COMMUNITY PLANNING OUTCOMES PROFILE

METHODOLOGY NOTE

Introduction

What is it?

The Community Planning Outcomes Profile provides an overarching, high-level tool for you to assess if the lives of your communities are improving over time.

It provides a consistent basis for you to profile your local area in relation to core measures of outcomes and measures of inequalities of outcomes.

The small set of core measures (modelled and raw data) included reflects key life outcomes across early years, older people, safer/stronger communities, health and wellbeing and employment/economy.

What does it tell you?

- The overall pattern of outcomes in your area and whether the life of your community is improving over time
- Those communities who are faring well below the norm for your area, and below that compared to similar communities elsewhere in Scotland
- How specific types of community do in your area and elsewhere in Scotland – identifying opportunities for learning.

How is this approach different?

This profile differs from previous approaches in its outcomes focus.

- It represents the first attempt to bring together core outcome measures and measures of inequality in outcomes for all 32 partnerships within one profile.
- It introduces the ability for partnerships to consider outcomes 'in the round' as well as individually. This encourages a focus on the most vulnerable communities where negative outcomes are clustered.
- It makes the best use of data that exists by modelling data.
- This profile presents the core measures in 2011 data zones (DZ) and intermediate geography zones (IZ). Advice from the Scottish Government is that caution should be taken when looking at trends across time – however when converting data, the model uses the Scottish government mapping tool to get a best fit approach. This enables the profile to present a single time series which otherwise would not be possible.
- It pioneers an advanced methodology to enable partnerships to compare the outcomes for their local communities against those for similar communities elsewhere in Scotland. This underlying methodology used a 'typology' which grouped all 1235 communities (based on 2001 intermediate geography zones) into types based on known characteristics that affect outcomes, such as income deprivation, rurality and demographic factors. For the refresh using 2011 data zones and intermediate geography zones a slightly refined version of original typology was applied to the new areas

How will it be used?

The profile is designed to support **Community Planning Boards** in their efforts to improve outcomes for their communities, particularly for the most vulnerable communities in their area. E.g.

- As a decision support tool which stimulates discussion amongst CP boards, individual partners and with local communities.
- As an important element of the strategic intelligence available, sitting alongside professional judgement and local knowledge.
- To inform the development of Local Outcome Improvement Plans.

Governance

The development of the CPOP is an important element in the Outcomes, Evidence and Performance (now Community Planning Improvement) programme, an initiative jointly funded by Scottish Government, Local Government and the Improvement Service to support the ongoing reform of Community Planning and the delivery of improved outcomes.

Oversight for this programme is provided by the Community Planning Improvement Board, chaired by SOLACE, and involving senior level representation from key CPP stakeholders, including, NHS, Scottish Government, Voluntary Sector, Enterprise Agencies, Audit Scotland, Police, Fire and What Works.

Ongoing development

We are keen to gather as much feedback as possible on the CPOP shiny app. Work will continue with partnerships to refine the profile and test out how the information might be used to support decision making and engagement with local communities.

Methodology and assumptions

This note also:

- provides detail on the methodology and assumptions underpinning the profile
- provides an explanation of the three factors used to define the typology, and how Scotland's communities are classified into their types
- provides an explanation of the conversion methodology used to convert data in historic geographical boundaries to the current geographical boundaries.
- provides users with information about the source and quality (metadata) relating to the chosen outcomes used in the profile.

CONTENTS

How to use "CPP-Over Time"

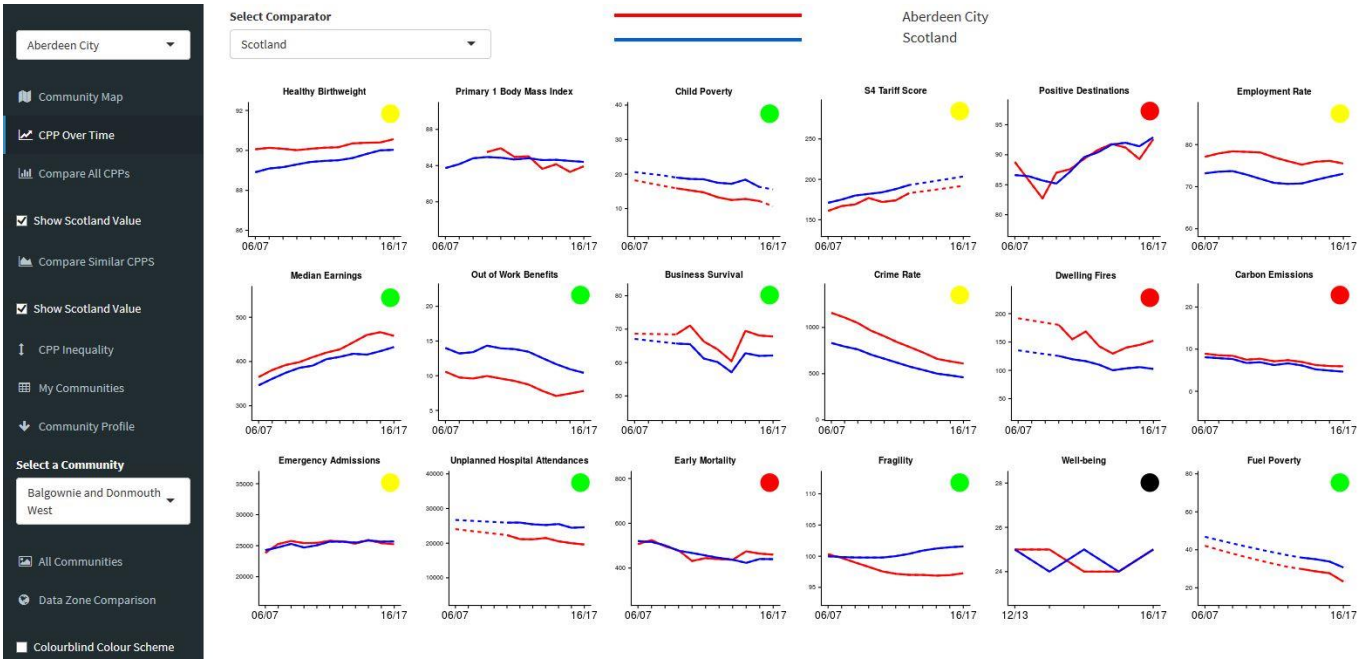
Aim/Purpose

The aim of this page is to help users understand the patterns (levels and trends) of sixteen outcomes in a selected CPP. This may be compared with the figures for Scotland as a whole, or with another CPP of choice.

Selection

This page has a drop-down selector button to allow users to choose a CPP area. The default comparator is for Scotland as a whole, but the user may choose another comparator CPP using the drop-down list.

What it shows



The page shows 18 graphs comparing time series data of each outcome in the selected CPP and in Scotland as a whole as a default, (users may choose to make a comparison to another CPP using the drop-down menu).

Users may find out more information about each measure by clicking on the title of any graph.

Users may be interested in two particular points relating to each outcome: (1) is the outcome in the selected CPP better than the outcome in Scotland as a whole in the latest year (where data are available), and (b) has the outcome in the CPP improved at a faster rate than the outcome in Scotland as a whole between the earliest and latest years (for the data in the model). Above each graph there is a small circle – coloured red, amber and green. If the square is green, then the outcome in 2018/19 is better and the improvement rate is faster than that for Scotland (or a selected comparator); if red, then the outcome in 2018/19 is worse and the improvement rate is slower than that for Scotland (or a selected comparator); and if amber, either the outcome is better and the improvement rate is slower, or the outcome is worse and the improvement rate is faster than that for Scotland (or a selected comparator). Note: for some CPPs, the P1 BMI data in 2007/08 was not available, so a comparison was made between the most year available, in most cases this was 2008/09.

	Outcome in latest year	**Outcome improvement rate between the earliest and latest years**
	Outcome in CPP – better than Scotland (or other selected CPP)	Outcome improvement rate in CPP – faster than Scotland (or other selected CPP)
	Outcome in CPP – better than Scotland (or other selected CPP)	Outcome for improvement rate in CPP – slower than Scotland (or other selected CPP)
	Outcome in CPP – worse than Scotland (or other selected CPP)	Outcome improvement rate in CPP – faster than Scotland (or other selected CPP)
	Outcome in CPP – worse than Scotland (or other selected CPP)	Outcome improvement rate in CPP – slower than Scotland (or other selected CPP)

Imputed data has been calculated where raw data is not yet available. This data is highlighted as a dashed line in the relevant outcomes. For further information on the methodology of calculating these values, please see ANNEX B

How to use "Compare all CPPs"

Aim/Purpose

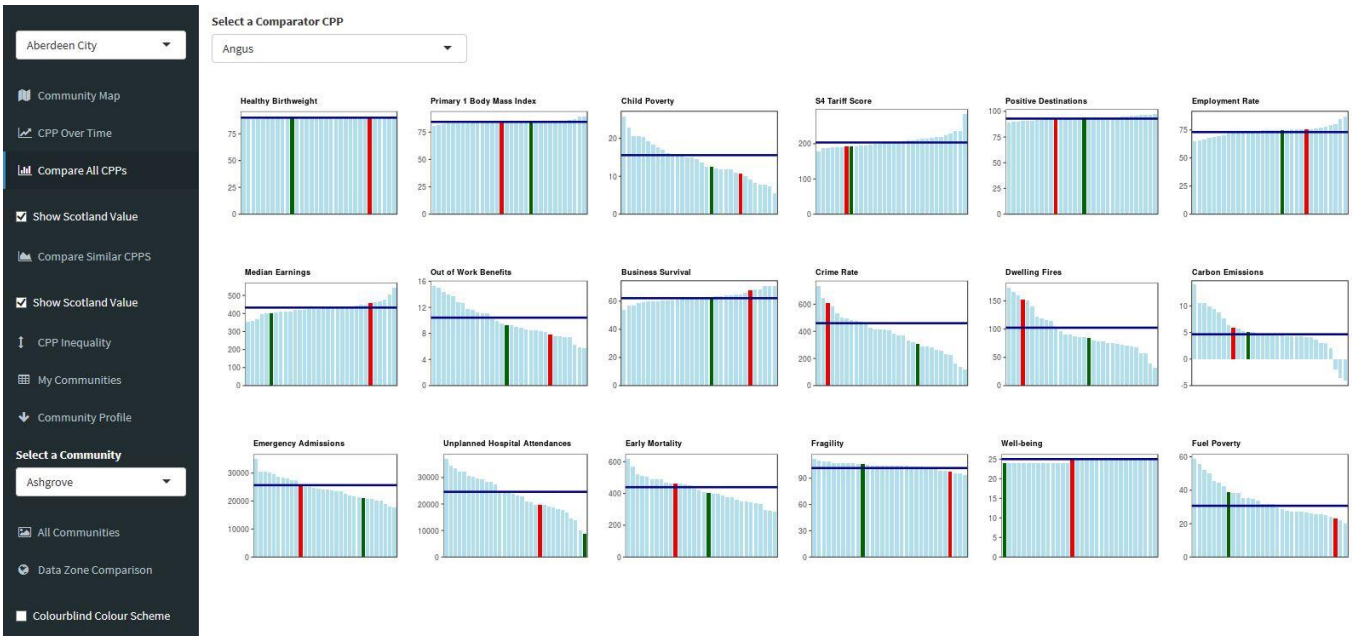
The aim of this page is to show how the latest outcomes in a chosen CPP compare with the outcomes in all other CPPs across Scotland and with Scotland as a whole. Users will see at a glance how well the outcomes in their CPP are faring in relation to the outcomes in all other CPPs.

Selection

This page has a drop-down selector button to allow users to choose a CPP area.

The horizontal line on the chart is Scotland as a whole. Users may also choose an alternative CPP comparator using the drop-down list.

What it shows



The selected CPP is coloured red, the comparator green, with all other CPPs coloured blue. To allow users to see at a glance how the outcomes in their CPP compare to outcomes in Scotland as a whole (default), or to another CPP of choice, a blue horizontal line has been added.

Please note, all data presented in the bar graphs are based on the same most recent year (2018/19 data for version). This data has been imputed/modelled for educational attainment. For further information on the calculation of these values, please see ANNEX B

How to use "Compare similar CPPs"

Aim/Purpose

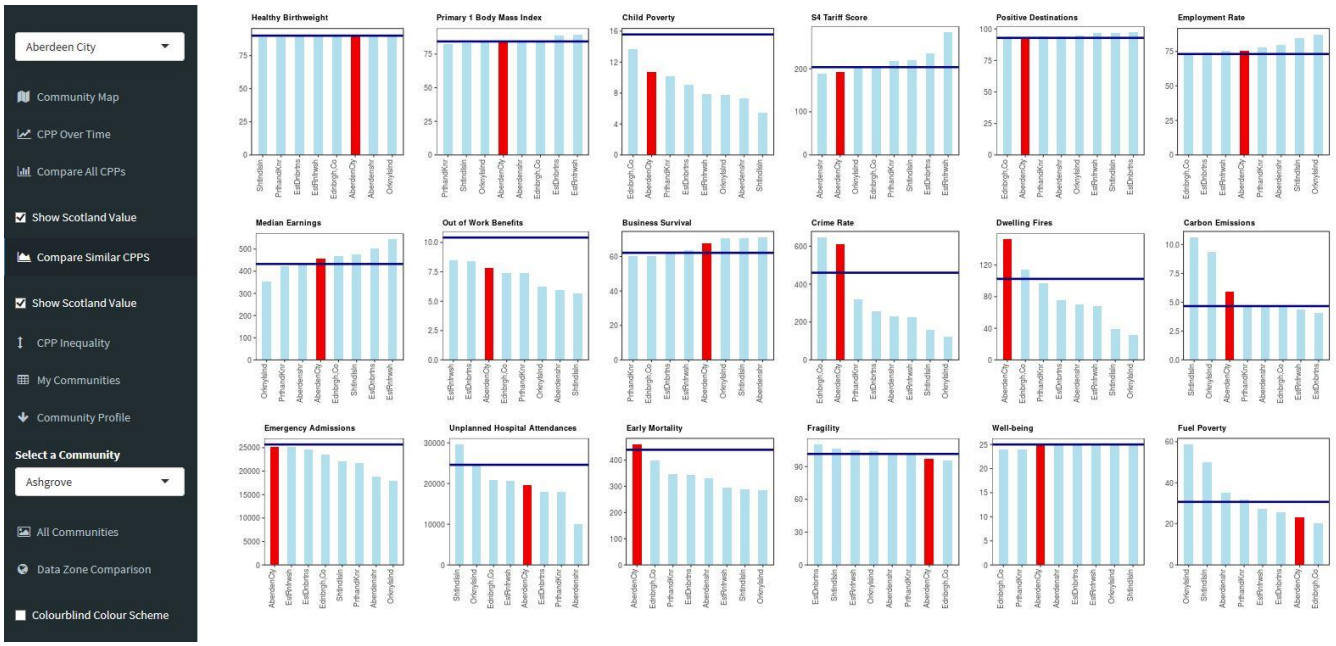
The aim of this page is to show how the latest outcomes in a chosen CPP compare to outcomes in similar CPPs in relation to deprivation.

Selection

This page has a drop-down selector button to allow users to choose a CPP area.

The default comparator (represented as a horizontal line on the chart) is Scotland as a whole.

What it shows



The selected CPP is coloured red, with all other CPPs coloured blue. To allow users to see at a glance how the outcomes in their CPP compare to outcomes in Scotland as a whole.

Please note, all data presented in the bar graphs are based on the same most recent year (2018/19 data for version). This data has been imputed/modelled for educational attainment. For further information on the calculation of these values, please see ANNEX B.

How to use "Inequality over time"

Aim/Purpose

The aim of this page is to show progress in reducing inequality in outcomes in a chosen CPP. The inequality table will help you understand inequality between the least and most deprived areas within the chosen CPP, while the inequality graphs help you understand inequality across the chosen CPP as a whole, and whether it is improving over time, and better or worse than the selected comparator.

Selection

- Use the drop-down menu to select your CPP, or another CPP you would like to investigate
- The default comparator is Scotland, but users may select another CPP for an alternative comparison (e.g. to compare Aberdeen City with Dundee City)
- Use the drop-down option to change the year

What it shows

The analysis is currently carried out for 7 outcomes.

Above each graph there is a small circle – coloured red, amber and green. If the circle is green, then the inequality is lower and inequality is reducing at a faster rate than for Scotland (or a selected comparator); if red, then inequality is worse and inequality is reducing at a slower than for Scotland (or a selected comparator); and if amber, either inequality is lower and inequality is reducing at a slower rate, or inequality is higher and inequality is reducing at a faster rate than for Scotland (or a selected comparator).

	Inequality in the most recent year	**Is inequality reducing between the earliest and latest years?**

	CPP inequality – lower than Scotland (or other selected CPP) 	CPP inequality level is reducing faster or increasing more slowly than Scotland (or other selected CPP) 
	CPP inequality – lower than Scotland (or other selected CPP) 	CPP inequality level is reducing more slowly or increasing faster than Scotland (or other selected CPP) 
	CPP inequality – higher than Scotland (or other selected CPP) 	CPP inequality level is reducing faster or increasing more slowly than Scotland (or other selected CPP) 
	CPP inequality – higher than Scotland (or other selected CPP) 	CPP inequality level is reducing more slowly or increasing faster than Scotland (or other selected CPP) 

Methodology

1. Inequality table

The analysis relates to the average values for each outcome of the IZs in the top and bottom 10% in the chosen CPP area[1], based on the 2020 SIMD income domain[2] The analysis is based on the most recent year of raw data available.

2. Inequality graphs

The data that underpins the inequality graphs is calculated using the Duncan Index (DI). The DI represents how unevenly a resource is distributed between two sub-groups within the population and is related to the Gini index which measures how unevenly a resource is distributed across the population as a whole. We have used the University of Sheffield's methodology to calculate the DI.

A positive DI indicates that income deprived people have worse outcomes whilst the reverse is true for negative values. A value of 0 indicates perfect equality in outcomes.

The formula for calculating the DI is:

$$\sum_{k=2}^{K} a_{k-1} b_k - \sum_{k=2}^{K} a_k b_{k-1}|$$

K is the neighbourhood rank, and a_k is the proportion of income deprived and b_k is the proportion of non-income deprived.

For each of the indicators in the CPOP, the IZ data is ranked, and then the DI is calculated using the income deprived data from the relevant SIMD income domain, because there are only fiveSIMD datasets in this period, years where there is no corresponding SIMD income data have been mapped on to another appropriate SIMD year. See below for full details. The analysis includes imputed data.

How the data is allocated to SIMD and geography (2001DZs/2011DZs):

Year	SIMD year	Geography
2004	2006	2001 converted to 2011
2005	2006	2001 converted to 2011
2006	2006	2001 converted to 2011
2007	2009	2001 converted to 2011
2008	2009	2001 converted to 2011
2009	2009	2001 converted to 2011
2010	2012	2001 converted to 2011
2011	2012	2001 converted to 2011
2012	2012	2001 converted to 2011
2013	2016	2011
2014	2016	2011
2015	2016	2011

[1] Where a CPP has less than 10 IZs, the most and least deprived IZ is selected.
[2] For further information on the Scottish Index of Multiple Deprivation please visit: https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/.

2016	2016	2011
2017	2016	2011
2018	2020	2011
2019	2020	2011

How to use "Vulnerable Communities"

Aim/Purpose

The aim of this page is to understand how outcomes have changed for the most vulnerable communities.

Have outcomes for the five most vulnerable communities in East Lothian improved faster or slower than the CPP as a whole?

Community		Overall Outcomes	Child Poverty			Crime Rate*			Depopulation			Early Mortality			Emergency Admissions			Out of Work Benefits			
	Vulnerability	CPPScore	2009/10	2016/17	Improvement rate compared to the CPP average	2006/07	2016/17	Improvement rate compared to the CPP average	2012/13	2017/18	Improvement rate compared to the CPP average	2010/11	2017/18	Improvement rate compared to the CPP average	2006/07	2017/18	Improvement rate compared to the CPP average	2012/13	2017/18	Improvement rate compared to the CPP average	2008/09
1st Most Vulnerable	Musselburgh Levenhall	Faster	24.88	23.10	Slower	988	436	Faster	87.37	80.81	Faster	577	416	Faster	33188	20561	Faster	18.42	15.08	Slower	82.90
2	Prestonpans South	Faster	22.68	13.00	Faster	813	383	Faster	92.06	90.55	Slower	471	498	Slower	24477	25569	Slower	13.19	10.45	Faster	65.46
3	Musselburgh North	Slower	16.18	15.70	Slower	1079	864	Slower	93.99	93.91	Slower	492	456	Slower	35197	31501	Faster	12.64	12.68	Slower	82.80
4	Prestonpans North	Faster	26.94	20.76	Faster	1017	671	Faster	78.41	71.49	Faster	572	457	Faster	28168	27660	Slower	15.36	11.84	Faster	77.55
5th Most Vulnerable	Tranent North	Slower	22.62	20.60	Slower	732	764	Slower	84.69	79.28	Faster	574	369	Faster	28182	28606	Slower	13.17	11.16	Slower	77.34
	East Lothian Average		14.40	11.43		519	401		89.35	86.34		433	373		24348	21994		10.14	8.23		84.05

* Crime data is a three year rolled average based on modelled data

What it shows

This shows the 5 most vulnerable communities in each CPP as identified in 2006/07. For each outcome, the table displays the values for the first and last available years of raw data. The first column tells you how the community is doing overall (an aggregated measure of the seven individual measures) compared to the CPP as a whole. This allows you to understand if the community is improving at a faster rate compared to the CPP as a whole. Each of the seven indicators are presented individually, and provide the actual raw data, and show whether for that individual indicator the community is improving at a faster rate than the CPP as a whole.

Technical details

The 5 most vulnerable communities within each CPP are the 5 IZs within each CPP which had the poorest outcomes in 2006/07[3].

To create an aggregate figure that is used for column 1 *'Improvement rate compared to*

[3] The poorest outcomes in 2006/07 were identified using the 2006/07-2017/18 data series. 6 out of the 7 indicators are imputed for 2006/07 data.

CPP average', firstly an improvement rate was calculated for each of the indicators, and aggregated by using z-scores to standardise the rate of change for each of the individual indicators, for each community. This was then done separately for each CPP, and z-scores were used to compare the rate of change for the communities compared to the CPP as a whole.

For the improvement rate columns under each of the individual indicators, a simple comparison was calculated, but looking at the rate of change for each community compared to the rate of change for the CPP as a whole.

How to use “My Communities”

Aim/Purpose

The aim of this page is to identify the most and least vulnerable communities in a CPP based on a selection of outcomes.

Selection

1. Select your CPP.

Use the drop-down menu to select the name of your CPP, or another CPP you would like to investigate.

2. Choose your view

There are three views to choose. The default (a) is for an analysis of all the communities in your CPP. The alternatives are (b) the top and bottom ten – separated by a white space or (c) the top and bottom five – separated by a white space. In the case where a CPP has fewer than 20 communities, then the list for the top/bottom ten and the top/bottom five is shortened on both sides of the white space.

3. Choose your outcomes

The tick box selector allows users to investigate any one of eight outcomes or any number of combinations of these outcomes. For this analysis they are all given equal weights Ticking all boxes provides an analysis of best and worst overall outcomes “in the round”.

What it shows

The first column shows the order of the communities in the selected CPP with those in red (with the poorest outcomes) at the top, falling to green (with the best outcomes).

The second column shows the order of each community in the selected CPP according to its relative position in its 'type'. **Details of how communities have been classified into 'types' are set out in Annex A.** The percentage box shows how, in total, the communities in a CPP compare with the outcome(s) average of similar communities across Scotland (a score of 100% means every community in the CPP fares better, for the selected outcomes, than the average of similar communities across Scotland; a score of 0% means each community fares worse than all similar communities across Scotland; and a score of 50% suggests that the outcomes levels are in balance compared to similar communities across Scotland).

The third column shows the ordering based on the rate of improvement. The communities at the top have shown the slowest improvement rates in the CPP for the selected CPP, and the communities at the bottom show the fastest improvement rates within the CPP. The colour coding is consistent with that used in column 1. (A community coloured red towards the bottom of this column, for example, means that for the selected outcomes, this community fared poorly when compared to other communities in the CPP in the latest year, but showed a relatively strong improvement compared to the other communities.)

The fourth column shows the ordering of communities within a chosen CPP based on how each community has improved relative to other communities within the same type group. The communities at the top of the list show the slowest improvement rates relative to other communities in the same type group, and the communities at the bottom show the fastest improvement rates relative to other communities in the same type group. Again, the colour code of the first column is used here.

Technical details

Heat map – the four columns are coloured according to the relative outcome going from red (the poorest outcomes/most vulnerable communities) to green (the best outcomes/least vulnerable communities). The colour associated with each community in the first column is replicated for the same community in the three subsequent columns. There are thirteen distinct colours included in the heat map.

Scoring system

Associated with each community (1,279) and each outcome (8 outcomes at this stage) are four scores. These are:

1. Score based on the number of standard deviations the outcome level in the latest year lies from the CPP mean. These scores typically lie between -4 and +4. If the distribution is skewed, then these data are transformed using logs to produce a more symmetrical set of results lying broadly in this range. This can be used to produce a ranking of communities based on worst outcomes (lowest negative score) to best outcomes (highest positive score).
2. Score based on the number of standard deviations the outcome level in the latest year lies from the 'type' mean. Again, these can be used to produce a ranking of communities within the 'type' from worst outcomes in type (lowest negative score) to best outcomes in type (highest positive score). Moreover, it can also be used to estimate the relative outcome levels for communities in a CPP compared to other, similar communities in Scotland.
3. Score based on the percentage improvement from the start to finish year for each outcome compared to the improvement rate of the CPP. Like 1, this is the number of standard deviations away from the mean improvement rate for each community in the CPP.
4. Score based on the percentage improvement from the start to finish year for each outcome compared to the improvement rate of the 'type'. Like 2, this is the number of standard deviations away from the mean improvement rate for each community in the type.

The scores are aggregated depending on the choice of indicators selected. The aggregate score is used to determine the relative positions for each set of outcomes selected. Selecting all eight outcomes produces an 'in the round' ordering.

Please note, all data used for the scoring of communities are based on the same most recent year (2018/19 data). In some cases, this has been imputed/modelled including Positive Destinations and Educational Attainment. For further information on the calculation of these values, please see ANNEX B

How to use "Community Profile"

Aim/Purpose

The aim of this page is to explore how selected communities fare compared to similar types of communities across Scotland. **Details of how communities have been classified into 'types' are set out in Annex A.**

Selection

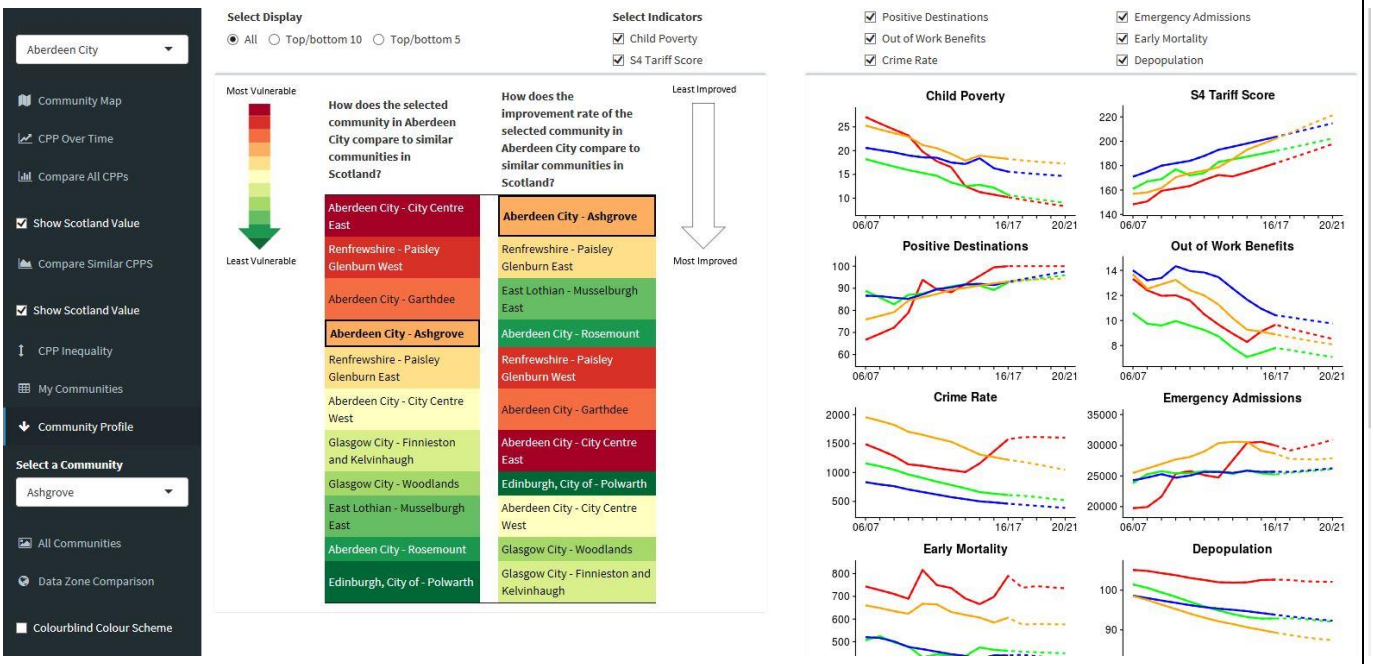
1. Select your CPP.

Use the drop-down menu to select the name of your CPP, or another CPP you would like to investigate.

2. Select the Community to analyse

The drop-down menu will identify all the communities in the selected CPP allowing users to focus on a particular area of concern (possible as identified in "My Communities").

3. Choose your view



There are three views to choose. The default (a) is for an analysis of all the communities in your CPP. The alternatives are (b) the top and bottom ten – separated by a white space or (c) the top and bottom five – separated by a white space. In the case where a CPP has fewer than 20 communities, then the list for the top/bottom ten and the top/bottom five is shortened on both sides of the white space.

4. Choose your outcomes

The tick box selector allows you to investigate any one of seven outcomes or any number of combinations of these outcomes. For this analysis they are all given equal weights. Ticking all boxes provides an analysis of best and worst overall outcomes "in the round".

What it shows

The analysis on the left of the page is similar to that in "My Communities",but focusing on the communities in the same 'type' as the community selected, rather than in the same CPP.

The first column shows the ordering of the communities in the type of the selected community with those in red (with the poorest outcomes) at the top, falling to green (with the best outcomes).

The second column shows the ordering based on the rate of improvement. The communities at the top have shown the slowest improvement rates in the type of the selected community for the chosen combinations of outcomes, and the communities at the bottom show the fastest improvement rates within the type. The colour coding is consistent with that used in column 1.

The analysis on the right of the page shows interactive graphs based on the previous outcome selection. A graph is shown for each of the outcomes selected - if not selected, the graph remains 'empty'. The two default lines are for the chosen community and the type average (the outcome average for all similar communities). Additional lines may be selected: the community with the best outcome(s) in the most recent year; the community with the poorest outcome(s) in the most recent year; the community with the fastest improvement rate from the earliest to the latest year; the community with the slowest improvement rate from the earliest to the latest year; the CPP average associated with the chosen community; and the Scottish average.

Moreover, an additional line can be added for another community in the type (using a drop-down menu). Ticking the corresponding box will produce the relevant lines on the graphs. This can be useful if you are trying to find a similar community, or to identify a role model to compare and learn from.

Please note, all data used for the scoring and graphing of communities are based on the same most recent year (2018/19 data). In some cases, this has been imputed/modelled including Positive Destinations and Educational Attainment. For further information on the calculation of these values, please see ANNEX B

A button is available to view projected data. This data provides an indication of the route the outcome will take from 2018/19 to 2021/22. This new data is separated from the current data with a dotted line on each graph. These projections do not affect the scoring of each community. For further information on the calculation of these values, please see ANNEX B

How to use the “All Communities page”

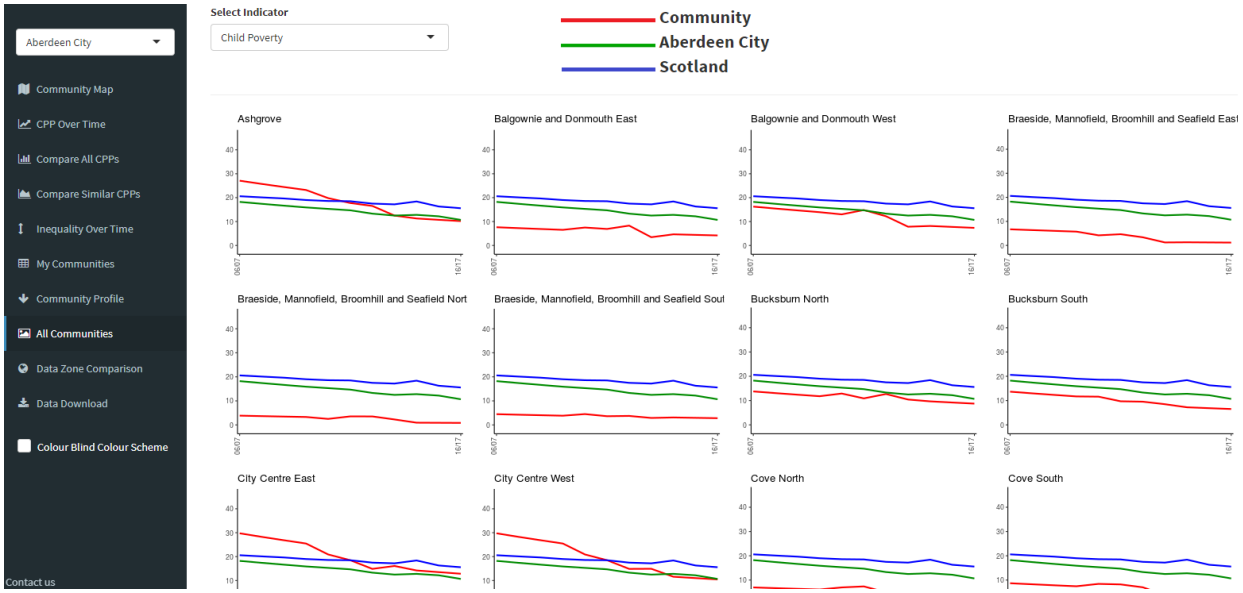
Aim/Purpose

The aim of this page is to show how the latest outcomes for each of the local communities within the selected CPP

Selection

This page has a drop-down selector button to allow users to choose a CPP area, and another drop-down selector which allows you select one of the eight indicators available at a community level.

What it shows



How to use the “Data Zone Comparison”

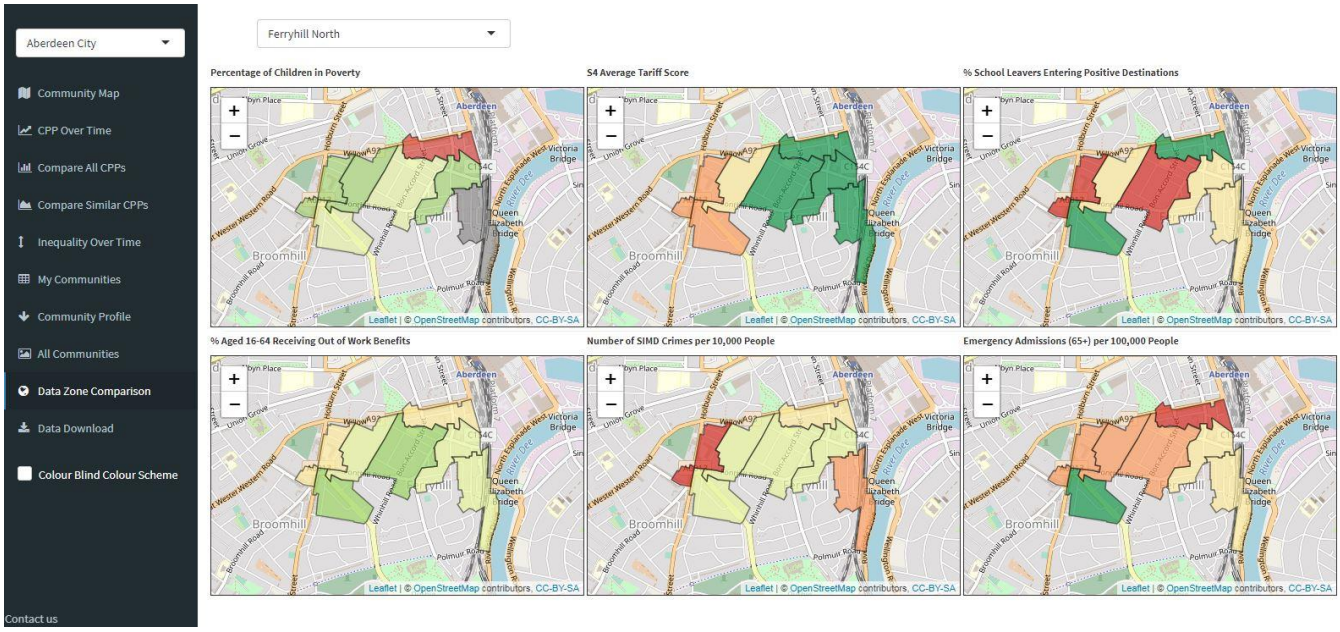
Aim/Purpose

This page allows you to see outcomes at a Data Zone level for the most recent year of data available within the selected CPP and selected community. Please note that the data at this level is less robust and can vary from year to year.

Selection

This page has a drop-down selector button to allow users to choose a CPP area, and a drop-down selector for communities within the CPP.

What it shows



ANNEX A – Definitions and Methodological Details

Definitions

For clarity, CPPs areas are the same as local authority areas. Communities are taken to be Intermediate Geography areas (IZs).

Outcomes and Outcomes in the Round

For CPP analysis, comparing CPPs with similar CPPs or with Scotland as a whole, there are 18 outcomes included.

For community analysis, this reduces to 8 outcomes where data at this level are available.

Converting 2001 DZs/IZs to 2011 DZs/IZs methodology

1. Matching data zones

To estimate historic data values for 2011 data zones and IZs, i.e. for data that was previously published using 2001 geographies, population matches provided by the Scottish Government were used. Weighted averages were applied to the values for 2001 areas based on the percentage of the population within each historic data zone that is now within the 2011 data zone. Although these percentages will have changed over time and so are imperfect matches, this provides us with a best estimate of how data values transfer into the new geographies.

The validity of this method was assessed by comparing CPP values constructed by aggregating up from 2001 data zones to CPP values constructed by estimating up from the estimated 2011 data zones. This method showed very little difference between the two CPP estimates, suggesting that only a small amount of error was introduced by the data zone matching method. However, it is worth pointing out that all historic data matched using this method is at best an estimate.

2. Matching intermediate geographies

To match intermediate geographies we developed our own method based on the data zone matching tool provided by the Scottish Government. This used a simple system of matching both sets of data zones to intermediate geographies, calculating the total population in each 2011 intermediate geography from the 2011 data zone level population estimates, then calculating the population from all of the 2001 data zones that would match data zones within the 2011 intermediate geography. Finally, the percentage population match was calculated using this second value (i.e. the 2001 IZ's population as a percentage of the 2011 IZ population).

This file was then used to calculate average means for matches between intermediate geographies using the same method as for data zones.

Population projections

There are several indicators, Child Poverty, Out of Work benefits, Emergency Admissions, Crime, Depopulation and Early Mortality that are rates, and use population as the denominator.

A time series of IZ population values was created using NRS population estimates. Firstly, DZ level population estimates between 2001 and 2018 in 2011 geographical boundaries were aggregated to IZ level, then an average growth rate was calculated (this was constrained between 0.95 and 1.05). The average growth rate was used to project data from 2019 to 2021. These were then adjusted up or down based on the 2018 NRS population projections at a CPP level. Population projections were created for children, working, older and the whole population.

Typology

There are three factors (independent of outcomes) that were considered when classifying communities into types: a. Income; b. Rurality; and c. Dependency.

a. Income

Estimates of mean household income based on data available for 2014[4] .

b. Rurality

This used the six rurality factors defined as:

1. Large Urban Areas Settlements of over 125,000 people.
2. Other Urban Areas Settlements of 10,000 to 125,000 people.
3. Accessible Small Towns Settlements of between 3,000 and 10,000 and within 30 minutes' drive of a settlement of 10,000 or more.
4. Remote Small Towns Settlements of between 3,000 and 10,000 with a drive time of over 30 minutes to a settlement of 10,000 or more.
5. Accessible Rural Areas of less than 3,000 people and within 30 minutes' drive of a settlement of 10,000 or more.
6. Remote Rural Areas of less than 3,000 people and with a drive time of over 30 minutes to a settlement of 10,000 or more.

Further information on the urban rural classification can be found at http://www.gov.scot/Topics/Statistics/About/Methodology/UrbanRuralClassification

c. Dependency

This was based on any factors in the community population structure that are particularly different from the profile for an average community.

[4] Due to limitations with data – mainly the years when data was available, we have calculated a weighted mean for household income at IZ level

Reflecting dependency, it considered people in the order of older people, children, students, young adults, older adults and no significant differences from the norm.

Classification	Description
1	Proportion of older people aged 65 and over in top quartile
2	If not, proportion of children (aged 15 and under) in top quartile.
3	If not, proportion of student (aged 16 to 24) in top quartile
4	If not, proportion of younger adults (aged 25 to 44) in top quartile
5	If not, proportion of older adults (aged 45 to 64) in top quartile
6	No population group in top quartile

Table of Typology

Type No.	Type description	No. of Communities
1	Large Urban, Dep - OP, HH Inc 0- 70%	16
2	Large Urban, Dep - OP, HH Inc 70-90%	15
3	Large Urban, Dep - OP, HH Inc 90-100%	11
4	Large Urban, Dep - Child,HH Inc 0-5%	9
5	Large Urban, Dep - Child,HH Inc 5-20%	29
6	Large Urban, Dep - Child,HH Inc 20-40%	12
7	Large Urban, Dep - Child,HH Inc 40-70%	13
8	Large Urban, Dep - Child,HH Inc 70-100%	18
9	Large Urban, Dep - Student, HH Inc 0-5%	22
10	Large Urban, Dep - Student, HH Inc 5-20%	20
11	Large Urban, Dep - Student, HH Inc 20-40%	17
12	Large Urban, Dep - Student, HH Inc 40-60%	9
13	Large Urban, Dep - Student, HH Inc 60-80%	12
14	Large Urban, Dep - Student, HH Inc 80-100%	12
15	Large Urban, Dep - Adult, HH Inc 0-20%	31
16	Large Urban, Dep - Adult, HH Inc 20-40%	19
17	Large Urban, Dep - Adult, HH Inc 40-60%	16
18	Large Urban, Dep - Adult, HH Inc 60-80%	28
19	Large Urban, Dep - Adult, HH Inc 80-100%	18

20	Large Urban, Dep - Average,HH Inc 0-30%	32
21	Large Urban, Dep - Average,HH Inc 30-60%	14
22	Large Urban, Dep - Average,HH Inc 60-100%	30
23	Other Urban, Dep - OP, HH Inc 0-30%	24
24	Other Urban, Dep - OP, HH Inc 30-50%	12
25	Other Urban, Dep - OP, HH Inc 50-70%	18
26	Other Urban, Dep - OP, HH Inc 70-100%	14
27	Other Urban, Dep - Child, HH Inc 0-20%	26
28	Other Urban, Dep - Child, HH Inc 20-40%	32
29	Other Urban, Dep - Child, HH Inc 40-60%	15
30	Other Urban, Dep - Child, HH Inc 60-80%	16
31	Other Urban, Dep - Child, HH Inc 80-100%	21
32	Other Urban, Dep -Student, HH Inc 0-30%	21
33	Other Urban, Dep -Student, HH Inc 30-70%	16
34	Other Urban, Dep -Student, HH Inc 70-100%	16
35	Other Urban, Dep - Adult, HH Inc 0-40%	20
36	Other Urban, Dep - Adult, HH Inc 40-70%	14
37	Other Urban, Dep - Adult, HH Inc 70-100%	22
38	Other Urban, Dep - Average, HH Inc 0-20%	32
39	Other Urban, Dep - Average, HH Inc 20-30%	27
40	Other Urban, Dep - Average, HH Inc 30-40%	21
41	Other Urban, Dep - Average, HH Inc 40-50%	21
42	Other Urban, Dep - Average, HH Inc 50-60%	21
43	Other Urban, Dep - Average, HH Inc 60-80%	32
44	Other Urban, Dep - Average, HH Inc 80-100%	18
45	Accessible Small Town, Dep - OP, HH Inc 0-50%	16
46	Accessible Small Town, Dep - OP, HH Inc 50-100%	19
47	Accessible Small Town, Dep - Child, HH Inc 0-100%	21

48	Accessible Small Town, Dep - Student & Adult, HH Inc 0-60%	9
49	Accessible Small Town, Dep - Student & Adult, HH Inc 60-100%	14
50	Accessible Small Town, Dep - Average, HH Inc 0 -50%	19
51	Accessible Small Town, Dep - Average, HH Inc 50-100%	27
52	Remote Small Town, Dep -OP, HH Inc 0-100%	18
53	Remote Small Town, Dep not OP, HH Inc 0-100%	27
54	Accessible Rural, Dep -OP, HH Inc 0-40%	10
55	Accessible Rural, Dep -OP, HH Inc 40-70%	25
56	Accessible Rural, Dep -OP, HH Inc 70-100%	11
57	Accessible Rural, Dep -Child, HH Inc 0-80%	12
58	Accessible Rural, Dep -Child, HH Inc 80-100%	12
59	Accessible Rural, Dep - not OP or Child, HH Inc 0-60%	14
60	Accessible Rural, Dep - not OP or Child, HH Inc 60-80%	30
61	Accessible Rural, Dep - not OP or Child, HH Inc 80-100%	32
62	Remote Rural, Dep - OP, HH Inc 0-40%	16
63	Remote Rural, Dep - OP, HH Inc 40-50%	16
64	Remote Rural, Dep - OP, HH Inc 50-100%	14
65	Remote Rural, Dep - not OP, HH Inc 0-70%	13
66	Remote Rural, Dep - not OP, HH Inc 70-80%	13
67	Remote Rural, Dep - not OP, HH Inc 80-100%	4

The methodology adopted (which is subject to review) is as follows:

1. Communities should not be grouped with other communities with different rurality characteristics e.g. an urban area should not be grouped with a rural area. Each community is therefore grouped with others in the same classification (i.e. one of the six).
2. Within these, the classification considers the population structure based on the latest mid-year population estimates. Characteristics of interest include: areas with a relatively high proportion of older people (65 and older), areas with a relatively high proportion of children (aged 0-15), areas with a relatively high student-age population (aged 16 to 24), areas with a relatively high adult population (where not already captured elsewhere), and areas where there is

no significant differences for any age group from the Scottish average.

3. Within these, a further disaggregation based on broad household income bands. In urban areas, where there are a large number of communities, there is more scope for using narrower income bands. In rural areas, there is less scope for disaggregation, due to the small number of communities. IZs in rural areas tend to cover a large geographical area, and there is likely to be a range of household incomes in the area.
4. The groups have been chosen to consist of between 15-25 similar communities (this was not always possible and there are a few types outwith this range).

ANNEX B – Imputed, projected and modelled data

Imputed, projected and modelled data has been calculated using different methodologies for different measures. The details below outline the imputed/projected data for each outcome:

Emergency Admissions

Data

IZ level data in the CPOP Tool is available from 2007/08 to 2018/19. Three year moving averages are used for IZ level data, and single years at CPP level.

All data was received in 2011 geographical based DZ boundaries.

Methodology

- An average growth rate was calculated across the original time series of data. This was then used to project future values.
- This new time series was then used with the population projections mentioned above to calculate a value of emergency admissions rather than a rate and then aggregated to produce CPP values. These values were then compared to the raw CPP values create CPP level values.
- These were then converted back to rate at IZ and CPP level, again using the population projections for over 65s.

Child Poverty

Data

There are currently 5 years of raw data 2014/15 to 2018/19 available for Child Poverty at DZ and CPP level. The previous versions of the CPOP used the HMRC measure of children under 18 in low income families. As this measure can no longer be produced, the new measure of children aged under 15 in low income families produced by the DWP and HMRC and published on Stat-Xplore is now used.

All data was received in 2011 based geographical DZ boundaries.

Methodology

- Child poverty per IZ was calculated by summing data zone values. Suppressed values were replaced by averages of the previous and following years.
- To calculate the projections, an annual growth rate was calculated. The annual growth rate for this derived three-year period was used for the projections. Upper (1.05) and lower bounds (0.95) were set to constrain the projections and imputations.
- Imputed years before 2014/15 were calculated by applying the AGR from previously used HMRC data in order to capture the known trend. This was applied to both IGZ and CPP level data.

- The number of children in poverty for projected and imputed years per IZ were calculated using the IZ child poverty rate data, and the IZ population estimates as the denominator
- To calculate the number of children in poverty at CPP level, the number of children in poverty at IZ level was aggregated. This aggregated value was compared to actual numbers of children in poverty at CPP level to create a scaling factor. This scale was then applied to projected CPP values and NRS Under-15 population projections were used to calculate a rate. For imputed values a CPP level of children in poverty was calculated by applying past trends to CPP values. This was then used to create a separate scaling factor to adjust IGZ values to match CPP totals.
- For the final data at both IZ and CPP level, three-year averages are calculated for both imputations and the projections.

Out of Work Benefits (OWB)

Data

The previous version of the CPOP used data from NOMIS, however that is no longer available, so this measure now uses data from Stat-Xplore. There are 5 years of raw data available 2013/14 through to 2018/19 at DZ, IZ and CPP level.

Methodology

- The raw data is a snapshot in May of any given year of count of out of work benefits claimants and is provided at DZ, IZ and CPP level from 2013/14 onwards.
- These figures were then used to calculate a rate per 100 working age people in each DZ, IZ and CPP.
- An annual growth rate was calculated for the rates between 2013/14 and 2018/19 with upper and lower bounds of 0.95 and 1.05 and then used to project figures for 2019/20 - to 2021/22, and impute those before 2013/14.
- Using historic OWB NOMIS IZ data from 2006/07 to 2012/13 a scale was created that was used to scale IZ level imputations for these years to take account of the known trend.
- For the CPP level imputations and projections, IZ data was converted from a rate to a number and aggregated up to CPP level, which was then converted back to a rate.

Crime Rates

The data zone level crime data are taken from the SIMD crime domain (data used in the SIMD releases, were 2004 (2006 release), 2007/08 (2009 release), 2010/11 (2012 release), 2014/15 (2016 release), and 2018/19 (2020 release)). These are calculated on a different basis to the total crime figures published by Scottish Government and Police Scotland (SIMD ignores certain crime types, crimes that occur near police stations and crime that cannot be referenced to a location.)

Data

In the current CPOP tool, there are five years of data: 2004 (SIMD 2006), 2007/08 (SIMD 2009), 2010/11 (SIMD 2012), 2014/15 (SIMD 2016), and 2018/19 (SIMD 2020)).
SIMD 2006, 2009 and 2012 included data in 2001 DZs and SIMD 2016 and SIMD 2020 in 2011 DZs. CPP level crime data was used in the analysis, raw data was available up to 2018/19.

Methodology

- DZ data was aggregated to IZ level, by adding the number of crimes for each constituent DZ to give the number of crimes for each IZ.
- Given the data was only available in 2001 IZs, it was converted to 2011 IZs using the methodology explained in Annex A.
- An assumption that working aged adults are more likely to perpetrate crimes than children or older people was made.
- SIMD crime numbers were adjusted to account for the difference in recording methods within the SIMD by using a scaling factor based on the difference in total SIMD crimes and Police Scotland recorded crimes at a CPP level.
- Using the SIMD calculated crime figures as the base, an annual growth rate was calculated and was constrained by upper limits (1.05) and lower limits (0.95), this was applied to projecting forwards and impute backwards. Then using the population estimates as a denominator, total number of crimes were calculated. CPP values were calculated by aggregating IZ estimated crimes per 10,000, and then a scaling factor based on raw CPP values was calculated and applied to the IZ values to calculate number of crimes per IZ.
- The IZ crime rate was then calculated using the population projection as the denominator, and a three-year average is calculated
- To calculate the CPP number of crime projections, a scaling factor was calculated by dividing the actual most recently available CPP values by the aggregated IZ values (to CPP level) for that year, and then was applied to the aggregated IZ values.
- Finally, the rate is calculated by using the CPP population projections, and a three-year average calculated for the CPP level crime projections.

Early Mortality

Data

CPP-level data are available on an annual basis. Due to its variability, NRS has provided community level data for 7 years using a 5-year moving average. Historically these have been provided in the 2001-based geographies, however the three most recent years (2011/15, 2012/16, 2013/17) have been provided in the new 2011 based geographies. Therefore, conversion was required to ensure the complete time series used the same geographies. At CPP level raw data is available from 2007/08 through to 2018/19

Methodology

- The general methodology used to create imputations and projections for this indicator was to use an annual growth rate to extend the trend, and then transform the resulting rates into estimated number of deaths so that population estimates, population projections and CPP level data could be used as a scaling factor before transforming the figures back to a rate. This allowed the basic annual growth rate methodology to be constrained by existing relevant data.
- Using the conversion method detailed in Annex A, the historic community data was firstly converted from 2001-based geographies to 2011-based geographies. This results in five year moving average data from 2006/10 to 2013/17. When working with these five-year moving averages, calculations were fixed to the first year in the average, e.g. 2006 for 2006/10 and 2013 for 2013/17.
- These mortality rate figures were projected forwards and backwards using a constrained annual average change rate for each IZ. The constraints were a lower bound of 0.95 affecting 129 of 1,279 communities and an upper bound of 1.05 affecting 6 of 1,279 communities.
- The full series of figures were then transformed to estimated numbers of early deaths using the modelled population projections, as detailed in Annex A.
- NRS publish under 75 population estimates at community level from 2001 to 2018. This full series of population estimates are then used to transform the early mortality rate series into estimated numbers of early deaths.
- Numbers of early deaths are also estimated at CPP level. This is done twice, firstly by using the 2001 to 2018 NRS population estimates to transform the 2001 to 2018 published CPP level rates to a number and secondly by taking an aggregate of the IGZ level number of deaths. These two estimates are then compared to create a scaling factor. The IZ level early death estimates are then adjusted using this scaling factor.
- The previously adjusted population projections are then used to convert the estimated number of deaths back to an early mortality rate. A final scaling factor is then created. This scaling factor first creates new Scotland level early mortality estimates for 2001 to 2011 and 2019 to 2022 by adjusting the estimated Scotland level rates by the year on change in actual rates taken from historic NRS data. These adjusted estimates are then compared to the previously created Scotland level rates to create a scaling factor which is then used to adjust the IZ level estimates.
- The final IZ level estimated rates are then turned back into 5 year moving averages.
- There are some inconsistencies due to the 5 year moving averages being slightly different from the annual CPP figures, but the difference is small. The IZ projections preserve the NRS IZ moving averages and the CPP estimates preserves the published CPP figures. These are the best available figures on both bases.

.

Depopulation

This estimate is broadly the opposite of population growth. The year 2000 has been

chosen as the base year.

The measure is: index in year n = population in 2000 (fixed) / population in year n (as n varies) * 100. This figure would therefore be 100 in year 2000, if that were included in the tool. If the area shows some de-population, this index rises above 100, and conversely, if the population grows, the index drops below 100. This provides a very visual indicator of how an area's population is changing over time.

Methodology

- NRS publish population estimates at data zone level which are available in 2011 based geographies from 2011 to 2018.
- The published data zone level population estimates were first aggregated to intermediate geography level. These figures were then projected forward using a constrained annual average change rate for each IZ. The constraints were a lower bound of 0.95 and an upper bound of 1.05.
- Projections do not exceed or fall below the maximum and minimum values over the 2001 to 2018 NRS dataset in order to constrain the projected figures to real data.
- NRS publish population estimates at CPP level from 1999 to 2018 and CPP level population projections from 2019 to 2022. These were used to create a scaling factor for every year in the series by comparing the published CPP figures with the aggregated estimates. The IZ level estimates were then adjusted using these scaling factors.
- These newly adjusted population estimates are then combined into 3 year moving averages to smooth out anomalies with the estimates. These figures are then used to create the index as described above.

Educational Attainment of School Leavers

This replaces the S4 Tariff data that was in the previous CPOP.

- Four years of raw data is available in three year rolling averages at a DZ and IZ level for the measure in 2011 based geographies.
- CPP level data is an aggregation of IZ data, and was scaled using a scale from the S4 Tariff measure (based on the raw CPP data/averaged IZ data) to create the modelled CPP level data.
- Similarly, to other indicators when working with these three-year moving averages, calculations were fixed to the first year in the average, e.g. 2011/12 for 2011/12-2013/14.
- Then educational attainment was projected backwards and forwards using an annual average growth rate
- Upper and lower bounds were set. The lower limit (0.95) was set and the upper limit (1.05).
- Then the individual years were turned back into three year moving averages.

Positive destinations

The most recent year for this indicator is 2012/13 at an DZ and IZ level, and 2018/19 at CPP. As positive destinations are rates based on a small cross-section of the population (15/16-year old) there's no added value in factoring in population

projections, especially as it is a per capita measure. It was decided, as it tends to be a slow-moving series, the simple projection is a good measure for imputed/projected data:

- Positive destination rates were projected backwards and forwards using an annual average growth rate
- Upper and lower bounds were set. The lower limit (0.95) was set and the upper limit (1.05).
- Projections do not exceed or fall below the maximum and minimum values over the 11-year dataset to constrain the imputed/projected figures to real data
- To ensure consistency with all other indicators all data within the CPOP was converted from 2001 data zones to 2011 data zones using the "matching intermediate geographies" method described on page 19.

Business Survival, Dwelling Fires, Carbon Emissions, Unplanned Hospital attendances, Well-being

The remaining outcomes are only available at a CPP level at this current time. As such the methodology for calculating imputed data for positive destinations was adopted:

- Outcome values were imputed backwards/forwards using an annual average growth rate
- Upper and lower bounds were set. The lower limit (0.95) was set and the upper limit (1.05).
- Projections do not exceed or fall below the maximum and minimum values over the 11-year dataset to constrain the imputed figures to real data.

ANNEX C – Metadata and Data Quality

OUTCOME	1. Healthy Birthweight
Outcome description	**Percentage of babies with a healthy birthweight** Birth weight is an important indicator of foetal and neonatal health at both individual and population levels. There is significant evidence of the correlation between maternal health and social circumstances and birth weights which are outwith the normal birth weight range. Maternal smoking and maternal obesity are particularly important influences on birth weight, respectively increasing the risk that babies are born small for gestational age or large for gestational age. Birth weight that is not within normal ranges also has a strong association with poor health outcomes in infancy, childhood and across the whole life course, including long term conditions such as diabetes and coronary heart disease. A baby is considered to be of healthy birthweight (a weight appropriate for its gestational age) when it lies between the 5th and 95th centile (of a reference standard) for weight at its gestational age. For further information please see the Public Health Scotland website
Available at geographical level	CPP
Frequency	Annually
Source	Data by for all Local Authorities are available here: https://www.opendata.nhs.scot/dataset/births-in-scottish-hospitals/resource/a5d4de3f-e340-455f-b4e4-e26321d09207
Data Quality	Data are published annually for Scotland and by Health Board Area. These are National Statistics and are therefore considered as robust. Data at a Council or Hospital level are available on request. These are derived from the same data source as used to produce the National Statistics. The annual data are volatile at a CPP level. A three-moving average is used to make comparisons more meaningful. The Scotland value includes all births including those where no address was available.

OUTCOME	2. Primary 1 Body Mass Index
Outcome description	**Body Mass Index (BMI) of Primary 1 school children (% of children healthy weight)** Body Mass Index (BMI) is one of the most widely used methods for assessing body composition in children aged two years or older and adults. BMI is calculated by dividing an individual's weight (in kilograms) by their height squared (in meters squared) and gives an indication of whether weight is in proportion to height. Whilst BMI generally gives a good indication of body composition, it can occasionally misclassify individuals with heavy musculature as being overweight or obese. In adults there are static cut off values for BMI indicating underweight, healthy weight, overweight and obesity; however these are not appropriate for children. The healthy BMI range for children changes substantially with age and is different between boys and girls. A certain BMI at one age may be the norm but at another age the same BMI may be unusually high or low. Interpretation of BMI values in children therefore depends on comparison with age - and sex - specific growth reference standards. Growth reference standards are derived from population based surveys of children's height and weight undertaken at a particular time. They therefore show the distribution of BMI within the child population that pertained in the location and at the time point that the surveys were conducted. The growth reference standards are used to provide the thresholds or cut-off points in the BMI distribution that specify categories such as underweight, obesity, etc. Two sets of thresholds have traditionally been used to assess children's growth as noted in the Scottish Intercollegiate Guidelines Network guideline on Management of Obesity. Epidemiological thresholds are used to define children at risk of under-or overweight and are used primarily to assess the health of the whole child population and monitor the changes in the proportion of children at risk of unhealthy weight that have been seen in Scotland over recent years. Clinical thresholds are used to define children with a level of under-or overweight that may warrant clinical intervention, such as consideration of any underlying cause, advice on healthy eating and appropriate levels of physical activity, or referral to more intensive child healthy weight services. BMI measures would usually be only one of a variety of factors taken into consideration before any clinical diagnosis of obesity is made and, for example, other measures such as waist circumference may also be used. The epidemiological and clinical thresholds used to define the various categories of child (un)healthy weight are shown in the following tables.

Thresholds used to define clinical categories of child (un)healthy weight: predominantly used in clinical practice

Category	Description/label in terms of rounded centile values	Definition: Standard Deviation (SD) score equivalent (used in calculations for clinical thresholds)
Underweight	BMI less than or equal to 0.4th centile	BMI less than or equal to -2.67 SD score
Healthy weight	BMI greater than 0.4th centile and less than 91st centile	BMI greater than -2.67 and less than +1.33 SD score
Overweight	BMI greater than or equal to 91st centile and less than 98th centile	BMI greater than or equal to +1.33 and less than +2.00 SD score
Obesity	BMI greater than or equal to 98th centile and less than 99.6th centile	BMI greater than or equal to +2.00 and less than +2.67 SD score
Severely Obese	BMI greater than or equal to 99.6th centile	BMI greater than or equal to +2.67 SD score
Overweight, obese and severely obese combined	BMI greater than or equal to 91st centile	BMI greater than or equal to +1.33 SD score
Obese and severely obese combined	BMI greater than or equal to 98th centile	BMI greater than or equal to +2.00 SD score

Available at geographical level	Local Authority
Frequency	Annually
Source	Data by local authority are available here: http://www.isdscotland.org/Health-Topics/Child-Health/Publications/data-tables2017.asp?id=2070#2070
Comment on Quality	The annual data are volatile at a CPP level. A three-moving average is used to make comparisons more meaningful.

OUTCOME	3. Child Poverty
Outcome description	**Percentage of children in poverty** Number of children living in Relative and Absolute low income Before Housing Costs by local area across Great Britain. Rates are calculated using NRS population estimates for under 15s. A technical note explaining the figures and the methodology used for 2018/19 is available at: https://www.gov.uk/government/publications/children-in-low-income-families-local-area-statistics-background-information-and-methodology/background-information-and-methodology-children-in-low-income-families-local-area-statistics The statistics used for 2018/19 replace earlier Official Statistics previously published by Department for Work and Pensions (DWP) Children in out-of-work benefit households and HM Revenue & Customs (HMRC) Children in low-income families local measure. In December 2018, DWP and HMRC published their respective releases with a commitment to combine releases going forward. Statistics for the 'number of children (by age) and the proportion of children under 16, in low income families each year' are now published on Stat-Xplore. Figures are calibrated to the Households Below Average Income (HBAI) survey regional estimates but provide more granular local area information not available from the HBAI for example, by local authority, parliamentary constituency and Ward. This new measure replaced the old HMRC measure from March 2020. DZ data from Stat-Xplore (Relative Low Income) New figures are not directly comparable with previous statistics, therefore those historic data cannot be used for previous years.
Available at geographical level	CPP, Datazone
Frequency	Annually
Source	HMRC (Her Majesty's Revenue and Customs) and Department for Work and Pensions (DWP) 2018/19 data is now published by Department for Work and Pensions (DWP) via Stat-Xplore
Comment on Quality	As data is supressed for several data zones two IZs did not have data for one year. As a result, an average of the previous and following year has been used to estimate a figure.

OUTCOME	4. Educational attainment of school leavers
Outcome description	**Educational attainment of school leavers** Educational attainment of school leavers is the score is based on school leavers' highest level of qualification, averaged across all leavers within a data zone. Using SCQF qualifications data for school leavers, the score is calculated by identifying the best level of qualification each pupil leaves school with. The score is calculated by multiplying the highest qualification level achieved by each pupil by a corresponding factor. Level 3 qualifications are multiplied by three, Level 4 by four, Level 5 by five and Level 6 by six. This indicator looks at the highest qualification attained by each pupil, not the number of qualifications attained. For example, one pupil who leaves school with four Level 3 qualifications will score three, whilst a pupil leaving school with one Level 5 qualification will score five. The total score is then divided by the total number of school leavers in each geographical area. A pupil is assigned to a geographical area based on their home address. If their postcode is missing their school's postcode is used. Data is based on an average of three years and includes all school leavers in secondary schools and special schools. Data from independent schools is not included. There is a lack of data zone level information and independent schools may choose to sit GCSEs or other English qualifications for which we have no information. We do not hold Scottish Candidate Numbers of independent school pupils
Available at geographical level	Community and Datazone
Frequency	Annually
Source	Scottish Government
Comment on Quality	The data at DZ and IZ level is provided in three year moving averages. To create the CPP level IZ data is aggregated and scaled.

OUTCOME	5. Positive Destinations
Outcome description	**Percentage of school leavers in positive and sustained destinations** Positive destinations refer to the proportion of school leavers in sustained positive destinations – higher education, further education, employment, training, voluntary work or activity agreements. Information on the follow-up destination of leavers from publicly funded schools is provided to the Scottish Government by Skills Development Scotland (SDS). SDS collected information on the destination of each young person they had identified as being a school leaver during September 2016 (initial destination) and March 2017 (follow-up destination). As the follow-up rate has continually been very high in recent years, missing data are no longer estimated for those leavers not contacted in March. This approach has been adopted from 2009/10 data onwards. This is a slight methodological change to information in 2008/09 and for years previous to this, where those who were not contacted during March had their destinations imputed, and is the result of the improved follow-up rate. Instead of imputing a destination for those who were not followed up, Scottish Government have agreed to use the most up to date information that SDS hold on these leavers. SDS adopted a hybrid approach to the school leaver follow-up process for 2012/13 leavers onwards, using a combination of administrative data shared by partners, contact centre follow-up and the traditional follow-up by operational staff. Previously the follow-up process predominantly relied on operational staff. Scottish Government urge that caution should be exercised when comparing data prior to 2009/10 to later data due to change in methodology and data availability. Changes were also made to the data to include Personal Skills Development as a positive destination. Data published in 2020 revised historic data to reflect this, which had the effect of increasing overall positive destinations. Some of the CPP areas have been suppressed in the 2020 data as a result. Where this is the case we have used the pre-2020 figures to allow a consistent time series.
Available at geographical level	CPP, Community, Datazone
Frequency	Annually
Source	Scottish Government/SDS - http://www.gov.scot/Publications/2017/06/9699/0 Summary Statistics for Attainment, Leaver Destinations and Healthy Living (June 2017), 2009/10 - 2015/16. Data prior to 2009/10 came from SDS

Comment on Quality	The analysis of communities is more robust alongside other outcome measures. At the CPP level, data prior to 2009/10 came from SDS. Scottish Government urge that caution should be exercised when comparing data prior to 2009/10 to later data due to change in methodology and data availability.

OUTCOME	6. Employment Rate
Outcome description	**Employment rate** Employment rate is the number of people in employment aged 16-64 as a percentage of the population aged 16-64. People aged 16 or over are classed as in employment (as an employee or self-employed) if they have done at least one hour of paid work in the week prior to their interview or if they have a job that they are temporarily away from. People who do unpaid work in a family business and people on Government-supported training and employment programmes are also included according to the International Labour Organisation convention. Employment rate: The number of people in employment expressed as a percentage of the relevant population
Available at geographical level	Local Authority
Frequency	ONS Annual Population Survey – Annually NOMIS - Quarterly
Source	ONS (Office for National Statistics) Annual population survey Data sets were sourced from NOMIS: https://www.nomisweb.co.uk/query/select/getdatasetbytheme.asp?opt=3&theme=&subgrp= APS is a residence based labour market survey encompassing population, economic activity (employment and unemployment), economic inactivity and qualifications. These are broken down where possible by gender, age, ethnicity, industry and occupation.
Comment on Quality	Confidence Interval estimates are available for the local authority estimates for 2018/19. These range from +/- 2.9% in Angus to +/- 5.7% in Orkney and +/- 8.4% in Shetland. The Confidence Interval for Scotland as a whole is +/- 0.6%. These confidence intervals are information to note when considering the employment rate for each CPP. The annual data are volatile at a CPP level. A three-moving average is used to make comparisons more meaningful.

OUTCOME	7. Median Earnings
Outcome description	**Median earnings for residents living in the local authority area who are employed** The figures show the median earnings in pounds for employees living in the area who are on adults' rates of pay and whose pay was not affected by absence. It is preferable to use median (the midpoint in the distribution) rather than the arithmetic mean to take account of the skewed distribution of earnings. Figures for earnings come from the Annual Survey of Hours and Earnings (ASHE). More information about ASHE can be found here. The ASHE is based on a 1 per cent sample of employees, information on whose earnings and hours is obtained from employers. The survey does not cover self-employed. The earnings information collected relates to gross pay before tax, national insurance or other deductions, and excludes payments in kind. It is restricted to earnings relating to the survey pay period and so excludes payments of arrears from another period made during the survey period; any payments due because of a pay settlement but not yet paid at the time of the survey will also be excluded.
Available at geographical level	CPP
Frequency	Annually
Source	The Annual Survey of Hours and Earnings (ASHE) The data are available here (Table 8.1a). 2018/19 data are currently provisional. Revised figures are released annually at the same time as the new year's provisional figures. Therefore 2018/19 revised figures will be available when 2019/20 provisional figures become available.
Comment on Quality	For the 2018/19 provisional figures, most Local Authorities have confidence intervals between 5% and 10%, which is considered reasonably precise, however for two Local Authorities (Eilean Siar, and Shetland), the confidence intervals were between 10% and 20%, which is considered acceptable. Orkney has been excluded in 2017/18 because the confidence interval 20%. This means that the three-year rolling average for Orkney is just based on 2015/16 and 2016/17 data. A three-moving average is used to make any comparisons more meaningful.

OUTCOME	8. Out of Work Benefits
Outcome description	**Percentage of the population (aged 16 to 64 years) in receipt of out of work benefits** Previous data was taken from NOMIS, but in 2017/18 and 2018/19 this was completely replaced with data from DWP via their Stat-Xplore website. Data available via Stat-Xplore is available from 2013/14. The data includes Out of Work Benefits as defined in the Stat-Xplore dataset: JSA, ESA & incapacity, Universal Credit, and other income related benefits. More information is available via this link on their website This is a proxy indicator for poverty and an indicator of economic wellbeing of the community. Percentages of population receiving out of work benefits have been calculated using populations aged 16-64 for both men and women. The age at which women reach State Pension age is gradually increasing from 60 to 65 between April 2010 and April 2020. Hence, until April 2020, some women included in the population figure are not eligible to be part of the count of working age benefit claimants. There will be some time series discontinuity over this period, with trends partly reflecting the changing eligibility criteria.
Available at geographical level	CPP, Community, Datazone
Frequency	Quarterly
Source	Department for Work and Pensions (DWP) via Stat-Xplore
Comment on Quality	This is a snapshot at May each year of the number of people claiming out of work benefits from administrative data help by DWP. This now reflects claims via Universal Credit as well.

OUTCOME	9. Business Survival
Outcome description	**Survival of Newly Born Enterprises (3 Year Survival)** An enterprise is deemed to have survived if it is still active in terms of employment and/or turnover. Enterprises are included if they have survived for 3 years since the birth (beginning) of the enterprise The survival of an enterprise is defined as: - An enterprise born in year xx or having survived to year xx from a previous year is considered to have survived in year xx+1 if it is active in terms of turnover and/or employment in any part of year xx+1 (=survival without changes). - An enterprise is also considered to have survived if the linked legal unit(s) have ceased to be active, but their activity has been taken over by a new legal unit set up specifically to take over the factors of production of that enterprise (=survival by take-over) Activity is defined as any turnover and/or employment in the period from 1st Jan to 31st Dec in a given year. If sufficient information on turnover and employment is lacking in order to determine whether or not an enterprise is active, then national methods leading to this aim will be accepted. The survival of an enterprise is an event that should always be observed between two consecutive years. For instance, an enterprise that was born in year xx should be considered as having survived to xx + 2 only if it was active also in year xx + 1, and so forth. The survivals from a survival year to the following year should therefore be identified in the same way as the survivals from a birth year to the following one. Referring to the populations of employer births and economic births, this means that the employee threshold should be reached in every year as well. A newly born enterprise according to the definition of economic birth, for instance, would be considered as a survival only as long as it has at least two employees. As soon as it moves below the threshold of two employees, it would be considered as not having survived (although not necessarily a death)
Available at geographical level	CPP
Frequency	Annually
Source	Business Demography, ONS (Office for National Statistics). Data are available here (Table 5.1c).
Comment on Quality	These figures are based on data from the Inter-Departmental Business Register, a dynamic register of as around 99% of business enterprises in the UK. Those businesses excluded are small sole traders or partnerships with no employees and an annual turnover of less than the VAT threshold. These estimates are considered robust at a CPP level.

OUTCOME	10. Crime Rate
Outcome description	**Number of crimes per 10,000 population** This outcome was calculated using data zone level data from SIMD Crime rate and CPP crime score. The recording of crime by the police and the subsequent publication of crime statistics are professionally independent of wider decision-making and performance processes within their organisations. Within Police Scotland, the Crime Registrars ensure that crimes in Scotland are recorded ethically. They sit within the corporate services business area so that they are removed from direct operational activity and investigation. In turn, the production of the National Statistics on recorded crime is managed in an impartial and objective way, in the public interest, by Scottish Government statisticians. For more information SIMD crime score The methodology involves calculating a rate of total SIMD crime (by summing the crimes included in the indicators) per 10,000 of population, using 2018 small area population estimates (unrevised). Total SIMD crimes are based on geo-referenced data provided by Police Scotland based on the 2018/19 recorded crime totals held by the Scottish Government Justice Analytical Services Division. Crimes happening within 50 metres of a police station were removed from the data. This was to ensure that crimes recorded as happening in a police station did not mask the level of crime happening in the neighbourhood of the police station. For further information, please see the SIMD website here.
Available at geographical level	CPP, Community,
Frequency	Annually
Source	Police Scotland (Scottish Government)

Comment on Quality	Police Recorded Crime figures in Scotland are currently classified as Official Statistics. Due to concerns about data quality over time, they were de-classified from National Statistics in 2014. A potential issue with these figures, is that all crimes are given an equal weighting regardless of their severity (i.e. serious assault is counted in the same way as a shoplifting incident). A future development might be to introduce some form of weighting. The annual data are volatile at a CPP level. A three-moving average is used to make any comparisons more meaningful. As data are only available for 4 years at data zone level and IGZ level, care should be taken when analysing data by crime rates alone, the analysis of communities is more robust alongside other outcome measures.

OUTCOME	11. Dwelling Fires
Outcome description	**Number of dwelling fires per 100,000 population** This outcome measure takes into account both deliberate and accidental fires. Dwellings are buildings occupied by households, excluding hotels, hostels and residential institutions. Accidental definition relating to fire is when the fire was started accidentally or where the cause was not known or specified. Deliberate fires relate to where deliberate ignition is merely suspected and recorded by Fire and Rescue Services Denominator is from National Records of Scotland's mid-year population estimates for the relevant area.
Available at geographical level	CPP
Frequency	Annually
Source	Data were sourced from Scottish Fire and Rescue Service website https://www.firescotland.gov.uk/about-us/fire-and-rescue-statistics.aspx Data for mid-year estimate population is sourced from National Records of Scotland and is available here
Comment on Quality	These data, by their nature, are subject to considerable variability over time, especially for small geographical areas. For this model, the data are considered to be robust at the CPP level. The variability at the Community level was considered to be too large for inclusion in the Community analysis and graphs.

OUTCOME	12. Well-being
Outcome description	**Aggregate Measure of Personal Well-Being in the UK Measures** As the previous measure used to measure well-being within the CPOP (Warwick-Edinburgh Mental Well-being Scale) is no longer included within the Scottish Core Questions this measure has been replaced by an averaged measure of well-being measured within the Annual Population Survey. Personal well-being is assessed through four measures: Life Satisfaction, feeling the things done in life are Worthwhile, Happiness, and Anxiety. People are asked to rate their well-being on an 11-point scale. In order to make an aggregate measure of well-being anxiety has been transformed to have a matching scale as the other measures and all four measures have been averaged. Mental wellbeing influences social circumstances such as employment, family relationships and community participation, and can also be a factor in determining physical wellbeing. Conversely, mental wellbeing is itself influenced by a range of social factors. Contextual factors that are associated with mental health can operate at the individual, community and structural level.
Available at geographical level	CPP
Frequency	Annually
Source	Office for National Statistics - https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/measuringnationalwellbeing/april2018tomarch2019#measuring-the-data
Comment on Quality	As this data comes from the Annual Population Survey local authority data can be based on limited sample sizes. Therefore, the most appropriate comparisons to make are progress over time within the same local authority, or across local authorities that share a similar demographic composition to one another; simply ranking local authorities by their numerical scores can be misleading due to several reasons including sample sizes and mode effects.

OUTCOME	13. Emergency Admissions
Outcome description	**Emergency hospital admissions per 100,000 population (ages 65 plus)** An emergency admission is defined as being a new continuous spell of care in hospital where the patient was admitted as an emergency. The total number of emergency admissions is then calculated by counting the number of continuous spells in hospital within a financial year. Figures for the indicator are derived from data collected on discharges from non-obstetric and non-psychiatric hospitals through the Scottish Mortality Record 01 (SMR01). Long Stay are excluded. The basic unit of analysis is a Continuous Inpatient Stay (CIS) in hospital. Probability matching methods have been used to link together individual SMR01 hospitals episodes for each patient, thereby creating "linked" patient stay histories. The total number of emergency admissions is then calculated by counting the number of continuous spells in hospital within a financial year. When combined with population estimates provided by the National Records of Scotland, these data can be used to calculate the emergency admission rate per 100,000 population. The rates shown are crude rates per 100,000 population and are based on the most relevant mid-year population estimates. i.e. financial year 2011/12 will use the 2011 mid-year estimate. Statistics relating to hospital admissions, including the figures used for the National Indicator, are published on the ISD website: http://www.isdscotland.org/Health-Topics/Hospital-Care/Inpatient-and-Day-Case-Activity/
Available at geographical level	CPP, Community, Datazone
Frequency	Annually
Source	Data were provided directly to the Community Planning Outcomes Profile by the Information Services Division Scotland (ISD).
Comment on Quality	Annual data are thought to be reliable at both the Scotland and CPP levels. The data are, however, not reliable for lower level geographies on an annual basis. For this analysis, we have used a three-year rolling average to reduce the variability of movement from one year to the next. Given the three-year rolling average, these figures are considered robust for this analysis. At CPP level, the data is presented in single years.

OUTCOME	14. Unplanned Hospital Attendances
Outcome description	**Emergency department attendance rate per 100,000 population** A&E attendances should decrease with better provision and use of primary care and community based services, better preventative and continuous care in the home, and improved self-care. The measure is intended to indicate an outcome of a range of improvements relating to joined up working and shifting the balance of care This indicator only includes 'New' and 'Unplanned Return' attendances an Emergency Departments, i.e. excludes those who are 'Recall' or 'Planned Return'. Accident & Emergency sites submit data as either episode level files containing a detailed record for each attendance or as aggregate files containing monthly summary attendance and compliance figures only. This indicator only includes Emergency Departments (ED). An ED is a site that provides a 24-hour consultant led service. Minor injuries unit (MIU), small hospitals and health centres in rural areas that carry out emergency department related activity and are GP or Nurse led are excluded. In January 2019 CPOP, the data for Orkney was updated to reflect that it did not have an ED until January 2014, so all data before then has been excluded, and the missing data has been imputed.
Available at geographical level	CPP
Frequency	Annual
Source	Data were provided directly to the Community Planning Outcomes Profile by the Information Services Division Scotland (ISD).
Comment on Quality	Data is validated by ISD – more details can be found here: http://www.isdscotland.org/Health-Topics/Hospital-Care/ However Council area data is only available when a valid CHI number has been submitted for that patient. The CHI completeness has improved throughout the years and varies by health board, this needs to be taken into consideration when viewing the data. Which ranges from 90% in NHS Highlands to 99% in NHS Fife, NHS Ayrshire & Arran, NHS Greater Glasgow & Clyde and NHS Lanarkshire

OUTCOME	15. Early Mortality
Outcome description	**European Age Standardised Rate of deaths for persons u75** This rate of deaths is a measure of premature (all cause) mortality and replaces previous mortality indicators in the Menu. Data can be found on the web section "Age-Standardised Death Rates" from National Records of Scotland (http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths/age-standardised-death-rates-calculated-using-the-esp). Premature mortality is defined as deaths occurring before the age of 75. It is measured for this outcome measure using the European Age-Standardised mortality rate for people aged under 75, which is a weighted sum of age-specific mortality rates and is used here as an indicator of the overall mortality rate for an area. It follows a standard methodology, which allows comparisons between countries and over time. The European Age-Standardised mortality rate for an area is the mortality rate that would have been found if the population of that area had the same age-composition (proportion of total population in each fiveyear age class) as a hypothetical European population. The rates are calculated by applying the age-specific rates for the area to a theoretical European standard population and expressed per 100,000 persons per year.
Available at geographical level	CPP, Community (based on a five-year rolling average)
Frequency	Annually
Source	NRS (National Records of Scotland)
Comment on Quality	Annual data are thought to be reliable at both the Scotland and CPP levels. The data are, however, not reliable for lower level geographies on an annual basis. For this analysis, statisticians in NRS advised on presenting the communities data on a 5-year moving average basis to ensure the figures are fit for purpose. However even using 5-year moving averages produces data with very large confidence intervals, an average of +/-20% and range from +/-12% to +/- 74%. Data at a CPP level is presented in single years.

OUTCOME	16. Carbon Emissions
Outcome description	**CO2 emissions per capita** The aim of these statistics is to provide the most reliable and consistent possible breakdown of CO2 emissions across the country, using nationally available data sets going back to 2005. The UK compiles an annual inventory of its greenhouse gas (GHG) emissions to monitor progress against domestic and international targets such as the Kyoto Protocol. Carbon dioxide (CO2) is the main greenhouse gas, accounting for about 81 percent of the UK greenhouse gas emissions in 2015. In recent years, increasing emphasis has been placed on the role of regional bodies and local government in contributing to energy efficiency improvements, and hence reductions in carbon dioxide emissions. These statistics combines data from the UK's GHG inventory with data from several other sources, including local energy consumption statistics, to produce a nationally consistent set of carbon dioxide emissions estimates at Local Authority level. The statistics show emissions allocated on an "end-user" basis where emissions are distributed according to the point of energy consumption (or point of emission if not energy related). Except for the energy industry, emissions from the production of goods are assigned to where the production takes place. Therefore, emissions from the production of goods which are exported will be included, and emissions from the production of goods which are imported are excluded. For some Local Authorities in Scotland a growing LULUCF (land use and land use change and forestry) sink is a big factor in the trend of their emissions, and has meant that some Local Authorities have negative CO2 emissions. As of 2020 the CPOP includes an alternative measure of Carbon Emissions within the scope of Local Authorities. Unlike the full dataset, the dataset of emissions within the scope of Local Authorities excludes emissions that Local Authorities don't have direct influence over. The emissions that are removed from the full dataset are: • Motorways – all emissions from the "Transport (motorways)" sector have been removed. • EU Emissions Trading System (EU ETS) sites – these emissions have been removed from the "Large industrial installations" sector, with the exception of energy suppliers (e.g. power stations), whose emissions are indirectly included via the end-user estimates for electricity use. Note that not all the emissions from the "Large industrial installations" sector are produced by EU ETS installations, hence the fact that there are emissions remaining in this sector in the subset. • Diesel railways – all emissions from the "Diesel Railways" sector have been excluded; • Land Use, Land Use Change, and Forestry – all emissions belonging to the "LULUCF Net emissions" sector have been excluded. Removing these emissions has a much bigger impact on some Local Authorities than others, as some Local Authorities have a much bigger proportion of emissions from the above sources than others.

	Further information on CO2 emissions data, including methodology and technical details, can be found here: https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2018
Available at geographical level	CPP
Frequency	Annually
Source	These figures are published annually for UK local authorities by the Department for Business, Energy and Industrial Strategy. https://www.gov.uk/government/collections/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics

OUTCOME	17. Fuel Poverty
Outcome description	**% of households in fuel poverty** The proportion of households in each Local Authority and sub-group that are fuel poor (required fuel costs >10% of income) As set out in the Scottish Fuel Poverty Statement, a household is in fuel poverty if, in order to maintain a satisfactory heating regime, it would be required to spend more than 10% of its income on all household fuel use. A satisfactory heating regime is defined as follows: • For "vulnerable" households, 23°C in the living room (zone 1) and 18°C in other rooms (zone 2), for 16 hours in every 24. • For other households, this is 21°C in the living room (zone 1) and 18°C in other rooms (zone 2) for 9 hours a day during the week and 16 during the weekend. The energy costs of maintaining a satisfactory heating regime and other uses of energy are modelled using data from the physical inspection of dwellings and the household interview conducted as part of the Scottish House Condition Survey (SHCS), as well as information on consumer fuel prices. The fuel expenditure is estimated on the basis of a standard set of behaviours with respect to space heating, hot water demand and other types of energy use in the home. It does not reflect the actual energy use of the household, which may vary considerably depending on personal preference and relative priorities given to other household expenditure. Three years of data are rolled to provide estimates at CPP level. For further information, please see the technical report from SHCS, available here.
Available at geographical level	CPP
Frequency	Annually
Source	These figures are published annually for local authorities by the Scottish House Condition Survey (SHCS): http://www.gov.scot/Topics/Statistics/SHCS/keyanalyses
Comment on Quality	As these figures are rolled and only five years data are available (on a consistent basis), data will change slowly. The LA figures are a snapshot of Local Authority average results for a range of house condition descriptors, not to measure year-on-year change or to make direct comparisons between consecutive releases of LA tables. This is because the three-year averages are updated on a rolling basis, so each edition of the tables has two overlapping years of data with the previous edition. Therefore, when analysing Local Authorities over time, these estimates should only be used to get an indication of long-run trends and a sense of direction in the series of interest.

OUTCOME	18. Fragility
Outcome description	**Current Indicators used** There are three indicators currently used in the fragility index[5]: De-population: this is the inverse of population change indexed to the base year. Thus, if the population of a CPP has fallen by 10% over a period of time since the base year, the index will be 110 (actually 111.1111). A rising index signifies a rising concern. Old Age Dependency Ratio (OADR): this is the ratio of Older People (65 and over) to the Working Age population (16 to 64). This ratio is indexed to a base year and a rising index indicates that the proportion of older people to younger people is increasing. If this index is rising then the CPP might have a greater challenge in providing suitable care for its older population. There may be issues in certain communities especially in remote areas where the working age population is in decline. Rural depopulation: this considers the proportion of the total population that are living in rural or rural remote areas. This is an inverse index so that if the rural population proportion is falling, the index increases. This indicator is first derived by calculating the number of people living in rural areas within a CPP. This is done using data zone level mid-year estimates. The data are available in the current 2011 based geographies for the years 2001 to 2016. Estimates for the years 1999 to 2000 were calculated using a constrained annual average change rate for each DZ. The constraints were a lower bound of 0.95, and an upper bound of 1.05. These estimates were then adjusted using CPP level population estimates as a scaling factor, these data are available for the full-time period. Data zones were then matched to the most recent 2013-14 6-fold urban rural classification. For areas that were classed as remote rural areas or accessible rural areas, population estimates were aggregated to a CPP level, indicating the number of people within a CPP who are living in a rural area. These figures are then used to calculate the proportion of the total population within a CPP that are living in rural or rural remote areas. When calculating the rural depopulation index; CPP's with a proportion greater than 10% at some point throughout the time period were classed as rural and the yearly proportions are indexed to a base year. The index is calculated by comparing the change from the base year within the CPP with the change from the base year for Scotland's rural proportion. For CPP's with less than 10% of the population living in rural areas the index remains stable throughout the whole period to reflect that the change in rural population is not likely to have as great an impact on these areas. **Adjustments** All indices are based on a three-year moving average to avoid any unwarranted effects of random variation. The indices are then indexed to the base year 1999-2001.

[5] An index provides a simple way of representing changes over time. Each value is expressed as a percentage of a base value (given 100 in our case)

	Within each index the figures are adjusted by applying a weighting to the index and then normalizing the figures around the 2018 standard deviation. The indices are weighted together. As the growth rates are different for all three indicators, the one that changes the most will have a greater impact (or weight) on the combined index.
Available at geographical level	CPP
Frequency	Annually
Source	Data for the three indicators is derived from National Records Scotland population estimates: http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates
Comment on Quality	As this data is published by National Records Scotland, and uses three-year moving averages, it is considered robust at a CPP level.