Overall

WIMD is currently made up of eight separate domains (or types) of deprivation. Each domain is compiled from a range of different indicators (listed below).

The Index is constructed from a weighted sum of the deprivation score for each domain. The weights reflect the importance of the domain as an aspect of deprivation, and the quality of the indicators available for that domain.

The domains (and their weights) for WIMD 2019 are:

- Income (22%)
- Employment (22%)
- Health (15%)
- Education (14%)
- Access to services (10%)
- Housing (7%)
- Community safety (5%)
- Physical environment (5%).

Income

The purpose of this domain is to measure the proportion of people with income below a defined level. The domain contains a single composite indicator, income deprivation, made up of four elements:

- Income related benefit claimants; this includes Income Support claimants, Jobseeker's Allowance claimants, Pension Credit claimants, and Income Based Employment and Support Allowance claimants; and their dependent children. Sourced from the Department for Work and Pensions (DWP). The data are based on an average of the individuals who were in receipt of these benefits during the financial year 2016-17. Individuals who are in receipt of multiple benefits are only counted once within this element.
- The number of children and adults within families that are in receipt of Working Tax Credits and Child Tax Credits with an income which is less than 60% of the median income for Wales (Before Housing Costs). Sourced from Her Majesty's Revenue & Customs (HMRC), using 2015/16 tax credits data as at 31st August 2015.
- Supported Asylum Seekers i.e. those who were supported under Section 95 of the Immigration and Asylum Act, and their dependent children. Sourced from the Home Office, as at 30th June 2017.
- People on Universal Credit and their dependent children. This excludes those who are "working with no requirements" according to the dataset's "conditionality" marker. Sourced from DWP, as at 2016-17.

Employment

The purpose of this domain is to capture lack of employment. This covers involuntary exclusion of the working-age population from work, including those who cannot work due to ill-health or who are unemployed but are actively seeking work. The employment domain contains one single composite indicator, employment related benefits, made up of four elements:

- Jobseeker's Allowance (JSA) claimants
- Employment and Support Allowance (ESA) claimants
- Incapacity Benefit (and Severe Disablement Allowance) claimants
- Universal Credit (UC) claimants who are not in employment.

The data are based on an average of the individuals who were in receipt of these benefits during the financial year 2016-17, sourced from the Department for Work and Pensions.

Health

The purpose of this domain is to measure lack of good health. The domain contains seven indicators (weighted as shown below):

- GP-recorded chronic conditions (rate per 100), age-sex standardised (32.5%)
- Limiting long-term illness (rate per 100), age-sex standardised (30.2%)
- Premature deaths (rate per 100,000), age-sex standardised (17.7%)
- GP-recorded mental health conditions (rate per 100), age-sex standardised (9.0%)
- Cancer incidence (rate per 100,000), age-sex standardised (4.0%)
- Low birth weight (live single births less than 2.5 Kg, percentage) (3.4%)
- Children aged 4-5 who are obese (percentage) (3.1%).

The indicator on GP-recorded chronic conditions measures the number of people per 100 with a current diagnosis of one or more of the conditions listed below:

- Coronary Heart Disease
- Chronic Obstructive Pulmonary Disease
- Stroke and Transient Ischaemic Attack
- Peripheral Arterial Disease
- Chronic Kidney Disease
- Diabetes Mellitus (type 1 all ages, type 2/other for aged 17 plus)
- Epilepsy.

The indicator on GP-recorded mental health conditions measures the number of people per 100 with a current diagnosis of one or more of the conditions listed below:

- Depression
- Low mood (patients with record of low mood and an active repeat prescription for an anti-depressant)
- Anxiety disorder (including panic disorders)
- Dementia
- Severe mental illnesses (schizophrenia, bipolar affective disorder and other psychoses).

The indicator on Limiting long-term illness measures the number of people with a limiting long-term illness per 100 people, and is based on 2011 Census data (Office for National Statistics).

The indicator on premature deaths measures the number of deaths of those under the age of 75 per 100,000 people and is based on the 2009-2018 average (Office for National Statistics).

The indicator on Cancer Incidence measures the number of incidences of cancer per 100,000 people, and was based on the 2007-2016 average (Welsh Cancer Intelligence and Surveillance Unit, Velindre NHS Trust).

The indicator on Low Birth Weight measures the percentage of live single births less than 2.5 kg (5.5lb), and was based on the 2009-2018 average (Office for National Statistics).

The indicator on children who are obese measures the proportion of reception aged children (those aged 4 and 5) who are obese and is based on the 2012-13 to 2017-18 average, child measurement programme.

Education

The purpose of this domain is to capture the extent of deprivation relating to education, training and skills. It is designed to reflect educational disadvantage within an area in terms of lack of qualifications and skills. The domain contains six indicators (weighted as shown below):

- Foundation Phase Average Point Score (9.9%)
- Key Stage 2 Average Point Score (11.7%)
- Key Stage 4 Average Point Score for Core Subjects (27.6%)
- Repeat Absenteeism (21.7%)
- Proportion of Key Stage 4 leavers entering Higher Education (13.2%)
- Number of Adults aged 25-64 with No Qualifications (16.0%).

The Foundation Phase Average Point Score indicator measures the average point scores of pupils as assessed by teachers in Year 2 (final year of the Foundation Phase), and is based on a three-year average (academic years 2015/16 – 2017/18). The data are derived from the National Data Collection Database (NDC) and the Pupil Level Annual Schools Census (PLASC), Welsh Government.

The Key Stage 2 (KS2) Average Point Score indicator measures the average point scores of pupils as assessed by teachers in Year 6 (final year of primary school), and is based on a three-year average (academic years 2015/16 – 2017/18). The data are derived from the National Data Collection Database (NDC) and the Pupil Level Annual Schools Census (PLASC), Welsh Government.

The Key Stage 4 (KS4) Average Point Score in Core Subjects indicator measures the average point scores of year 11 pupils calculated from the grades achieved in the core subjects of GCSE English or Welsh, GCSE Mathematics and GCSE Science (or equivalent qualifications). It is based on a three-year average (academic years 2015/16 – 2017/18) and the data are derived from the National Pupil Database (NPD), the Welsh Examinations Database (WED) and PLASC, Welsh Government.

The Repeat Absenteeism indicator measures the percentage of primary and secondary pupils missing more than 15% of school sessions, and is based on a three-year average (academic years 2015/16 – 2017/18). The data are derived from NPD and PLASC, Welsh Government.

The KS4 Leavers Entering Higher Education indicator measures the proportion of KS4 pupils who, at some point in the subsequent three years after leaving year 11, enter Higher Education (defined as any programme of learning above level 3), and is based on a 4 year average (academic years 2011/12 to 2014/15). The data is derived from the Higher Education Statistics Agency (HESA) record, PLASC and the Lifelong Learning Wales Record (LLWR), Welsh Government.

The No Qualifications indicator measures the numbers of adults aged 25-64 with no qualification, and is based on 2011 Census data.

Access to Services

The purpose of this domain is to capture deprivation as a result of a household's inability to access a range of services considered necessary for day-to-day living, both physically and online.

The access to services domain contains 10 indicators. Of these, 9 are physical access indicators, each relating to a type of service such as food shop or school. Each indicator measures an average return travel time (in minutes) from residential dwellings to the nearest service, by public and private transport. Public transport includes travel by: public bus, public train, foot, and national coach. Private transport is considered to be transport by private car. The weights to combine the public and private transport times together are calculated for each area using data from the 2011 Census on car ownership and the number of adults aged 17 and over.

The physical and digital aspects are treated as two sub-domains, with the 9 travel time indicators weighted together using factor analysis (see resultant weights below), then combined with the single access to digital services indicator, which is given a weight of 10%.

- Pharmacy (21.5%)
- Food shop (16.9%)
- General Practitioner (GP) (14.2%)
- Post office (10.2%)
- Primary school (7.5%)
- Public library (7.3%)
- Sports Facility (5.3%)
- Secondary school (4.7%)
- Petrol station (private transport only) (2.4%).

The domain also includes a new indicator, measuring access to digital services. This is calculated as the proportion of homes and small businesses unable to receive fixed line broadband at a download speed of at least 30Mb/s (superfast broadband). This includes properties with no broadband coverage. The source is Ofcom's Connected Nations update, Spring 2019. Ofcom collects and analyses data from the main fixed broadband internet service providers on addresses covered by their service.

Housing

Conceptually, the purpose of the housing domain is to identify inadequate housing, in terms of physical and living conditions and availability. Here, living condition means the suitability of the housing for its inhabitant(s), for example in terms of health and safety, and necessary adaptations. The domain contains two indicators (weighted as shown below):

- The indicator on overcrowding measures the percentage of people living in overcrowded households (2011 Census-based bedroom measure) (50%)
- A new modelled indicator on poor quality housing. It measures the likelihood of housing being in disrepair or containing serious hazards (for example, risk of falls or cold housing), and was calculated from a mixture of survey and administrative data sources by the Building Research Establishment (BRE) (50%).

Community Safety

This domain is intended to consider deprivation relating to living in a safe community. The domain contains 6 indicators (weighted as shown below). Five of these indicators are derived from Police Recorded Crime data:

- The indicator on Police Recorded Criminal Damage measures the number of reported incidents of criminal damage as a percentage of the resident population, excluding the prison population, and is based on a two-year (2017-18 and 2018-19) average (61%).
- The indicator on Police Recorded Violent Crime measures the number of reported incidents of violent crime as a percentage of the resident population, excluding the prison population, and is based on a two-year (2017-18 and 2018-19) average (19%).
- The indicator on Police Recorded Theft measures the number of reported incidents of theft as a percentage of the resident population, excluding the prison population, and is based on a two-year (2017-18 and 2018-19) average (4%).
- The indicator on Police Recorded Burglary measures the number of reported incidents of burglary as a percentage of the number of dwellings and business addresses, and is based on a two-year (2017-18 and 2018-19) average (5%).

- The indicator on Anti-Social Behaviour incidences measures the number of reported incidents of anti-social behaviour as a percentage of the resident population, excluding the prison population, and is based on a two-year (2017-18 and 2018-19) average (8%).
- The sixth indicator uses fire incidence data. The indicator on Fire Incidences measures the number of fire incidents attended as a percentage of the resident population, and is based on a two-year (2017-18 and 2018-19) average. The data are derived from the Fire and Rescue Services (FRS) reporting, compiled by Welsh Government (3%).

Physical Environment

The purpose of this domain is to measure factors in the local area that may impact on the wellbeing or quality of life of those living in an area. The domain contains three sub domains (weighted as shown below):

- Air Quality (three indicators) (40%)
- Flood Risk (one indicator) (40%)
- Green Space (two indicators) (20%).

The air quality sub-domain comprises three indicators which measure the population weighted average concentration values of the key pollutants Nitrogen dioxide (NO2), Particulates < 10 μm (PM10) and Particulates < 2.5 μm (PM2.5) respectively. The indicator values are based on pollutant levels from 2017 DEFRA air concentration grids and are population-weighted then combined to form an air quality sub domain score.

The flood risk sub domain score is based on the proportion of households at risk of flooding from rivers, the sea or surface flooding and is sourced from Natural Resources Wales' Flood Risk Assessment Wales (FRAW) dataset.

The green space sub domain is comprised of two equally weighted indicators:

- Proximity to accessible natural green space indicator which measures the proportion of households in each area that are within a 5 minute walk / 300 metres of an accessible, natural green space
- Ambient green space score which measures the ambient greenness of an area using the mean household Normalised Difference Vegetation Index (NDVI) score within a 300 metre buffer around each residential dwelling.

If you would like to know more about WIMD or have any other queries regarding deprivation statistics, please contact:

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