

The Public Health Intelligence team are part of the Directorate of Public Health of NHS Highland and provide an expert resource on epidemiology, demography and population health evidence.



nhsh.publichealthintelligence@nhs.scot



Public Health Intelligence team Directorate of Public Health NHS Highland Larch House Stoneyfield Business Park Inverness IV2 7PA

Version	Issued	Next review	Prepared by	Authorised by
1	15/11/2022		Public Health Intelligence	C Hunter-Rowe, Public Health Intelligence Manager
2				
3				

Distribution	Method
Distributed to NHS Highland stakeholders, Public Health Directorate staff, community planning partners and Public Health Intelligence intranet page	Intranet with email link

# Table of content

Introduction	1
Geographies and populations	1
Deprivation and Inequalities	2
Bute and Cowal Summary	3
Current Population	5
Live Births	8
Deaths - all ages	10
Population Projections	13
Scottish Index of Multiple Deprivation 2020	17
Population Income Deprived	19
Working Age Population Employment Deprived	21
Overview of Community Partnership Area	23
Glossary	25
References	27

### Introduction

This report provides an overview of Bute and Cowal's current and future population structure. It also provides information about the population dynamics of Bute and Cowal and areas within Bute and Cowal, the geography, and the life circumstances of people living in the area.

All data are presented for Bute and Cowal and, where available, intermediate zones or neighbourhoods within Bute and Cowal. Comparisons are made to the Argyll and Bute local authority and Scotland.

Further profile reports will present information covering a range of topics relating to health status (morbidity and mortality) across the life course, health behaviours and health harms from alcohol, tobacco and other substances. The reports do not cover information on the use or provision of health or social care services which other colleagues in NHS Highland may provide.

# **Geographies and populations**

Profile reports are available for nine community partnerships in Highland local authority and four community planning groups in Argyll and Bute local authority. These partnership areas are the focus of action to improve the health of the people and communities in the area covered by NHS Highland Health Board.

This report uses four levels of geography: local authority, partnership area, intermediate zone and data zone. Local authorities, intermediate zones and data zones are nationally agreed geographical areas with defined boundaries. Partnership areas are locally defined geographies created without reference to national geographies. Therefore, partnership areas and national geographies may not neatly align.

The intermediate zone is the smallest spatial unit most commonly used for releasing and presenting potentially sensitive statistical data and reporting measures of population health. Most measures, and figures presented in this report are aggregations from data zones to higher geographical levels. The number of events in the intermediate geographies that best align with a partnership area may not sum to the exact total.

The population estimates for the intermediate zones and partnership areas presented in the profiles are aggregations of data zone-level populations provided by National Records of Scotland (NRS)<sup>1</sup>. These are called small area population estimates (SAPE). The latest estimates are based upon the 2011 census, with an adjustment made annually for the number of births, deaths and an estimate of migration. Future estimates will be rebased on the 2022 census when the results become available.

The population projections used in this report were produced by the Improvement Service (IS)<sup>2</sup>. They are based on Housing Market Areas (HMAs) defined by the Argyll and Bute Council and the Highland Council.

### **Deprivation and Inequalities**

This report presents some information on deprivation using the Scottish Index of Multiple Deprivation (SIMD)<sup>3</sup>. The SIMD is an area-based measure of relative deprivation rather than household or individual deprivation. The SIMD can help to understand the life circumstances and health outcomes of people living in areas identified as experiencing high levels of deprivation.

Health inequalities have been defined as the "unjust and avoidable differences in people's health across the population and between specific population groups"<sup>4</sup>. Inequalities are not caused by a single issue, and can occur by gender, income, deprivation, ethnicity, disability, geography and other factors.

The SIMD is used to monitor health inequalities by dividing the population into five groups (quintiles) or ten groups (deciles) based on their area deprivation level.

The SIMD represents deprivation less accurately in rural areas<sup>5</sup>. The statistical indicators used in the index do not capture the nature of rural disadvantage, and poor households in rural areas are unlikely to be spatially concentrated. Rural areas tend to be less socially homogeneous than urban ones in terms of deprivation, and deprived households in rural areas are unlikely to make much statistical impact on a small area (data zone) basis. A consequence is that rural disadvantage is less visible and 'less easily tractable' than in urban areas.

Further information on the geographies, populations and other terms used within the report are available in the <u>Glossary</u>.

### **Bute and Cowal Summary**

- The partnership area of Bute and Cowal includes the settlements of Dunoon, Rothesay, Sandbank, Innellan, Port Bannatyne and Tighnabruaich. The area covers the island population living on the Isle of Bute.
- Just over two thirds of the population (67%) live in very remote small towns (Dunoon and Sandbank, and Rothesay) and 33% live in areas classified as very remote and rural.
- As of 2021, Bute and Cowal has a population of 20,346 people. 13.5% of the population are children aged 0-15 years, 54.7% are people aged 16-64 years and 31.8% are people aged 65 years and over.
- The age profile of Bute and Cowal is broadly similar to Argyll and Bute. Bute and Cowal has a higher proportion of those aged 65+ (32%) than Argyll and Bute (26%).
- The population of Bute and Cowal has decreased by 9% in the period 2002 to 2021, whereas the population of Scotland increased by 8%.
- Over this period, there was a 22% increase in the 65+ age group, a 15% reduction in the population aged 16-64 and a 30% reduction in those aged under 16 years.
- The ratio of 1.7 people of working age (16-64 years) to older people (age 65 years and over) in Bute and Cowal is lower than in Argyll and Bute and Scotland.
- There were 144 live births to Bute and Cowal residents in 2020.
- While birth rates in Argyll and Bute have reduced in the last decade, the latest birth rate in Bute and Cowal in 2020 is similar to the rate in 2002. The latest birth rate in Bute and Cowal and Argyll and Bute are both significantly lower than for Scotland as a whole.
- The mortality rate in Bute and Cowal has been consistently higher than for Argyll and Bute since 2006-2008.
- Improvements in the mortality rate in Argyll and Bute and Scotland have stalled<sup>6</sup>. It is a significant concern that a sentinel measure of population health and social progress is not improving.
- Population projections are informed by past trends in births, deaths and migration.

- The annual number of deaths in the area exceeds the number of births, and population growth depends on net migration gain.
- The latest available population projections estimate that the overall population of Bute and Cowal will decrease between 2018 and 2030.
- The number and proportion of people in the 65-74, 75-84 and 85+ age groups are projected to increase, whereas the population aged 0-15 years, 16-44 years and 45-64 years are projected to decrease.
- Projected demographic changes indicate that the ratio of people of working age to people aged 65 years and older will further decrease.
- SIMD 2020 identifies seven data zones in Bute and Cowal that are in the 20% most deprived small areas in Scotland. These are located in the town areas of Dunoon, Rothesay and Hunter's Quay.
- A higher proportion of the population of Bute and Cowal (19.5%) live in areas ranked in the most deprived quintile of national deprivation compared to Argyll and Bute (8.5%).
- The majority of the population (74%) live in areas ranked within SIMD quintiles 2 and 3. A lower proportion live in areas ranked within the least deprived SIMD quintiles 4 and 5 (7%) compared to Argyll and Bute (37%).
- In SIMD 2020, 14.5% of the population of Bute and Cowal were identified as being income deprived and 12.4% of the working age population were employment deprived. Both values are significantly higher than in Argyll and Bute and Scotland.
- Rural deprivation is an important concern. Those identified as income or employment deprived are found in all intermediate geography areas of Bute and Cowal.

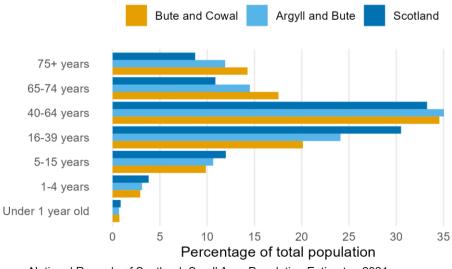
## **Current Population**

Age Band	Bute and Cowal	Argyll and Bute	Scotland
All ages	20,346	86,220	5,479,900
Under 1 year old	146	583	46,782
1-4 years	595	2,680	208,655
5-15 years	2,006	9,178	656,085
16-39 years	4,094	20,780	1,671,841
40-64 years	7,032	30,222	1,822,676
65-74 years	3,569	12,521	595,578
75+ years	2,904	10,256	478,283
85+ years	751	2,667	131,309
0-15 years	2,747	12,441	911,522
16-64 years	11,126	51,002	3,494,517
65+ years	6,473	22,777	1,073,861

Table 1: Current estimated population by age group

Source: National Records of Scotland, Small Area Population Estimates 2021

#### Figure 1: Percentage of the population by age group

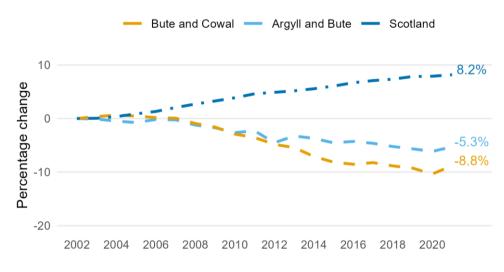


Source: National Records of Scotland, Small Area Population Estimates 2021

Age Band	Bute and Cowal	Argyll and Bute	Scotland
All ages	20,346	86,220	5,479,900
Under 1 year old	0.7	0.7	0.8
1-4 years	2.9	3.1	3.8
5-15 years	9.9	10.6	12.0
16-39 years	20.1	24.1	30.5
40-64 years	34.6	35.0	33.3
65-74 years	17.5	14.5	10.9
75+ years	14.3	11.9	8.7
85+ years	3.7	3.1	2.4
0-15 years	13.5	14.4	16.6
16-64 years	54.7	59.1	63.8
65+ years	31.8	26.4	19.6

Source: National Records of Scotland, Small Area Population Estimates 2021

#### Figure 2: Percentage change in total population, 2002 to 2021



Source: National Records of Scotland, Small Area Population Estimates 2021

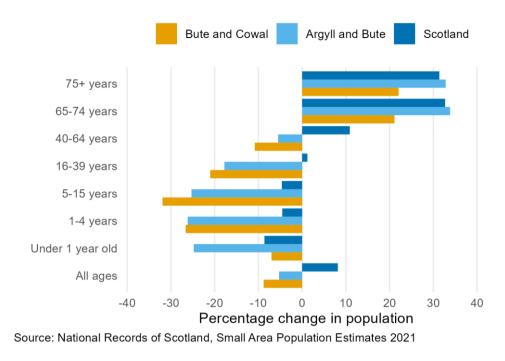
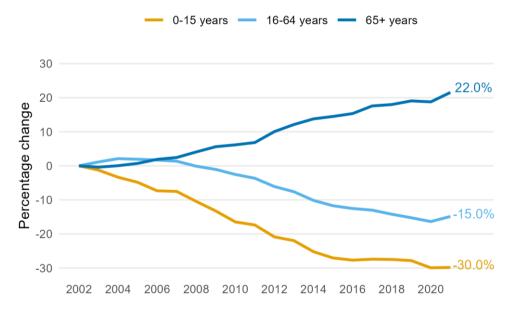


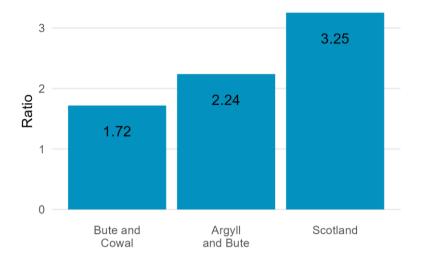
Figure 3: Percentage change in the population by age group, 2002 to 2021

Figure 4: Bute and Cowal: Percentage change in the population by broad age group



Source: National Records of Scotland, Small Area Population Estimates 2021

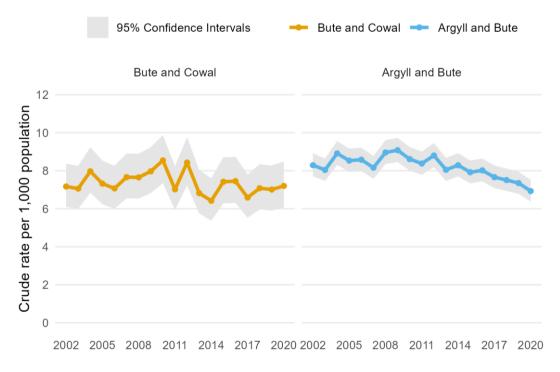
Figure 5: People of working age (16-64 years) for every person 65 years and older in 2021



Source: National Records of Scotland, Small Area Population Estimates 2021

### **Live Births**

Figure 6: Annual births per 1,000 women aged 15-44<sup>1</sup>, 2002 - 2020



Source: National Records Scotland

1 Represents the degree of variability in the measures given by the 95% confidence intervals

Table 3: Number of live births and births per 1,000 women aged 15-44, 2020

					Signific	cance
	Number	Rate	Lower bound	Upper bound	Scotland	Council
Argyll and Bute	592	6.9	6.4	7.5	*	-
NHS Highland	2,458	7.7	7.4	8.0	*	
Scotland	46,809	8.6	8.5	8.6		*
Oban, Lorn and the Isles	147	7.4	6.3	8.7		
Mid-Argyll, Kintyre and Islay	145	7.3	6.2	8.6		
Bute and Cowal	144	7.2	6.1	8.5	*	
Helensburgh and Lomond	156	6.1	5.2	7.1	*	

Source: National Records Scotland

**Table 4:** Number of live births and births per 1,000 women aged 15-44 by intermediate geographiesin the area, 2020

					Signific	cance
	Number	Rate	Lower bound	Upper bound	Scotland	Council
Dunoon	39	9.2	6.5	12.5		-
Cowal North	23	7.6	4.8	11.4		
Cowal South	19	7.3	4.4	11.5		
Rothesay Town	24	6.7	4.3	10.0		
Hunter's Quay	31	6.2	4.2	8.8		
Bute <sup>1</sup>	13	5.4	2.8	9.2		

Source: National Records Scotland

1 The intermediate geography of 'Bute' does not include Rothesay

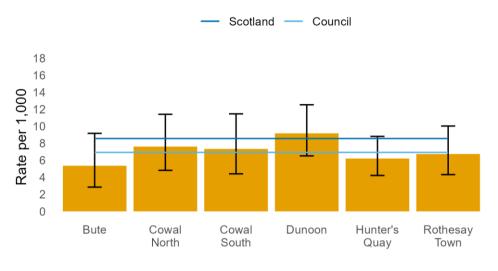
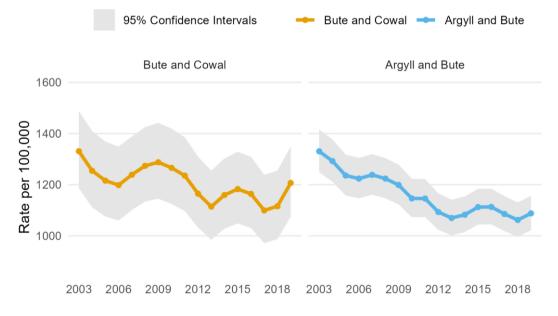


Figure 7: Live births per 1,000 women aged 15-44 by intermediate geographies<sup>1</sup>, 2020

### **Deaths - all ages**

Figure 8: Age-sex standardised mortality rate (all ages) per 100,000 population<sup>1</sup>, 2002 - 2020<sup>2,3</sup>



Source: National Records Scotland

1 Represents the degree of variability in the measures given by the 95% confidence intervals. 2 The x-axis labels show the middle year of the aggregated time period. 3 Note: the y-axis scale does not start at zero

Source: National Records Scotland 1 Error bars (vertical lines at column series ends) show a 95% confidence interval range

					Signific	cance
	Avg Annual Number	Rate	Lower bound	Upper bound	Scotland	Council
Argyll and Bute	1,126	1,087.7	1,022.3	1,156.0	*	-
NHS Highland	3,751	1,050.7	1,016.2	1,086.0	*	
Scotland	59,983	1,166.3	1,156.7	1,176.0		*
Bute and Cowal	345	1,206.6	1,074.9	1,349.2		
Oban, Lorn and the Isles	243	1,141.9	992.5	1,306.2		
Mid-Argyll, Kintyre and Islay	262	1,063.6	932.1	1,207.7		
Helensburgh and Lomond	278	975.7	861.2	1,100.9	*	

Table 5: Number of deaths and age-sex standardised mortality rates, 2018 - 2020

Source: National Records Scotland

Table 6: Age-sex standardised mortal	ty rates by intermediate geography, 2018 - 2020

					Signific	cance
	Avg annual number	Rate	Lower bound	Upper bound	Scotland	Council
Dunoon	74.00	1,385.9	1,080.6	1,748.9	-	
Rothesay Town	62.67	1,355.4	1,026.5	1,752.5		
Hunter's Quay	92.00	1,292.1	1,019.5	1,610.4		
Cowal North	48.33	1,111.3	807.8	1,487.6		
Cowal South	40.33	1,062.2	733.2	1,478.5		
Bute <sup>1</sup>	36.67	977.5	643.3	1,405.2		

Source: National Records Scotland

1 The intermediate geography of 'Bute' does not include Rothesay

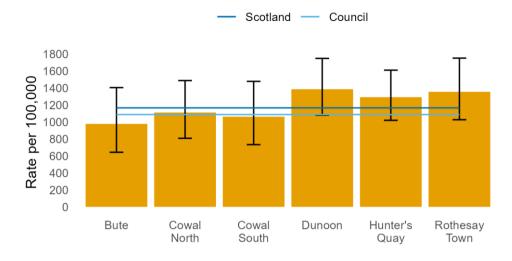


Figure 9: Age-sex standardised mortality rates by intermediate geography<sup>1</sup>, 2018 - 2020

Source: National Records Scotland 1 Error bars (vertical lines at column series ends) show a 95% confidence interval range

# **Population Projections**

Year	0-15	16-44	45-64	65-74	75-84	85+	Totals
2018	2,839	4,980	6,233	3,444	2,111	729	20,336
2019	2,813	4,861	6,156	3,455	2,152	730	20,167
2020	2,748	4,792	6,076	3,448	2,170	749	19,983
2021	2,685	4,711	5,985	3,488	2,177	752	19,798
2022	2,631	4,620	5,910	3,399	2,253	794	19,607
2023	2,565	4,557	5,793	3,370	2,324	804	19,413
2024	2,520	4,468	5,697	3,343	2,369	827	19,224
2025	2,440	4,384	5,619	3,376	2,381	831	19,031
2026	2,368	4,311	5,513	3,386	2,406	857	18,841
2027	2,289	4,261	5,397	3,398	2,434	861	18,640
2028	2,213	4,183	5,304	3,429	2,420	886	18,435
2029	2,133	4,120	5,173	3,484	2,425	899	18,234
2030	2,080	4,010	5,061	3,537	2,426	911	18,025

Table 7: Projected population by age group, 2018 - 2030

Source: Improvement Service Population Projections for Sub Council Areas 2018 based

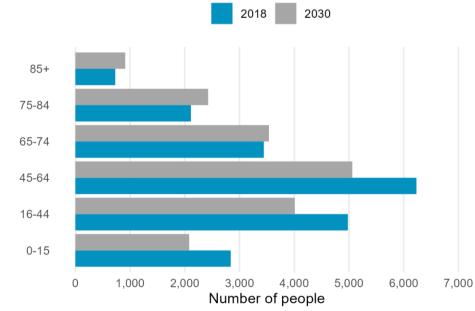
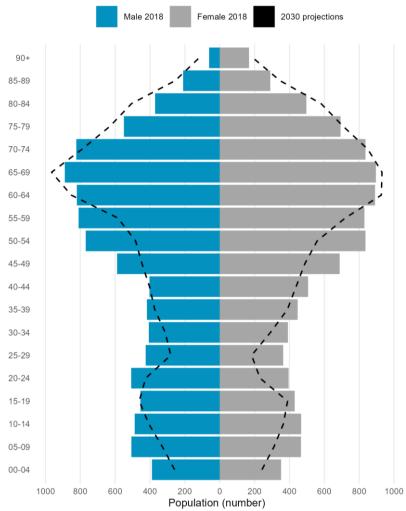


Figure 10: Projected population by age group, 2018 - 2030

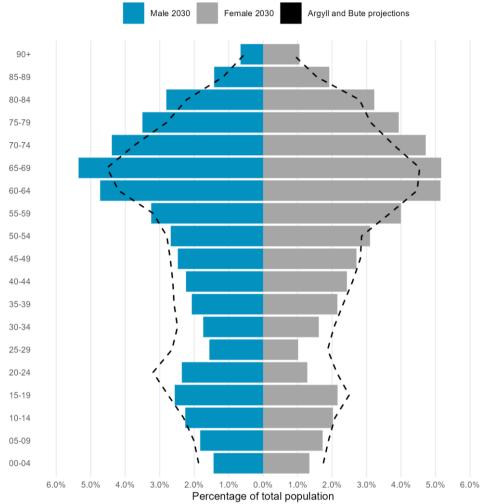
Source: Improvement Service Population Projections for Sub Council Areas 2018 based





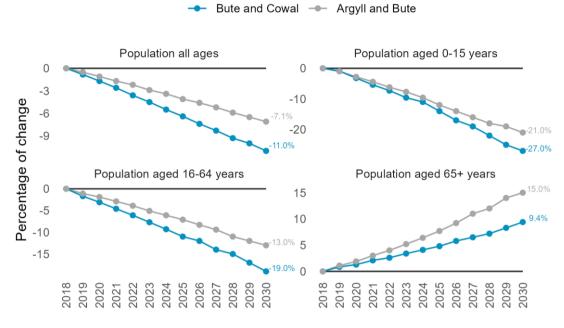
Source: Improvement Service Population Projections for Sub Council Areas 2018 based

#### Figure 12: Projected population compared to the HSCP area by 2030



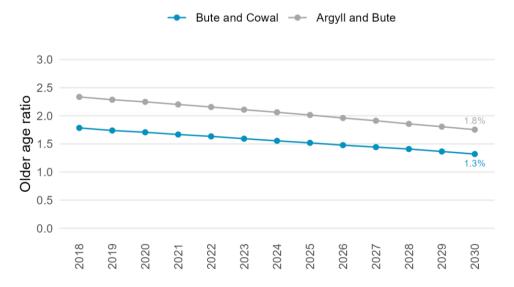
Source: Improvement Service Population Projections for Sub Council Areas 2018 based

Figure 13: Projected percentage change in the population by broad age group, 2018 - 2030



Source: Improvement Service Population Projections for Sub Council Areas 2018 based

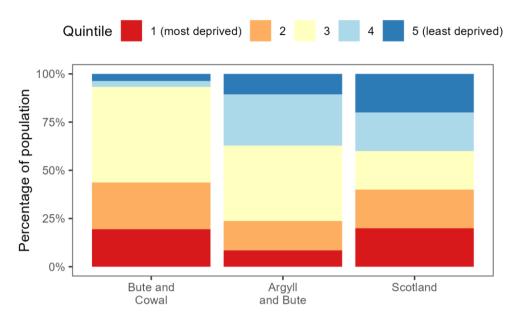




Source: Improvement Service Population Projections for Sub Council Areas 2018 based

### **Scottish Index of Multiple Deprivation 2020**

**Figure 15:** Percentage of the population living in small areas which are in the most to least deprived in Scotland



Source: Scottish Index of Multiple Deprivation 2020 and NRS Small Area Population Estimates (2021)

**Table 8:** Percentage of the population living in small areas that are in the most to least deprived in

 Scotland

	1 (most deprived)	2	3	4	5 (least deprived)
Bute and Cowal	19.5	24.2	49.6	3.0	3.7
Argyll and Bute	8.5	15.2	39.1	26.6	10.6
Scotland	20.0	20.0	20.0	20.0	20.0

Source: Scottish Index of Multiple Deprivation 2020 and NRS Small Area Population Estimates (2021)

Table 9: Data zones in the most deprived 20 percent of areas in Scotland in the HSCP

	Total number of data zones in the area	Areas in the 20% most deprived in Scotland	Local share of the 20% most deprived areas in Scotland
Bute and Cowal	32	7	21.9
Helensburgh and Lomond	37	3	8.1
Mid-Argyll, Kintyre and Islay	29	2	6.9
Oban, Lorn and the Isles	27	1	3.7
Argyll and Bute	125	13	10.4

Source: Scottish Index of Multiple Deprivation 2020

### Table 10: Bute and Cowal data zones in the most deprived 20 percent of areas in Scotland

		Rank in Scotland	National decile of deprivation	
Data zone	Name	(1 = most deprived area 6976 = least deprived)		
S01007366	Dunoon - 01	189	1	
S01007346	Rothesay Town - 03	558	1	
S01007345	Rothesay Town - 02	597	1	
S01007368	Dunoon - 03	695	1	
S01007347	Rothesay Town - 04	1,005	2	
S01007364	Hunter's Quay - 06	1,015	2	
S01007350	Rothesay Town - 07	1,039	2	

Source: Scottish Index of Multiple Deprivation 2020

### **Population Income Deprived**

					Signific	cance
	Population income deprived	Population income deprived (%)	Lower bound	Upper bound	Scotland	Council
Argyll and Bute	8,450	9.7	9.5	9.9	*	-
NHS Highland	31,366	9.7	9.6	9.8	*	
Scotland	654,561	12.1	12.0	12.1		*
Bute and Cowal	2,961	14.5	14.0	14.9	*	*
Mid-Argyll, Kintyre and Islay	2,059	10.3	9.9	10.7	*	
Oban, Lorn and the Isles	1,555	7.7	7.3	8.1	*	*
Helensburgh and Lomond	1,875	7.2	6.9	7.5	*	*

**Table 11:** Number and percentage of the population who are income deprived

Source: Scottish Index of Multiple Deprivation 2020

**Table 12:** Number and percentage of the population who are income deprived by intermediategeography

					Signific	cance
	Population income deprived	Population income deprived (%)	Lower bound	Upper bound	Scotland	Council
Rothesay Town	870	24.0	22.7	25.4	*	*
Dunoon	801	18.4	17.2	19.5	*	*
Hunter's Quay	686	13.6	12.7	14.6	*	*
Cowal North	252	8.0	7.1	8.9	*	*
Bute <sup>1</sup>	196	7.8	6.8	8.9	*	*
Cowal South	191	7.2	6.3	8.3	*	*

Source: Scottish Index of Multiple Deprivation 2020

1 The intermediate geography of 'Bute' does not include Rothesay

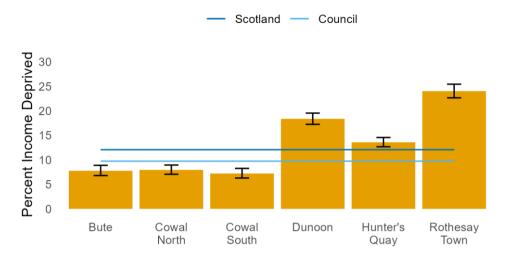


Figure 16: Percentage of the population who are income deprived by intermediate geographies<sup>1</sup>

Source: Scottish Index of Multiple Deprivation 2020 1 Error bars (vertical lines at column series ends) show a 95% confidence interval range

# Working Age Population Employment Deprived

					Signific	cance
	Working-age population employment deprived	Working-age population employment deprived (%)	Lower bound	Upper bound	Scotland	Council
Argyll and Bute	4,065	7.8	7.6	8.1	*	-
NHS Highland	15,126	7.7	7.6	7.8	*	
Scotland	324,791	9.3	9.3	9.3		*
Bute and Cowal	1,408	12.4	11.8	13.0	*	*
Mid-Argyll, Kintyre and Islay	947	8.1	7.6	8.6	*	
Oban, Lorn and the Isles	764	6.2	5.8	6.6	*	*
Helensburgh and Lomond	946	5.8	5.4	6.1	*	*

**Table 13:** Number and percentage of the working-age population who are employment deprived

Source: Scottish Index of Multiple Deprivation 2020

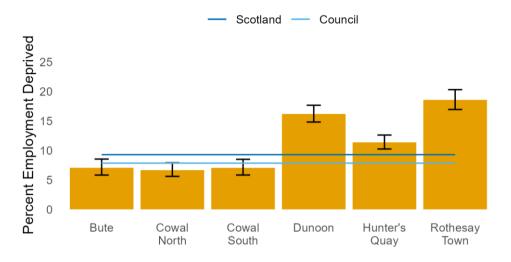
**Table 14:** Number and percentage of the working-age population who are employment deprived by intermediate geographies in the area

					Signific	cance
	Working-age population employment deprived	Working-age population employment deprived (%)	Lower bound	Upper bound	Scotland	Council
Rothesay Town	381	18.6	17.0	20.3	*	*
Dunoon	414	16.2	14.8	17.7	*	*
Hunter's Quay	315	11.4	10.2	12.6	*	*
Bute <sup>1</sup>	97	7.1	5.8	8.5	*	
Cowal South	100	7.0	5.8	8.5	*	
Cowal North	120	6.7	5.6	7.9	*	

Source: Scottish Index of Multiple Deprivation 2020

1 The intermediate geography of 'Bute' does not include Rothesay

**Figure 17:** Percentage of the working-age population who are employment deprived by intermediate geographies<sup>1</sup>



Source: National Records Scotland

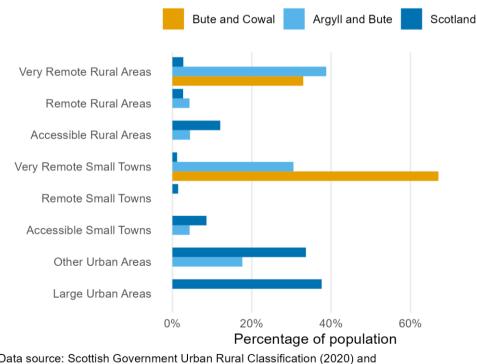
1 Error bars (vertical lines at column series ends) show a 95% confidence interval range

### **Overview of Community Partnership Area**

	Bute and Cowal population	Bute and Cowal %	Argyll and Bute %	Scotland %
Large Urban Areas	0	0.0	0.0	37.6
Other Urban Areas	0	0.0	17.6	33.6
Accessible Small Towns	0	0.0	4.3	8.6
Remote Small Towns	0	0.0	0.0	1.4
Very Remote Small Towns	13,638	67.0	30.5	1.2
Accessible Rural Areas	0	0.0	4.4	12.1
Remote Rural Areas	0	0.0	4.3	2.7
Very Remote Rural Areas	6,708	33.0	38.8	2.8

 Table 15: Population by the Scottish Government Urban Rural 8-fold classification (2020)

Data source: Scottish Government Urban Rural Classification (2020) and National Records of Scotland Small Area Population Estimates (2021)



#### Figure 18: Population by the Scottish Government Urban Rural 8-fold classification (2020)

Data source: Scottish Government Urban Rural Classification (2020) and National Records of Scotland Small Area Population Estimates (2021)

#### Table 16: Mid-2020 population estimates for settlements and localities

	All ages	0-15	16-64	65+
Dunoon	7,660	1,204	4,312	2,144
Innellan	1,140	131	560	449
Port Bannatyne	1,090	139	546	405
Rothesay	4,310	618	2,375	1,317
Sandbank	1,320	182	729	409
Tighnabruaich	550	52	309	189

Source: National Records Scotland

#### Table 17: NHS Highland Island populations

	Population 2022	Population 2012	Census 2011
Bute	6,317	6,591	6,498

Estimated using Community Health Index general practice registered populations at April 2012 and April 2022 These were cross referenced with the National Records of Scotland Islands boundaries shapefile for 2022

The island populations reported at Census 2011 are provided for comparison (Census 2011 Table KS101SC)

# Glossary

Term	Description
Age-sex standardised mortality rate	An age-sex standardised mortality rate is a summary measure of the mortality rate that a population would have if it had a standard age structure. Standardised rates are used to allow comparisons across geographical areas by controlling for differences in the age and sex structure of local populations. It is also used when comparing rates for one geography over time. All rates shown are standardised to the European standard population 2013. Unless otherwise stated, refers to deaths from all causes and all ages.
Birth rate	The birth rate is a standard measure of fertility. It is the number of live births per 1,000 women of child-bearing age (15-44 years).
Confidence Interval (CI)	A confidence interval (CI) is a range of values that describes the uncertainty around a point estimate of a quantity, for example a mortality rate, arising from either random or 'natural' variation. Confidence intervals quantify the uncertainty in point estimates: the wider the confidence interval the greater the uncertainty. The width of the confidence interval depends upon the size of the population from which an estimate is derived, the degree of variability in the indicator being measured, and the required level of confidence. In public health the conventional practice is to use 95% confidence intervals.
Deprivation deciles or quintiles	The SIMD deprivation analyses in this report rank data zones from 1 (most deprived) to 6,976 (least deprived). These are then split into five deprivation quintiles with 20% of the data zones in each quintile. Deprivation deciles have 10% of the data zones in each decile.
Data zone	The data zone is the standard national small area geography used in the production of statistics. There are 6,976 data zones in the 2011 release (125 in Argyll and Bute and 312 in Highland local authorities). Nationally data zones are used as the 'building bricks' for higher level geography such as intermediate zones and are the smallest spatial area that population estimates are published for in the inter-census period. Data zones are used routinely to provide 'best fit' populations for local geographies such as Community Partnerships. Details of the mapping are available in the Scottish Health and Social Care Open Data platform <sup>7</sup> .
European Standard population (ESP)	The European Standard Population (ESP) is an artificial population structure which is used in the weighting of mortality or incidence data to produce age standardised rates. The current version is the ESP2013, which is based on an average of states' population projections for 2011 - 2030.
Intermediate zone	Intermediate zones (sometimes referred to as intermediate geographies or neighbourhoods) are constructed from aggregations of data zones and provide a small area geography

<b></b>	
	that is more suitable for the release of potentially sensitive data and for reporting routine measures of population health. The intermediate zone is the standard spatial unit of analysis used in the Scottish Public Health Observatory online profiles tool <sup>8</sup> .
Island populations	The size of inhabited island populations, estimated using Community Health Index (CHI) general practice registered populations at April 2012 and April 2022. A spatial join was created in ArcGIS Pro between unit postcodes of registered patients and the National Records of Scotland Islands boundary file for 2022. The method provides a best estimate for inhabited island populations in the intra Census period. A limitation is that smaller islands, with very few households, may have the same postcodes as mainland households with the population being ascribed to the mainland. Larger islands, with larger practice populations, will have postcodes that cover only the island.
Lower and Upper bounds	The lower and upper bounds are the lower and upper limits of a 95% confidence interval. They represent the range of values between which the true value of a point estimate is expected to fall within.
Population estimates	The size of the population estimated on an annual basis, using 30 <sup>th</sup> June (mid-year) as a reference point. Scotland's Census is used as a base for the population estimates, with annual adjustments made for the number of births, deaths and estimates of migration. National Records of Scotland (NRS) are responsible for producing official population figures for Scotland <sup>9</sup> .
Population projections	Population projections provide an indication of the potential future size and age structure of the population, based on past trends and assumptions of future levels of fertility, mortality and migration. The projections in this report were produced by the Improvement Service (IS) based on trends observed to 2018 <sup>2</sup> . They do not account for recent or future changes occurring as a result of the COVID-19 pandemic or Brexit. All projections have limitations and should be interpreted with caution <sup>10</sup> .
Scottish Government Urban Rural classification	The Scottish Government Urban Rural (SGUR) classification provides a consistent way of defining urban and rural areas across Scotland <sup>11</sup> . The classification is based upon two main criteria: (i) population, as defined by the National Records of Scotland (NRS), and (ii) accessibility, based on drive time analysis to an urban area. The classification is available in multiple forms, including a 6-fold classification which distinguishes between urban, rural, and remote areas through six categories, and an 8-fold classification which further distinguishes between remote and very remote regions. The latest version is the SGUR 2020.
Scottish Index of Multiple Deprivation (SIMD)	The Scottish Index of Multiple Deprivation (SIMD) identifies small area concentrations of deprivation <sup>3</sup> . The latest version is the SIMD 2020 and is based on small areas called data zones. The SIMD is a measure of relative deprivation and takes account of indicators across seven domains: income, employment, education, health, access to services, crime and housing. The seven domains are combined into a single index score and ranked.

Settlements and Localities	Settlements and localities are defined by the National Records of Scotland (NRS). The NRS maintain data on unit postcodes, including a boundary enclosing all of the addresses assigned to the postcode. These postcode areas are used as 'building bricks' in the definition.
Statistical significance of differences	Confidence intervals are used to interpret whether a measure is statistically higher or lower than another. If the confidence intervals of one particular area have no overlap with a comparison area confidence interval then it is statistically significantly higher/lower than the comparison. If there is overlap then there is no statistically significant difference between them. Statistical significance of differences are indicated by a * in the tables in this report.

#### References

<sup>1</sup> National Records of Scotland. Small Area Population Estimates (2011 Data Zone based). 2022. <u>https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/2011-based-special-area-population-estimates/small-area-population-estimates</u>

<sup>2</sup> Improvement Service. Sub Council Area Population Projections. 2020. <u>https://www.improvementservice.org.uk/products-and-services/data-and-intelligence2/sub-council-area-population-projections/sub-council-area-population-projections2</u>

<sup>3</sup> Scottish Government. Scottish Index of Multiple Deprivation 2020. <u>https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/</u>

<sup>4</sup> NHS Health Scotland. Health Inequalities: what are they? How do we reduce them? Edinburgh: NHS Health Scotland; 2016. Available from: <u>https://www.healthscotland.scot/media/1086/health-inequalities-what-are-they-how-do-we-reduce-them-mar16.pdf</u>

<sup>5</sup>Thomson J. Rural Deprivation Evidence Summary. Scottish Government. 2016. Available from: <u>https://www.gov.scot/binaries/content/documents/govscot/publications/research-and-analysis/2017/02/scottish-index-of-multiple-deprivation-rural-deprivation-evidence-and-case-studies/documents/rural-deprivation-an-evidence-review/rural-deprivation-an-evidence-review/govscot%3Adocument/rural%2Bdeprivation%2Bevidence%2Breview.pdf</u>

<sup>6</sup> McCartney G, Walsh D, Fenton L, Devine R. Resetting the course for population health: evidence and recommendations to address stalled mortality improvements in Scotland and the rest of the UK. Glasgow; Glasgow Centre for Population Health/University of Glasgow: 2022. https://www.gcph.co.uk/publications/1036\_resetting\_the\_course\_for\_population\_health

<sup>7</sup> Scottish Health and Social Care Open Data. Geography Codes and Labels. <u>https://www.opendata.nhs.scot/dataset/geography-codes-and-labels</u>

<sup>8</sup> Scottish Public Health Observatory. Online Profiles Tool. https://scotland.shinyapps.io/ScotPHO\_profiles\_tool/

<sup>9</sup> National Records of Scotland. Mid-Year Population Estimates. <u>https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-year-population-estimates</u>

<sup>10</sup> Improvement Service. Population Projections for Scottish Sub-Council Areas (mid-2018 based): Methodology and Limitations.

https://www.improvementservice.org.uk/\_\_data/assets/word\_doc/0024/19257/Methodology-and-Limitations-1.docx

<sup>11</sup> Scottish Government. Scottish Government Urban Rural classification 2020. https://www.gov.scot/publications/scottish-government-urban-rural-classification-2020/