

Welsh Index of Multiple Deprivation 2019 (WIMD 2019) Guidance on use

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WIMD 2019 will be published on 27 November 2019.

This guidance provides advance information on how to interpret and use the Index products.

1. What is WIMD?

The Welsh Index of Multiple Deprivation (WIMD) is the Welsh Government's official measure of relative deprivation for small areas in Wales. It identifies areas with the highest concentrations of several different types of deprivation. WIMD ranks all small areas in Wales from 1 (most deprived) to 1,909 (least deprived). It is a National Statistic produced by statisticians at the Welsh Government.

The concept of an Index of Multiple Deprivation as we now know it was originally developed by the Social Disadvantage Research Centre of Oxford University, who produced the first WIMD in 2000. Subsequent updates were made in 2005, 2008, 2011 and 2014.

2. How will WIMD 2019 differ from WIMD 2014?

Compared to WIMD 2014, WIMD 2019 will use updated data for all but three¹ of the 46 indicators. The methodology used within WIMD 2019 is broadly the same as for WIMD 2014, with the same eight domains, or types of deprivation, captured, and the same areas ranked. However there have been some changes to the Index, including:

- changes to individual indicators, and the inclusion of new indicators within the Health, Education, Access to Services, Physical Environment and Housing domains
- small changes to the relative weights applied to the domains (or types) of deprivation

There is more information on these changes in the [Guidance Slides](#). Further details will also be available in the WIMD 2019 Results and Technical Reports, due for publication on the [WIMD website](#) on 27 November 2019.

3. What will be different in the published material?

There will not be big changes to the range and content of WIMD outputs for 2019 compared to 2014². A [timetable](#) has been published. Some of the key changes planned are:

- More context for the few most deprived areas identified in our Results Report
- Analysis of areas that have been highly deprived for several iterations (deep-rooted deprivation), in our Results Report

¹ Those three are based on the latest available Census data, from 2011

² This is because we asked our users what they thought in 2016, and found they were broadly content.

- Improvements to the functionality of the interactive tool, including a postcode search bar on every page, and more detail visible on maps (which will be downloadable)
- Changes to the higher geographies we look at, for example, we have added deprivation profiles for Economic Regions, and indicator data for Local Health Board areas
- Data for the new indicators across several domains (indicators are listed in the [Guidance Slides](#))
- All our published outputs will be bilingual

4. What is an Index?

An index is a group of separate measurements which are combined into a single number. They are designed to show changes in a complicated variable like industrial output, prices or in this case, deprivation. An index then allows comparisons between different values – in the case of WIMD, the comparison is between small areas.

5. What does WIMD measure?

WIMD is a measure of multiple deprivation that is both an area-based measure and a measure of relative deprivation. These key terms are defined more fully below.

Deprivation is the lack of access to opportunities and resources which we might expect in our society. The domains used in WIMD relate to both material and social aspects of deprivation. Material deprivation is having insufficient physical resources – food, shelter, and clothing – necessary to sustain a certain standard of life. Social deprivation refers to the ability of an individual to participate in the normal social life of the community.

Multiple Deprivation refers to more than one type of deprivation. WIMD is calculated from eight different domains (or types) of deprivation, each compiled from a range of different indicators. An area is multiply deprived if, for more than one of the domains, the area has a concentration of people experiencing that type of deprivation. Generally speaking, the greater the number of domains for which there are high concentrations of deprivation then the greater the overall deprivation in an area. This does not necessarily mean that the *same* people suffer multiple types of deprivation in the area, although we would expect there to be significant overlap.

Area-based measure: WIMD is calculated for all small areas (Lower layer Super Output Areas – LSOAs) in Wales. Following the 2011 Census, 1,909 LSOAs were defined in Wales and they have an average population of 1,600 people. WIMD is based on indicators that consider the aggregate characteristics of the people living in the area and, in some cases, the characteristics of the area itself (for example, in the Physical Environment domain).

Relative measure: The Index provides a way of identifying areas in the order of least to most deprived. It does not provide a measure of the level of deprivation in an area, but rather whether an area is more or less deprived relative to all other areas in Wales. Therefore, we can identify which areas are more (or less) deprived than others, but not by how much. The reason for taking such an approach is to allow the different domains to be combined together.

6. What are the domains that make up WIMD?

WIMD is currently made up of eight separate domains (or types) of deprivation, each compiled from a range of different indicators. 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 domain weights for WIMD 2019 are shown below, alongside the weights used in 2014. Improvements to data used for the Housing and Health domains led to a decision to make small increases to their weights. To allow for this, weights for the Income and Employment domains were reduced slightly. However those two domains retain the highest relative weights, since they are strong determinants of deprivation.

Spreading a small amount of the weight previously placed on Income and Employment into other domains also reflects the wide range of well-being goals set out in the [Well-being of Future Generations Act \(Wales\) 2015](#), and some of the key themes in the Welsh Government's [Prosperity for All](#) national strategy.

	<u>WIMD 2019</u> <u>domain weight</u>	<u>WIMD 2014</u> <u>domain weight</u>
Income	22%	23.5%
Employment	22%	23.5%
Health	15%	14%
Education	14%	14%
Access to Services	10%	10%
Housing	7%	5%
Community Safety	5%	5%
Physical Environment	5%	5%

In addition to providing an overall ranking of relative multiple deprivation for small areas in Wales, WIMD also provides ranks for each of the eight different types of deprivation. These “domain ranks” can be used to understand the drivers for deprivation in an area, and identify deprivation patterns

between areas. For example, the areas represented in the table below are similar in their WIMD 2014 ranks, but the pattern of deprivation across their domains is quite different.

Table 1: WIMD 2014 examples of deprivation patterns across domains

LSOA Local Authority	Pembroke: Monkton Pembrokeshire	Cwmbach 2 Rhondda Cynon Taf	Llanrumney 6 Cardiff
WIMD 2014 Overall rank	80	81	84
Income rank	62	185	59
Employment rank	84	55	218
Health rank	59	55	228
Education rank	236	253	13
Access to services rank	498	325	1371
Community safety rank	455	126	277
Physical environment rank	1727	162	321
Housing rank	160	970	82

7. What are the deprivation groups used in WIMD analysis?

High ranking areas (LSOAs) can be referred to as the ‘most deprived’ or as being ‘very deprived’ to aid interpretation. However, there is no definitive threshold above which an area is described as ‘deprived’. WIMD rankings are often grouped into deciles, quintiles and deprivation groups for analysis and mapping purposes. Details are shown in the table below.

Table 2: Ranks belonging in different groups

Ranks	Decile Group	Quintile Group	Deprivation Group
1 - 191	1 (10% most deprived)	1 (20% most deprived)	1 (10% most deprived)
192 - 382	2 (10-20% most deprived)	1 (20% most deprived)	2 (10-20% most deprived)
383 - 573	3 (20-30% most deprived)	2 (20-40% most deprived)	3 (20-30% most deprived)
574 - 764	4 (30-40% most deprived)	2 (20-40% most deprived)	4 (30-50% most deprived)
765 - 955	5 (40-50% most deprived)	3 (40-60% most deprived)	4 (30-50% most deprived)
956 - 1146	6 (50-60% most deprived)	3 (40-60% most deprived)	5 (50% least deprived)
1147 - 1337	7 (60-70% most deprived)	4 (60-80% most deprived)	5 (50% least deprived)
1338 - 1528	8 (70-80% most deprived)	4 (60-80% most deprived)	5 (50% least deprived)
1529 - 1719	9 (80-90% most deprived)	5 (20% least deprived)	5 (50% least deprived)
1720 - 1909	10 (10% least deprived)	5 (20% least deprived)	5 (50% least deprived)

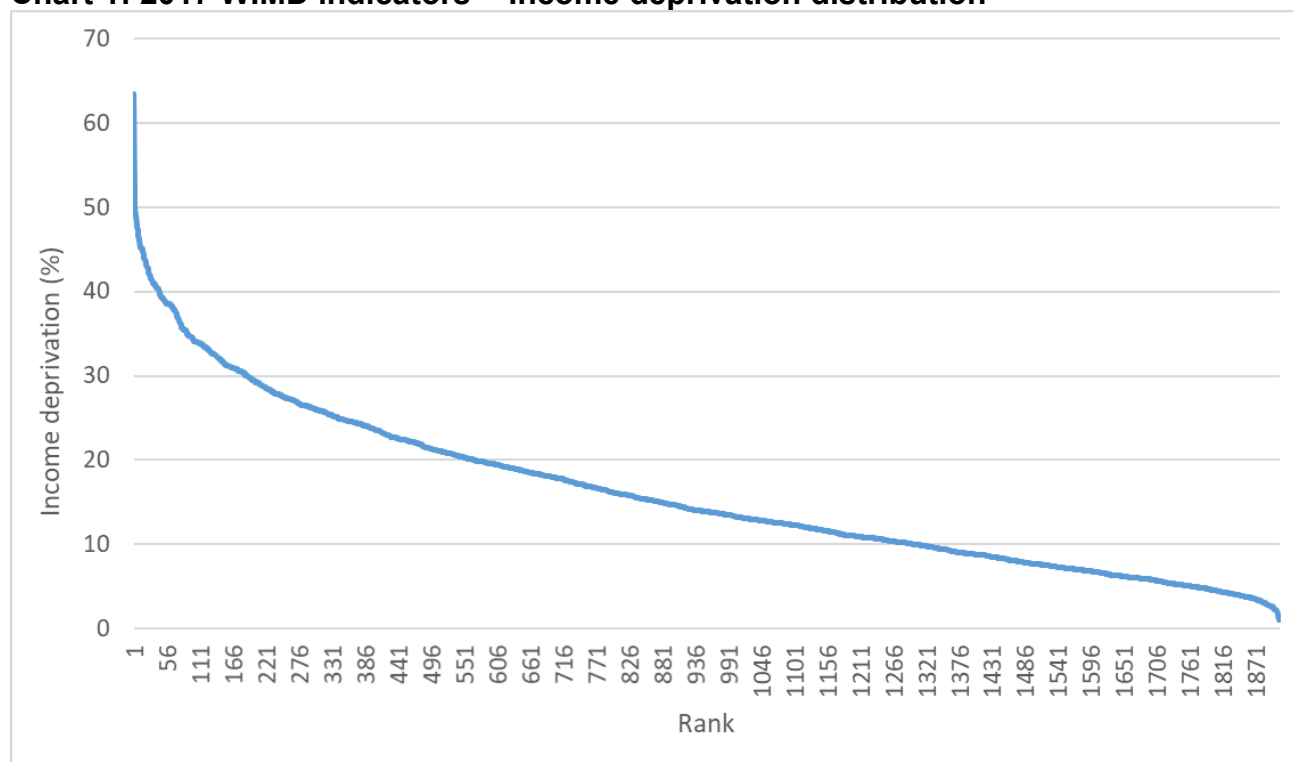
The decile (and quintile) groupings split the areas into 10 (and 5) roughly equal groups. As there are 1,909 LSOAs in Wales, these groups do not have exactly equal numbers of areas within them.

The Deprivation Groups are used within the main WIMD analyses, including maps. They are designed to have smaller groups at the more deprived end of the distribution, where the difference between areas is greater than at the less deprived end. To illustrate this feature of deprivation indicators, the chart below shows how the percentage of income-deprived people was distributed by rank in our 2017 WIMD indicator update. Note that:

- deprivation rates increase steeply at the most deprived end of the distribution (large changes in the indicator value may only result in small changes to ranks)

- at the less deprived end, the curve is flatter, and small changes to the indicator values could result in large movements in the ranks
- the 's-curve' shape of the distribution is seen to a greater or lesser extent in all the indicators of deprivation

Chart 1: 2017 WIMD indicators - Income deprivation distribution



8. What can WIMD be used for?

Knowing how deprivation is distributed across Wales is important when developing area-based policies, programmes and funding. WIMD can be used to inform these decisions and give a greater understanding of deprivation trends within Wales. WIMD can be used for:

- Identifying the most deprived small areas
- Comparing relative deprivation of small areas
- Exploring the 8 domains (types) of deprivation for small areas
- Comparing the proportion of small areas within a larger area that are very deprived
- Using indicator data (but not the ranks) to compare absolute change over time

The Index is most useful when used in conjunction with other information, either from the Index indicators, other published data or local information. The rank and indicator data, the latter including data for a range of geographies and some breakdowns by age, will be published on [StatsWales](https://stats.wales.gov.uk/). References to potentially useful contextual information will be included in the Results Report. There

are a number of sources of information on local areas that may be useful to users, depending on their specific needs. These include:

- Data on certain Welsh towns and communities made available through the [Understanding Welsh Places](#) resource
- Data on local authorities made available through the [Thriving Places Wales](#) resource
- Labour Market statistics for local areas made available through the Office for National Statistics' [Nomis](#) website

9. What are the limitations of WIMD?

It is important to remember that WIMD is not the only way to measure deprivation. WIMD has been developed for a particular purpose which is; to measure concentrations of several types of deprivation at a small area level.

Quantifying deprivation: WIMD ranks do not give a measure of the amount of deprivation in an area, and do not allow for statements such as “area A is twice as deprived as area B”. The ranks can only be used to say “area A is more deprived than area B”. However the underlying WIMD indicator data represent absolute levels of deprivation on specific measures, and where possible, are published annually on [StatsWales](#).

Comparing absolute deprivation between index iterations: As WIMD is a relative index, change in ranks over time may not mean change in absolute deprivation levels. A change in rank for an area may be due to other areas moving up or down the ranks, rather than any change in the area itself. Conversely, even if an area’s rank remains the same, the level of deprivation in that area could have gone up or down but just not enough to affect its position relative to other areas. However the underlying WIMD indicators can sometimes be used to monitor change over time, as explained further in the [indicator guidance article](#) (due to be updated in early 2020 to include new indicators).

Comparing relative deprivation between index iterations: WIMD can be used to look at the change in relative deprivation ranks between iterations, for example which areas have left, joined or remained in the most deprived group. However care should be taken in interpreting any changes. In order to produce the best possible snapshot of relative deprivation, for WIMD 2019 we have changed some of the indicators, domain weights, and the ONS have [revised population estimates](#) underlying some WIMD 2014 indicators. These changes may have contributed to an area becoming more (or less) deprived relative to others, rather than underlying shifts in relative deprivation of areas since WIMD 2014.

Deprived individuals: There can be people living in deprived areas that would not be considered deprived, and there can also be people that would be considered deprived living in the least deprived areas. Around 1 in 5 income deprived people live in the 10 per cent most deprived areas. So although deprivation is much more concentrated in some areas than others, 4 out of 5 income

deprived people live outside these areas. This is important to remember when targeting resources, as targeting those 'most deprived' areas means including some people in those areas who may not be deprived, and missing many deprived people living in less deprived areas.

Individuals who are deprived in several ways: WIMD does not identify individuals who are deprived in several ways, rather, it identifies areas where there are concentrations of several different types of deprivation. At present, we are not able to link the data included in the Index at an individual person level in order to understand the extent of multiple deprivation for individuals but this may become possible in the future.

Deprivation across the UK: Ranks are not comparable with the Indices of Multiple Deprivation (IMD) from the other UK countries. Further information on the issue of comparing IMDs across the UK can be found in [an article](#) from the Office for National Statistics. This article is due to be updated to reflect more recent indices, but the key messages around comparability remain valid.

Affluence: It is important to remember that a lack of deprivation is not the same as being affluent. The least deprived area is not necessarily the most affluent area in Wales. This also means that the ability of WIMD to discriminate effectively between areas is strongest for the most deprived areas and extreme care should be taken in drawing conclusions about the differences between less deprived areas.

10. Deprivation and rural areas

WIMD's purpose is to identify concentrations of deprivation. Deprived people in rural areas of Wales tend to be more geographically dispersed than in urban areas. This means that pockets of deprivation in rural areas of Wales tend to be on a considerably smaller scale than even the small scale geography at which WIMD is produced.

People in rural communities can experience many of the same issues as deprived people in other areas. However, some commentators³ argue that certain issues can disproportionately affect people in rural areas, for example lack of employment opportunities and access to services. It can also be argued that some deprivation issues can disproportionately affect people in urban areas, such as congestion.

Those with a specific interest in rural or urban deprivation may be interested in the following outputs published as part of WIMD 2014, which explore some of the issues raised. We intend to update these analyses to reflect WIMD 2019 data in early 2020:

- A statistical article providing guidance on how WIMD and its indicators can and can't be used to [analyse deprivation in rural areas](#)
- An [analysis of the Access to Services Domain](#) by type of settlement
- [Indicator data](#) aggregated to rural and urban settlement areas

³ For example, see the Wales Centre for Public Policy's [2016 Report on Rural Poverty in Wales](#)

11. What are the deprivation scores?

The overall Index and domain ranks are the main output for WIMD. As part of the process for calculating WIMD ranks, scores (domain and overall) are produced. The WIMD scores are a stage in the construction of the Index and not a product. The scores do not represent a *level* of multiple deprivation. For example, if area A has twice the score of area B, this does not necessarily mean that area A is twice as deprived as area B. This means that scores do not contain any more information on levels of multiple deprivation than the ranks do. To assess levels of deprivation, underlying indicator data should be used.

The WIMD scores are published for two reasons only:

- For transparency (so that users have access to all stages of construction)
- So that users can experiment with different weighting systems for the Index, if required

12. Aggregating to larger geographies

WIMD is calculated for all small areas (Lower layer Super Output Areas – LSOAs) in Wales. There are two ways of comparing larger geographies:

- a) Calculate the proportion of small areas in a larger geography which are in the most deprived (say) 10 or 20 per cent of areas in Wales. For example, if an area has more than 10 per cent of its small areas in the most deprived 10 per cent in Wales it can be considered relatively deprived. If it has fewer than 10 per cent, then it can be considered relatively less deprived. This will be done for local authorities in our Results Report, and for several other geographies on [StatsWales](#) and our [interactive website](#), on 27 November.
- b) Use the underlying indicator data, which can be aggregated ([as published on StatsWales](#)). The indicators are published not just at the small area level, but also for a range of other useful geographies including local authorities.

It is not valid to aggregate the ranks or scores to larger geographies by taking an average of the values for the small areas. This is because of the way in which the Index is constructed.

13. Comparing WIMD with other UK countries

[England](#), [Scotland](#) and [Northern Ireland](#) all produce their own Indices of Multiple Deprivation (IMD). These datasets are based on the same concept and general methodology, however the following differences mean the indices are not directly comparable:

- they are produced for different geographies (there is no suitable small area geography which is consistent across the four nations)
- there are differences between the indicators and not all data are collected consistently across the UK (for example, the education systems are different from Wales, so some education indicators are not comparable)
- the Indexes have developed according to the policy drivers in each of the countries; as devolution has evolved, these differences have grown
- the Indexes are produced on different timescales, so they do not tend to refer to the same year of data across the UK - again, this is often driven by different requirements in the different countries.

Further guidance on the issue of comparing IMDs across the UK can be found in [this article](#) from the Office for National Statistics, which is due to be updated soon. Welsh Government will continue to work with the relevant governments and departments to explore opportunities for alignment where possible.

14. Further information

Information on WIMD, including a full package of products, will be published on the [WIMD website](#) on 27 November 2019.