

Appendix C. Changes since the Indices of Deprivation 2010

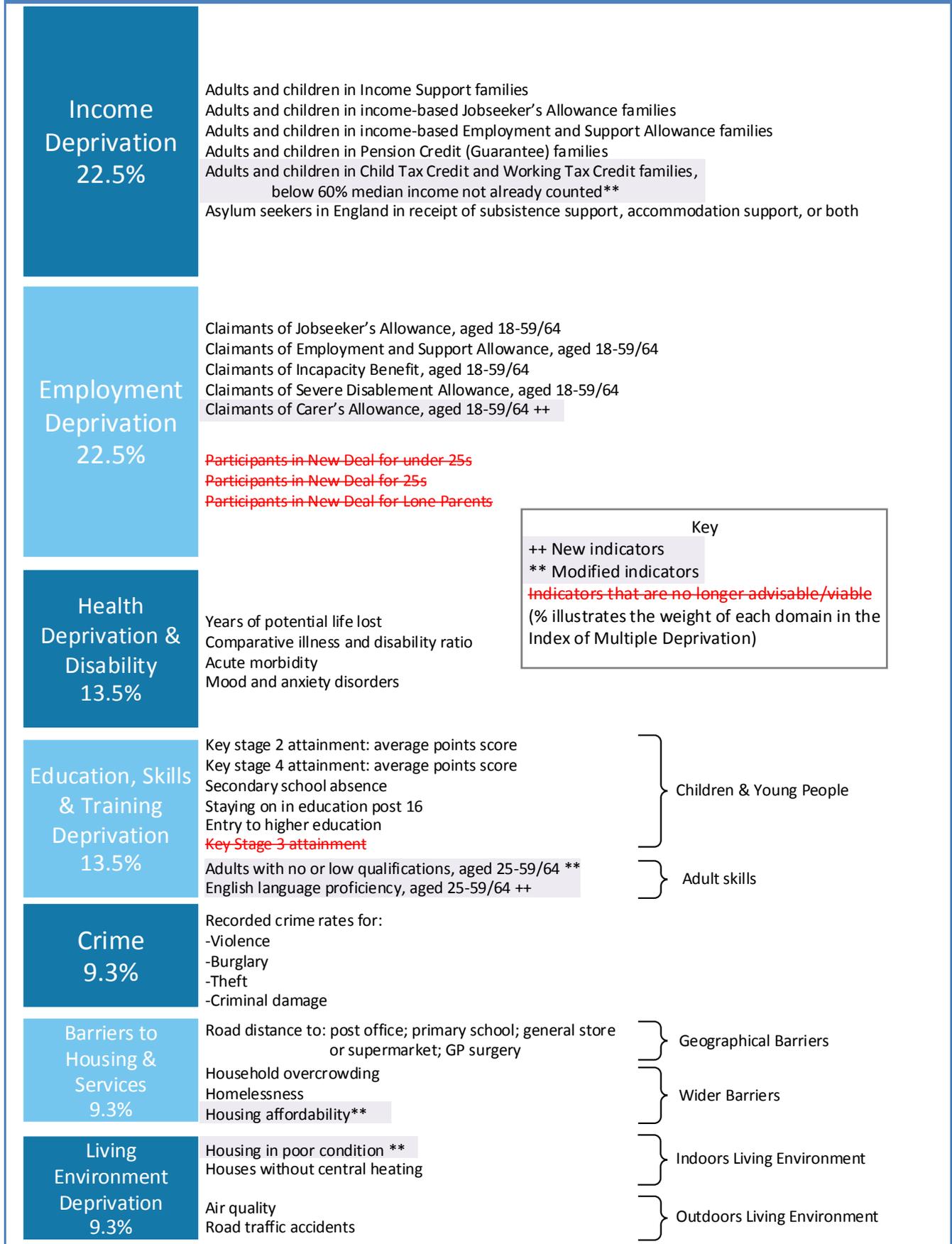
C.1. Changes to the Lower-layer Super Output Area geography

- C.1.1. The Indices of Deprivation 2010, 2007 and 2004 used the 2001 Lower-layer Super Output Area geography, developed for the 2001 Census.
- C.1.2. The Office for National Statistics has since updated Lower-layer Super Output Area geography using population data from the 2011 Census. Only a small number of changes were made between the 2001 and 2011 versions, with modifications to the boundaries of approximately 2.5 per cent of the 2001 Lower-layer Super Output Areas.
- C.1.3. The Indices of Deprivation 2015 have been produced using this 2011 version of the Lower-layer Super Output Area geography.

C.2. Domains and indicators

- C.2.1. It has been possible to update almost all of the indicators in the Indices of Deprivation 2010 with little or, at most, minor changes. Figure C.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.
- C.2.2. Minor changes to indicators, for example due to changes in available data, and changes to definitions are described in the text in the following sections.

Figure C.1. Domains and indicators for the Indices of Deprivation 2015, showing changes since the Indices of Deprivation 2010



Changes to the Income Deprivation Domain

Modified indicator	<p>Adults and children in Working Tax Credit and Child Tax Credit families not already counted</p> <p>Cases of Working Tax Credit where no Child Tax Credit is in payment (for single people and childless couples) are included, in addition to cases where there is also Child Tax Credit in payment. As with Child Tax Credit, 'Working Tax Credit only' cases are 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 now includes all people receiving tax credits who are below the income threshold.</p>
Changes to data and definitions ⁷⁰	<p>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 have been included in the domain in addition to adults and children in Income Support families.</p>

Changes to the Employment Deprivation Domain

New indicator	<p>Claimants of Carer's Allowance</p> <p>This indicator captures adults who are involuntarily excluded from the labour market due to caring responsibilities. The indicator is 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 Allowance⁷¹. Carers Allowance is payable to people aged 16 or over who provide unpaid care for at least 35 hours a week to someone who is in receipt of disability or social care benefits⁷² 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 week⁷³.</p>
Changes to data and definitions	<p>New Deal and Flexible New Deal have been replaced by the Work Programme, so the three New Deal indicators included in the Indices of Deprivation 2010⁷⁴ have been removed from the domain. Participants in the Work Programme are still in receipt of</p>

⁷⁰ 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.

⁷¹ 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.

⁷² 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.

⁷³ These are earnings after the deduction of taxes, care costs while at work and 50 per cent of pension contributions.

⁷⁴ As shown in Figure C.1.

	<p>Jobseeker's Allowance so do not need to be included separately in the domain.</p> <p>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 has been reflected by including claimants of income-based Employment and Support Allowance as well as the contributory claimants. In addition, four quarters of data have been used rather than the previous single quarter, to be consistent with the other indicators in the domain.</p> <p>From May 2012, any lone parents whose youngest child is aged 5 or over are no longer eligible for Income Support and are now eligible for Jobseeker's Allowance. Accordingly this group is now counted in this domain if they receive Jobseeker's Allowance.</p>
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Changes to the Education, Skills and Training Deprivation Domain

New indicator	<p>English language proficiency</p> <p>This indicator captures 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 measures the proportion of the working-age population who cannot speak English, or cannot speak English 'well', and has been 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>
Modified indicator	<p>Adult skills</p> <p>The upper age threshold has been increased, from 54 in the Indices of Deprivation 2010, to 59 for women and 64 for men. This reflects that the majority of people aged 55 to retirement age are economically active. The upper age limit is now consistent with indicators in the Employment Deprivation Domain.</p>
Changes to data and definitions	<p>The Key Stage 3 attainment indicator included in the Indices of Deprivation 2010 has been 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.</p> <p>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 has been used (rather than the two years used previously).</p> <p>The numerator for the entry to higher education indicator is based on four years of data. The denominator for this indicator has also been constructed from four years of data, now possible due to the availability of annually updated data (a single year was used previously).</p>

	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.
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Changes to the Health Deprivation and Disability Domain

Changes to data and definitions	<p>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) has been incorporated into the comparative illness and disability ratio indicator and the health benefits component of the mood and anxiety disorders indicator.</p> <p>Work Capability Assessments for Employment Support Allowance were introduced in 2008, reducing the number of people eligible for incapacity benefits.</p>
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Changes to the Crime Domain

Changes to data and definitions	<p>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 has still been possible to replicate the indicators using the same definitions for 'violence', 'burglary', 'theft' and 'criminal damage'. The number of offence categories used for each crime indicator were revised for the Indices of Deprivation 2015, in order to maximise comparability with the Indices of Deprivation 2010:</p> <ul style="list-style-type: none"> • Violence - 18 notifiable offence categories (previously 21) • Burglary – 4 notifiable offence categories. • Theft – 5 notifiable offence categories • Criminal damage – 8 notifiable offence categories (previously 11) <p>See Appendix H for details of the notifiable offence categories used in the Indices of Deprivation 2015.</p>
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Changes to the Barriers to Housing and Services Domain

Modified indicator	<p>Housing affordability</p> <p>The following changes were made to this indicator:</p> <ul style="list-style-type: none"> • broadening the measure to include inability to afford to enter the private rental market, in addition to the owner-occupied sector; • producing the indicator at Lower-layer Super Output Area level, rather than at local authority level as was produced for the Indices of Deprivation 2010; • using local Housing Market Areas as the reference areas (see
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	<p>Appendix I for information on Housing Market Areas), to reflect commuting and migration patterns, rather than the local authorities which were the reference areas for the Indices of Deprivation 2010;</p> <ul style="list-style-type: none"> • 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 combines with equal weight the two underlying components: affordability of owner-occupation and affordability of private rented accommodation.</p>
Change to data and definitions	In order to strengthen the homelessness indicator, the average of three years' worth of data is used (instead of one year used previously).

Changes to the Living Environment Domain

Modified indicator	<p>Housing in poor condition</p> <p>The following changes were made to this indicator:</p> <ul style="list-style-type: none"> • the four components of the Decent Homes standard were modelled separately to improve accuracy; • the statistical model was created at dwelling-level, rather than the Output Area level measure created previously; • to reflect policy changes since the indicator was last produced, the Housing Health and Safety Rating System was used instead of the previous fitness standard.
Change to data and definitions	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)

Appendix M. Issues and potential indicators explored

M.1. Introduction

- M.1.1. During the update of the Indices of Deprivation, a wide range of issues and indicators were explored in order to understand the potential to enhance the Indices. Where changes have been made to the Indices as a result, primarily new indicators and enhancements to existing indicators, these have been detailed in Chapter 4 and Appendix C.
- M.1.2. This Appendix outlines those issues and potential indicators that were examined, but that did not result in changes to the Indices. The first section deals with issues relating to indicators that are included in the Indices of Deprivation 2015 but which did not result in changes to those indicators. The second section describes a number of indicators which were explored but were found not suitable for inclusion in this update.

M.2. Issues by domain

Income Deprivation Domain

- M.2.1. *Seasonal variation in benefits.* Seasonal variation in benefit claims is taken into account in the Employment Deprivation Domain, but not the Income Deprivation Domain. While it may now be possible using data from the Department for Work and Pensions to capture claimants at more than one time point in the year, it was unfortunately not practicable to obtain corresponding data for this update of the Indices from HM Revenue & Customs.
- M.2.2. *Adjusting benefits/tax credit data for geographical variations in take-up.* If benefits or tax credit take-up varies geographically, it would be desirable to adjust the administrative data in the Income Deprivation Domain to take that into account. Two recent reports on take-up have been published, one in respect of income-related benefits and published by the Department for Work and Pensions⁹² and another in respect of tax credits published by HM Revenue & Customs⁹³. Both reports have sections on geographical variation of take-up.
- M.2.3. In respect of the Department for Work and Pensions' income related benefits there is a clear injunction in the report against reliance on regional estimates of take-up: "Due to the complexities of the methodology it is not possible to produce reliable estimates at geographies below Great Britain so when using the figures it should

⁹² Department for Work and Pensions (2012). Income Related Benefits: Estimates of Take-up in 2009-10. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/222915/tkup_full_report_0910.pdf

⁹³ HM Revenue & Customs (2013). Child Benefit, Child Tax Credit and Working Tax Credit Take-up rates. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265488/cwtcchb-take-up2011-12_fin.pdf

always be considered that effects seen are an amalgamation of changes throughout the country rather than one geographical area” (paragraph 1.9.5, p 9).

- M.2.4. As regards adjusting tax credit data, the take-up estimates are given by HM Revenue & Customs as a range and in almost all cases the ranges overlap between regions. There is also no indication of how take-up rates vary for deprived areas within the regions.
- M.2.5. Having regard to these reports there is no adequate evidence to support geographical adjustments of the administrative data.
- M.2.6. *Adjusting benefits data to include people affected by sanctions.* New sanctions regulations were introduced in 2012 for claimants of Jobseeker’s Allowance and Employment and Support Allowance⁹⁴. 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.
- M.2.7. Although it would enhance 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 given point in time. Data on sanctions is available from the Department for Work and Pensions’ Decision Makers and Appeals System. However, data is only available on sanctions decisions taken during a particular month.
- M.2.8. Unfortunately data is not available on the total number of people subject to sanctions at a particular time point, nor is it possible to derive this from the available data on sanctions decisions. There are a number of reasons for this relating to variability of the amount of time people remain sanctioned both within and between the old and new sanction regimes; the variability in the actual amount of time spent on sanctions irrespective of the period of sanction; and the review/appeal process impacting on decisions. This means that an adjustment to the Income Deprivation Domain to take into account those subject to sanctions was not possible within the timeframe of this update of the Indices.

Employment Deprivation Domain

- M.2.9. *Adjusting benefits/tax credit data for geographical variations in take-up.* If benefits take-up varies geographically it would be desirable to adjust the administrative data in the Employment Deprivation Domain to take that into account. In the most recent report published by the Department for Work and Pensions on take-up in respect of income related benefits⁹⁵, there is a clear injunction in the report against reliance on regional estimates of take-up: "Due to the complexities of the methodology it is

⁹⁴ 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>. For an overview of the rules see <https://www.gov.uk/government/publications/jobseekers-allowance-overview-of-sanctions-rules> and <https://www.gov.uk/government/publications/employment-and-support-allowance-sanctions-amendment-regulations-2012--2>

⁹⁵ Department for Work and Pensions (2012). Income Related Benefits: Estimates of Take-up in 2009-10. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/222915/tkup_full_report_0910.pdf

not possible to produce reliable estimates at geographies below Great Britain so when using the figures it should always be considered that effects seen are an amalgamation of changes throughout the country rather than one geographical area” (paragraph 1.9.5, p 9). Having regard to this report there is no adequate evidence to support geographical adjustments of the administrative data.

- M.2.10. *Additional weight to long-term claimants.* The possibility of providing an additional weight to those who are long-term unemployed and incapacitated would fail to pick up ‘cyclers’ (i.e. people who repeatedly move in and out of employment, for example because of seasonal work). For example, many people who are ‘seasonally’ employed might otherwise be long-term unemployed. Their brief periods of employment may not raise the likelihood of their return to more permanent employment and yet they are not counted among those who are long-term unemployed. Another reason for rejecting this adjustment is that including it would fundamentally alter the structure of the domain, which could no longer be interpreted as a straightforward proportion of people experiencing employment deprivation.
- M.2.11. *Inclusion of 16 and 17 year olds.* The 16 and 17 year old age group have been excluded from the English Indices of Deprivation from 2004 onwards. The primary reason for removing the 16 and 17 year old age group from the Employment Deprivation Domain in the Indices of Deprivation 2004 was because the overwhelming majority of this age group are in either school or training, neither of which could be considered a deprivation. The recent increase in school leaving age⁹⁶ provides further weight to the decision not to include 16 and 17 olds in this domain.
- M.2.12. *Employment deprived females aged 60 to 64.* From 2010, the State Pension age has been gradually increased for females, and females aged 60 to 64 are now eligible for some of the benefits included in the Employment Deprivation Domain. However, by the mid-point of the Employment Deprivation Domain quarterly time points (September 2012) only a small cohort of females aged 60 to 64 were eligible for working-age benefits (those born between April 1950 and June 1951). As a result the number of females aged 60 to 64 receiving out-of-work benefits was significantly smaller than the number aged 55 to 59⁹⁷. The decision was therefore to retain the age band used in previous Indices (18 to 59 for females and 18 to 64 for males).
- M.2.13. *Adjusting benefits data to include people affected by sanctions.* As indicated above in respect of the Income Deprivation Domain, new sanctions regulations were introduced in 2012 for claimants of Jobseeker’s Allowance and Employment and Support Allowance⁹⁸. The effect of a sanction is that the benefit is stopped or

⁹⁶ Children born on or after 1 September 1997 must stay in some form of education or training until their 18th birthday.

⁹⁷ Less than 210,000 employment deprived females in England aged 60-64, compared with more than 1,840,000 aged 55-59.

⁹⁸ 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>. For an overview of the rules see <https://www.gov.uk/government/publications/jobseekers-allowance-overview-of-sanctions-rules> and <https://www.gov.uk/government/publications/employment-and-support-allowance-sanctions-amendment-regulations-2012--2>

reduced for a period of time. Those adults affected by sanctions, but who otherwise would be eligible for Jobseeker's Allowance or Employment and Support Allowance, will not be counted in the domain despite meeting the criteria for inclusion in this domain. Although it would enhance the Employment Deprivation Domain to include those affected by sanctions, unfortunately no suitable data is available to do this (see sections M.2.7 and M.2.8 above).

Education, Skills and Training Deprivation Domain

- M.2.14. *Cross border student flows.* Some English-resident students attend schools in Wales or Scotland, and vice versa. Pupils attending Welsh or Scottish schools have been excluded, as the point scoring system in schools differs between these administrations. Welsh and Scottish resident pupils who attend schools in England have also been removed from the dataset.

Health Deprivation and Disability Domain

- M.2.15. *Emergency admissions.* The Acute Morbidity indicator is based on emergency admissions to hospital lasting more than one day. Some concerns have been raised over the possibility of practices by particular hospitals affecting the robustness of this indicator. Quality assurance analysis of the Indices of Deprivation 2015 has examined this issue, see Appendix J.3.

Crime Domain

- M.2.16. Issues related to the use of police recorded crime datasets to construct the Crime Domain indicators are set out in Appendix J.3.

Barriers to Housing and Services Domain

- M.2.17. *Travel times to services.* As part of data exploration, the possibility of switching the indicators in the Geographical Barriers to Services sub-domain from measures of *road distance* to services, to measures of *travel time* to services, was considered. The Department for Transport produces accessibility statistics at Lower-layer Super Output Area level in the form of measures of travel time to certain key services. Travel times are provided for travel by car, travel by public transport/walking, and travel by bicycle to key services⁹⁹. Although the release includes travel times to primary schools, GPs and food shops, travel times to post offices are not currently produced. Site locations are for England only, whereas the Indices of Deprivation 2010's indicators for road distance to food shops and post offices take into account services beyond England's borders.
- M.2.18. Travel time by car was not pursued as a potential indicator, as most Lower-layer Super Output Areas (97-99 per cent) were assigned the minimum score of less than 5 minutes for primary schools, GPs and food shops. The Lower-layer Super Output Area scores for travel time by public transport/walking did not correlate highly with the equivalent road distance indicators of the Indices of Deprivation 2010. After careful consideration, the decision was made to retain the road distance measures as these require fewer assumptions than travel time measures, which would need to take account of issues such as the time of day

⁹⁹ Department for Transport, accessibility statistics (2012)
<https://www.gov.uk/government/statistics/accessibility-statistics-2012>

travelled, and (in the case of public transport) frequency of service and transport connections.

M.3. Potential indicators explored that are unsuitable for inclusion in the Indices of Deprivation 2015

M.3.1. The following section describes those indicators which were explored but not found suitable for inclusion in the Indices of Deprivation 2015.

Income Domain

M.3.2. *Housing Benefit and Council Tax Benefit.* Housing Benefit is payable to people living on low incomes who are liable to pay rent. Council Tax Benefit was payable (until April 2013) to provide assistance to those on low incomes liable for Council Tax (local councils are now able to design their own Council Tax support schemes). Eligibility for Housing Benefit, and, before it was withdrawn, Council Tax Benefit, is assessed by reference to an applicant's income, and also to local area rent levels and the Local Housing Allowance rental rate (and before April 2013, Council Tax). In addition, there is local variability in terms of the level of income which carries eligibility to the benefit(s). Finally, there are technical difficulties in avoiding double counting when combining this data with other benefits in the domain. For these reasons these benefits were identified as unsuitable for inclusion as indicators in the domain.

Employment Domain

M.3.3. *Hidden unemployment and under-employment.* The Employment Deprivation Domain aims to capture those who are involuntarily excluded from the labour market whether they are actively seeking work or not. As well as those receiving Jobseeker's Allowance, the domain includes those out of work due to ill health. However, wider definitions of hidden unemployment also include groups such as mothers who are not working due to restrictive child care costs but would otherwise like to work, those who have given up hope of looking for work, those who are not signed on for receipt of Jobseeker's Allowance but who are available for work, and those under-employed who want full-time work but have had to settle for part-time hours. However, despite wide ranging data exploration, it was not possible to identify suitable data sources for the construction of such an indicator.

M.3.4. *Zero-hours contracts.* Zero-hours contracts were considered as part of a wider definition of worklessness which includes the issue of under-employment. There are two main sources of data on zero-hours contracts: the Office for National Statistics business survey and the Labour Force Survey. Unfortunately, neither survey provides a sufficient sample size to provide robust estimates at Lower-layer Super Output Area level. In addition, there is no clear and agreed definition of 'zero-hours contracts', so, different groups and bodies will not only measure the number of such contracts in different ways, they will also have different perceptions of what should be included as 'zero-hours contracts'. Significantly, the perceptions of employers and employees on what constitutes a particular type of contract will differ.

M.3.5. *Lone parents receiving Income Support.* Lone parents have traditionally been regarded as 'economically inactive', while the Employment Deprivation Domain is concerned with capturing those who are involuntarily out of employment. Recent

changes have led to those lone parents whose youngest child is aged 5 or over shifting from receipt of Income Support, to receipt of Jobseeker's Allowance. So a large proportion of lone parents will now be included in the Employment Deprivation Domain. However, there remains the question of whether lone parents with children aged under 5 should be treated as voluntarily or involuntarily out of employment. If the former, they fall outside the definition for this domain. If the latter, they should be counted. As there is no information as to whether this group is voluntarily or involuntarily out of employment, this indicator was not pursued further for this update of the Indices.

Education, Skills and Training Deprivation Domain

- M.3.6. *Average test score of pupils at Key Stage 1.* The Key Stage 1 average test score indicator is constructed in the same way as the Key Stage 2 indicator and held in the National Pupil Database linked to each pupil's postcode of residence. Each pupil is awarded a level for the four Key Stage exams. Values are assigned to the levels achieved in the examinations, and these values summed for each pupil. However, unlike Key Stage 2 assessments, not all Key Stage 1 results are externally moderated, with only 25 per cent of local authority schools receiving external moderation visits each year. Given there is only partial external moderation, and views expressed by users, this indicator was not pursued further for this update of the Indices.
- M.3.7. *Average test score of pupils at Key Stage 3.* The Key Stage 3 attainment indicator included in the Indices of Deprivation 2010 was removed from the Children and Young People sub-domain, as statutory tests were abolished and Key Stage 3 assessments became teacher assessment only from 2008/9.
- M.3.8. *Adult literacy and numeracy.* Small area level estimates of adults lacking literacy, numeracy and other skills are published based on the Skills for Life Survey¹⁰⁰. This survey is based on a sample of 7,230 respondents, across 1,516 (of 6,781) Middle layer Super Output Areas. The data is modelled to neighbourhood level using small area estimation techniques. This produces an estimate at neighbourhood level which is not sufficiently robust to use in the Indices of Deprivation and which moreover uses area effects in the modelling process which draw directly from data published from the Indices of Deprivation 2010.
- M.3.9. *Pupils with Special Educational Needs.* Special Educational Needs levels are a good predictor of individual level pupil performance, and of variation between schools. However, there are some surprising differences between local authority areas, which may reflect policy differences rather than actual differences in educational needs¹⁰¹.
- M.3.10. *Achieving a good level of development in the Early Years Foundation Stage.* The Early Years Foundation Stage is a series of assessments measuring children's

¹⁰⁰ Department for Business Innovation and Skills (2012). 2011 Skills for Life Survey: Small Area Estimation Technical Report. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/36077/12-1318-2011-skills-for-life-small-area-estimation-technical.pdf

¹⁰¹ Mooney, A., et al. (2010). Special Educational Needs and Disability: Understanding Local Variation in Prevalence, Service Provision and Support, published by Department for Children, Schools and Families. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221970/DCSF-RB211ES.pdf

progress in terms of Personal, Social and Emotional Development and Communication, Language and Literacy. This indicator was considered for inclusion because it would introduce an element of early child development (aged 5) into the domain. The data is based on practitioners' observations over the course of the year against standard criteria, with local authorities responsible for carrying out moderation visits to ensure that assessment standards are consistent. However for the time point of mid-2012, this external moderation was only extended to 25 per cent of early years settings in the local authority area. Given the level of external moderation, and views expressed by users, this indicator was not pursued further for the update of the Indices.

- M.3.11. *Exclusions from school.* Data on exclusions is collected via the School Census, with approximately 304,000 temporary and 5,000 permanent exclusions recorded in 2012. However, there is likely to be variability in how different schools apply exclusions, which could lead to differences in numbers being attributable to local policy differences as well as differences in educational deprivation levels.

Health Deprivation and Disability Domain

- M.3.12. *Healthy lifestyle indicators.* The domain only includes direct measures of health deprivation, and does not include aspects of behaviour or environment that may be predictive of future health deprivation. Therefore healthy lifestyle indicators such as smoking, alcohol consumption and participation in sports are not appropriate to include in the domain, even where robust data is available at small area level.
- M.3.13. *Obesity indicators.* Obesity is an increasing public health concern, with 23 per cent of adults, and 19 per cent of Year 6 children, classified as obese¹⁰². Assessment of school pupils is now routinely carried out for Reception and Year 6 pupils, however similar data is not collected for adults.
- M.3.14. *Census 2011 indicators on limiting long-term illness and general health.* The 2011 Census contained questions on limiting long-term illness and on general health status. However, the comparative illness and disability ratio indicator (derived from health benefits data made available by the Department for Work and Pensions) is highly correlated with the 2011 Census health indicators and therefore adequately captures this element of health deprivation.
- M.3.15. *Cancer incidence.* Information is collected about all new cases of cancer, of which there are around 140,000 per year. To adjust for variation in the age profile of the population, age and sex standardised cancer incidence rates are needed. Lower-layer Super Output Area level age and sex standardised estimates are unlikely to be sufficiently reliable to enable meaningful comparisons between areas, even when based on aggregate data over several years.
- M.3.16. *People receiving publicly-funded residential care.* People living in publicly funded residential or nursing homes are not eligible for the care components of Disability Living Allowance or Attendance Allowance but meet the same qualifying

¹⁰² Sport England (2012), Active People Survey, http://archive.sportengland.org/research/active_people_survey/active_people_survey_7.aspx
Health and Social Care Information Centre (2012/13), National Child Measurement Programme, <http://www.hscic.gov.uk/ncmp>

conditions. This data is held by local authorities; however it is not collected nationally at individual or small area level. As sufficiently robust data is not readily available to produce this indicator, developing this indicator was outside the scope of this update.

- M.3.17. *Low birth weight.* Low birth weight is linked to both increased mortality and morbidity in infancy, and an increased risk of cardio-vascular disease in later life. The indicator was considered as a potential indicator in the Indices of Deprivation 2000, and is used in the Welsh Indices of Deprivation. However, respondents to a previous consultation were concerned that certain ethnic groups have different distributions of birth weight, and that the ethnic composition of an area would therefore bias this indicator. As a result this indicator was not used in the English Indices.
- M.3.18. *Infant mortality ratio.* The infant mortality ratio has previously been included in measures of deprivation such as the 1998 Index of Local Deprivation, on the basis that this represents particularly premature death, and that areas with high infant death rates would not necessarily correspond to those in which mortality levels are high at other ages. However, the numbers of infant deaths are small (nationally only around 4.7 per 1,000 live births) and, even when aggregating figures for several years, Lower-layer Super Output Area level estimates would not be sufficiently reliable to enable meaningful comparisons between areas. Also the mortality indicator (years of potential life lost) included in the domain is age standardised, giving high weightings to deaths among infants.

Crime Domain

- M.3.19. *Police Anti-Social Behaviour incident data.* In addition to collating data on recorded crime, each police force in England is also required to collate data on reported incidents of Anti-Social Behaviour. Geocoded data is provided by each police force to the Home Office on a monthly basis in the same way as the recorded crime data is provided. This Anti-Social Behaviour data was deemed unsuitable for inclusion in the Indices of Deprivation 2015 due to known issues in relation to double counting of crimes and Anti-Social Behaviour incidents¹⁰³ in a number of police forces.
- M.3.20. *Fire Service deliberate fires data.* These are official statistics collated by the Department for Communities and Local Government (Fire Statistics Monitor). Geocoded deliberate fire data is available from 2009/10 onwards. However, many of the deliberate fires recorded by the regional fire authorities across England will also be captured as 'arson' in the police recorded crime data. As such, including fire service data alongside police recorded crime data would result in double counting of many events.
- M.3.21. *Shoplifting.* Shoplifting was rejected because it is often concentrated in large retail centres and because its reporting is often dependent upon the offender being caught in the act.

¹⁰³ See Data Quality, Known Issues, Double counting of ASB and Crime at: <http://data.police.uk/about/#columns>.

- M.3.22. *Drug-related crime.* Drug-related crime was not deemed suitable for inclusion in the updated Indices since it could be argued that possession of an illegal drug is not in itself a form of deprivation. Certainly, drug-motivated crime (e.g. violence or burglary/theft) should be captured in a measure of deprivation, but these crimes types are already included in the Crime Domain.
- M.3.23. *Sexual offences.* Sexual offence data was not previously pursued due to a number of reasons, including: sensitivity/disclosure issues; the particularly low reporting of these crimes; the way in which reporting is influenced by the relationship of the victim to the offender; and the difficulty of ascertaining the incidence.
- M.3.24. *Domestic violence.* Domestic violence was not included as an indicator in its own right because violent offences against same-household members are already included in the composite violence indicator where these crimes are reported to the Police.
- M.3.25. *Cycle thefts.* Cycle thefts were excluded because they are often concentrated in public areas (such as bike parks at train stations).
- M.3.26. *Fraud.* Fraud was excluded because it is extremely difficult to locate geographically.
- M.3.27. *Total crime.* A measure of total crime was not included because it would include the indicators described above, as well as other categories that are not relevant to deprivation.

Barriers to Housing and Services Domain

- M.3.28. *Access to childcare.* The use of childcare is a complex issue: it depends on cost, flexibility, type and location. For example, some people prefer to use childcare nearer the workplace than close to the home. However, the number of childcare places in a district has been demonstrated to relate to the rate at which lone parents enter work in that area¹⁰⁴. For previous Indices, an option was explored to model a local authority level ratio of pre-school children to pre-school childcare places, using a combination of Child Benefit data and Ofsted childcare places. However this was seen as a complex development, with significant time needed to develop a robust indicator. As sufficiently robust data was not readily available to produce this indicator without significant extra work, developing this indicator was outside the scope of this update.
- M.3.29. *Households lacking the required number of bedrooms.* Chapter 4 describes the household overcrowding indicator used in the Indices of Deprivation 2015. An alternative measure was explored, also based on Census 2011 data, which considers the number of bedrooms required by the household (rather than the number of rooms). However, this measure only counts rooms as bedrooms if they were built as such or if they have been permanently converted into a bedroom. Given that many modern houses/apartments have rooms that can be used in different ways, this alternative indicator was not used.

¹⁰⁴ Evans, Noble et al (2002). Growing Together or Growing Apart? Geographic Patterns of Change in IS and JSA-IB Claimants in England 1995-2000 (The Policy Press).

M.3.30. *Digital services access.* Ofcom publishes data on broadband speeds, including both ‘actual broadband speed’ (based on real connections and measured speeds) and ‘availability of superfast broadband’ (download speeds of at least 30 Megabits per second)¹⁰⁵. Actual speed is dependent on broadband packages obtained by users, so is in large part based on user choices (which may or may not be driven by questions of affordability), rather than an indicator of accessibility. The availability of superfast broadband is very high, and increasing: 77 per cent of England’s premises have superfast availability, and in 46 per cent of English Lower-layer Super Output Areas, *all* postcodes have superfast availability¹⁰⁶. As indicators should measure major features of deprivation, not conditions just experienced by a small number of people or areas, this indicator was not included in this update of the Indices.

Living Environment Deprivation Domain

M.3.31. *Flood risk areas.* A measure of flood risk is used in the Welsh Indices of Deprivation, based on the proportion of people living in an area with a significant, moderate or low risk of flooding (risk was based on frequency rather than level of flooding damage). For England, flood risk data is available from the Environment Agency. However, the data measures *risk* of flooding, rather than *actual* flooding, and was not supported by members of the Advisory Group and Project Board as an indicator for this update of the Indices of Deprivation.

M.3.32. *Graffiti.* An indicator on graffiti was not proposed because recorded crime data for graffiti is not available separately from data on criminal damage as a whole. Moreover, some commentators have argued that graffiti may be variably reported.

M.3.33. *Households in fuel poverty.* The fuel poverty dataset published by the Department of Energy and Climate Change, which includes modelled estimates to Lower-layer Super Output Area level, is based on households with above average fuel costs that are pushed below the income poverty threshold once fuel costs are taken into account. In the survey of users in July 2014 and previous consultations there had been support from users for introducing a measure of fuel poverty into the Living Environment Deprivation Domain. However, discussion with the Fuel Poverty team at the Department of Energy and Climate Change identified that the methodology used to produce the sub-regional estimates of fuel poverty does not produce robust estimates at very low level geographies, and should not be used to compare between Lower-layer Super Output Areas¹⁰⁷. A fuel poverty indicator was not therefore incorporated into this update of the Indices, but any improvement in methods may mean that the indicator could be further considered in future.

M.3.34. *Households lacking basic amenities.* The 2001 Census collected data on the number of households without exclusive use of a bathroom and inside toilet, but less than 1 per cent of households in England were lacking these amenities. The indicator would therefore not measure a significant aspect of deprivation at small

¹⁰⁵ Office of Communications, broadband coverage (2013) <http://data.gov.uk/dataset/broadband-coverage>

¹⁰⁶ Ofcom (2014) Infrastructure Report 2014, <http://stakeholders.ofcom.org.uk/market-data-research/market-data/infrastructure/infrastructure-2014/>.

¹⁰⁷ 2014 review by the Department of Energy and Climate Change and Office for National Statistics statisticians, unpublished.

area level. Furthermore, this indicator was not updated as part of the 2011 Census, so up-to-date data would not have been available to produce such an indicator.

- M.3.35. *Households not connected to the gas network.* It is now possible in principle to construct an indicator of households not connected to the gas network, as a proxy for high costs for heating. This would be based on comparing the number of domestic gas meters in each Lower-layer Super Output Area to the number of households. However, in 13,597 Lower-layer Super Output Areas (41 per cent of all such areas in England), *all* households were identified as being connected to the gas network¹⁰⁸. As indicators should measure major features of deprivation, not conditions just experienced by a small number of people or areas, this indicator was not included in the updated Indices.
- M.3.36. *Housing (or population) density.* The survey of users in July 2014 and a previous consultation suggested using a measure of high density housing in the Living Environment Deprivation Domain, to reflect the impact of housing on traffic congestion and pollution, and limited open space. However, housing (or population) density is only a proxy for these impacts and is not a deprivation in its own right, as high density living is not always seen as undesirable.
- M.3.37. *Land use and derelict land.* The current method for measuring derelict land is the National Land Use Database, which is assembled from data collected by local authorities. However, the database is not comprehensive enough to give a sufficiently robust measure of derelict land at small area level for the whole of England, even if such an indicator was desirable.
- M.3.38. *Noise pollution.* The Department for Environment, Food and Rural Affairs has estimated local environmental noise levels due to road, rail and air traffic and from industry¹⁰⁹. Although this data potentially provides an additional indicator for the Outdoors sub-domain, data is only available for major urban areas, and for major roads and railways outside the major urban areas. There was therefore not sufficient geographic coverage to include noise pollution in this update of the Indices of Deprivation.
- M.3.39. *Proximity to green spaces.* There is a range of research outlining the benefits of access to green spaces including reduced pollution, improved physical and psychological wellbeing and factors which encourage healthy lifestyle behaviours. Several location datasets could be used in a composite indicator of proximity to green spaces, including local nature reserves, woodland, local open spaces, coastal beaches and Areas of Outstanding Natural Beauty¹¹⁰. As sufficiently robust data was not readily available to produce this indicator without significant extra work, developing this indicator was outside the scope of this update. There may be value in exploring the development of such an indicator for a future update.

¹⁰⁸ Based on data for 2013 available at <https://www.gov.uk/government/statistics/lsoa-estimates-of-households-not-connected-to-the-gas-network>.

¹⁰⁹ Online maps are available for major urban areas, with PDF maps available for major roads and railways outside the major urban areas. See <http://services.defra.gov.uk/wps/portal/noise> for maps and background.

¹¹⁰ For a summary, see Environment Agency (2008) working towards a better quality of life: Environmental Justice in South Yorkshire. www.staffs.ac.uk/schools/sciences/geography/links/IESR/downloads/EnvJusticeinSouthYorksGENE0608BO-DZ-e-e.pdf

- M.3.40. *Proximity to waste and landfill sites.* The most recent Welsh Index of Multiple Deprivation 2014 contains an indicator of proximity to waste and landfill sites, which ranks Lower-layer Super Output Areas based on the proportion of the population living within a 1km zone of each Pollution Prevention Control site and active landfill site. However, this indicator was not pursued further for the Indices of Deprivation 2015, as the impact of poor air quality resulting from proximity to waste and landfill sites is already captured as part of the air quality indicator. In addition, a systematic review of studies into the health impacts of people living in the vicinity of waste and landfill sites was unable to find sufficient evidence to establish a causal link between negative health effects and living in close proximity to waste and landfill sites¹¹¹.
- M.3.41. *Vacant dwellings and low demand.* The Department for Communities and Local Government publishes data on empty homes at local authority district level¹¹². As this data is not available at small area level, it was not considered suitable for use in a new indicator. It may be possible in future to model empty homes at small area level to provide a candidate indicator for the 'Outdoors' sub-domain, but this was outside the scope of this update of the Indices.

¹¹¹ For example, see information from the Environment Agency on exposure assessment of landfill sites www.gov.uk/government/publications/exposure-assessment-of-landfill-sites

¹¹² Department for Communities and Local Government. Live tables on dwelling stock (including vacants) <https://www.gov.uk/government/statistical-data-sets/live-tables-on-dwelling-stock-including-vacants>