From mountain to sea

Aberdeenshire COUNCIL

Scottish Index of Multiple Deprivation 2020 V2

Toolkit

Planning Information and Delivery Team

From mountain to sea

SIMD Toolkit

Contents

From mountain to sea

Toolkit Purpose

The purpose of this tool kit is to provide individuals with the skills to use and analyse the Scottish Index of Multiple Deprivation (SIMD) data for their own areas of interest.

While it will provide a brief overview of what SIMD is, a more detailed explanation of the data sets can be accessed through the resources section.

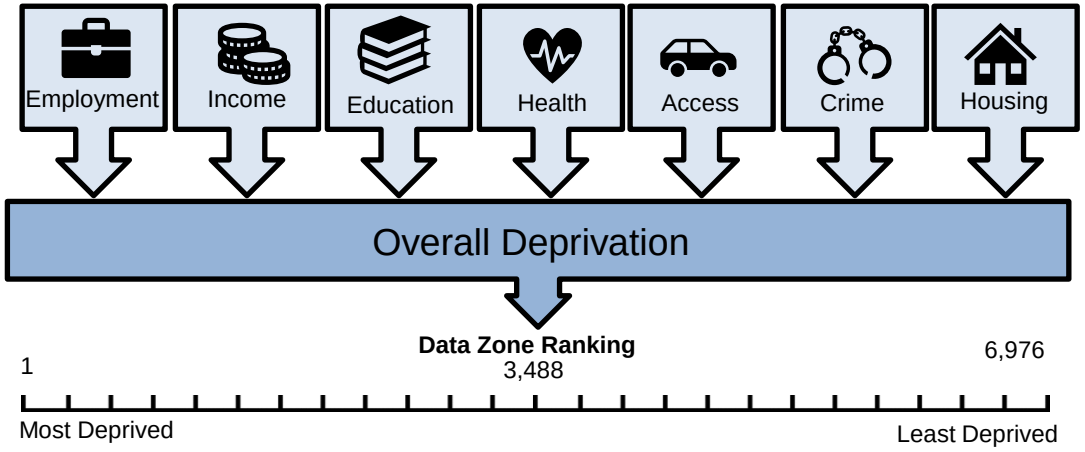
Aberdeenshire COUNCIL

From mountain to sea

What is SIMD?

The Scottish Index of Multiple Deprivation (SIMD) is a relative measure of deprivation across 6,976 small areas (called data zones). If an area is identified as 'deprived', this can relate to people having a low income, but it can also mean fewer resources or opportunities. SIMD looks at the extent to which an area is deprived across seven domains: income, employment, education, health, access to services, crime, and housing.

Data zones are ranked for each domain from 1, being the most deprived area in Scotland, to 6,976, being the least deprived in Scotland. The impact of each domain to the overall ranking is weighted, based on how it contributes to deprivation, with employment and income weighted the most heavily. This provides a relative measure of deprivation at data zone level, and a ranking for each individual domain.



Aberdeenshire COUNCIL

From mountain to sea

How can I use SIMD?

Use SIMD for:

- Comparing overall deprivation of small areas
- Comparing the seven domains of deprivation
- Comparing the proportion of small areas in a council that are very deprived
- Finding areas where many people experience multiple deprivation
- Finding areas of greater need for support and intervention

Do not use SIMD for:

- Saying how much more deprived one area is from another - the difference between two ranks can be tiny or large
- Comparing ranks over time - changes are relative and may not reflect actual changes in the neighbourhood
- Comparing with other UK countries - each country measures deprivation slightly differently
- Identifying all people who are deprived in Scotland - not everyone who is deprived lives in a deprived area
- Finding affluent areas - lack of deprivation is not the same as being rich

Aberdeenshire COUNCIL

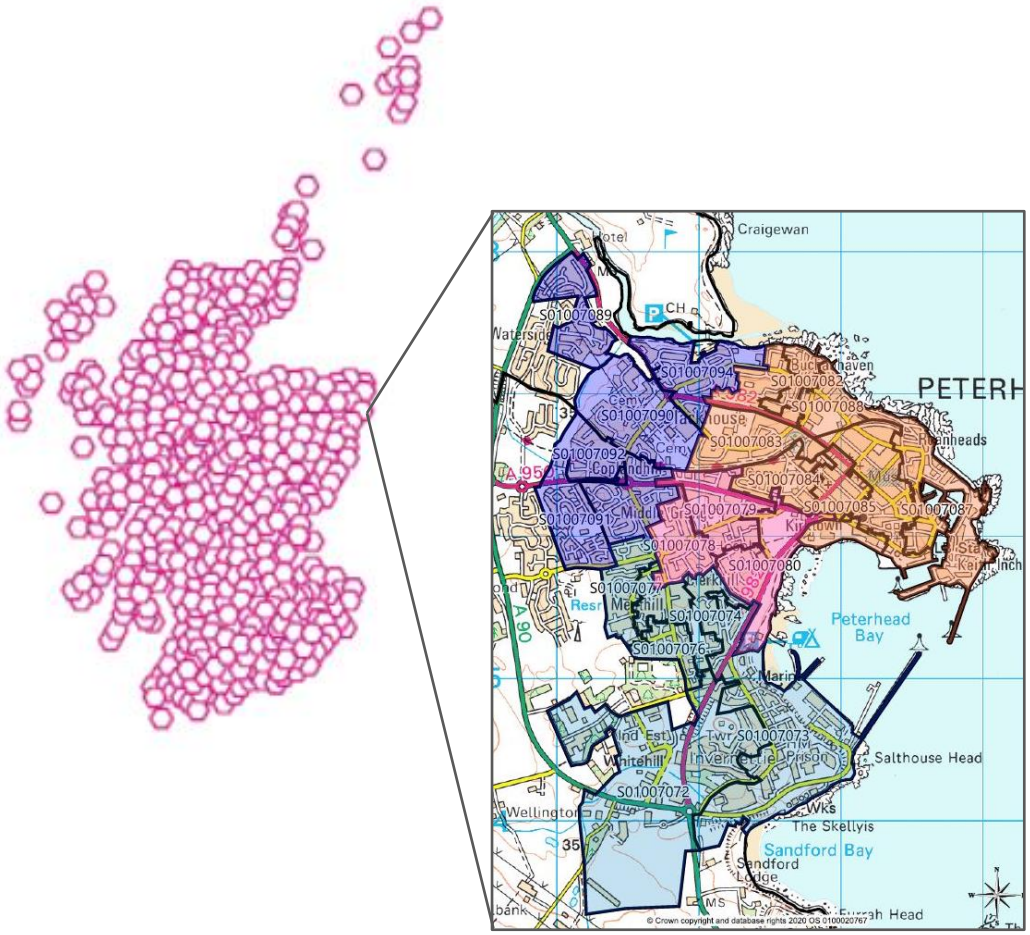
From mountain to sea

Data zones

Data zones are the key geography for the dissemination of small area statistics in Scotland and are widely used across the public and private sector.

They are designed to have roughly standard populations of 500 to 1,000 household residents, nest within Local Authorities, have compact shapes that respect physical boundaries where possible, and to contain households with similar social characteristics.

There are 6,976 data zones in Scotland and 340 data zones in Aberdeenshire.



Aberdeenshire COUNCIL

From mountain to sea

Components of SIMD

Employment	Income	Education	Health	Access	Crime	Housing
Percentage of people who are employment deprived Number of people who are employment deprived	Percentage of people who are income deprived Number of people who are income deprived	School pupil attendance Attainment of school leavers Working age people with no qualifications: standardised ratio Proportion of people aged 16-19 not participating in education, employment or training Proportion of people aged 16-19 not participating in education, employment or training	Comparative Illness Factor: standardised ratio Hospital stays related to alcohol or drug use: standardised ratio Standardised mortality ratio Proportion of population being prescribed drugs for anxiety, depression or psychosis Proportion of live singleton births of low birth weight Emergency stays in hospital: standardised ratio	Average drive time to a petrol station, GP surgery, post office, primary school, retail centre or secondary school in minutes Average public transport time to GP surgery, post office of retail centre in minutes % of Premises without access to superfast broadband	Number of recorded crimes of violence, sexual offences, domestic housebreaking, vandalism, drugs offences, and common assault Recorded crimes of violence, sexual offences, domestic housebreaking, vandalism, drugs offences, and common assault per 10,000 people	Number of people in households that are overcrowded Number of people in households without central heating Percentage of people in households that are overcrowded Percentage of people in households without central heating

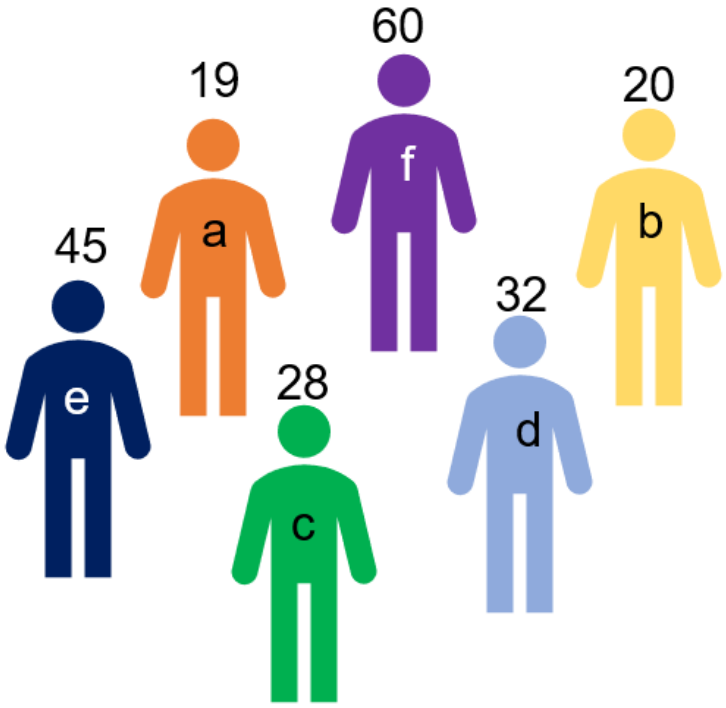
There are two elements to the SIMD data; the ranking provided overall and for each of the seven domains, and the underlying indicator data that helps form the ranking.

Aberdeenshire COUNCIL

From mountain to sea

Relative Ranking

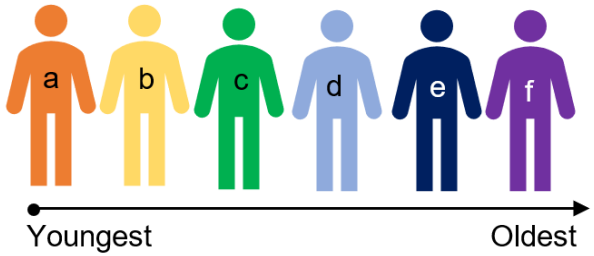
For overall deprivation and for each individual domain SIMD ranks every data zone in Scotland from 1, the most deprived area to 6,976, the least deprived area. This provides a relative ranking of data zones. To understand this better let us look at a group of 6 individuals and their respective ages:



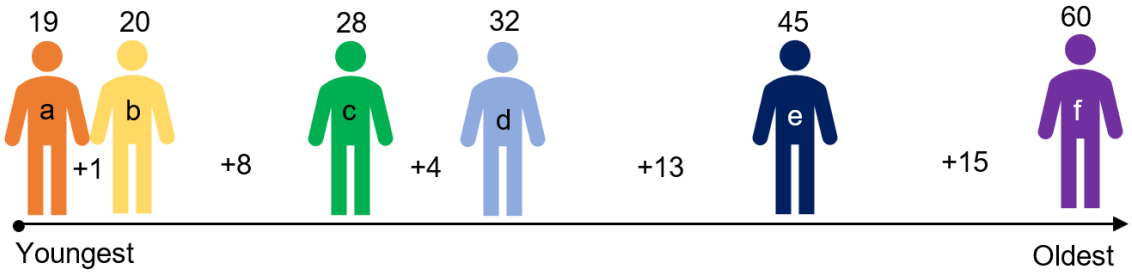
From mountain to sea

Relative Ranking

If we rank them in order of youngest to oldest, we can tell their relative age i.e. person “b” is younger than person “c” and older than person “a”. This is what the SIMD ranking tells you.



What you cannot tell from relative ranking is how much difference in age there are between the members in our group. This is the same for SIMD, you only know the relative position of a data zone, not how much difference there is between them.



Because of this ranking measure you also cannot use SIMD to monitor change over time in an area. It is a snapshot of the current situation. While the ranking of a data zone may change between data releases this does not necessarily translate to material changes on the ground. It may be that other areas have worsened or improved.

Aberdeenshire COUNCIL

From mountain to sea

Describing SIMD

Instead of the number ranking (1 to 6,976) the easiest way to think about the SIMD score of a data zone is in percentage groupings

- Quintiles split the data zones into 5 groups, each containing 20% of Scotland's data zones
- Deciles split the data zones into 10 groups, each containing 10% of Scotland's data zones
- Vigintiles split the data zones into 20 groups, each containing 5% of Scotland's data zones

You can describe data zones as falling into one of these groupings e.g. within the 20% most deprived in Scotland. Some examples on how to use these can be found on the following pages. While this guidance focuses on overall deprivation ranking the same principles can be applied to any of the individual domains.

Aberdeenshire COUNCIL

From mountain to sea

Describing SIMD

Quintile (20%)	Quintile % Groups	SIMD Ranking	
		From	To
1	1 – 20%	1	1,395
2	21 – 40%	1,396	2,790
3	41 – 60%	2,791	4,185
4	61 – 80%	4,186	5,580
5	81 -100%	5,581	6,976

Quintiles

Decile (10%)	Decile % Groups	SIMD Ranking	
		From	To
1	1 - 10%	1	697
2	11 – 20%	698	1,395
3	21 – 30%	139,6	2,092
4	31 – 40%	2,093	2,790
5	41 – 50%	2,791	3,488
6	51 – 60%	3,489	4,185
7	61 – 70%	4,186	4,883
8	71 – 80%	4,884	5,580
9	81 – 90%	5,581	6,278
10	91 – 100%	6,279	6,976

Deciles

Vigintile (5%)	Vigintile % Groups	SIMD Ranking	
		From	To
1	1 - 5%	1	348
2	6 - 10%	349	697
3	11 - 15%	698	1,046
4	15 - 20%	1,047	1,395
5	21 - 25%	1,396	1,744
6	26 – 30%	1,745	2,092
7	31 – 35%	2,093	2,441
8	36 – 40%	2,442	2,790
9	41 – 45%	2,791	3,139
10	46 – 50%	3,140	3,488
11	51 – 55%	3,489	3,836
12	56 – 60%	3,837	4,185
13	61 – 65%	4,186	4,534
14	66 – 70%	4,535	4,883
15	71 – 75%	4,884	5,232
16	76 – 80%	5,233	5,580
17	81 – 85%	5,581	5,929
18	86 – 90%	5,930	6,278
19	91 – 95%	6,279	6,627
20	96 – 100%	6,628	6,976

Vigintiles

From mountain to sea

Using Quintiles, Deciles and Vigintiles

Quintiles, deciles and vigintiles all work in the same way, it is only the level of detail provided that changes. Which you select to use will depend on the purposes of the data and how big an area you are looking at.

Most Deprived

Typically, research focuses on identifying the most deprived areas.

For example, data zone S01013306 has an overall ranking of 340, therefore is the 340th lowest ranking data zone in Scotland. Looking at each of our 3 division you could describe it as:

- In the 1st quintile therefore within the 20% most deprived in Scotland
- In the 1st decile therefore within the 10% most deprived in Scotland
- In the 1st vigintile therefore within the 5% most deprived in Scotland

The “% Look-up” tab in the Aberdeenshire SIMD 2020 V2 Rankings spreadsheet will help you quickly identify the quintiles, deciles and vigintiles for each for data zone ranking.

Aberdeenshire COUNCIL

From mountain to sea

Using Quintiles, Deciles and Vigintiles

Least Deprived

You may also want to look at the other end of the scale. For example, data zone S01006982 is ranked at 5,999, found in the 18th vigintile. While you can describe it as being in the 90% most deprived in Scotland, it is probably more meaningful to talk about it being the 20% least deprived. Remember you can only talk about most and least levels of deprivation.

It is up to the data user how they wish to describe the figures in terms of most and least deprivation however at the halfway point in the rankings is a typical place to switch terminology.

Aberdeenshire COUNCIL

From mountain to sea

Using Quintiles, Deciles and Vigintiles

Further Examples

The following examples are all looking at vigintiles, although the same principles can be used in quintiles and deciles

Data zone Ranking	Vigintile	%	Description
702	3	11 - 15%	Within the 15% Most Deprived in Scotland
1,555	9	21 - 25%	Within the 25% Most Deprived in Scotland
2,933	9	41 - 45%	Within the 45% Most Deprived in Scotland
4,112	12	56 – 60%	Within the 45% Least Deprived in Scotland
4,799	14	66 – 70%	Within the 35% Least Deprived in Scotland
6,832	20	96 – 100%	Within the 5% Least Deprived in Scotland

Aberdeenshire COUNCIL

From mountain to sea

Local and National Share

While it can be useful to discuss individual data zones what is more usual is to be looking at overall deprivation levels within a larger area. Remember while data zones fit into local authority boundaries, other areas such as settlements or wards do not have always align and therefore you may need to consider a best fit approach.

You cannot amalgamate SIMD rankings to provide an overall or average score for an area. Instead we look at the local share of deprivation.

Aberdeenshire Example

There are 340 data zones in Aberdeenshire

- 9 are within the 20% most deprived in Scotland
- Therefore 2.7% of Aberdeenshire's data zones are in the most deprived 20% in Scotland. This is the local share of deprivation
- There are 1,395 data zones in Scotland in the 20% most deprived
- 0.7% of these are in Aberdeenshire. This is the national share of deprivation

Which percentage groupings you choose to describe the area will depend on the data. You may be looking at most or least deprivation or a mixture.

Aberdeenshire COUNCIL

From mountain to sea

Local and National Share

Further Examples

Below are some further examples of using SIMD to describe an area.

Area: **Fraserburgh**

No of data zones: 17

Quintile	% Grouping	Number of data zones	Local Share
1	1% - 20%	5	29.4%
2	21% – 40%	3	17.4%
3	41% – 60%	3	17.4%
4	61% – 80%	3	17.4%
5	81% – 100%	3	17.4%

You can therefore say that in Fraserburgh 29.4% of the area's data zones are in the 20% most deprived in Scotland, with 17.4% being in the least deprived 20%.

Aberdeenshire COUNCIL

From mountain to sea

Local and National Share

Further Examples

Below are some further examples of using SIMD to describe an area.

Area: **Ellon**

No of data zones 14

Quintile	% Grouping	Number of data zones	Local Share
1	1% - 20%	0	0%
2	21% – 40%	0	0%
3	41% – 60%	4	28.5%
4	61% – 80%	2	14.3%
5	81% – 100%	8	57.1%

0% of Ellon's data zones can considered within the 40% most deprived in Scotland. 57.1% of the area is within the 20% least deprived in Scotland.

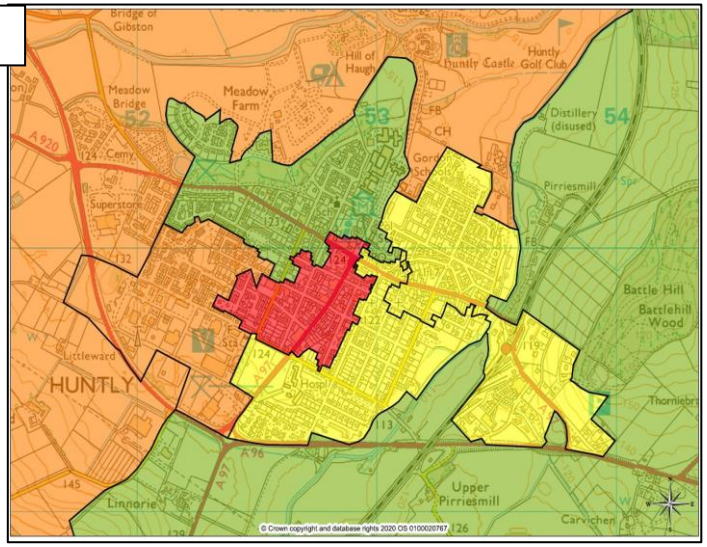
Aberdeenshire COUNCIL

From mountain to sea

Presenting your Findings

There are many different and creative ways you can display SIMD figures. Graphs or pictorial representations of data often best help the reader understand and visualize key messages you are trying to communicate.

1.

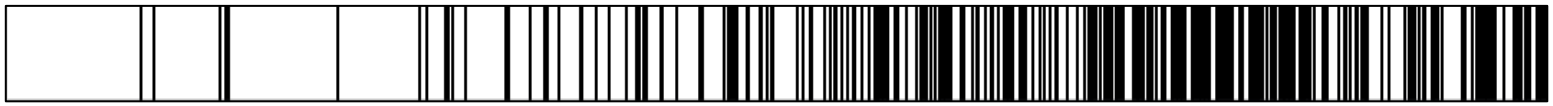


1. Choropleth maps are a great way of communicating SIMD figures. We are all familiar with displaying data is this manner and therefore the reader can quickly understand and interpret the key messages.

2. Bar Code graph again shows the distribution of data zones for a given area. Each line represents the ranking position of one data zone. From this you can visually tell the spread or concentration of deprivation levels for an area.

2.

Aberdeenshire SIMD2016



Aberdeen City SIMD2016

Most Deprived

Least Deprived

Aberdeenshire COUNCIL

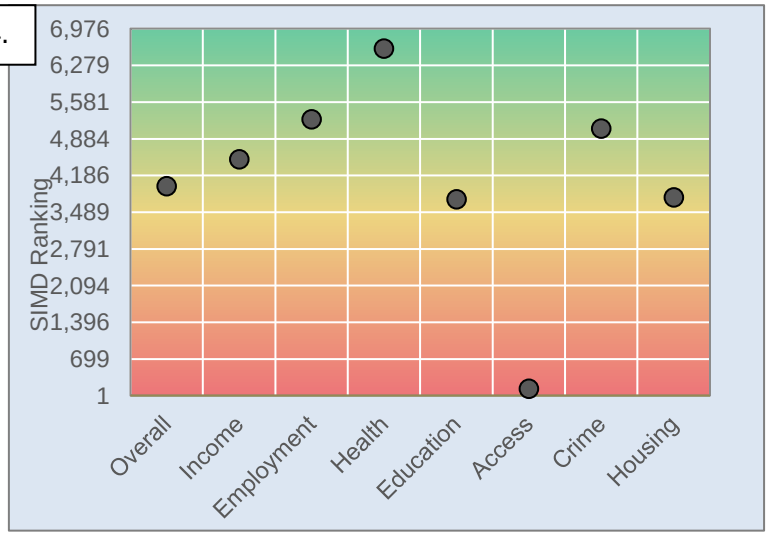
From mountain to sea

Presenting your Findings

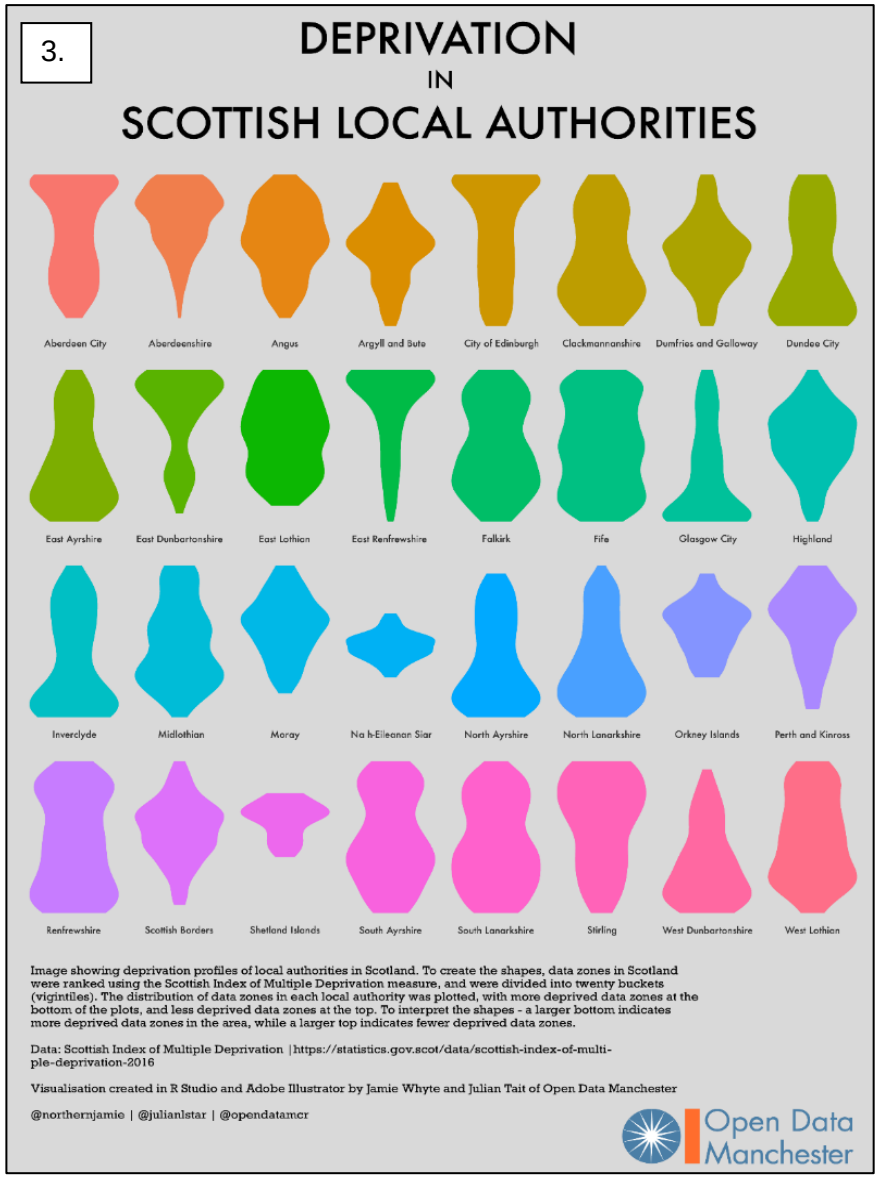
3. Open Data Manchester produced “Lava Lamp” graphs (SIMD2016) to illustrate the distribution of deprivation levels for each local authority. Aberdeenshire’s “top-heavy” chart shows the high concentration of data zones at the “least deprived” end of the spectrum

4. Bar Graphs or point data graphs can be useful in showing not only the overall ranking for a data zone but the ranking of each domain as well

4.



3.



Aberdeenshire COUNCIL

From mountain to sea

Resources

Useful links and documents

Aberdeenshire Website:

Aberdeenshire SIMD 2020 V2 Briefing Note The main findings for the SIMD2020 for Aberdeenshire

Aberdeenshire SIMD 2020 V2 Ranking The full data set for overall SIMD rankings, domains, indicator data and quantile look ups for Aberdeenshire

External Links:

What is the Scottish Index of Multiple Deprivation? The official guidance from the Scottish Government on the production and use of SIMD2020

Scottish Index of Multiple Deprivation 2020 V2 Revision Notice

Scottish Index of Multiple Deprivation 2020 V2 – Ranks

Scottish Index of Multiple Deprivation 2020 V2 – Indicators

SIMD2020 Map Interactive map on the distribution of deprivation in Scotland 2020

What is a Data zone? A more in-depth explanation into data zones from the UK Government

SIMD Rural Deprivation: Evidence Study A report from the Scottish Government exploring how deprivation effects rural communities

SIMD16 Technical Notes Although produced for the 2016 data release much of the information remains the same. Explains the data collected to provide the indicator figures which make up each domain.

From mountain to sea

Aberdeenshire COUNCIL

Thank you

Planning Information and Delivery Team
statistics@aberdeenshire.gov.uk

aberdeenshire.gov.uk