 2008/9. • In order to strengthen the indicators on Key Stage 2 attainment, Key Stage 4 attainment, secondary school absence and staying on in education post 16, the average of three years' worth of data will be used (rather than the two years used previously). • The numerator for the entry to higher education indicator is based on four years of data. The denominator for this indicator will also be constructed from four years of data, now possible due to the availability of annually updated data (a single year was used previously). • The average points score for the Key Stage 2 attainment indicator no longer contains a science element, and there have been changes to the way the English element of Key Stage 2 has been assessed and graded.

Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.5.2 The following indicators have been considered, but are not recommended for inclusion in the update: average test score of pupils at Key Stage 1; average test score of pupils at Key Stage 3; adult literacy and numeracy; pupils with Special Educational Needs; achieving a good level of development in the Early Years Foundation Stage; and exclusions from school. See Section 4.5 in the Technical Annex for details.

3.6 Health Deprivation and Disability Domain

All four indicators in the Health Deprivation and Disability Domain will be retained and updated based on the existing methodology. Therefore there are no consultation questions on this domain.

3.6.1 The Health Deprivation and Disability Domain measures the risk of premature death and the impairment of quality of life through poor health. The indicators in the domain will remain the same as in the Indices of Deprivation 2010:

- Years of potential life lost: An age and sex standardised measure of premature death (source: Office of National Statistics, 2008-2012)
- Comparative illness and disability ratio: An age and sex standardised morbidity/disability ratio (source: Department for Work and Pensions, 2013)
- Acute morbidity: An age and sex standardised rate of emergency admission to hospital (source: Health and Social Care Information Centre, Hospital Episode Statistics, 2011/12-2012/13)
- Mood and anxiety disorders: A composite based on the rate of adults suffering from mood and anxiety disorders (source: Health and Social Care Information Centre, 2013), hospital episodes data (source: Health and Social Care Information Centre, Hospital Episode Statistics, 2011/12-2012/13), suicide mortality data (source: Office of National Statistics, 2008-2012) and health benefits data (source: Department for Work and Pensions, 2013)

Changes to the Indices of Deprivation 2010

Proposed change	There are no changes proposed to the indicators in the domain.
Changes to data and definitions	<ul style="list-style-type: none"> • Data on claimants of Employment Support Allowance (which replaced Incapacity Benefit and Income Support paid because of an illness or disability for new claimants from 2008) will be incorporated into the comparative illness and disability ratio indicator and the health benefits component of the mood and anxiety disorders indicator. • Work Capability Assessments for incapacity benefits were introduced in 2008, reducing the number of people eligible for these benefits.

Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.6.2 The following indicators have been considered, but are not recommended for inclusion in the update: healthy lifestyle indicators such as smoking, alcohol

consumption, or participation in sports; obesity; Census 2011 indicators on limiting long term illness and general health; cancer incidence; people receiving publicly-funded residential care; low birth weight; and infant mortality. See Section 5.5 in the Technical Annex for details.

3.7 Crime Domain

All four indicators in the Crime Domain will be retained and updated based on the existing methodology. Therefore there are no consultation questions on this domain.

3.7.1 The Crime Domain measures the risk of personal and material victimisation at local level. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, with four indicators based upon individual event-level police recorded crime data:

- Violence: The rate of violence (17 recorded crime types) per 1000 at-risk population (source: Association of Chief Police Officers, 2012/13 and 2013/14)
- Burglary: The rate of burglary (4 recorded crime types) per 1000 at-risk properties (source: Association of Chief Police Officers, 2012/13 and 2013/14)
- Theft: The rate of theft (5 recorded crime types) per 1000 at-risk population (source: Association of Chief Police Officers, 2012/13 and 2013/14)
- Criminal Damage: The rate of criminal damage (8 recorded crime types) per 1000 at-risk population (source: Association of Chief Police Officers, 2012/13 and 2013/14)

Changes to the Indices of Deprivation 2010

3.7.2 The Crime Domain has been included since the 2004 Indices based on indicators using police recorded crime datasets. The department recognises these datasets are currently under scrutiny in efforts to improve their quality. The Public Administration Select Committee¹³ and Her Majesty's Inspectorate of Constabulary¹⁴ have identified concerns with crimes being under-recorded and/or miscategorised. In its interim report¹⁵, Her Majesty's Inspectorate of Constabulary highlights that if the findings for the first set of forces are representative across all forces and all crime types, this implies that 20 percent of crimes may be going unrecorded. The report acknowledges that there is variation in the level of recording between police forces, but it is not possible to infer how this applies at lower geographical levels or between more or less deprived neighbourhoods. Therefore geographical adjustments cannot be made to the police recorded crime data used in the Indices to take under-recording into account.

3.7.3 For the purposes of updating the Indices of Deprivation, the project team are being provided secure access to event-level police recorded crime data from police.uk. In addition to the quality assurance checks already performed by the Association of Chief Police Officers and the Home Office in producing the police.uk open data

¹³ <http://www.parliament.uk/business/committees/committees-a-z/commons-select/public-administration-select-committee/inquiries/parliament-2010/crime-statistics/>

¹⁴ <https://www.justiceinspectorates.gov.uk/hmic/our-work/crime-data-integrity/>

¹⁵ Her Majesty's Inspectorate of Constabulary (2014), Crime recording: A matter of fact – interim report, www.justiceinspectorates.gov.uk/hmic/publication/crime-recording-a-matter-of-fact-interim-report/

source, the project team will carry out additional exploration of the event-level data relevant to the Crime Domain. This includes comparing event-level data to published aggregate crime statistics, and using techniques to improve the geographical coding of events.

- 3.7.4 Taking into account the findings of the interim report from Her Majesty’s Inspectorate of Constabulary and the data exploration being undertaken by the project team, the department intends to continue to use police recorded crime data for the Crime Domain, acknowledging that this is the best available source of information on crime levels at small area level.

Proposed change	There are no changes proposed to the indicators in the domain
Changes to data and definitions	<ul style="list-style-type: none"> • The Home Office periodically updates the counting rules that define what constitutes crime and the specific type of crime. Some minor updates have been made to the rules since the Indices of Deprivation 2010, but it is still possible to replicate the indicators using the same definitions for ‘violence’, ‘burglary’, ‘theft’ and ‘criminal damage’ that were adopted for the Indices of Deprivation 2010. • The crime indicators will use two years of data to increase statistical reliability, rather than the one year used previously.

Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

- 3.7.5 The following indicators have been considered, but are not recommended for inclusion in the update: Police anti-social behaviour incidents; Fire Service deliberate fires; shoplifting, drug-related crime; sexual offences; domestic violence; cycle thefts; fraud; and total crime. See Section 6.5 in the Technical Annex for details.

3.8 Barriers to Housing and Services Domain

Questions for consultees:

6. The box below describes the proposal to enhance the **housing affordability** indicator. Do you agree with the changes proposed?

- 3.8.1 The Barriers to Housing and Services Domain measures the physical and financial accessibility of housing and local services. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, apart from the proposed changes to the housing affordability indicator.
- 3.8.2 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.

Geographical Barriers sub-domain

- Road distance to a post office: A measure of the mean distance to the closest post office for people living in the Lower-layer Super Output Area (source: Post Office Ltd, March 2014)
- Road distance to a primary school: A measure of the mean distance to the closest primary school for people living in the Lower-layer Super Output Area (source: Edubase, July 2014)
- Road distance to a general store or supermarket: A measure of the mean distance to the closest supermarket or general store for people living in the Lower-layer Super Output Area (source: Ordnance Survey, March 2014)
- Road distance to a GP surgery: A measure of the mean distance to the closest GP surgery for people living in the Lower-layer Super Output Area (source: Health and Social Care Information Centre, May 2014)

Wider Barriers sub-domain

- Household overcrowding: The proportion of all households in a Lower-layer Super Output Area which are judged to have insufficient space to meet the household's needs (source: Census 2011)
- Homelessness: Local authority district level rate of acceptances for housing assistance under the homelessness provisions of the 1996 Housing Act, assigned to the constituent Lower-layer Super Output Areas (source: Department for Communities and Local Government, average of 2011/12, 2012/13 and 2013/14)
- Housing affordability: Difficulty of access to owner-occupation or the private rental market, expressed as the inability to afford to enter owner occupation or the private rental market (source: modelled estimate based on range of sources, 2012) [*MODIFIED*]

Changes to the Indices of Deprivation 2010

Proposed change	<p>Enhancing the housing affordability indicator: The following changes are proposed to this indicator:</p> <ul style="list-style-type: none"> • broadening the measure to include affordability of the private rental market, in addition to the owner-occupied sector • producing an indicator at Lower-layer Super Output Area level of the inability of people in that area to afford housing within their local Housing Market Area, an area that reflects commuting and migration patterns - these are changes from the local authority level indicator produced for the Indices of Deprivation 2010 • improving the income estimation methodology • improving the indicator reliability, by increasing the upper age cut-off from age 35 to age 40 to increase the sample size available for the statistical modelling <p>The resulting indicator would combine with equal weight the two underlying components: affordability of owner occupation and affordability of private rented accommodation.</p>
Change to data and definitions	<ul style="list-style-type: none"> • In order to strengthen the homelessness indicator, the average of three years' worth of data will be used (instead of one year used previously).

Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.8.3 The following indicators have been considered, but are not recommended for inclusion in the update: access to childcare; households lacking the required number of bedrooms; and digital exclusion. See Section 7.5 in the Technical Annex for details.

3.9 Living Environment Deprivation Domain

Questions for consultees:

7. The box below describes the proposal to enhance the **housing in poor condition** indicator. Recognising that there is limited scope to change this approach, do you have any comments on this proposal?

3.9.1 The Living Environment Deprivation Domain measures the quality of the local environment. The indicators in the domain will remain the same as in the Indices of Deprivation 2010, apart from the proposed changes to the housing in poor condition indicator.

3.9.2 The indicators fall into two sub-domains. The 'indoors' living environment measures the quality of housing; while the 'outdoors' living environment contains measures of air quality and road traffic accidents.

Indoors sub-domain

- Houses without central heating: The proportion of houses that do not have central heating (source: Census 2011)
- Housing in poor condition: The proportion of social and private homes that fail to meet the Decent Homes standard (source: modelled English Housing Survey estimates produced by the Buildings Research Establishment, 2010-2012 average) [*MODIFIED*]

Outdoors sub-domain

- Air quality: A measure of air quality based on emissions rates for four pollutants (source: modelled National Atmospheric Emissions Inventory estimates produced by Staffordshire University, 2012)
- Road traffic accidents involving injury to pedestrians and cyclists: A measure of road traffic accidents involving injury to pedestrians and cyclists among the resident and workplace population (source: Department for Transport, 2010-2012 average, smoothed to Lower-layer Super Output Area level)

Changes to the Indices of Deprivation 2010

Proposed change	<p>Enhancing the housing in poor condition indicator: The following changes are proposed to this indicator:</p> <ul style="list-style-type: none"> • the four components of the Decent Homes standard will be modelled separately to improve accuracy¹⁶ • the statistical model will be created at dwelling-
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¹⁶ The four components are: Housing Health and Safety Rating System; Disrepair; Modernisation; and Thermal comfort.

	<p>level; the measure created previously was at Output Area level</p> <ul style="list-style-type: none"> • to reflect policy changes since the indicator was last produced, the Housing Health and Safety Rating System will be used instead of the previous fitness standard <p>The department intends to produce this indicator using the improved approach described above. At this stage, there is limited scope to diverge from this approach, but consultees may wish to submit comments on this proposal.</p>
Change to data and definitions	<ul style="list-style-type: none"> • Changes to national targets on air quality mean that the particulate matter component of the air quality indicator will now be based on particles less than 2.5 micrometres in diameter (10 micrometres was used previously)

Indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

3.9.3 The following indicators have been considered, but are not recommended for inclusion in the update: flood risk areas; graffiti; households in fuel poverty; households lacking basic amenities; households not connected to gas network; housing (or population) density; land use and derelict land; noise pollution; older cars, proximity to green spaces; proximity to waste and landfill sites; vacant dwellings and low demand. See Section 8.4 in the Technical Annex for details.

Section 4 Statistical methods

There are no changes proposed to the statistical methods used in the Indices of Deprivation 2010. Therefore there are no consultation questions on this section.

4.1 Introduction

4.1.1 The construction of the Indices of Deprivation involves the use of four particular statistical techniques or processes detailed below. Their purpose is to improve the reliability of some of the indicators, to inform how indicators should be combined in their respective domains (or sub-domains) and finally to combine the domains into an overall Index of Multiple Deprivation:

- *Shrinkage estimation.* Where a rate or other measure of deprivation for a Lower-layer Super Output Area is based on small numbers, the resulting estimate may be unreliable, with an unacceptably high standard error. The technique of shrinkage estimation is used to 'borrow strength' from larger areas to avoid creating unreliable small area data. The larger areas used for shrinkage in previous Indices are local authority districts.
- *Factor analysis.* In some domains indicators cannot be expressed as simple rates, but are constructed from a combination of indicators measured in different ways. Factor analysis is used to determine what weight to give each of these indicators when combining them. It does this by testing the extent to which each of the indicators measure the underlying aspect of deprivation.
- *Exponential transformation.* This is intended to help with the identification of the most deprived areas when the seven domains of deprivation are combined into the Index of Multiple Deprivation, and to control the extent that deprivation on one domain is cancelled out by lack of deprivation on another.
- *Weighting.* The domains are given explicit weights to create the Index of Multiple Deprivation.

4.1.2 These statistical techniques have been reviewed as part of this update. The review process consisted of the following components:

Previous consultations on the Indices

4.1.3 Records of discussions that took place when these methods were first introduced in 2000 were revisited and responses to consultations preceding earlier versions of the Indices have been taken into account.

Academic sources and peer review

4.1.4 Relevant academic literature has been considered. This included a review undertaken by the Robertson Centre at Glasgow University of the methodology for the Scottish Index of Multiple Deprivation¹⁷, which uses similar statistical techniques to the English Indices, and a review of the weights given to each of the

¹⁷ McConnachie and Weir (2005), Evaluation of Statistical Techniques in the Scottish Index of Multiple Deprivation, <http://www.scotland.gov.uk/Publications/2005/10/1893201/32023>

domains of the Index of Multiple Deprivation (Dibben et al., 2007)¹⁸. In respect of this update, further input was given by Professor Dibben, the statistical advisor appointed by Oxford Consultants for Social Inclusion for the Indices of Deprivation 2015, and the department sought comments from the Government Statistical Service Methodology Advisory Committee¹⁹.

User engagement and Advisory Group input

- 4.1.5 The survey of users undertaken in July specifically asked respondents to comment on the statistical methods used to produce the Indices, and their responses were taken into account during the review process. The views of the Advisory Group for the Indices of Deprivation 2015 were also taken into account.

Empirical research

- 4.1.6 Finally, in the case of shrinkage estimation, new empirical analysis was conducted to explore whether the Office for National Statistics Super Output Area Classification might be a suitable geography from which to borrow strength, instead of the local authority district areas used in previous Indices.
- 4.1.7 The general principle adopted in this review is that there should only be change to the methodology if there is sufficient evidence that a new methodology would improve the Indices. In situations where alternative methodologies were not demonstrably an improvement over the current methodology, the position taken is to retain the current methodology.
- 4.1.8 Having carefully undertaken the review it was decided that no changes to the methodology would be appropriate as there is insufficient evidence that any new methodology would improve the Indices.
- 4.1.9 The following sections describe the statistical techniques and procedures in more detail and report on findings of the review.

4.2 Improving the reliability of small area data values using shrinkage estimation

- 4.2.1 Shrinkage estimation is a technique designed to deal with statistically unreliable scores (that is scores with unacceptable standard errors). Such scores occur most commonly where numbers are small at Lower-layer Super Output Area level and the event is thus relatively rare. This may be the case for the indicator as a whole or only for particular Lower-layer Super Output Areas. Shrinkage estimation involves moving 'unreliable' small area scores (that is, those with a high standard error) towards another more robust score. This more robust score can be the mean score for a larger administrative area or for a group of Lower-layer Super Output Areas with similar characteristics belonging to a particular family or cluster.

¹⁸ Dibben, C., Atherton, I., Cox, M., Watson, V., Ryan, M. and Sutton, M. (2007) Investigating the Impact of Changing the Weights that Underpin the Index of Multiple Deprivation 2004, <http://webarchive.nationalarchives.gov.uk/20100410180038/http://www.communities.gov.uk/publications/communities/investigatingimpact>

¹⁹ Government Statistical Service Methodology Advisory Committee 26 minutes and papers: <http://www.ons.gov.uk/ons/guide-method/method-quality/advisory-committee/26th-meeting/index.html>

- 4.2.2 The impact of shrinkage may be to move a Lower-layer Super Output Area's score towards more deprivation or towards less deprivation. In shrinkage estimation the score for a small area is estimated as a weighted combination of that small area's score and the mean value for all such areas within a larger area. Thus, shrinkage 'borrows strength' from the other small areas to deal with random fluctuations and other sources of error. Members of the Government Statistical Service Methodology Advisory Committee supported the use of 'shrinkage estimation' to deal with the small numbers problem in the Indices.
- 4.2.3 The principle for selecting the larger area should be that the Lower-layer Super Output Areas within them share characteristics. In the current shrinkage methodology, local authority districts are used. The Lower-layer Super Output Areas within a single district share issues relating to local governance and possibly to economic sub-climates. To a certain extent, they may also share issues relating to labour market sub-climates.
- 4.2.4 There are various other contenders for larger areas from which unreliable small area data can borrow strength. The Government Statistical Service Methodology Advisory Committee suggested alternatives to the current local authority district geography that could be explored. As a result of discussion with the Advisory Group the Office for National Statistics Super Output Area Classification was investigated as a potential 'larger area' from which small area data could 'borrow strength'.
- 4.2.5 The impact of using clusters defined by the Super Output Area Classification as the larger areas to which Lower-layer Super Output Areas are 'shrunk' was investigated and compared with the impact of shrinkage to local authority districts²⁰. The analysis was undertaken using the Indices of Deprivation 2010, examining the impact of shrinkage using different larger areas on Lower-layer Super Output Area ranks in the Income Deprivation Domain, the Employment Deprivation Domain, and on the Key Stage 4 indicator in the Education, Skills and Training Deprivation Domain.
- 4.2.6 It was found that when estimates for Lower-layer Super Output Areas are shrunk to the mean score of their cluster (as defined by the Super Output Area Classification), a greater number of Lower-layer Super Output Areas change rank than if they are shrunk to the mean score of the local authority district. Shrinkage to the mean score for their cluster also results in more Lower-layer Super Output Areas moving from 'more deprived' to 'less deprived' than in the other direction (in comparison with shrinkage to local authority districts).
- 4.2.7 Whichever larger area is selected, the overwhelming majority of Lower-layer Super Output Areas remain within the same decile of deprivation after shrinkage. So, for example, taking the most deprived (10th) decile of the Income Deprivation Domain,

²⁰ In the Super Output Area Classification in use at the time of the 2010 Indices (based on 2001 Lower-Layer Super Output Areas), there is a hierarchy of 52 cluster subgroups nested within 20 groups and 7 supergroups. For this exploration, the clusters used for shrinkage were the 52 subgroups. The descriptions of Super Output Area Classification groups and supergroups did not sufficiently differentiate between Layer Super Output Areas according to shared characteristics to be an appropriate higher level geography to which to shrink.

out of 3,248 Lower-layer Super Output Areas²¹, 3,243 of them remained in the same decile after shrinkage to the district mean and 5 moved to the 9th decile. If shrinkage is applied to the mean of the Super Output Area Classification cluster, then 3,236 remain in the most deprived decile while 12 moved to the 9th decile. More Lower-layer Super Output Areas move out of the most deprived decile into a less deprived decile when shrinkage is to the mean for the Super Output Area Classification cluster than when it is to the district mean.

- 4.2.8 Other factors were considered in addition to the above assessment of the two options for shrinkage. The main consideration was whether Lower-layer Super Output Areas have more in common (in terms of the underlying drivers of deprivation) with other such areas in the same cluster elsewhere in England than they do with those in their own local authority district. Other considerations were that the approach used should be transparent, and whether there is a perceived advantage to containing the impact of shrinkage within a local authority district, as occurs when shrinking to the district mean.
- 4.2.9 Having considered the results of the investigation there is no clear evidence that shrinkage to Super Output Area Classification clusters is preferable, and it is therefore not proposed to move from the current approach of shrinking to local authority districts.

4.3 Combining different types of indicator using factor analysis

- 4.3.1 The Income Deprivation Domain and Employment Deprivation Domain are constructed as simple rates of the population at risk. Separate indicators in these domains are constructed as non-overlapping counts, and are simply summed together to identify the total at-risk population for the domain. However in three domains – the Children and Young People sub-domain of the Education, Skills and Training Deprivation Domain, the Health Deprivation and Disability Domain, and the Crime Domain – the domains are constructed from a combination of indicators expressed as rates, ratios, averages and scores. Maximum Likelihood factor analysis is used to obtain appropriate weights for combining the indicators into a single score per domain, or sub-domain²².
- 4.3.2 The process involves ranking these indicators and transforming them to a standard normal distribution based on their ranks. Factor analysis is then used to examine the inter-correlations between the indicators to test the extent to which these indicators measure the underlying aspect of deprivation. The process generates the weights used for combining these standardised indicators.
- 4.3.3 The use of factor analysis was supported in the formal consultation exercise preceding the production of the Indices of Deprivation 2010. This update will continue to employ maximum likelihood factor analysis.

²¹ There were fewer Lower-layer Super Output Areas at the time of the construction of the Indices of Deprivation 2010 than is the case since the 2011 Census.

²² The method of factor analysis used in the 2000 Indices and subsequent updates is the Maximum Likelihood method. Unlike Principal Components Analysis, which is the main alternative, the Maximum Likelihood method does not require the assumptions that all indicators are perfectly reliable and measured without error.

4.4 Using exponential transformation to prepare the domains for combination

- 4.4.1 When combining the domains to form an overall index, it is important that the scores of each domain are comparable and that the weighting of domains is not distorted by the fact that the domains have different distributions. It is also important to select a method of combination that does not result in deprivation on one domain being cancelled out by lack of deprivation on another domain. It is fundamental to the model of deprivation employed in the Indices that deprivations are cumulative.
- 4.4.2 In order to combine the domains, a number of steps are necessary. First the domain scores must be standardised, that is converted in such a way that they are measured on the same metric. Second, the standardised domain scores must be transformed to the same distribution. The different distributions would otherwise distort the impact of the explicit weights used in the final stage to combine the domains into the overall Index of Multiple Deprivation.
- 4.4.3 There are a number of different statistical techniques that can be employed to standardise and transform the domain scores to prepare them for combination. However, the method which has been employed since the Indices of Deprivation 2000 – exponential transformation of the ranked domain score – was explicitly designed to reduce ‘cancellation effects’. So, for example, high levels of deprivation in one domain are not cancelled out by low levels of deprivation in a different domain. Also the exponential transformation applied puts more emphasis on the deprived end of the distribution and so facilitates identification of the most deprived areas.
- 4.4.4 The review undertaken did not reveal any other method that similarly controlled cancellation effects and emphasised deprivation, and that was an improvement on the exponential transformation procedure used in previous indices. This update will therefore continue to employ exponential transformation after ranking the domain scores.

4.5 Weighting the domains to create an overall Index of Multiple Deprivation

- 4.5.1 Combining the different domains into an overall index always involves weighting the domains, whether the weights are set explicitly or not. Greater weight on a specific domain will give greater importance to that domain in the overall index. Weights may be set explicitly, as they were in the Indices of Deprivation 2000 and subsequent updates. If domain scores were simply added together (after standardisation), this explicitly gives each domain an equal weight. Conversely, if domains are not standardised to lie on the same scale or distribution, then weights will be set implicitly by the domain distributions.
- 4.5.2 The weights used for the Indices of Deprivation 2000 were derived from consideration of the academic literature on poverty and deprivation, as well as consideration of the levels of robustness of the indicators. This resulted in a decision to give the greatest weight to the Income Deprivation Domain and Employment Deprivation Domain.

4.5.3 The weights employed in the construction of the Index of Multiple Deprivation 2010 are shown in the table below. These weights are unchanged since the construction of the Index of Multiple Deprivation 2004 when the Crime Domain was introduced and the seven current domains established.

Domain	Domain weight
Income Deprivation	22.5%
Employment Deprivation	22.5%
Education, Skills and Training Deprivation	13.5%
Health Deprivation and Disability	13.5%
Crime	9.3%
Barriers to Housing and Services	9.3%
Living Environment Deprivation	9.3%

4.5.4 Research into the issue of weighting was carried out by the University of St Andrews (Dibben et al., 2007)²³. Sensitivity testing on three different approaches to weighting showed that although a small adjustment could be made to the weights (i.e. swapping the weights for the Employment Deprivation Domain and the Health Deprivation and Disability Domain) it did not have a large impact.

4.5.5 With reference to these research findings, the use of these weights was revisited in the most recent consultations preceding the release of the Indices of Deprivation 2007²⁴ and Indices of Deprivation 2010²⁵. Both consultations found 89% of respondents were in favour of keeping the weights the same. Furthermore, the July survey of users did not reveal significant support for moving to new weights. In light of the very high level of user support, there is no proposal to change the weights from those used in the Indices of Deprivation 2010.

²³ Dibben, C., Atherton, I., Cox, M., Watson, V., Ryan, M. and Sutton, M. (2007) Investigating the Impact of Changing the Weights that Underpin the Index of Multiple Deprivation 2004, <http://webarchive.nationalarchives.gov.uk/20100410180038/http://www.communities.gov.uk/publications/communities/investigatingimpact>

²⁴ Department for Communities and Local Government (2007) Updating the English Indices of Deprivation 2004: Stage Two 'Blueprint' Consultation Report – Summary of Responses. <http://webarchive.nationalarchives.gov.uk/20120919132719/http://www.communities.gov.uk/publications/communities/indicesdeprivationresponses>

²⁵ Department for Communities and Local Government (2011) English Indices of Deprivation consultation: summary of responses. <https://www.gov.uk/government/consultations/english-indices-of-deprivation>.