# MID ROSS
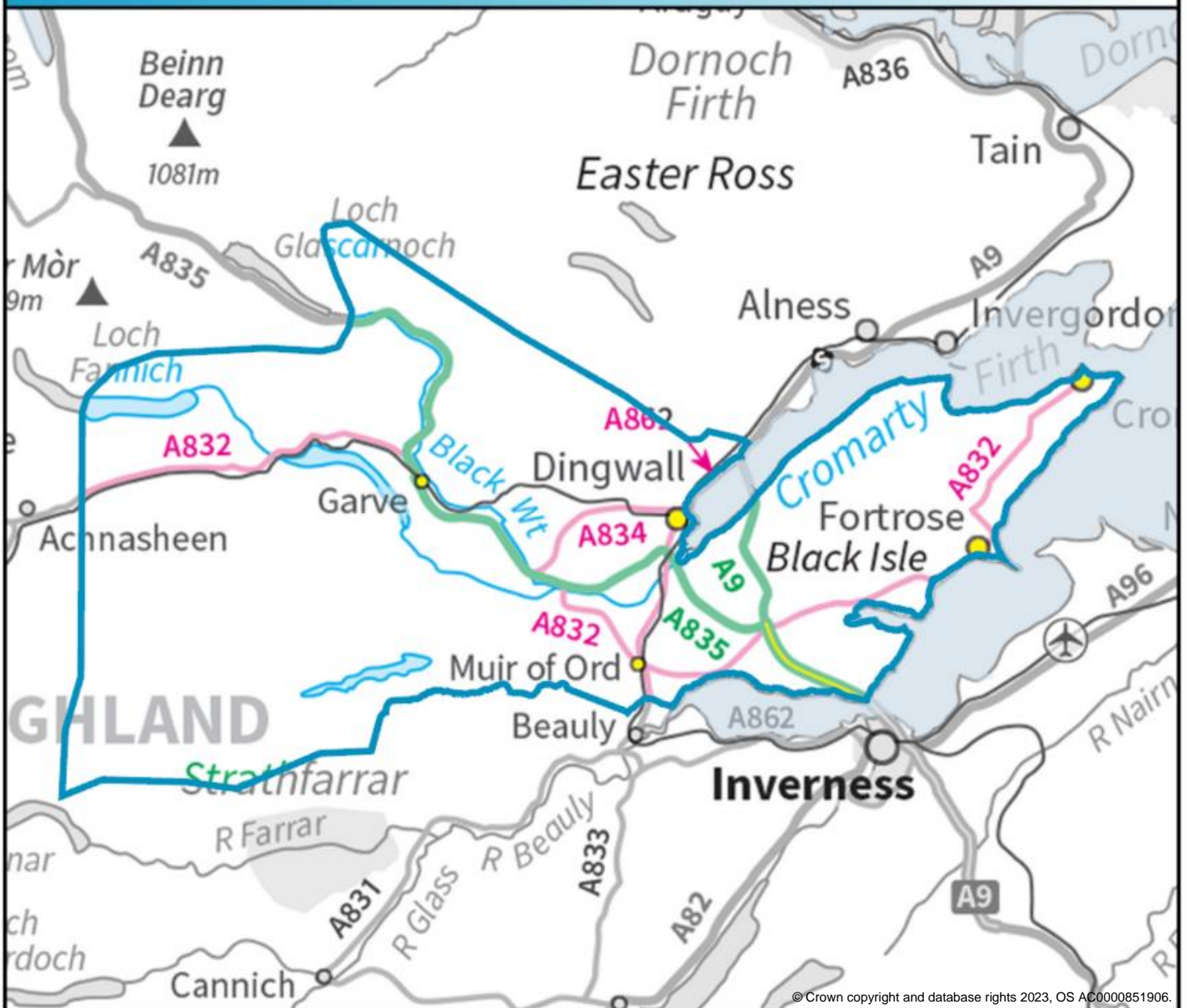
## Partnership Profile
## Children and Young People's Health & Wellbeing

**Public Health Intelligence**
**November 2023**

PUBLIC HEALTH

NHS Highland

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.

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## Introduction

This report provides an overview of children and young people's population health and wellbeing in Mid Ross. Evidence is drawn from multiple sources including births, maternity records, and child health surveillance systems. It is a companion volume to a profile of [demography and deprivation](#) published in November 2022 and [adult health and wellbeing](#) published in March 2023.

The report considers indicators across the life course of babies, children and young people from pre-birth to young adulthood. Data are presented for Mid Ross and, where available, intermediate zones or neighbourhoods within Mid Ross. Comparisons are made to the Highland local authority and Scotland. A final section provides links to further resources where data are not available at the partnership level.

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 planning 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 datazone. Local authorities, intermediate zones and datazones 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 are aggregations from datazones 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.

## Deprivation and inequalities

This report presents some information on deprivation using the Scottish Index of Multiple Deprivation (SIMD)[1]. 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"[2]. Inequalities are not caused by a single issue, and can occur by age, sex, gender identity, ethnic group, disability, income, deprivation, 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[3]. 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 (datazone) basis. A consequence is that rural disadvantage is less visible and 'less easily tractable' than in urban areas.

## Statistical significance and confidence intervals

Statistical significance is used in this report to indicate whether a difference between two measures reflects a difference in the true or 'underlying' value rather than being attributable to random variation or chance. Statistical significance is determined using 95% confidence intervals.

A confidence interval is a range of values that is used to describe the uncertainty around a point estimate of a quantity, for example a rate or proportion. The 95% confidence interval indicates the degree of uncertainty in an estimate; 95 times out of 100, the interval will include the true or 'underlying' value. The wider the confidence interval, the greater the uncertainty in the measure. The width of the confidence interval depends on the size of the population and the underlying variability in the data. Estimates from larger populations (such as council areas) will have smaller confidence intervals and therefore provide more accurate estimates, than from smaller populations (such as partnership areas or intermediate zones) with larger confidence intervals.

The confidence intervals are used to interpret whether the difference in an indicator between two areas is statistically significant. If the confidence intervals of the two estimates do not overlap then there is a statistically significant difference between the two estimates. A comparison is made between the partnership area, council area and Scotland estimates. A more detailed explanation is available in a technical briefing[4].

Please note that throughout the report 'significance' refers to statistical significance and is indicated as higher (+ symbol) or lower (- symbol) in the tables.

## Indicator definitions

Many of the indicators presented in this report are published by the Scottish Public Health Observatory (ScotPHO). Full details of the indicator definitions used by ScotPHO are available within the ScotPHO online profiles tool[5].

Further information on the geographies, populations and other terms used within the report is available in the Glossary.

**Mid Ross Summary**

Highland and the partnership area have a declining population of children and young people. Population projections forecast a continued reduction in the size of the population of children and young people.

Highland has a significant remote and rural geography where the needs of children and young people are often less recognised in national policy. In the partnership area children and young people aged under 18 years reside in accessible or remote small towns, and accessible or remote rural areas.

By presenting data for small areas, the profile highlights differences in the population of children and young people living in the most access deprived, income deprived and crime deprived areas of the Scottish Index of Multiple Deprivation (SIMD).

Tackling child poverty is a national priority. The profile highlights that there are many children and young people experiencing poverty. Measuring child poverty and profiling the population in at-risk groups is a complex task, particularly in rural areas.

Growing up in poverty and low-income households can lead to children having poorer health outcomes. For intermediate geographies within partnership areas, negative correlations are evident between relative low-income deprivation and health measures within the profile.

There have been decreasing numbers of births in Highland and the trend is expected to continue. The current birth rate for Highland is significantly lower than for Scotland.

Rates of teenage pregnancy show decreases over time in Highland and the partnership area. There is still room for improvement in this long-standing national priority to reduce unintended pregnancies in young people.

Smoking rates during pregnancy have decreased over time. Smoking during pregnancy is harmful to both mother and baby and remains a significant challenge to population health.

In Highland, the prevalence of mothers with high body mass index (BMI) has generally increased over time. There are increased risks of adverse outcomes for both mother and baby associated with obesity in pregnancy.

Premature birth rates have generally increased in recent years. Being born too early strongly influences the health of babies and can affect health and development throughout childhood and adult life.

Prevalence of breastfeeding at the 6-8 week health visitor review in Highland is increasing and significantly higher than in Scotland, although there is variation across partnerships.

Breastfeeding is one of the most preventative health measures for children and mothers and actions to improve breastfeeding rates should continue to be prioritised.

Identifying early child development concerns is essential to support children and families improve health, educational and social outcomes.

Immunisation programmes for children are effective at protecting children from serious infectious diseases. There is a need to promote and improve the uptake of childhood vaccination to consistently achieve the national coverage target of 95 percent.

The percentage of Primary 1 children measured with a healthy weight (BMI between 5% and 95% of 1990 UK reference range for age and sex) in Highland is significantly lower than in Scotland, although there is variation across partnership areas.

The proportion of Primary 1 and Primary 7 children with no obvious decayed, filled or missing teeth in Highland and the partnership area has increased in recent years. In particular, the proportion among P7 children in Highland is significantly higher than in Scotland. Good oral health is essential for wellbeing.

Uptake rates for the HPV vaccine in Secondary 3 girls in Highland have decreased over time and are consistently lower than in Scotland. There is variation across partnership areas in achieving the expected HPV vaccine uptake of 80 percent.

## Population

### Population of children and young people

In Scotland, the definition of a child varies in different legal contexts. Statutory guidance supporting the Children and Young People (Scotland) Act 2014 and the United Nations Convention on the Rights of the Child 1989 include all children and young people under the age of 18 years[6, 7]. This section extends this definition to cover those aged 18 to 24.

Those commissioning and providing for the local health, educational and social needs of children and young people need to be aware that demands vary with the size of each annual population cohort and the cumulative sum of the individuals making up consecutive age groups.

As a result of birth rates and migration, the absolute number of children and young people of different ages living in an area changes each year.

**Table 1:** Population estimates for children and young people by age group and sex in Mid Ross, 2021

| Age Band | Female | Male | Total |
|---|---|---|---|
| All ages 0-24 | 3,222 | 3,676 | 6,898 |
| Under 18 | 2,362 | 2,640 | 5,002 |
| 0 | 101 | 103 | 204 |
| 1-4 | 414 | 527 | 941 |
| 5-11 | 950 | 1,084 | 2,034 |
| 12-17 | 897 | 926 | 1,823 |
| 18-24 | 860 | 1,036 | 1,896 |

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

**Table 2:** Population estimates for children and young people by age group and area, 2021

| Age Band | Mid Ross | Highland | Scotland |
|---|---|---|---|
| All ages 0-24 | 6,898 | 59,586 | 1,469,338 |
| Under 18 | 5,002 | 43,268 | 1,024,981 |
| 0 | 204 | 1,842 | 46,782 |
| 1-4 | 941 | 8,321 | 208,655 |
| 5-11 | 2,034 | 17,239 | 416,545 |
| 12-17 | 1,823 | 15,866 | 352,999 |
| 18-24 | 1,896 | 16,318 | 444,357 |

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

**Figure 1:** Distribution of children and young people's population by age group and area, 2021
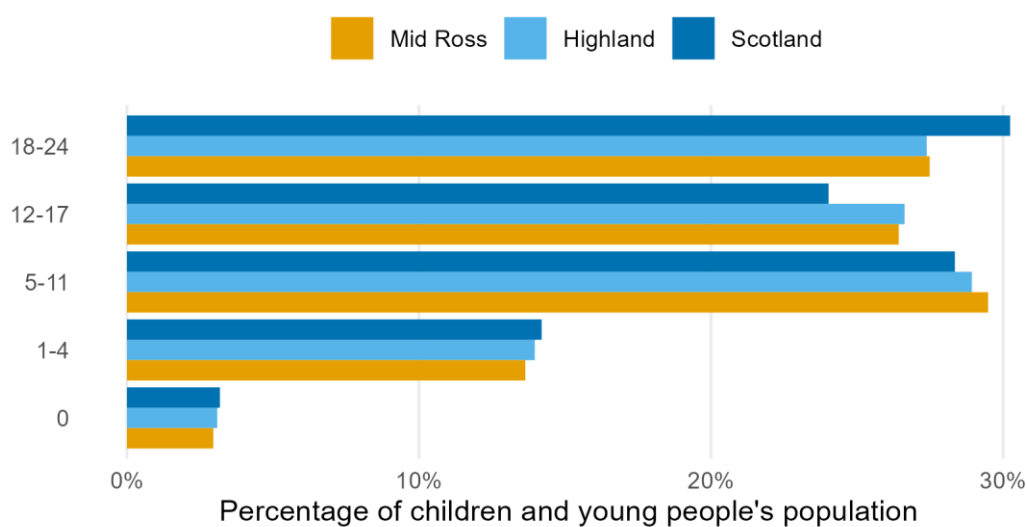


Source: National Records of Scotland, Small Area Population Estimates 2021

**Figure 2:** Children and young people's population by age group and sex in Mid Ross, 2001 to 2021
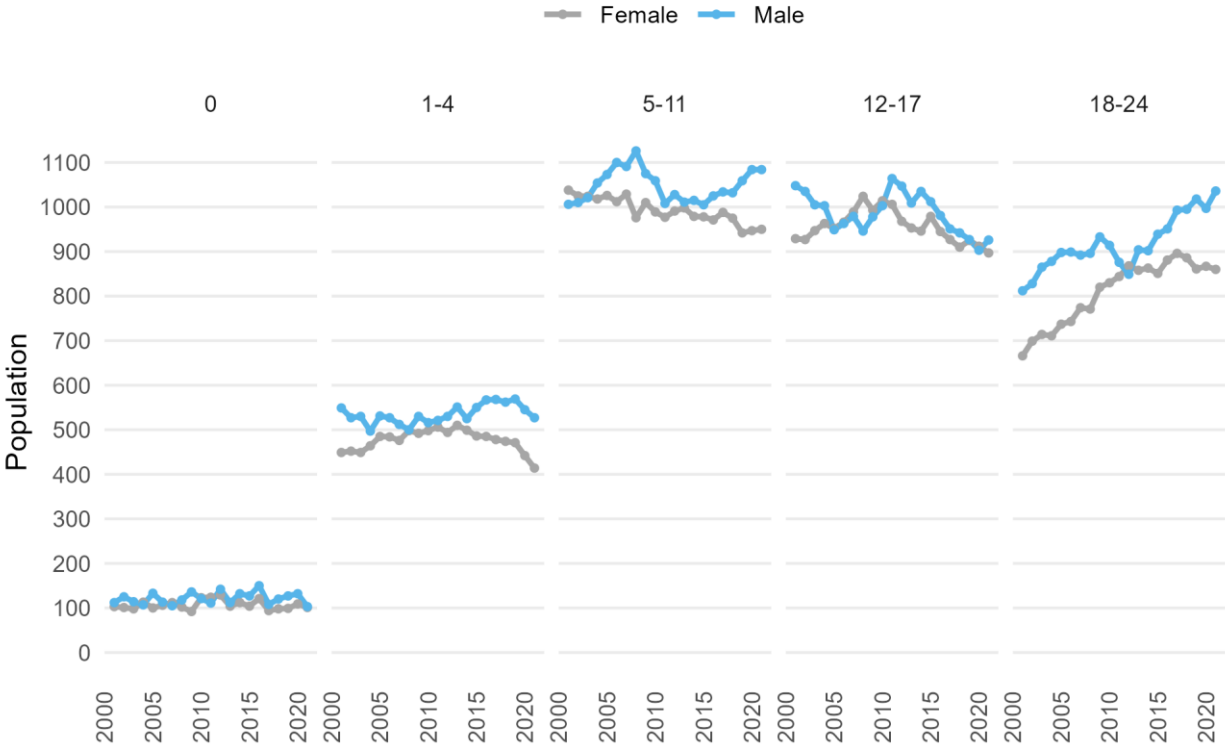


Source: National Records of Scotland, Small Area Population Estimates 2021

**Figure 3:** Percentage change in the population of children and young people by age group and sex in Mid Ross between 2001 and 2021
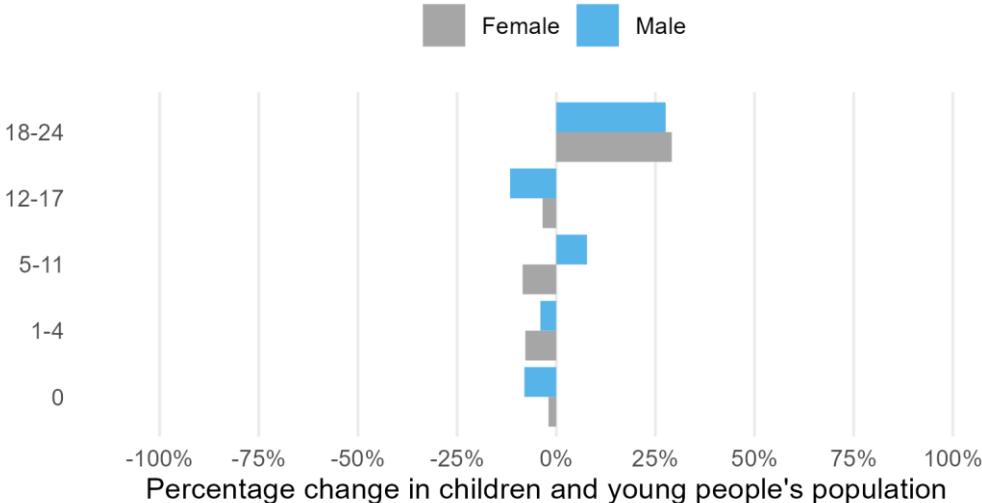


Source: National Records of Scotland, Small Area Population Estimates 2021

## Population projections

Population projections are informed by past trends in births, deaths and migration. They give an indication of what the future population, by age and sex structure, might be if recent local levels of fertility, mortality and migration continue, and take no account of policy or development aims within local areas.
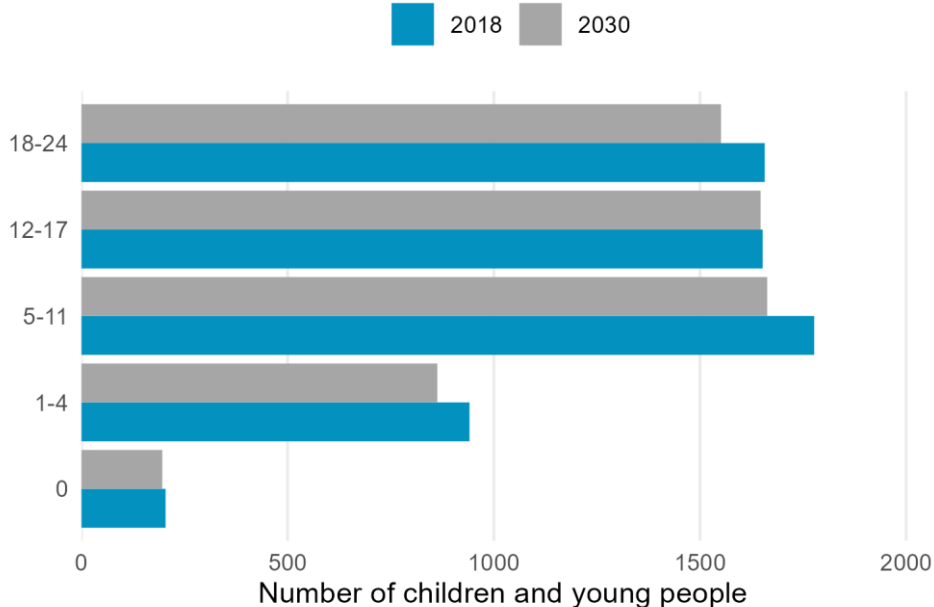
The 2018-based population projections for Highland and Argyll and Bute forecast a continued reduction in the size of the population of children and young people. Lower birth rates are the key factor contributing to the projected decline.

**Table 3:** Projected population of children and young people in Mid Ross by age group, 2018 to 2030

| Year | 0 | 1-4 | 5-11 | 12-17 | 18-24 | Totals |
|------|-----|-----|-------|-------|-------|--------|
| 2018 | 204 | 941 | 1,777 | 1,652 | 1,657 | 6,231 |
| 2019 | 197 | 930 | 1,762 | 1,646 | 1,631 | 6,166 |
| 2020 | 199 | 909 | 1,788 | 1,620 | 1,611 | 6,127 |
| 2021 | 199 | 858 | 1,838 | 1,608 | 1,604 | 6,107 |
| 2022 | 198 | 873 | 1,808 | 1,626 | 1,585 | 6,090 |
| 2023 | 197 | 868 | 1,786 | 1,644 | 1,561 | 6,056 |
| 2024 | 197 | 869 | 1,742 | 1,684 | 1,512 | 6,004 |
| 2025 | 198 | 867 | 1,745 | 1,654 | 1,527 | 5,991 |
| 2026 | 197 | 865 | 1,729 | 1,674 | 1,501 | 5,966 |
| 2027 | 197 | 864 | 1,708 | 1,689 | 1,491 | 5,949 |
| 2028 | 197 | 864 | 1,659 | 1,720 | 1,496 | 5,936 |
| 2029 | 196 | 864 | 1,668 | 1,682 | 1,519 | 5,929 |
| 2030 | 196 | 863 | 1,663 | 1,647 | 1,551 | 5,920 |

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

**Figure 4:** Projected population of children and young people in Mid Ross by age group, 2018 and 2030



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

**Figure 5:** Estimated and projected population of children and young people in Mid Ross, 2018 and 2030
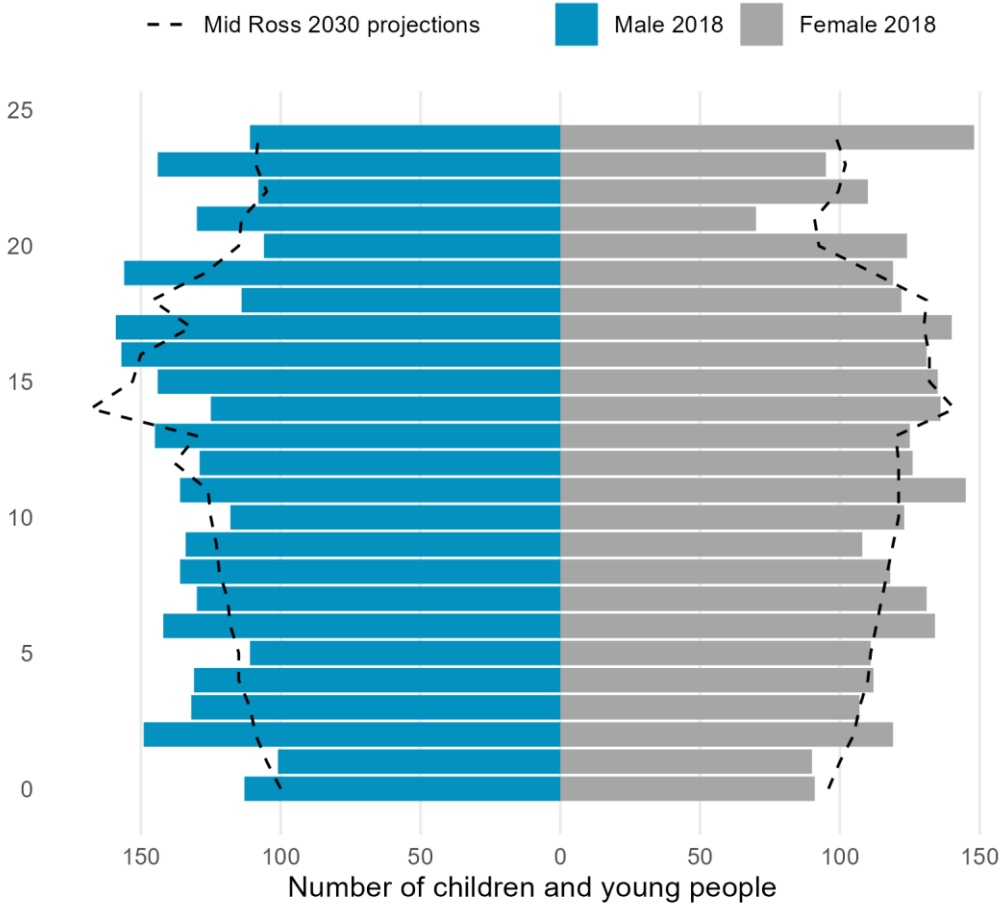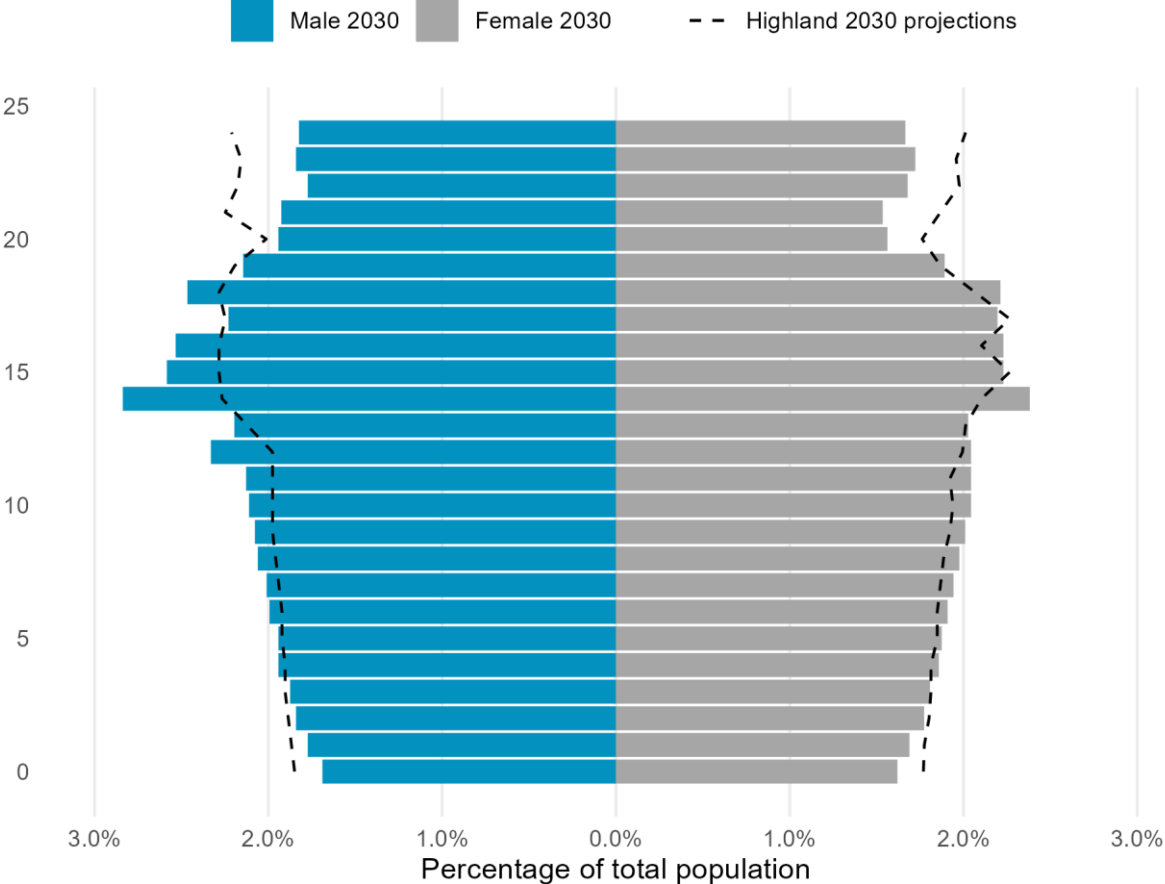


Source: Improvement Service 2018-based Population Projections for Sub Council Areas

**Figure 6:** Projected population of children and young people in Mid Ross compared to the Highland area in 2030



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

**Population living in urban and rural areas**

The Scottish Urban Rural Classification (SGURC) is consistent with the government's core definition of rurality, which defines settlements of 3,000 or fewer people as rural. It also classifies areas as remote based on drive times from settlements of 10,000 or more people[8].

We highlight the population of children and young people who potentially live at a distance from service points in our major population centres in remote and rural areas. These places include villages, islands, peripheral coastal communities, and small towns in remote and very remote locations.

Policy concerns in rural and remote areas often focus on economic regeneration, employment, rural prices and poverty, housing and fuel poverty, and population ageing, particularly the retention of young adults in such communities[9]. The needs of children and younger people living in these areas are often less directly recognised.

**Table 4:** Population aged under 18 years by Scottish Government Urban Rural Classification in Mid Ross

| Classification | 0 | 1-4 | 5-11 | 12-17 |
|---|---|---|---|---|
| Large Urban Areas | 0 | 0 | 0 | 0 |
| Other Urban Areas | 0 | 0 | 0 | 0 |
| Accessible Small Towns | 15 | 94 | 225 | 208 |
| Remote Small Towns | 47 | 179 | 416 | 368 |
| Very Remote Small Towns | 0 | 0 | 0 | 0 |
| Accessible Rural Areas | 59 | 273 | 507 | 434 |
| Remote Rural Areas | 83 | 395 | 886 | 813 |
| Very Remote Rural Areas | 0 | 0 | 0 | 0 |

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

**Figure 7:** Population aged under 18 years by Scottish Government Urban Rural Classification in Mid Ross
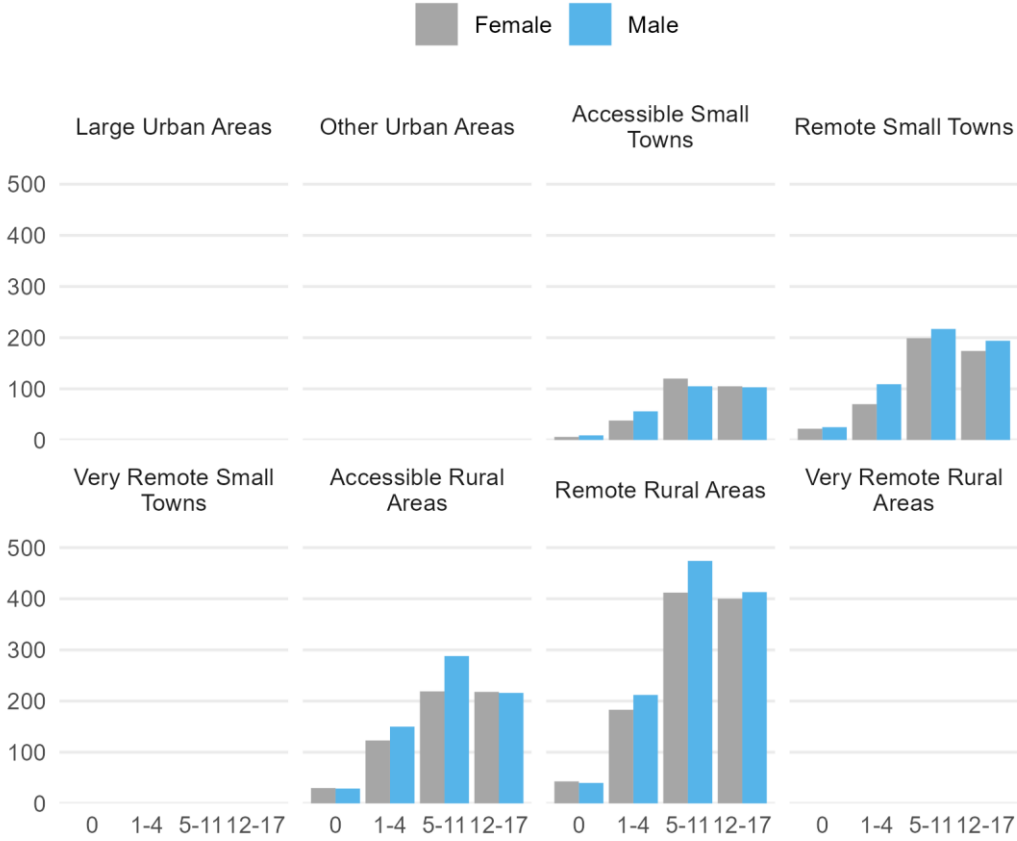


Data source: Scottish Government Urban Rural Classification 2020; National Records of Scotland Small Area Population Estimates 2021

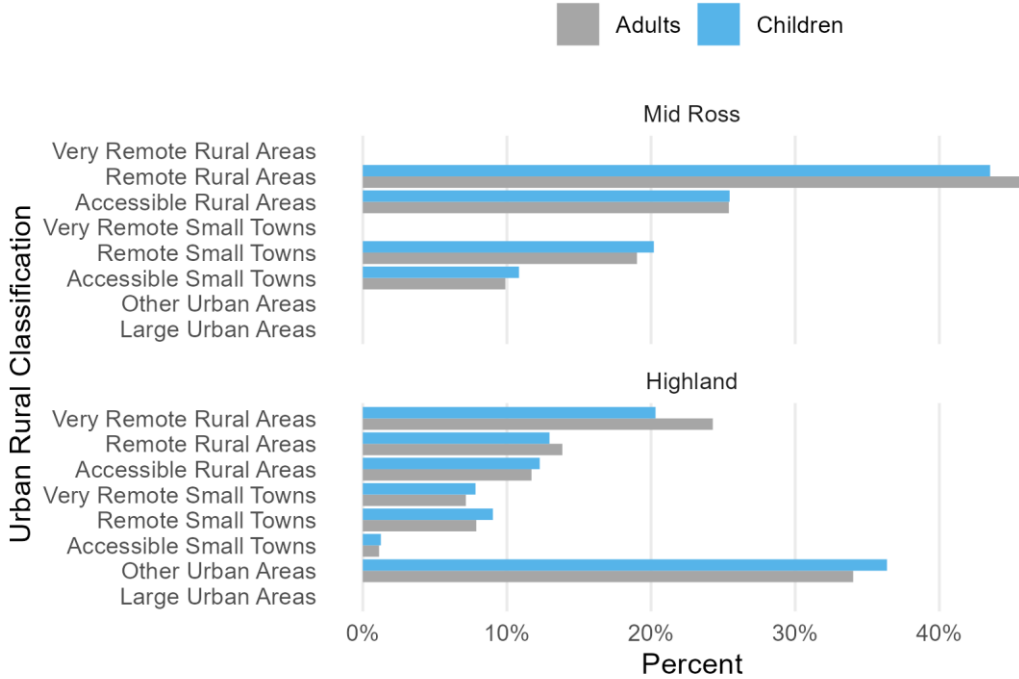**Figure 8:** Comparison of the population of children aged under 18 years and adults by Scottish Government Urban Rural Classification



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

## Social context and inequalities

### Deprivation

National and local organisations can use the Scottish Index of Multiple Deprivation (SIMD) to identify areas of need and to allocate funding and resources. The SIMD combines multiple measures across seven domains (income, employment, health, education, housing, geographic access and crime) into a single summary statistic for every small area (datazone) in Scotland. For analysis and decision making, small areas can be grouped into categories such as quintiles, deciles or the 15 percent most deprived areas in Scotland[1].

We highlight the population of children and young people aged under 18 years by national quintile of the SIMD.

**Table 5:** Population of children aged under 18 years in Mid Ross by national quintile of the Scottish Index of Multiple Deprivation

| Quintile | Quintile under 18 population | Quintile population | Percent of all under 18 | Area population | Percent of area population |
|---|---|---|---|---|---|
| 1 | 111 | 600 | 2.17 | 27,233 | 0.408 |
| 2 | 993 | 4,470 | 19.40 | 27,233 | 3.650 |
| 3 | 1,610 | 8,798 | 31.50 | 27,233 | 5.910 |
| 4 | 2,148 | 11,937 | 42.00 | 27,233 | 7.890 |
| 5 | 251 | 1,428 | 4.91 | 27,233 | 0.922 |

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

**Figure 9:** Proportion of children under 18 years living in small areas which are in the most to least deprived quintiles
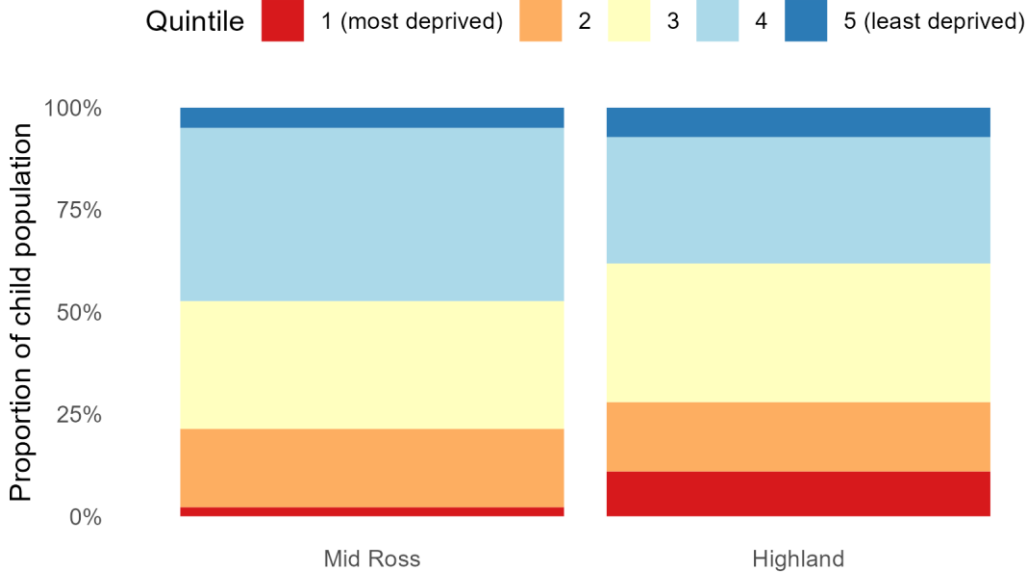


Source: Scottish Index of Multiple Deprivation 2020 and NRS Small Area Population Estimates 2021

**Table 6:** Proportion of children under 18 living in small areas which are in the most to least deprived quintiles

|  | 1 (most deprived) | 2 | 3 | 4 | 5 (least deprived) |
|---|---|---|---|---|---|
| Mid Ross | 2.2 | 19.0 | 31.0 | 42.0 | 4.9 |
| Highland | 11.0 | 17.0 | 34.0 | 31.0 | 7.2 |

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

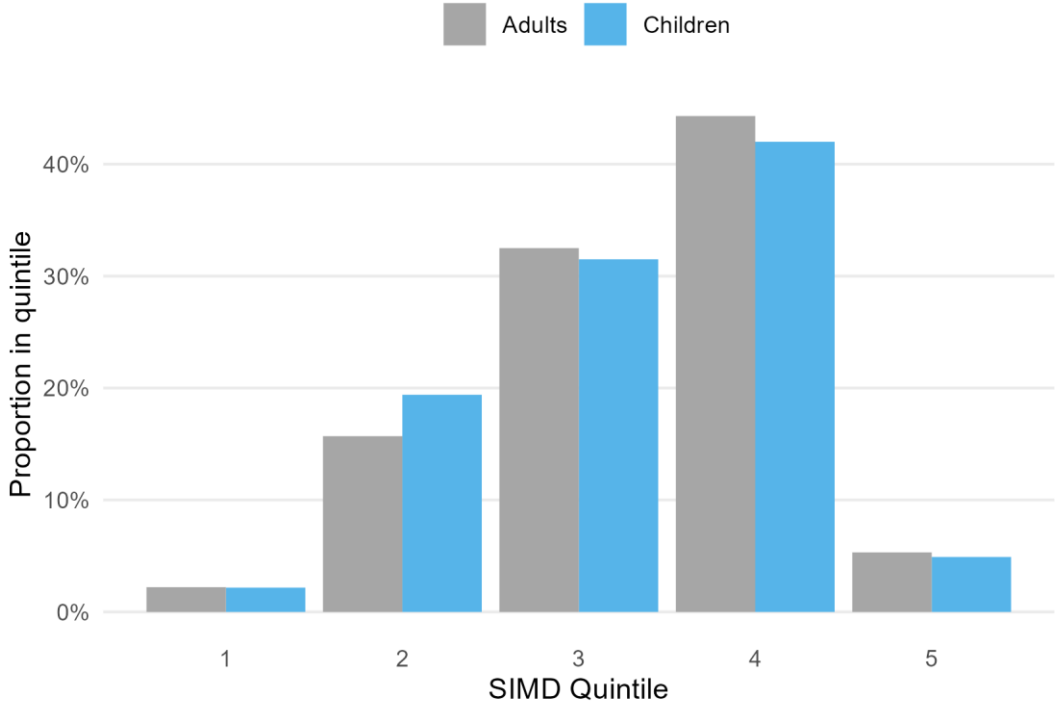**Figure 10:** Proportion of children aged under 18 years and adults by national deprivation quintile in Mid Ross



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

## Access, income and crime deprivation

The SIMD provides information on the number and percentage of the population aged 0-25 years living in the 20% most access deprived, 20% most income deprived and 20% most crime deprived areas in Scotland. These are important measures of wellbeing related to inclusion and safety.

**Table 7:** Percentage of children and young people aged 0-25 years living in the most access deprived SIMD quintile

| | Number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 30,953 | 50.0 | 49.6 | 50.4 | + | |
| NHS Highland | 40,291 | 48.3 | 47.9 | 48.6 | + | - |
| Scotland | 322,749 | 20.8 | 20.7 | 20.8 | | - |
| Skye, Lochalsh and West Ross | 3,165 | 73.8 | 72.5 | 75.1 | + | + |
| Mid Ross | 4,875 | 67.7 | 66.6 | 68.8 | + | + |
| Sutherland | 1,777 | 64.6 | 62.8 | 66.3 | + | + |
| Lochaber | 2,744 | 51.5 | 50.2 | 52.9 | + | |
| Inverness | 10,579 | 46.5 | 45.9 | 47.2 | + | - |
| Caithness | 2,779 | 42.6 | 41.4 | 43.8 | + | - |
| Badenoch and Strathspey | 1,385 | 41.3 | 39.7 | 43.0 | + | - |
| Nairn and Nairnshire | 1,339 | 40.1 | 38.5 | 41.8 | + | - |
| East Ross | 2,310 | 36.2 | 35.0 | 37.4 | + | - |

Source: Scottish Index of Multiple Deprivation 2016, Scottish Government and Public Health Scotland

**Table 8:** Percentage of children and young people aged 0-25 years living in the most income deprived SIMD quintile

|  | Number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 5,347 | 8.6 | 8.4 | 8.9 | - |  |
| NHS Highland | 7,589 | 9.1 | 8.9 | 9.3 | - | + |
| Scotland | 306,769 | 19.7 | 19.7 | 19.8 |  | + |
| East Ross | 1,739 | 27.3 | 26.2 | 28.4 | + | + |
| Caithness | 742 | 11.4 | 10.6 | 12.2 | - | + |
| Inverness | 2,412 | 10.6 | 10.2 | 11.0 | - | + |
| Lochaber | 220 | 4.1 | 3.6 | 4.7 | - | - |
| Nairn and Nairnshire | 92 | 2.8 | 2.2 | 3.4 | - | - |
| Mid Ross | 142 | 2.0 | 1.7 | 2.3 | - | - |
| Badenoch and Strathspey | 0 | 0.0 | 0.0 | 0.1 | - | - |
| Skye, Lochalsh and West Ross | 0 | 0.0 | 0.0 | 0.1 | - | - |
| Sutherland | 0 | 0.0 | 0.0 | 0.1 | - | - |

Source: Scottish Index of Multiple Deprivation 2016, Scottish Government and Public Health Scotland

**Table 9:** Percentage of children and young people aged 0-25 years living in most crime deprived SIMD quintile

| | Number | Percentage | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 9,756 | 15.8 | 15.5 | 16.1 | - | |
| NHS Highland | 11,508 | 13.8 | 13.6 | 14.0 | - | - |
| Scotland | 312,389 | 20.1 | 20.0 | 20.2 | | + |
| East Ross | 2,005 | 31.4 | 30.3 | 32.6 | + | + |
| Caithness | 1,535 | 23.6 | 22.5 | 24.6 | + | + |
| Inverness | 4,551 | 20.0 | 19.5 | 20.6 | | + |
| Lochaber | 884 | 16.6 | 15.6 | 17.6 | - | |
| Nairn and Nairnshire | 299 | 9.0 | 8.0 | 10.0 | - | - |
| Mid Ross | 378 | 5.2 | 4.8 | 5.8 | - | - |
| Skye, Lochalsh and West Ross | 104 | 2.4 | 2.0 | 2.9 | - | - |
| Badenoch and Strathspey | 0 | 0.0 | 0.0 | 0.1 | - | - |
| Sutherland | 0 | 0.0 | 0.0 | 0.1 | - | - |

Source: Scottish Index of Multiple Deprivation 2016, Scottish Government and Public Health Scotland

**Child poverty**

The challenges to tackling child poverty were set out in the Child Poverty (Scotland) Act 2017 and the latest national delivery plan Best Start, Bright Futures[10]. Children living in poverty are more likely to have health issues, including mental health problems, gain fewer qualifications, experience stigma and bullying at school and be at higher risk of being care experienced[11]. The priority of policy focuses on children at greatest risk of poverty where the mother is less than 25, lone parent families, ethnic minority families, families with three or more children or a child under one and families where someone in the house is disabled.

Particularly in rural areas, it is a complex task to accurately measure child poverty, profile the population in at-risk groups and describe the factors related to changes, such as social security, income from employment and the cost of living. Currently, data sources that provide detail at local authority and community partnership are limited[12].

**Figure 11:** Percentage of children and young people in low income families - relative low income, 2021/22
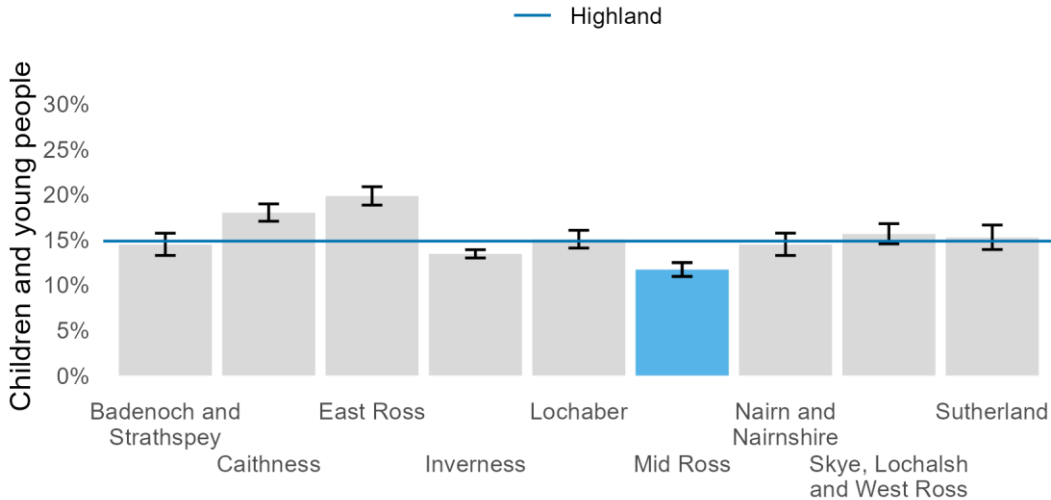


Source: National Records of Scotland, Small Area Population Estimates 2021
Department for Work and Pensions Stat-Xplore

**Figure 12:** Number of children and young people in low income families - relative low income in Mid Ross, 2014/15 to 2021/22
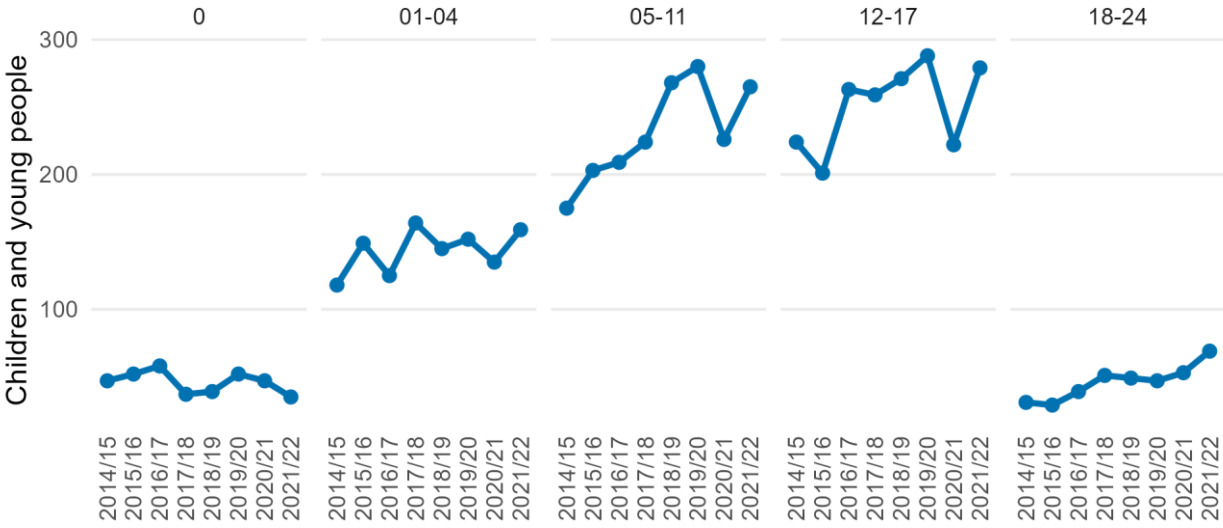


Source: Department for Work and Pensions Stat-Xplore

## Pregnancy and births

A good start in life is important for the long term health and wellbeing of babies, children and young people. There are strong links between health in the preconception period and during pregnancy and child health outcomes, with consequences that can extend across generations.

### Live births

Birth trends are an important measure of population health and are used to track important changes in society. Birth rates fluctuate considerably and reflect trends in the fertility rate of mothers by conception age and mothers born outside the UK. We highlight the number of live births and the crude birth rate in an area.

**Table 10:** Number of live births and crude rate per 1,000 population, 2021

|  | Number | Rate | Lower bound | Upper bound | Significance Scotland | Significance Council |
|---|---|---|---|---|---|---|
| Highland | 1,885 | 7.9 | 7.6 | 8.3 | - |  |
| NHS Highland | 2,484 | 7.7 | 7.4 | 8.0 | - |  |
| Scotland | 47,786 | 8.7 | 8.6 | 8.8 |  | + |
| Inverness | 775 | 9.4 | 8.8 | 10.1 |  | + |
| Mid Ross | 216 | 7.9 | 6.9 | 9.1 |  |  |
| Caithness | 193 | 7.6 | 6.6 | 8.8 |  |  |
| East Ross | 169 | 7.6 | 6.5 | 8.8 |  |  |
| Badenoch and Strathspey | 102 | 7.3 | 5.9 | 8.8 |  |  |
| Lochaber | 139 | 6.9 | 5.8 | 8.2 | - |  |
| Skye, Lochalsh and West Ross | 138 | 6.9 | 5.8 | 8.2 | - |  |
| Nairn and Nairnshire | 86 | 6.3 | 5.0 | 7.8 | - |  |
| Sutherland | 67 | 5.1 | 4.0 | 6.5 | - | - |

Source: National Records of Scotland

**Figure 13:** Live births per 1,000 population, 2002 to 2021
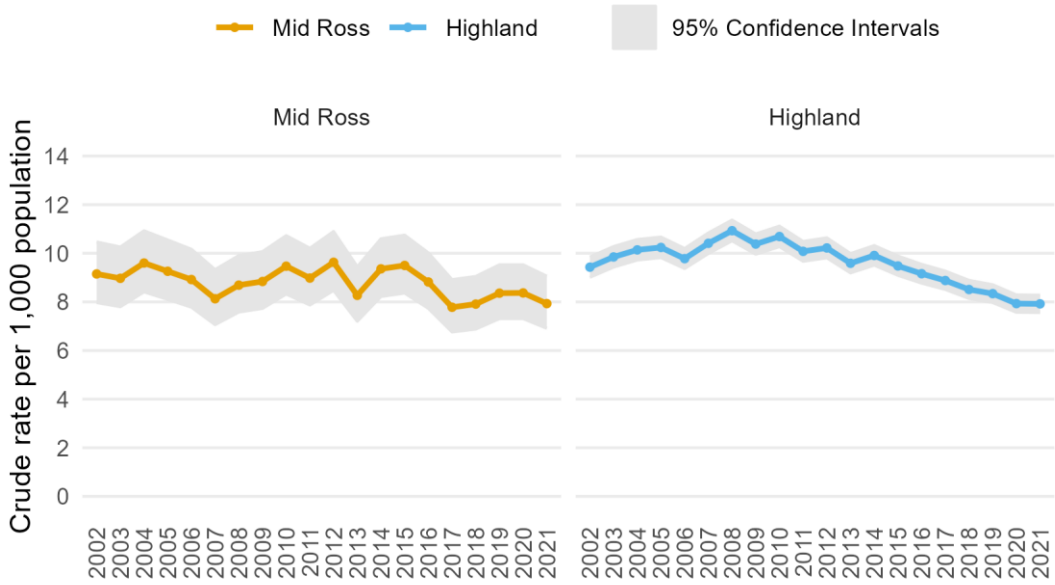


Source: National Records of Scotland; Data from 2002 to 2021, by calendar year

**Teenage pregnancy**

Many teenage women experience unintended or unwanted pregnancies, although this may be a planned, positive life choice for some women. Reducing unintended teenage pregnancy has been a long-standing priority for the Scottish Government.

**Table 11:** Rate of teenage pregnancies per 1,000 females aged 15-19, 2020

| | Average number | Rate | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 137 | 23.4 | 19.6 | 27.6 | | |
| NHS Highland | 176 | 22.2 | 19.1 | 25.8 | - | |
| Scotland | 3,742 | 27.1 | 26.2 | 27.9 | | |
| East Ross | 18 | 30.7 | 18.1 | 48.8 | | |
| Inverness | 56 | 28.3 | 21.4 | 36.8 | | |
| Mid Ross | 17 | 22.9 | 13.3 | 36.9 | | |
| Caithness | 15 | 22.3 | 12.3 | 37.2 | | |
| Lochaber | 11 | 20.8 | 10.3 | 37.2 | | |
| Badenoch and Strathspey | | 17.9 | 6.3 | 39.8 | | |
| Skye, Lochalsh and West Ross | | 16.8 | 7.1 | 33.6 | | |
| Nairn and Nairnshire | | 13.5 | 4.1 | 32.4 | | |
| Sutherland | | 11.2 | 2.5 | 31.0 | | |

Source: National Records of Scotland

**Figure 14:** Rate of teenage pregnancies per 1,000 females aged 15-19, 3 year aggregates, 2002-2004 to 2018-2020
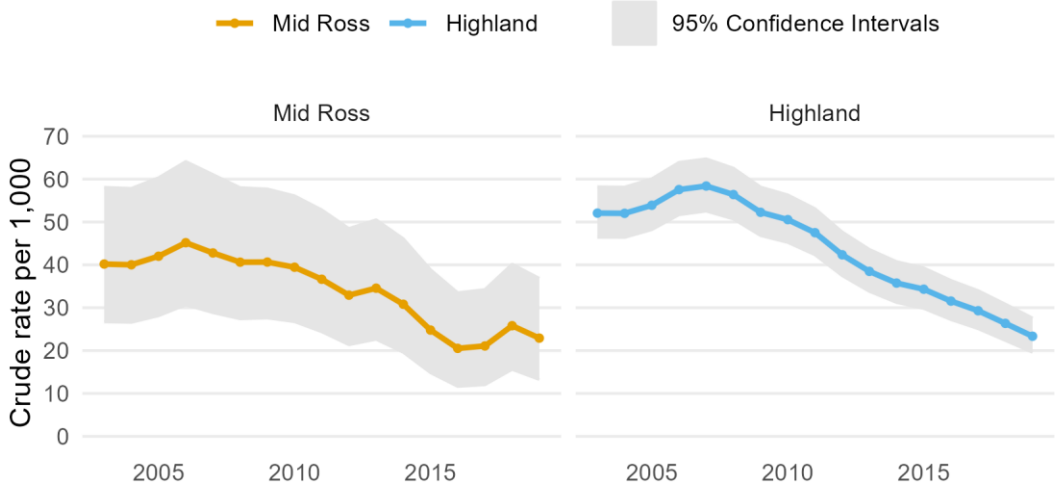


Source: National Records of Scotland; Data from 2002-2004 to 2018-2020, by calendar year

**Smoking during pregnancy**

Smoking during pregnancy is harmful to both mother and baby. Maternal smoking is associated with preterm and low birth weight babies and increased risk of miscarriage, stillbirth and Sudden Infant Death Syndrome (SIDS). It also increases the risk of the baby developing many respiratory conditions, attention and hyperactivity difficulties; learning difficulties; problems of the ear, nose and throat; obesity; and diabetes[13]. Smoking status is self-reported and consequently may under-report smoking prevalence.
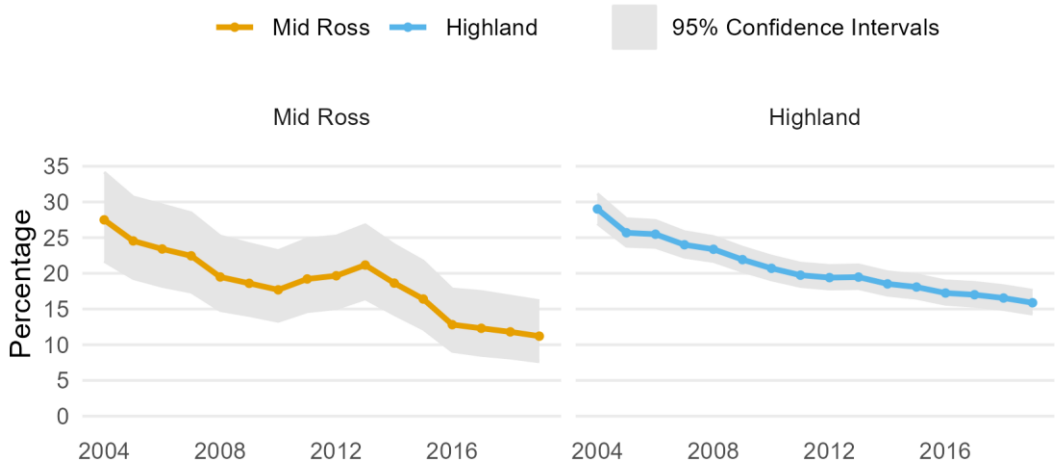
**Table 12:** Percentage of women smoking during pregnancy, 2019

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 293 | 15.9 | 14.3 | 17.6 | + | |
| NHS Highland | 367 | 15.6 | 14.2 | 17.1 | | |
| Scotland | 6,444 | 13.9 | 13.6 | 14.2 | | - |
| East Ross | 54 | 25.8 | 20.3 | 32.1 | + | + |
| Nairn and Nairnshire | 19 | 21.1 | 13.8 | 30.8 | | |
| Caithness | 40 | 20.6 | 15.5 | 26.8 | + | |
| Sutherland | 11 | 16.8 | 9.5 | 27.8 | | |
| Lochaber | 24 | 15.8 | 10.8 | 22.6 | | |
| Inverness | 102 | 13.9 | 11.6 | 16.6 | | |
| Skye, Lochalsh and West Ross | 14 | 13.0 | 7.8 | 20.9 | | |
| Mid Ross | 24 | 11.2 | 7.6 | 16.2 | | |
| Badenoch and Strathspey | 8 | 7.8 | 3.9 | 15.1 | | |

Definition: Number of women recorded as a 'current smoker' at first antenatal booking appointment
Source: Public Health Scotland (SMR02)

**Figure 15:** Percentage of women smoking during pregnancy, 3 year aggregate, 2002-2004 to 2018-2020



Definition: Percentage of women recorded as a 'current smoker' at first antenatal booking appointment 3 year aggregate percentage from 2002-2004 to 2018-2020, by calendar year

**Maternal Body Mass Index during pregnancy**

A high body mass index (BMI) during pregnancy increases the risk of complications for both mother and baby. Obesity in pregnancy is associated with an increased risk of miscarriage, stillbirth and recurrent miscarriage. Possible adverse outcomes are maternal blood clots, gestational diabetes, postpartum haemorrhage, pre-eclampsia, and extended labour. While other risk factors will contribute, risks for the baby include congenital disorders, fetal macrosomia, growth problems, childhood asthma and childhood obesity[14].

**Table 13:** Percentage of women with high BMI in pregnancy, 2018/19-2020/21

|  | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 461 | 24.8 | 22.9 | 26.8 | | |
| NHS Highland | 582 | 24.9 | 23.2 | 26.7 | | |
| Scotland | 11,265 | 25.3 | 24.9 | 25.7 | | |
| Skye, Lochalsh and West Ross | 31 | 29.6 | 21.6 | 39.0 | | |
| Sutherland | 19 | 29.0 | 19.4 | 41.0 | | |
| Lochaber | 43 | 28.7 | 22.0 | 36.5 | | |
| Caithness | 56 | 28.1 | 22.3 | 34.7 | | |
| Nairn and Nairnshire | 25 | 27.8 | 19.5 | 37.9 | | |
| East Ross | 58 | 27.4 | 21.8 | 33.8 | | |
| Mid Ross | 50 | 23.1 | 18.0 | 29.2 | | |
| Badenoch and Strathspey | 22 | 23.0 | 15.6 | 32.6 | | |
| Inverness | 162 | 21.8 | 18.9 | 24.9 | | |

Definition: Pregnant women recorded as obese (BMI 30 and over) at antenatal booking appointment
Source: Public Health Scotland (SMR02)

**Figure 16:** Percentage of pregnant women with high BMI in pregnancy, 3 year aggregates, 2010/11-2012/13 to 2018/19-2020/21
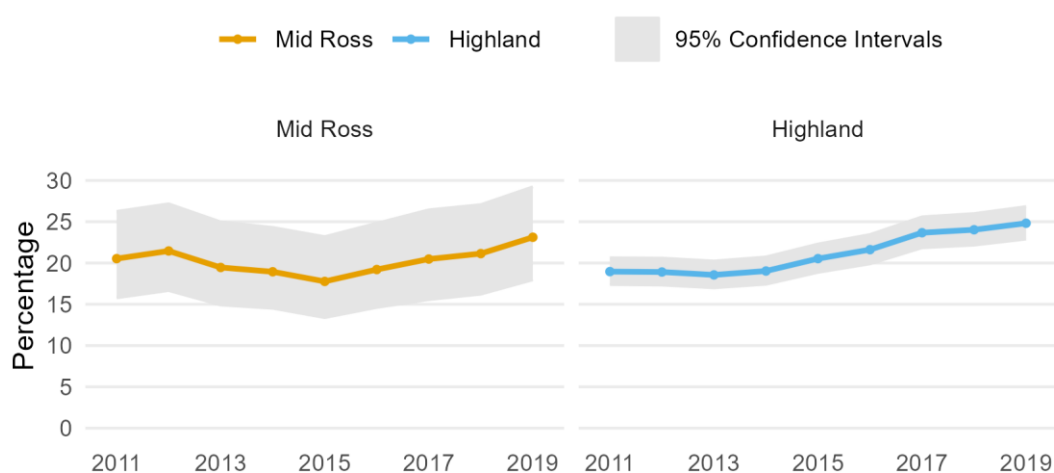


Definition: Percentage of pregnant women recorded as obese (BMI 30 and over) at antenatal booking appointment
Data from 2010/11-2012/13 to 2018/19-2020/21, by financial year; 3-year aggregates

## Premature births

Gestation refers to the number of weeks pregnant a woman is when she delivers her baby. Babies born at less than 37 weeks are considered preterm or premature. Gestation at delivery strongly influences the health of babies. Babies born preterm can have multiple difficulties in the days and weeks following birth. The consequences of being born too early can continue to affect health and development throughout childhood and adult life. In Scotland, being born too soon is the principal reason babies require admission to neonatal care and the single most significant cause of death in early infancy[14].

**Table 14:** Percentage of premature births, 2019

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 172 | 9.1 | 7.8 | 10.4 | | |
| NHS Highland | 230 | 9.2 | 8.1 | 10.4 | | |
| Scotland | 4,067 | 8.4 | 8.2 | 8.7 | | |
| East Ross | 23 | 10.8 | 7.3 | 15.6 | | |
| Skye, Lochalsh and West Ross | 11 | 9.9 | 5.5 | 17.1 | | |
| Sutherland | 7 | 9.6 | 4.6 | 19.2 | | |
| Badenoch and Strathspey | 10 | 9.6 | 5.2 | 17.1 | | |
| Inverness | 72 | 9.4 | 7.6 | 11.8 | | |
| Lochaber | 13 | 8.4 | 4.9 | 13.9 | | |
| Caithness | 16 | 7.9 | 4.9 | 12.5 | | |
| Mid Ross | 16 | 7.4 | 4.6 | 11.7 | | |
| Nairn and Nairnshire | 7 | 7.0 | 3.3 | 14.3 | | |

Definition: Number of live births before 37 weeks gestation
Source: Public Health Scotland (SMR02)

**Figure 17:** Percentage of premature births, 3 year aggregates, 2002/03-2004/05 to 2018/19-2020/21
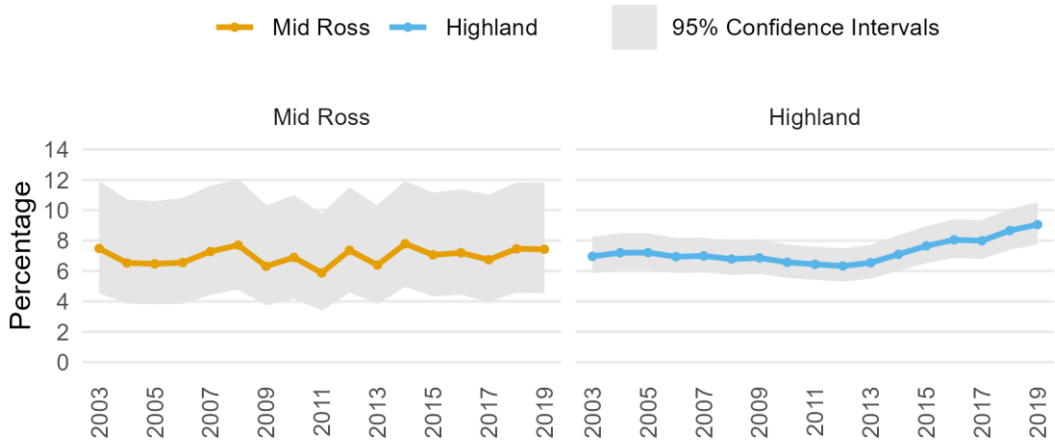


Definition: Percentage of live births before 37 weeks gestation
Source: Public Health Scotland (SMR02)
Data from 2002/03-2004/05  to 2018/19-2020/21, by financial year; 3-year aggregates

## Healthy birth weight

A baby's weight at birth reflects both their gestation and how well they have grown whilst in the womb. Healthy birth weight differentiates between babies who are light because they are preterm and those who are inappropriately light after adjustment for gestational age at birth. Babies who are both preterm and small for their gestational age may be more at risk for many health problems compared to infants of normal weight.

**Table 15:** Percentage of births at healthy birth weight, 2019

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,433 | 83.9 | 82.1 | 85.6 | | |
| NHS Highland | 1,893 | 84.4 | 82.8 | 85.8 | | |
| Scotland | 36,862 | 84.2 | 83.8 | 84.5 | | |
| East Ross | 167 | 87.5 | 82.1 | 91.5 | | |
| Nairn and Nairnshire | 72 | 86.3 | 77.3 | 92.1 | | |
| Caithness | 159 | 85.9 | 80.2 | 90.2 | | |
| Badenoch and Strathspey | 72 | 85.4 | 76.3 | 91.4 | | |
| Inverness | 569 | 83.7 | 80.7 | 86.3 | | |
| Lochaber | 114 | 83.1 | 76.0 | 88.5 | | |
| Mid Ross | 163 | 82.2 | 76.2 | 86.9 | | |
| Sutherland | 46 | 79.7 | 67.5 | 88.0 | | |
| Skye, Lochalsh and West Ross | 74 | 78.4 | 69.0 | 85.5 | | |

Definition: Number of healthy weight (5 to 95 percentile) live full-term (at least 37 weeks) singleton births
Source: Public Health Scotland (SMR02)

**Figure 18:** Percentage of births at healthy birth weight, 3 year aggregates, 2002/03-2004/05 to 2018/19-2020/21



Definition: Number of healthy weight (5 to 95 percentile) live full-term (at least 37 weeks) singleton births
Source: Public Health Scotland (SMR02)
Data from 2002/03-2004/05 to 2018/19-2020/21, by financial year; 3-year aggregates

## Early childhood development
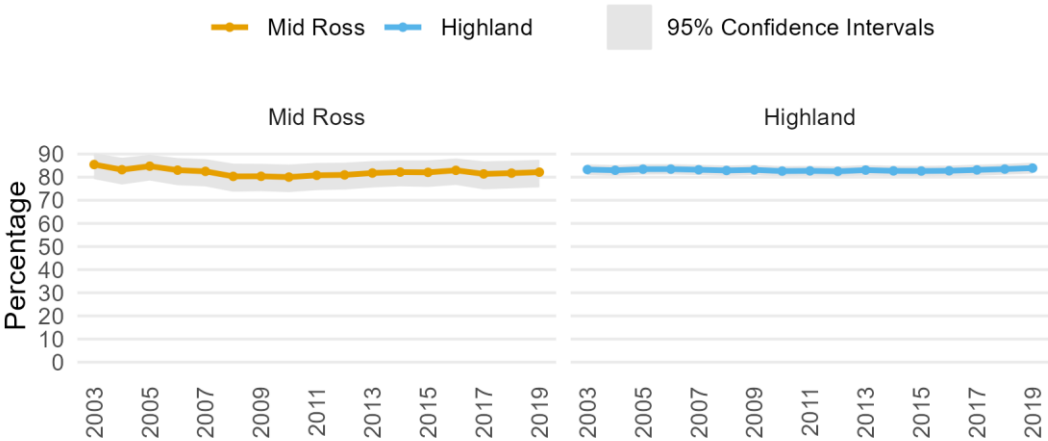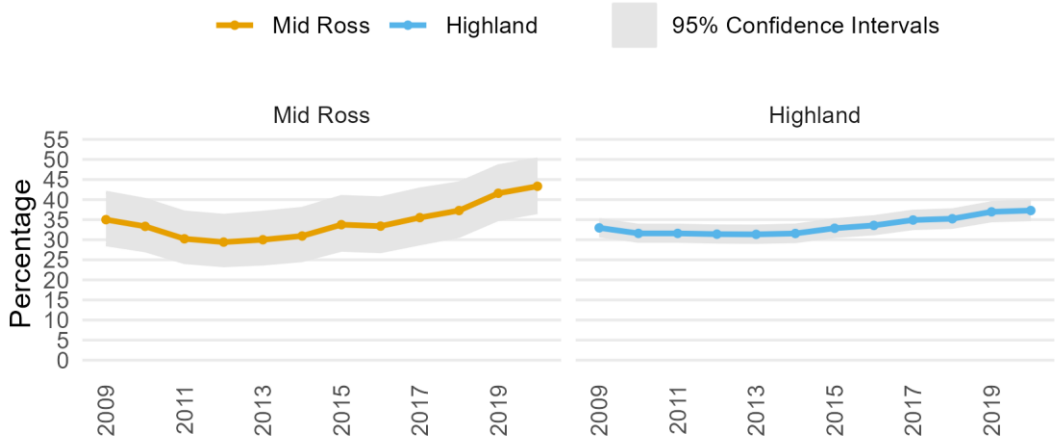
### Babies exclusively breastfed at 6-8 weeks

Breastfeeding is part of the natural reproductive process and an essential public health activity that should be encouraged. There is strong evidence of the short-term and lifelong health benefits of breastfeeding for both mothers and infants[15]. There is clear economic evidence that investing in improving breastfeeding practices are cost saving preventative actions[16]. The Scottish Government has adopted as policy World Health Organisation guidance recommending exclusive breastfeeding for the first six months of an infant's life.

**Table 16:** Percentage of babies exclusively breastfed at 6-8 weeks, 2019/20-2021/22

|  | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 622 | 37.3 | 35.0 | 39.6 | + |  |
| NHS Highland | 834 | 37.5 | 35.5 | 39.5 | + |  |
| Scotland | 13,966 | 31.9 | 31.4 | 32.3 |  | - |
| Sutherland | 34 | 53.8 | 41.5 | 65.6 | + | + |
| Skye, Lochalsh and West Ross | 56 | 53.5 | 44.0 | 62.9 | + | + |
| Badenoch and Strathspey | 32 | 43.6 | 32.8 | 55.0 | + |  |
| Mid Ross | 90 | 43.3 | 36.8 | 50.1 | + |  |
| Lochaber | 53 | 40.1 | 32.1 | 48.6 |  |  |
| Nairn and Nairnshire | 29 | 37.1 | 27.1 | 48.3 |  |  |
| Inverness | 232 | 36.2 | 32.5 | 40.0 | + |  |
| East Ross | 52 | 28.1 | 22.1 | 35.0 |  |  |
| Caithness | 48 | 24.8 | 19.2 | 31.4 | - | - |

Definition: Number of babies reported as being exclusively breastfed at 6-8 week review
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland

**Figure 19:** Percentage of babies exclusively breastfed at 6-8 weeks, 3 year aggregates, 2008/09-2010/11 to 2019/20-2021/22



Definition: Percentage of babies reported as being exclusively breastfed at 6-8 week review
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland
Data from 2008/09-2010/11 to 2019/20-2021/22, by financial year; 3-year aggregates

**Figure 20:** Variation in percentage of babies exclusively breastfed at 6-8 weeks associated with relative income deprivation by intermediate geography
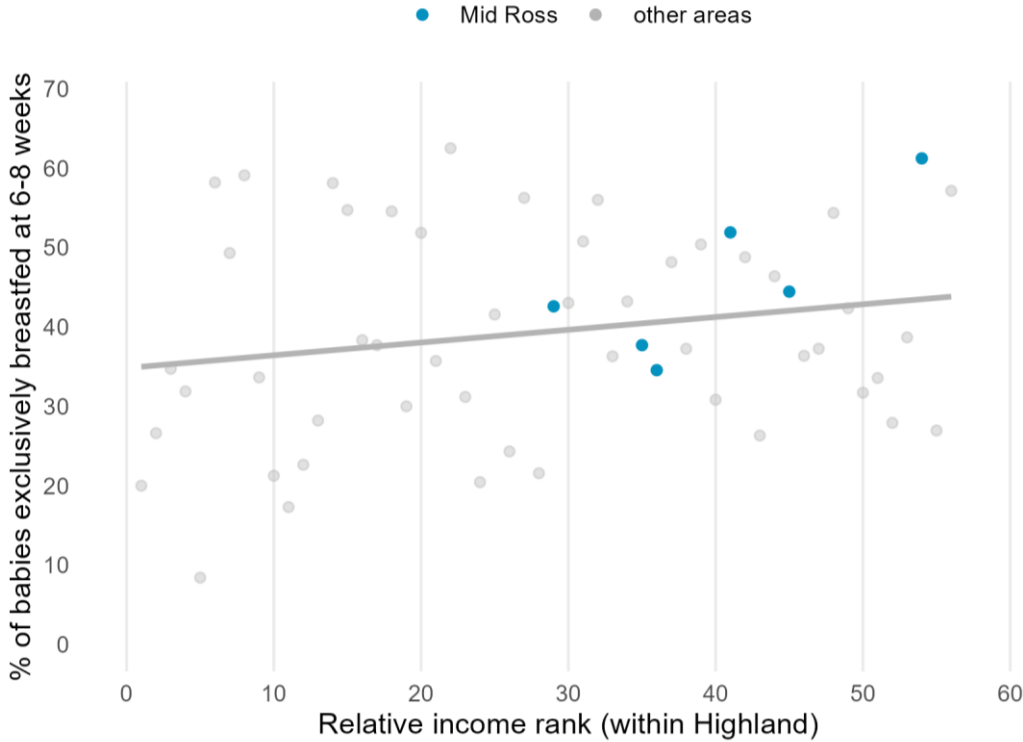


Income rank based upon the DWP Relative Low Income data where the area ranked 1 has the highest proportion of children and young people with relative low income deprivation.
Each point represents an intermediate geography.
A line of best fit shows the correlation between income deprivation rank and the measure of health.

**Developmental concerns at 27-30 months**

Biological factors (such as being born prematurely) and environmental factors (such as the parenting and opportunities for play and exploration children receive) influence early child development.

Identifying early child development problems is crucial as they are strongly associated with long-term health, educational, and social difficulties. Early identification gives the best opportunity to support children and families to improve outcomes[17]. All children are offered a series of child health reviews between birth and starting school as part of the nationally agreed child health programme.

**Table 17:** Developmental concerns at 27-30 months, 2017/18-2019/20

|  | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 261 | 12.7 | 11.3 | 14.2 | - |  |
| NHS Highland | 342 | 12.8 | 11.6 | 14.1 | - |  |
| Scotland | 7,357 | 14.7 | 14.4 | 15.1 |  | + |
| Mid Ross | 39 | 16.9 | 12.6 | 22.2 |  |  |
| Nairn and Nairnshire | 18 | 16.5 | 10.7 | 24.7 |  |  |
| Inverness | 107 | 13.9 | 11.6 | 16.5 |  |  |
| Skye, Lochalsh and West Ross | 19 | 12.5 | 8.1 | 18.8 |  |  |
| Sutherland | 10 | 11.6 | 6.4 | 20.3 |  |  |
| Caithness | 25 | 11.2 | 7.7 | 16.0 |  |  |
| Lochaber | 18 | 10.1 | 6.4 | 15.6 |  |  |
| East Ross | 22 | 9.7 | 6.5 | 14.4 | - |  |
| Badenoch and Strathspey | 6 | 5.4 | 2.5 | 11.3 | - | - |

Definition: Number of children with 1 or more developmental concern recorded at 27-30 month review
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland

**Figure 21:** Developmental concerns at 27-30 months, 3 year aggregates, 2013/14-2015/16 to 2017/18-2019/20
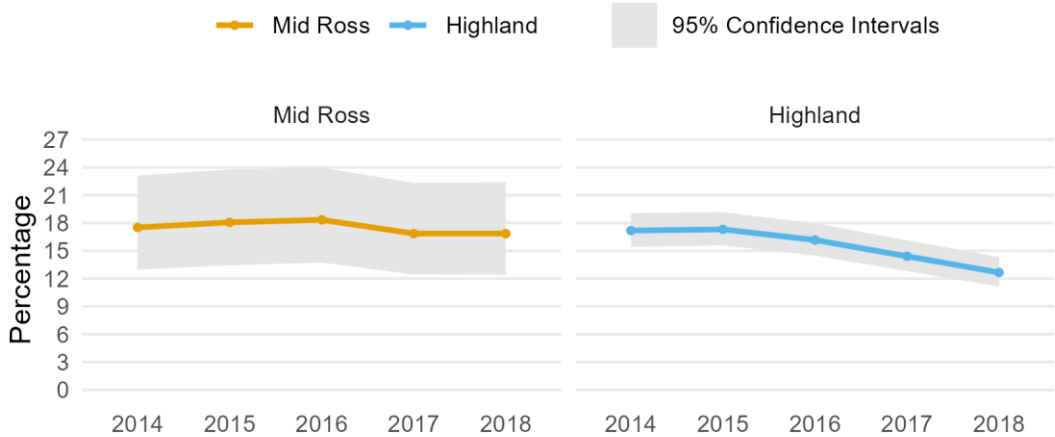


Definition: Number of children with 1 or more developmental concern recorded at 27-30 month review
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland
Data from 2013/14-2015/16 to 2017/18-2019/20, by financial year; 3-year aggregates

**Childhood immunisations**

Immunisation programmes for children are effective in reducing the burden of disease. They aim to protect the individual child from many serious infectious diseases and prevent the spread of disease in the wider population[18].

The European Region of the World Health Organization (WHO) recommends that on a national basis, at least 95 percent of children are immunised against diseases preventable by immunisation and targeted for elimination or control. These include diphtheria, tetanus, pertussis, polio, Haemophilus influenzae type b (Hib), measles, mumps and rubella. There is an expectation that all UK routine childhood immunisations that are evaluated up to five years of age achieve the 95 percent coverage in line with the WHO target.

**Table 18:** Childhood immunisation uptake (6-in-1) at 24 months, 2019-2021

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,991 | 96.2 | 95.2 | 96.9 | - | |
| NHS Highland | 2,652 | 96.1 | 95.3 | 96.8 | - | |
| Scotland | 50,528 | 97.1 | 97.0 | 97.2 | | + |
| Badenoch and Strathspey | 105 | 98.4 | 93.9 | 99.6 | | |
| Mid Ross | 226 | 98.0 | 95.2 | 99.2 | | |
| Caithness | 209 | 97.1 | 93.8 | 98.6 | | |
| Skye, Lochalsh and West Ross | 130 | 96.1 | 91.3 | 98.3 | | |
| Lochaber | 170 | 96.0 | 92.0 | 98.1 | | |
| Inverness | 760 | 96.0 | 94.4 | 97.2 | | |
| Nairn and Nairnshire | 96 | 95.7 | 89.7 | 98.2 | | |
| East Ross | 225 | 94.1 | 90.4 | 96.5 | - | |
| Sutherland | 73 | 94.0 | 86.4 | 97.5 | | |

Definition: Number of children receiving the 5-in-1 or 6-in-1 (from October 2017) vaccination course by 24 months of age.
5-in-1 protects against Diphtheria, Pertussis, Tetanus, Polio, Hib
6-in-1 also protects against Hepatitis B
Source: Scottish Immunisation & Recall System (SIRS), Public Health Scotland

**Figure 22:** Percentage uptake of childhood immunisations (6-in-1) at 24 months, 3 year aggregates, 2004-2006 to 2019-2021
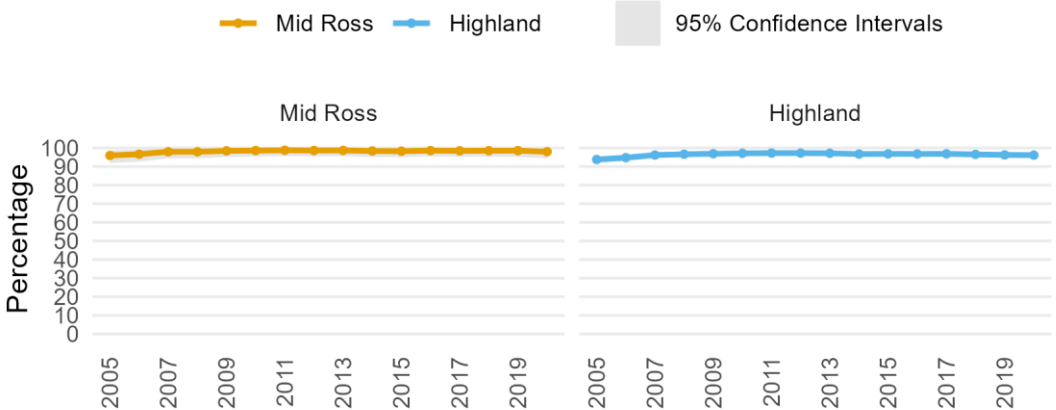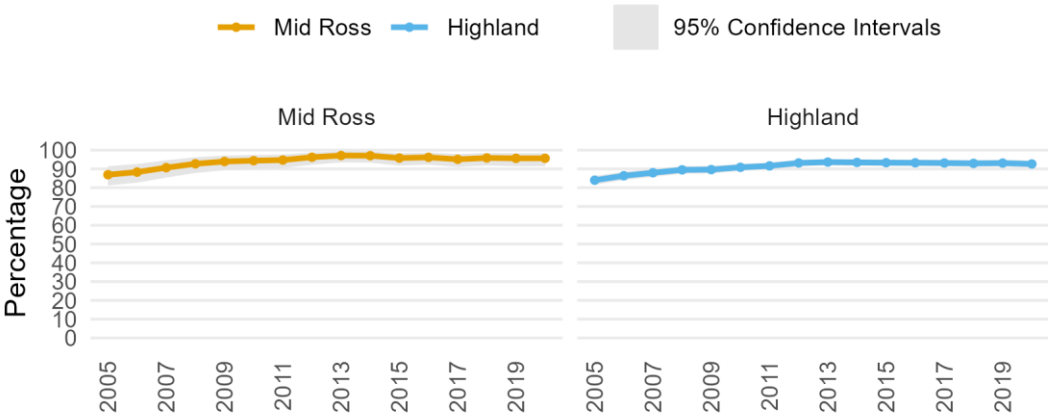


Definition: Percentage of children receiving the 5-in-1 or 6-in-1 (from Oct 2017) vaccination course by 24 months of age.
5-in-1 protects against Diphtheria, Pertussis, Tetanus, Polio, Hib. 6-in-1 also protects against Hepatitis B
Source: Scottish Immunisation & Recall System (SIRS), Public Health Scotland
Data from 2004-2006 to 2019-2021, by calendar year; 3-year aggregates

**Table 19:** Childhood immunisation uptake (MMR) at 24 months, 2019-2021

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,918 | 92.6 | 91.4 | 93.7 | - | |
| NHS Highland | 2,566 | 93.0 | 92.0 | 93.9 | - | |
| Scotland | 49,134 | 94.4 | 94.2 | 94.6 | | + |
| Mid Ross | 220 | 95.7 | 92.2 | 97.6 | | |
| Skye, Lochalsh and West Ross | 129 | 95.1 | 90.0 | 97.6 | | |
| Inverness | 737 | 93.1 | 91.1 | 94.7 | | |
| Badenoch and Strathspey | 99 | 93.1 | 86.6 | 96.5 | | |
| Nairn and Nairnshire | 93 | 92.3 | 85.4 | 96.1 | | |
| Lochaber | 162 | 91.7 | 86.7 | 94.9 | | |
| Caithness | 198 | 91.6 | 87.2 | 94.7 | | |
| Sutherland | 71 | 91.4 | 83.1 | 95.8 | | |
| East Ross | 212 | 88.7 | 84.0 | 92.1 | - | |

Source: Scottish Immunisation & Recall System (SIRS), Public Health Scotland

**Figure 23:** Percentage uptake of childhood immunisations (MMR) at 24 months, 3 year aggregates, 2004-2006 to 2019-2021



Definition: Percentage of children receiving the MMR (measles, mumps and rubella) vaccination course by 24 months of age
Source: Scottish Immunisation & Recall System (SIRS), Public Health Scotland
Data from 2004-2006 to 2019-2021, by calendar year; 3-year aggregates

## Primary and Secondary school age

### Child healthy weight

Monitoring healthy weight in childhood is a way of seeing how well the needs of children are being met. Maintaining a healthy weight throughout childhood is associated with many health and wellbeing benefits. The early years are critical for establishing good nutrition and healthy eating habits and for reducing the likelihood of children becoming overweight or experiencing obesity in later life. Obesity and being overweight in childhood are associated with health problems including type 2 diabetes and cardiovascular disease. Child height and weight are measured in Primary 1 children and used to monitor those at risk of unhealthy weight.

**Table 20:** Children with a healthy weight in Primary 1, 2020

|  | Number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,677 | 68.9 | 68.9 | 68.9 | - | |
| NHS Highland | 2,122 | 68.5 | 67.8 | 69.1 | - | |
| Scotland | 14,666 | 69.8 | 69.2 | 70.3 | | + |
| Sutherland | 10 | 76.9 | 54.8 | 99.1 | | |
| Skye, Lochalsh and West Ross | 123 | 75.5 | 75.5 | 75.5 | + | + |
| Lochaber | 111 | 75.0 | 69.9 | 80.1 | | + |
| Nairn and Nairnshire | 91 | 73.4 | 68.7 | 78.1 | | |
| Inverness | 702 | 71.8 | 71.8 | 71.8 | + | + |
| Badenoch and Strathspey | 67 | 70.5 | 64.2 | 76.8 | | |
| Mid Ross | 226 | 66.3 | 66.3 | 66.3 | - | - |
| East Ross | 210 | 62.5 | 62.5 | 62.5 | - | - |
| Caithness | 137 | 57.8 | 53.9 | 61.7 | - | - |

Definition: Primary 1 children (with a valid height and weight recorded) whose BMI is between the 5% and 95% of the 1990 UK reference range for their age and sex
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland

**Figure 24:** Percentage of children with a healthy weight in Primary 1, 2008/09 to 2020/21
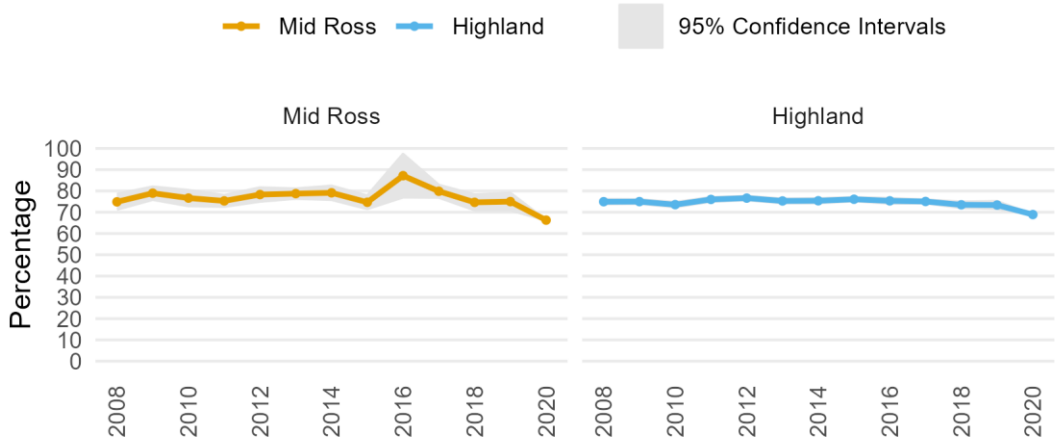


Definition: Primary 1 children whose BMI is between the 5% and 95% of the reference range for their age and sex
Source: Child Health Systems Programme Pre-school (CHSP-PS), Public Health Scotland
Data from 2008/09 to 2020/21, by financial year

**Figure 25:** Variation in percentage of children of healthy weight in Primary 1 associated with relative income deprivation by intermediate geography
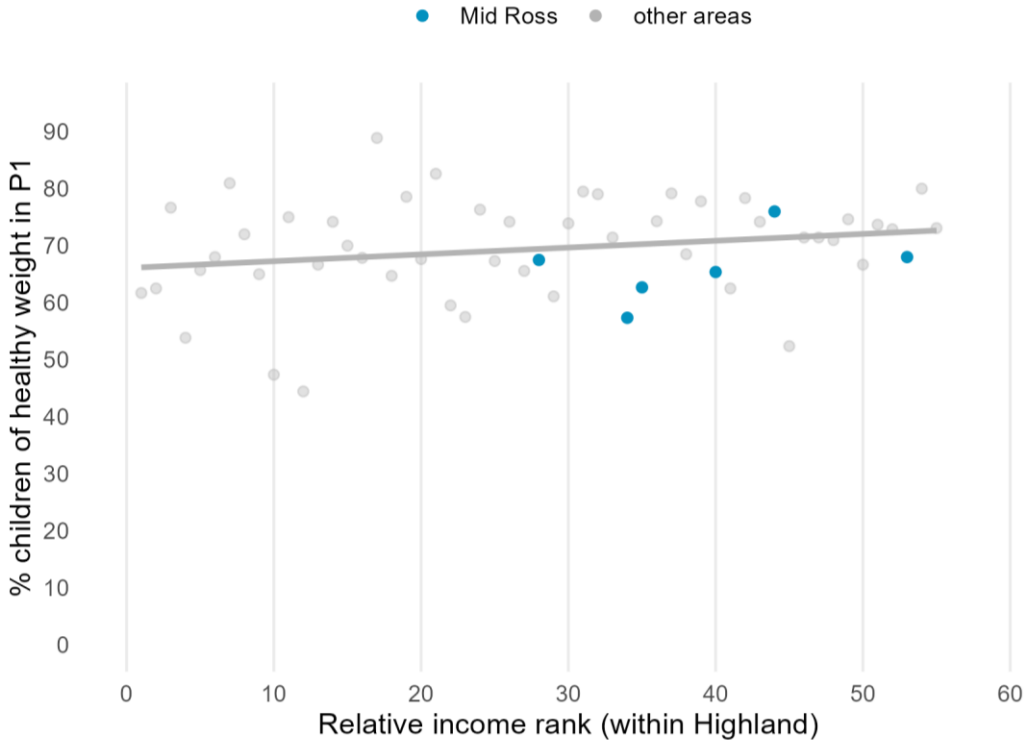


Income rank based upon the DWP Relative Low Income data where the area ranked 1 has the highest proportion of children and young people with relative low income deprivation.
Each point represents an intermediate geography.
A line of best fit shows the correlation between income deprivation rank and the measure of health.

## Oral health

Good oral health is essential for general wellbeing and eating, speaking, and socialising properly. Poor oral health can be associated with pain, disfigurement, infection, school absences and poor nutrition and weight. Dental caries is one of the most common diseases of childhood, yet it is entirely preventable. Dental neglect can be an indicator of other unmet needs.
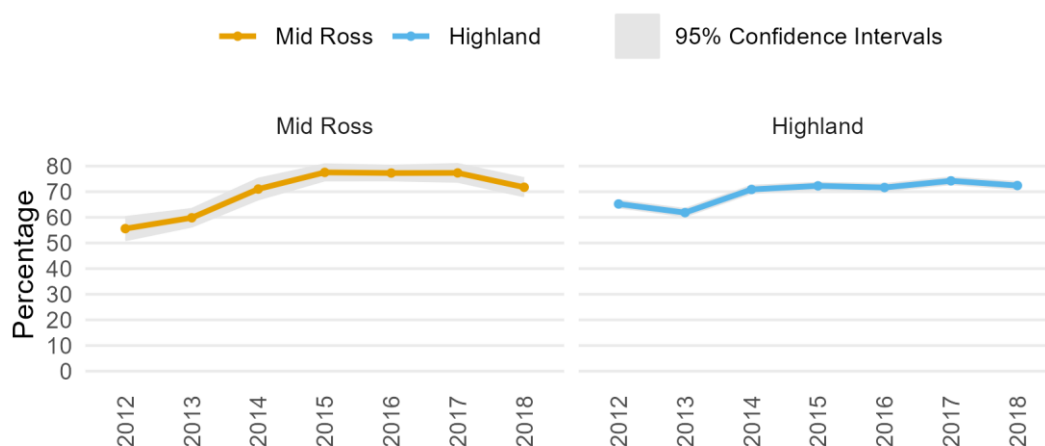
## Child dental health in Primary 1

**Table 21:** Child dental health in Primary 1, 2018/19

| | Number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,481 | 72.4 | 71.2 | 73.6 | | |
| NHS Highland | 2,055 | 74.0 | 73.0 | 75.0 | + | |
| Scotland | 36,204 | 71.5 | 71.3 | 71.8 | | |
| Skye, Lochalsh and West Ross | 117 | 83.6 | 79.5 | 87.6 | + | + |
| Sutherland | 63 | 79.8 | 73.6 | 85.9 | + | |
| Nairn and Nairnshire | 74 | 77.9 | 72.3 | 83.5 | + | |
| Inverness | 586 | 73.2 | 71.4 | 75.1 | | |
| Badenoch and Strathspey | 81 | 72.3 | 69.8 | 74.9 | | |
| Mid Ross | 160 | 71.8 | 68.4 | 75.1 | | |
| Caithness | 157 | 69.8 | 66.3 | 73.3 | | |
| East Ross | 139 | 65.6 | 61.3 | 69.8 | - | - |
| Lochaber | 104 | 65.4 | 60.6 | 70.2 | - | - |

Definition: Primary 1 children with no obvious decayed, missing and filled primary teeth at basic inspection
Source: National Dental Inspection Programme (NDIP), Public Health Scotland

**Figure 26:** Percentage of children with no obvious decay at basic inspection in Primary 1, 2012/13 to 2018/19



Definition: Primary 1 children with no obvious decayed, missing and filled primary teeth at basic inspection
Source: National Dental Inspection Programme (NDIP), Public Health Scotland
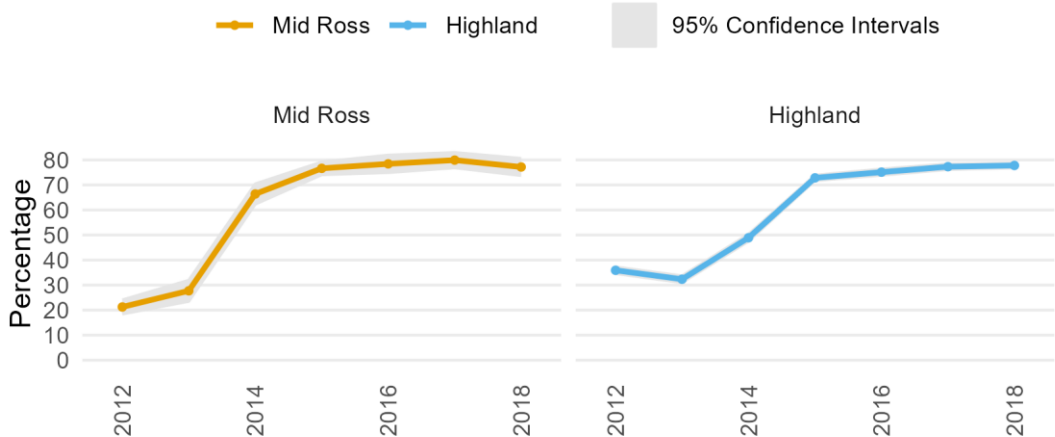Data from 2012/13 to 2018/19, by school year

## Child dental health in Primary 7

**Table 22:** Child dental health in Primary 7, 2018/19

|  | Number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 1,775 | 77.8 | 76.8 | 78.8 | + |  |
| NHS Highland | 2,432 | 80.8 | 80.0 | 81.7 | + | + |
| Scotland | 37,648 | 72.9 | 72.7 | 73.1 |  | - |
| Nairn and Nairnshire | 98 | 83.0 | 79.9 | 86.2 | + | + |
| Skye, Lochalsh and West Ross | 112 | 81.8 | 77.6 | 85.9 | + |  |
| Badenoch and Strathspey | 115 | 81.0 | 78.2 | 83.8 | + |  |
| Caithness | 206 | 79.2 | 76.8 | 81.7 | + |  |
| Sutherland | 75 | 79.0 | 73.3 | 84.6 | + |  |
| Inverness | 634 | 77.4 | 75.7 | 79.2 | + |  |
| Mid Ross | 196 | 77.2 | 73.7 | 80.6 | + |  |
| Lochaber | 155 | 77.1 | 73.4 | 80.9 | + |  |
| East Ross | 184 | 71.9 | 71.9 | 71.9 | - | - |

Definition: Primary 7 children with no obvious decayed, missing and filled primary teeth at basic inspection
Source: National Dental Inspection Programme (NDIP), Public Health Scotland

**Figure 27:** Percentage of children with no obvious decay at basic inspection in Primary 7, 2012/13 to 2018/19



Definition: Primary 7 children with no obvious decayed, missing and filled primary teeth at basic inspection
Source: National Dental Inspection Programme (NDIP), Public Health Scotland
Data from 2012/13 to 2019/20, by school year

**HPV immunisation in Secondary 3 girls**

The Human Papillomavirus (HPV) is a common virus which usually has no symptoms. Most people who become infected with HPV clear the virus from their body. Others may develop a range of cancers (including cervical, anogenital and head and neck) in later life. The most common HPV-related cancer is cervical cancer.

The schools-based HPV immunisation programme in Scotland started in 2008, with immunisation offered to females in secondary school. The programme is currently offered to all pupils in their first (S1) and second (S2) years of secondary school. Eligible pupils who have not started or completed the course of immunisations are given other opportunities to be vaccinated in Secondary 3 (S3) and Secondary 4 (S4).

**Table 23:** Uptake of the HPV vaccine in Secondary 3 girls, 2018

| | Average number | Percent age | Lower bound | Upper bound | Significance Scotland | Council |
|---|---|---|---|---|---|---|
| Highland | 950 | 79.4 | 77.0 | 81.6 | - | |
| NHS Highland | 1,262 | 79.4 | 77.3 | 81.3 | - | |
| Scotland | 22,978 | 84.8 | 84.4 | 85.2 | | + |
| Caithness | 115 | 86.6 | 79.8 | 91.4 | | |
| Sutherland | 46 | 84.7 | 72.8 | 91.9 | | |
| East Ross | 85 | 82.7 | 74.2 | 88.8 | | |
| Mid Ross | 111 | 80.0 | 72.6 | 85.8 | | |
| Inverness | 341 | 78.6 | 74.5 | 82.2 | - | |
| Lochaber | 90 | 77.2 | 68.8 | 83.9 | - | |
| Skye, Lochalsh and West Ross | 67 | 76.3 | 66.4 | 84.0 | - | |
| Badenoch and Strathspey | 53 | 75.7 | 64.5 | 84.2 | - | |
| Nairn and Nairnshire | 45 | 70.7 | 58.5 | 80.5 | - | |

Definition: Number of girls completing HPV vaccination course by end of S3
Source: Scottish Immunisation & Recall System (SIRS), Child Health Systems Programme School (CHSP-School),
Public Health Scotland.

**Figure 28:** Uptake of the HPV vaccine in Secondary 3 girls, 2009/10-2011/12 to 2017/18-2019/20
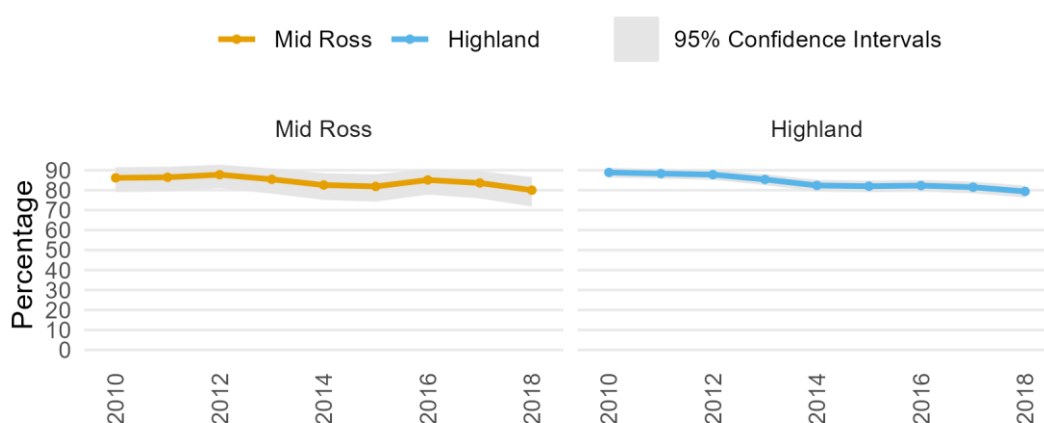


Definition: Percent of girls completing HPV vaccination course by end of S3
Source: Scottish Immunisation & Recall System (SIRS), Child Health Systems Programme School (CHSP-School),
Public Health Scotland.
Data from 2009/10-2011/12 to 2017/18-2019/20, by 3-year aggregates

**Figure 29:** Variation in uptake of the HPV vaccine in S3 girls associated with relative income deprivation by intermediate geography
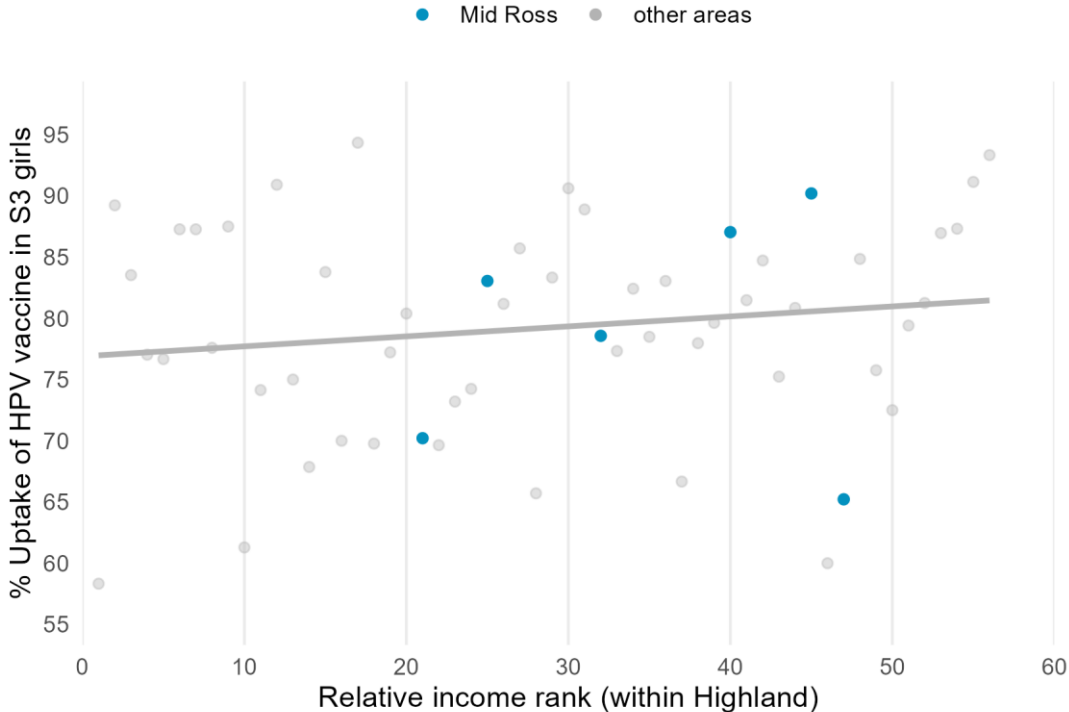


Income rank based upon the DWP Relative Low Income data where the area ranked 1 has the highest proportion of children and young people with relative low income deprivation.
The vertical-axis does not start at zero.
Each point represents an intermediate geography.
A line of best fit shows the correlation between income deprivation rank and the measure of health.

## Further information

This section provides links to further resources on children and young people's health and wellbeing. The resources provide data and evidence collected from local authority or national data sources that are not available at the partnership level.

**Local Plans:** The [Argyll and Bute Children and Young People's Services Plan 2023-2026](#) and the [Highland Childrens Services Plan 2023-2026](#) and [Joint Strategic Needs Assessment](#) set out local plans to improve outcomes for children, young people and families.

**Scottish Public Health Observatory:** ScotPHO publish children and young people's data that are nationally comparable and available at local level for local authorities as [children and young people's profiles](#). These include indicators that relate to the eight aspects of wellbeing set out in the United Nations Convention on the Rights of the Child (UNCRC) and summarised as SHANARRI (Safe, Healthy, Achieving, Nurtured, Active, Respected, Responsible, and Included).

**Mental Health and Wellbeing:** In 2022, Public Health Scotland (PHS) published an updated set of [mental health indicators for children and young people](#). These aim to identify information, at local and national level, about mental health and wellbeing outcomes and the determinants of these outcomes.

**Drugs and Alcohol:** The [Scottish Schools Adolescent Lifestyle and Substance Use Survey](#) (SALSUS) included questions on substance use and factors relating to mental health. The final SALSUS ran in 2018 and has been replaced by a new [Health and Wellbeing Census](#). The first Health and Wellbeing Census took place during the 2021/22 academic year. Neither Argyll and Bute Council or Highland Council participated in the survey.

**Planet Youth:** Planet Youth, also known as the Icelandic Prevention Model, is an evidence based primary prevention approach that aims to reduce and delay alcohol, tobacco and other drug use among young people. The approach works by increasing protective factors for substance use, the kind of things that, if part of a young person's life, can reduce the risk.

Argyll and Bute and Highland are both partner areas for [Planet Youth in Scotland](#) (further information available upon request).

**Unintentional injury:** Unintentional injuries are a common cause of death and hospital admission among children and young people. Public Health Scotland publish [summary data on unintentional injuries](#) by location, diagnosis and cause for local authorities and health board areas in Scotland.

**Child Protection and Corporate Parenting**: The Scottish Government publish [Children's Social Work Statistics](#) for local authorities in Scotland. These include data on children on the child protection register, as well as children and young people looked after, in continuing care, eligible for aftercare, and in secure care accommodation.

**Youth Justice and community harm:** The Children's Hearing System plays a key role in child protection, child welfare, and justice. The [Scottish Children's Reporter Administration](#) (SCRA) produce an online statistical dashboard and local authority reports for at-risk children and young people. The Scottish Government publish information on [justice social work activity](#) in local authority areas involving young people.

**Education and attainment:** A range of [statistics on school education](#) for local authorities in Scotland are published, including pupil and teacher characteristics, and attainment and qualification results. School-level summary statistics and interactive dashboards on pupil and school characteristics for each publicly funded school in Scotland are also available.

# Glossary

| Term | Description |
|---|---|
| Access deprivation | Access deprivation, as defined in the SIMD, is the population weighted average time taken to reach key services by driving or public transport. Geographic access to services includes GP surgery, post office, retail centre, primary school, secondary school, and petrol station. |
| Birth rate | The birth rate is a standard measure of fertility. It is expressed as the number of live births and the crude rate per 1,000 population. |
| Body Mass Index (BMI) | Body mass index (BMI) is calculated by dividing an individual's weight (in kilograms) by their height squared (in metres). BMI cut off values can be used to assign an individual to a weight category. For most adults, an ideal BMI is in the 18.5 to 24.9 range. For children and young people aged 2 to 18, the BMI weight category also takes into account an individual's age and gender. |
| Child dental health | Child dental health is a measure of children recorded with no obvious decayed, missing or filled primary teeth at basic inspection at P1 and P7 stages carried out by the National Dental Inspection Programme (NDIP). |
| Child healthy weight | Child health weight, as used in this profile, is classified as Primary 1 children (with a valid height and weight recorded) whose BMI is between the 5% and 95% of the 1990 UK reference range for their age and sex. |
| Child poverty | A child (aged 0-15) is considered to be growing up in poverty if they live in a household whose income is below 60% of the average (median) income for that year. Data on child poverty is available both before and after housing costs are taken into account. |
| Confidence Interval | 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. |
| Crime deprivation | Crime deprivation, as defined in the SIMD, is the recorded crime rate for selected crimes of violence, sexual offences, domestic housebreaking, vandalism, drug offences and common assault. |
| Deprivation deciles or quintiles | The SIMD deprivation analyses in this report rank datazones from 1 (most deprived) to 6,976 (least deprived). These are then split into five deprivation quintiles with 20% of the datazones in each quintile. Deprivation deciles have 10% of the datazones in each decile. |
| Datazone | The datazone is the standard national small area geography used in the production of statistics. There are 6,976 datazones in the 2011 release (125 in Argyll and Bute and 312 in Highland local authorities). Nationally datazones 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. Datazones 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. |

| Developmental concerns | Developmental concerns, assessed by health visitors during child health reviews. The review captures the outcome of developmental assessment for 8 domains of child development: speech, language and communication; gross motor; fine motor; problem solving; personal/social; emotional/behavioural; vision; and hearing. |
|---|---|
| Exclusive breastfeeding | Exclusive breastfeeding, babies recorded as only being fed breast milk in the 24 hours prior to the heath visitor review at 6 to 8 weeks. |
| Healthy birth weight | Healthy birthweight, babies identified as an appropriate weight for their gestational age are those with a birthweight between the 5th and 95th percentiles of the UK-WHO Child Growth Standards developed by the Royal College of Paediatrics and Child Health. |
| Intermediate zone | Intermediate zones (also referred to as intermediate geographies or neighbourhoods) are constructed from aggregations of data zones and provide a small area geography 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. |
| Income deprivation | Income deprivation, as defined in the SIMD, is a measure of the percentage of the population (adults and their dependents) in receipt of Income Support, Employment and Support Allowance, Job Seekers Allowance, Guaranteed Pension Credits, and Child and Working Tax Credits. |
| Immunisation 6-in-1 | The 6-in-1 vaccine protects children against six serious diseases: diphtheria, whooping cough (pertussis), tetanus, polio, *haemophilus influenzae* type b (Hib), and hepatitis B. |
| Immunisation MMR | The MMR vaccine protects children against three serious diseases: measles, mumps and rubella. |
| Immunisation HPV | The HPV vaccine protects against the most high-risk strains of the Human Papillomavirus (HPV), including ones which cause cervical, mouth and genital cancers. The most common HPV-related cancer is cervical cancer. |
| 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. |
| Low income | Low income families are households in receipt of out-of-work benefits or in receipt of child tax credits (reported income is less than 60% of UK median). |
| Maternal obesity | Maternal obesity, where the BMI of pregnant women recorded at the antenatal booking appointment is in the obese range (BMI of 30 or more). |
| National Records of Scotland | National Records of Scotland (NRS), a national agency established on 1 April 2011, following the merger of the General Register Office for Scotland and the National Archives of Scotland. |
| Population estimates | The size of the population estimated on an annual basis, using 30th 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. |
| Population projections | Population projections are informed by past trends in births, deaths and migration. They give an indication of what the future population, by age and sex structure, might be if recent local levels of fertility, mortality and migration continue, and take no account of policy or |

| | development aims within local areas. The population projections used are 2018-based. |
|---|---|
| Premature births | Premature or preterm births are defined as babies born alive before 37 weeks of pregnancy are completed. |
| Prevalence | Prevalence describes the proportion of a population with a particular disease or health condition at a given point in time or over a specified time period. |
| Relative Low Income | Relative low-income, a household in low income Before Housing Costs (BHC) in the reference year. A family must have claimed Child Benefit and at least one other household benefit (Universal Credit, tax credits, or Housing Benefit) at any point in the year to be classed as low income in the statistics. |
| Scottish Public Health Observatory | Scottish Public Health Observatory (ScotPHO), a collaboration led by Public Health Scotland, and includes Glasgow Centre for Population Health, National Records of Scotland, the MRC/CSO Social and Public Health Sciences Unit and the Scottish Learning Disabilities Observatory. |
| ScotPHO profiles tool | Scottish Public Health Observatory (ScotPHO) online profiles tool presents a range of indicators intended to increase understanding of local health issues. The online profiles and indicator definitions are available at the following URL: https://scotland.shinyapps.io/ScotPHO_profiles_tool/ |
| Scottish Index of Multiple Deprivation (SIMD) | The Scottish Index of Multiple Deprivation (SIMD) identifies small area concentrations of deprivation. The latest version is the SIMD 2020 and is based on small areas called datazones. 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. |
| 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 + or - in the tables in this report. |
| Scottish Government Urban Rural classification | The Scottish Government Urban Rural (SGUR) classification provides a consistent way of defining urban and rural areas across Scotland. The classification is based upon two main criteria: population, as defined by the National Records of Scotland (NRS), and 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. |
| Smoking during pregnancy | Smoking during pregnancy, women with a known smoking status who are recorded as a current smoker at the first antenatal booking appointment. Women with an unknown smoking status are excluded from the calculation. |
| Teenage pregnancy | Teenage pregnancy refers to all pregnant people aged under 20 years at conception, regardless of whether the person went on to deliver or terminate. |

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