Children and Young People's Profile

ScotPHO
Public Health Information for Scotland

Scotland overview report

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Key points

Safe:
Unintentional injuries in under five-year-olds

For every **100** children **1** under 5 years, will have an emergency admission for an **unintentional injury**

Rates are 50% higher in the most deprived areas than the least deprived

Healthy:
Child obesity in primary 1

1 in **10 children** in primary 1 are at **risk of obesity**

Children in the most deprived areas are at twice the risk of obesity as those in the least deprived

Healthy:
Infant deaths

For every **1,000** babies born, **nearly 4** die before their **first birthday**

Rates are 50% higher in the most deprived areas than the least deprived

Healthy:
Women smoking during pregnancy

Around **1 in 6 women** **reports smoking during pregnancy**

This varies from 1 in 3 in the most deprived areas to 1 in 22 in the least deprived

Nurtured:
Babies exclusively breastfed at 6–8 weeks

28% of babies are **exclusively breastfed** at 6–8 weeks

Rates are nearly 3X higher in the least deprived areas compared with the most deprived

Achieving:
School leaver attainment

3 of every 5 young people leave school with at least **one level 6 qualification**

In the most deprived areas this falls to 2 out of every 5

Active:
Active travel to school

Half of children
travel to school in
an active way

This varies from 68% in the City of Edinburgh to 17% in Eilean Siar

Included:
Children in low-income families

18% of children
in Scotland live in
low-income families

This varies from 1 in 3 in Glasgow City to 1 in 14 in the Shetland Islands

Responsible:
Young people in prison

3 in every **1,000**
young people
aged 16–25
are in prison at any given time

Rates are 17X higher in the most deprived areas than the least deprived

Introduction

Ensuring that Scotland is one of the best places to grow up and that all children and young people enjoy good health and positive life chances is at the heart of much of the public sector in Scotland.

The Scottish Public Health Observatory (ScotPHO) Children and Young People's Profile presents a wide range of data at national, local authority, Health Board and, where available, intermediate zone* level.

These data can be used by a variety of partners across the public and third sectors to highlight inequalities, plan services, target resources effectively and monitor outcomes for children and young people at a population level.

[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

* Intermediate zones are areas formed from Scottish data zones that nest within local authorities; they have populations of between 2,500 and 6,000 people.

The Children and Young People's Profile comprises 52 indicators across a wide range of health outcomes and social determinants (**Appendix 1**). The indicators within the profile are organised by the eight wellbeing domains, as defined in Getting It Right For Every Child (GIRFEC), which is the national approach to improving outcomes for all children and young people.[1] The rights of children and their wellbeing sit at the heart of GIRFEC. In recognition that the wellbeing of children and young people is influenced by all of their experiences and everything around them, a broad definition of wellbeing has been developed.

Wellbeing is defined by eight domains, commonly referred to as SHANARRI:

Safe
Healthy
Achieving
Nurtured
Active
Respected
Responsible
Included

Organisation of the indicators by the SHANARRI domains received overwhelming support during a stakeholder consultation in the summer of 2016. In response to this, the SHANARRI approach has been adopted in the profile. In developing the profile it was recognised that one indicator may fit into more than one domain. Equally, for some domains, it was difficult to find suitable indicators. For presentation within the profile each indicator has been placed into a single wellbeing domain. Users of the profiles may choose to use the indicators differently to how they have been presented. Unfortunately, none of the indicators identified for inclusion in the profile was a good fit for the 'respected' domain.

For more information on GIRFEC and the wellbeing domains please see: **www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing**

This report focuses on a selection of indicators from the ScotPHO Children and Young People's Profile. It looks in more detail at the trends and inequalities observed within these indicators.

The indicators included in the report are:

- **Safe:** Unintentional injuries in under five-year-olds
- **Healthy:** Infant deaths
- **Healthy:** Child obesity in primary 1
- **Healthy:** Women smoking during pregnancy
- **Achieving:** School leaver attainment
- **Nurtured:** Babies exclusively breastfed at 6–8 weeks
- **Active:** Active travel to school
- **Responsible:** Young people in prison
- **Included:** Children in low-income families

Full details of the indicator set, their definitions and data sources are available in **Appendix 1** and in the accompanying **technical report**.

About ScotPHO profiles

ScotPHO produces a suite of profiles across a range of health-related topics. In total, over 200 indicators are presented and updated on a regular basis. The profiles are presented in the **Online Profiles Tool** (OPT). The OPT allows users to access a profile for their local area and compare the indicators to the Scottish average or to another geographical area. The profiles provide a broad picture of health in Scotland, highlight health and social inequalities and aim to enable resources to be appropriately targeted to reduce inequalities.

Data are presented in a number of different ways:

Spine charts are used to present a lot of data for a specified area. All indicators in a profile are presented in a single spine chart for each geographical area. Comparisons are made with the Scottish average (or other specified area) and, where appropriate, are determined as significantly better or worse than the Scottish average (or comparator area).

Rank charts are used to compare all geographical areas across a single indicator for a specified time period. Areas are ranked by their value for the indicator.

Trend charts are used to present data over time. Data are presented for a single indicator and specified geographical area for all the available time points.

In all instances data can be exported from the tool for local use. Some demographic and population data are also available. For more detail on the functionality of the tool please see the **website**.

Interpretation of the indicators

The Children and Young People's Profile, as with all ScotPHO profiles, provides comparisons between local areas and the Scottish average. As Scotland faces considerable challenges in terms of health and wellbeing it is important to note that local values that are not significantly different from the Scottish average, or that are significantly better, may still indicate an important public health issue.

The profile is intended to enhance local understanding of health and wellbeing. Local factors, including rurality and deprivation, are likely to have a major influence on expected outcomes. As such, the indicators should not be considered in isolation; data should be interpreted in the context of local knowledge.

Most health and wellbeing indicators presented in the profile display clear categorisation of data as 'better' or 'worse' than the Scottish average. For some indicators it is noted when an area is significantly higher or lower than the Scottish average, but no judgement is made as to whether a higher or lower level is 'better' or 'worse'. For such indicators, local interpretation is crucial.

The profile presents indicators at a number of different geographical levels, namely for Scotland, local authority, Health Board and, where possible, intermediate zone. In general, the confidence in estimates produced with data from a larger population will be greater than from a smaller population. It is therefore necessary to interpret the results and comparisons made between areas with some caution. This is of particular importance with some indicators from the Children and Young People's Profile as the specific age range being looked at results in an even smaller population. In many instances single years of data are aggregated into three- or five-year rolling averages in order to make the results more robust and increase the level of confidence in them. For more detailed information on how to interpret the data presented within the profile please see the accompanying **technical report**.

Safe: Unintentional injuries in under five-year-olds

1

Background

Every child and young person has the right to be and feel safe and protected from harm.[1] Children are particularly vulnerable; unintentional injury is a leading cause of emergency hospital admission and death in children. The term 'accident' implies that an event is inevitable and unavoidable, so the term 'unintentional injury' is used to reflect the fact that many such events could be prevented.

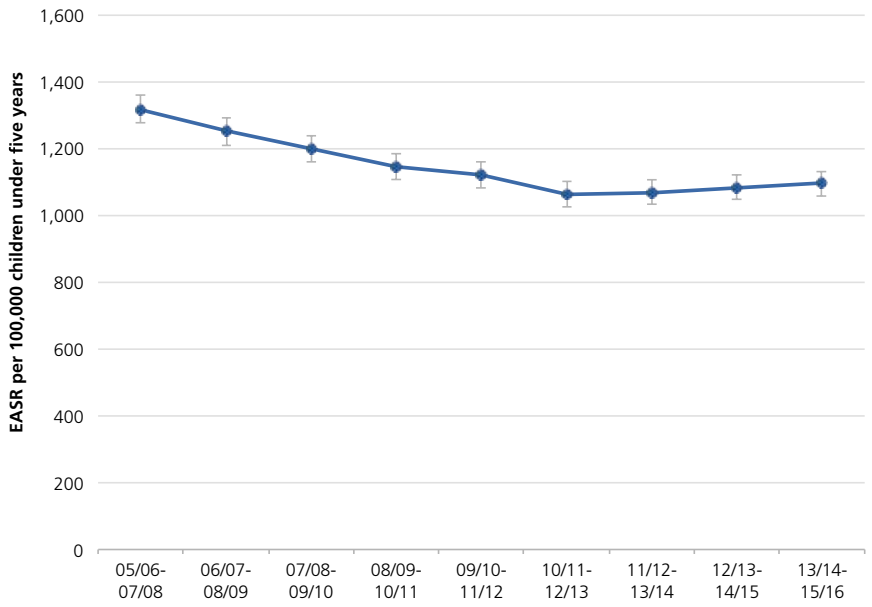
This indicator presents emergency hospital admissions for unintentional injury in children under five years as a European age-standardised rate (EASR) per 100,000 children. All data are presented as three-year rolling averages with the latest available data being for the period 2013/14–15/16.

[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

Latest data and trend over time

During the three-year period from 2013/14 to 2015/16 there were an average of approximately 3,200 emergency admissions annually for children under five years with an unintentional injury. This is a standardised rate of 1,094 emergency admissions per 100,000 children or, more simply, one in every 100 children under five years. Rates of emergency admission for unintentional injury in children under five years have decreased over time by 19%, from 1,318 per 100,000 children in 2005/06–2007/08 to 1,062 per 100,000 children in 2010/11–12/13 (**Figure 1.1**). While rates have increased slightly in recent years they remain 17% lower than in 2005/06–07/08.

Figure 1.1: Emergency admission rate for unintentional injuries in children under five years, three-year rolling averages, 2005/06–07/08 to 2013/14–15/16

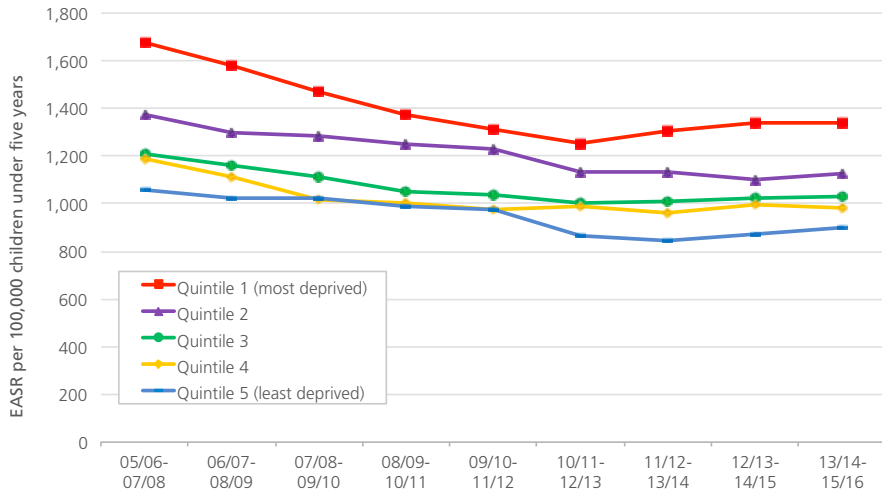


Note: Many of the charts in the report include 95% confidence intervals. These are represented by whisker lines, indicating the range of uncertainty around each data point.

Inequalities by deprivation

There is a strong association between rates of emergency admission for unintentional injury and area deprivation[2] (**Figure 1.2**). Children under five years in the most deprived quintile are around 50% more likely to have an emergency admission for an unintentional injury than those in the least deprived quintile. In the most recent time period (2013/14–15/16) rates were 1,338 per 100,000 children in the most deprived areas of Scotland compared with 898 per 100,000 in the least deprived.

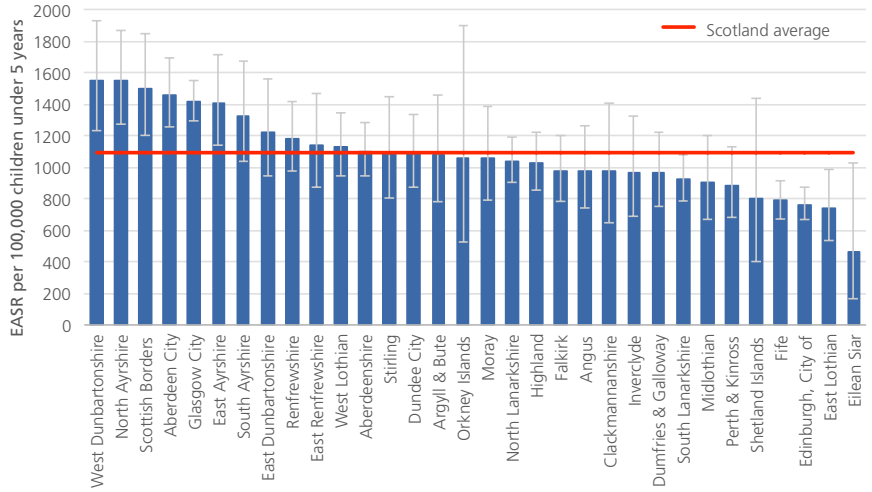
Figure 1.2: Emergency admission rates for unintentional injuries in children under five years by SIMD quintile, three-year rolling averages, 2005/06–07/08 to 2013/14–15/16



Geographical variation

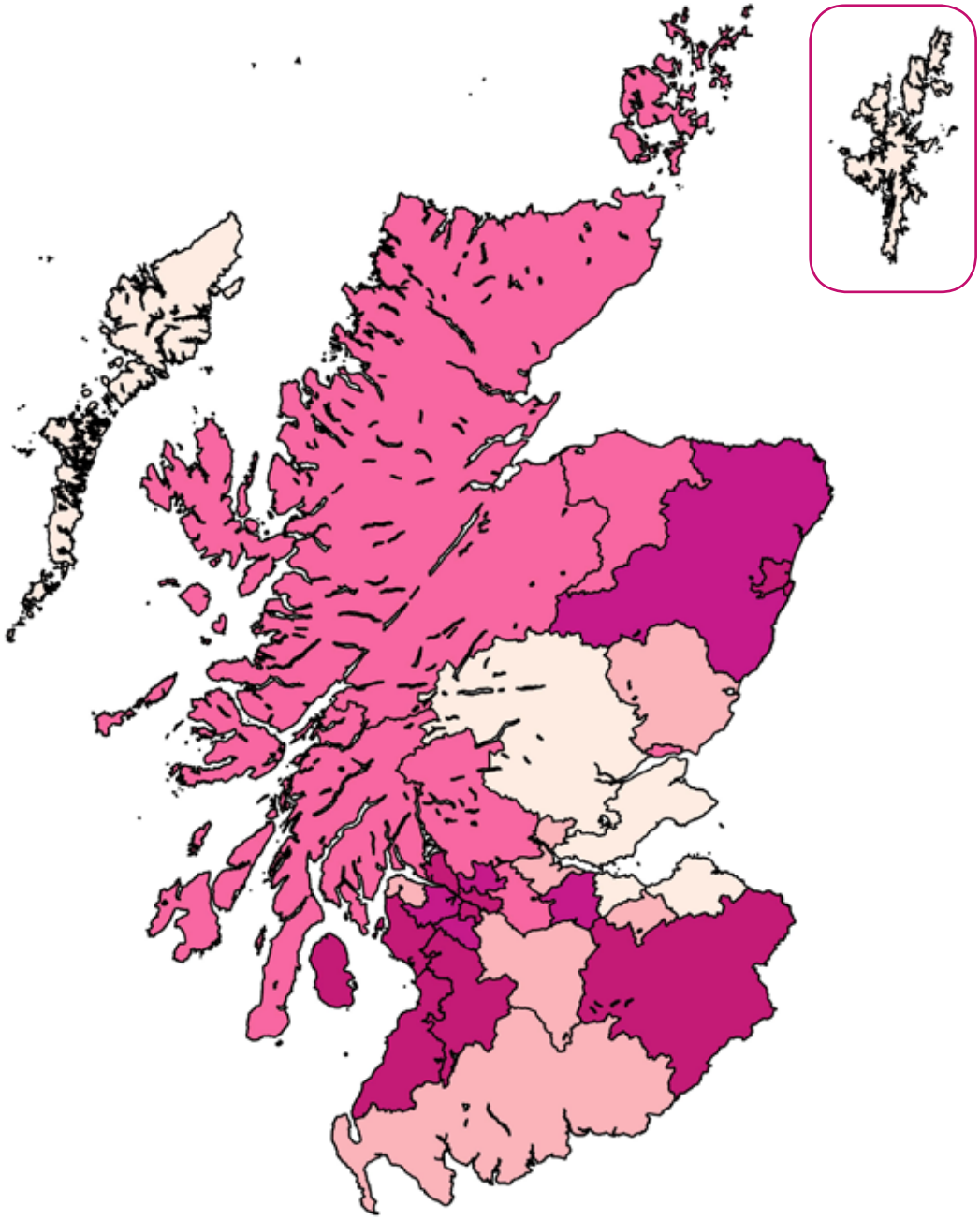
Among local authorities, rates of emergency admission for unintentional injury were highest in West Dunbartonshire (1,554 per 100,000 children) and lowest in Eilean Siar (462 per 100,000 children) (**Figure 1.3**). However, a map of rates by local authority (**Figure 1.4**) shows that the trend is not simply caused by urban–rural hospital accessibility, as some predominantly urban local authorities in the east of Scotland also have low rates.

Figure 1.3: Emergency admission rates for unintentional injuries in children under five years by local authority, three-year rolling average, 2013/14–15/16



[2] All deprivation analyses use the most appropriate SIMD release for the year. For more information please see **Appendix 2**. Throughout the report, comparisons are made between quintiles, where a quintile is one-fifth of the population of Scotland.

Figure 1.4: Emergency admission rates for unintentional injuries in children under five years by local authority, three-year rolling average, 2013/14–15/16



Note: This figure shows the spatial distribution of the rates presented in Figure 1.3.

Healthy: Infant deaths

2

Background

Every child has the right to fulfil their development potential.[1] Losing a child has a huge impact on the health and wellbeing of families, as well as affecting wider society. Infant death rates are therefore often used as a key indicator when measuring the health and wellbeing of a nation.

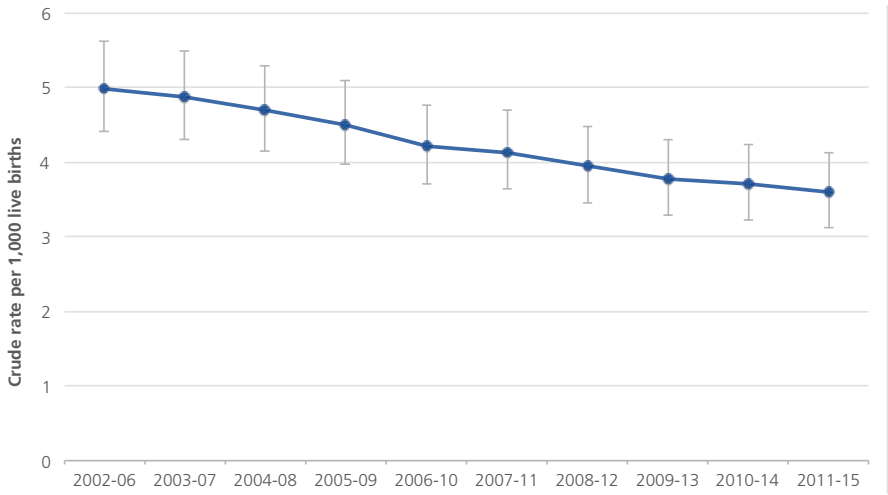
This indicator presents deaths of infants up to one year of age as a crude rate per 1,000 live births. All data are presented as five-year rolling averages with the latest available data being for the period 2011–15.

[1] Scottish Government. Wellbeing; 2016.
URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

Latest data and trend over time

In the most recent period (2011–15) an average of around 200 infants each year died before reaching their first birthday. As a rate, this means that for every 1,000 babies born, nearly four died during their first year. Infant death rates have fallen over time; in the five-year period from 2002–06 the average annual rate was 5.0 deaths per 1,000 live births. By 2011–15 this had fallen by 28% to an average annual rate of 3.6 deaths per 1,000 live births. (**Figure 2.1**).

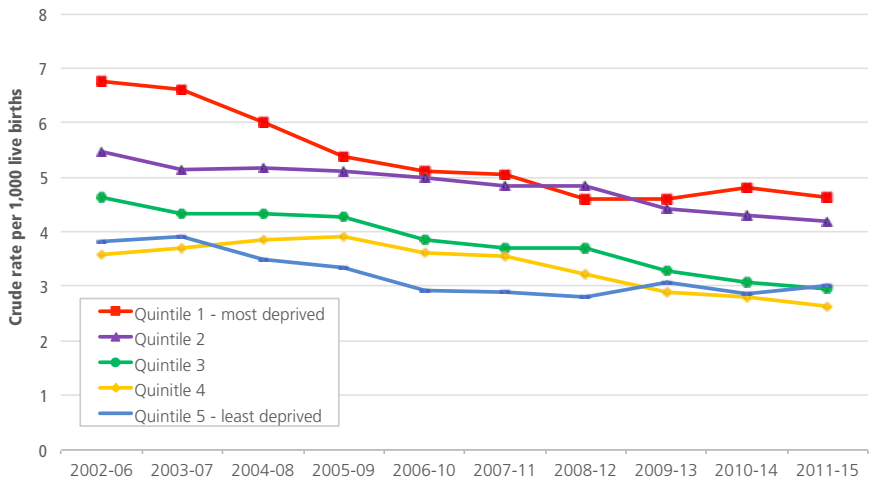
Figure 2.1: Infant death rate, five-year rolling averages, 2002–06 to 2011–15.



Inequalities by deprivation

Infant death rates in the most deprived areas in Scotland are over 50% higher than those in the least deprived areas (**Figure 2.2**). In 2011–15 there were on average 3.0 deaths per 1,000 live births in the least deprived quintile compared with 4.6 in the most deprived areas. While infant death rates have fallen across all deprivation quintiles, the gap has persisted over time.

Figure 2.2: Infant death rate by SIMD quintile five-year rolling averages, 2002–06 to 2011–15.



Geographical variation

In 2011–15, infant death rates were highest in Dundee City (6.1 deaths per 1,000 live births) and lowest in Shetland Islands (0.8 deaths per 1,000 live births) (**Figure 2.3**). Over time, rates at local authority level vary considerably (data not shown) and so comparisons between local authorities should be interpreted with caution. This is further indicated by the very large confidence intervals in **Figure 2.3**. As shown in the map (**Figure 2.4**) there is no clear spatial pattern to rates of infant death.

Figure 2.3: Infant death rate by local authority five-year rolling average, 2011–15.

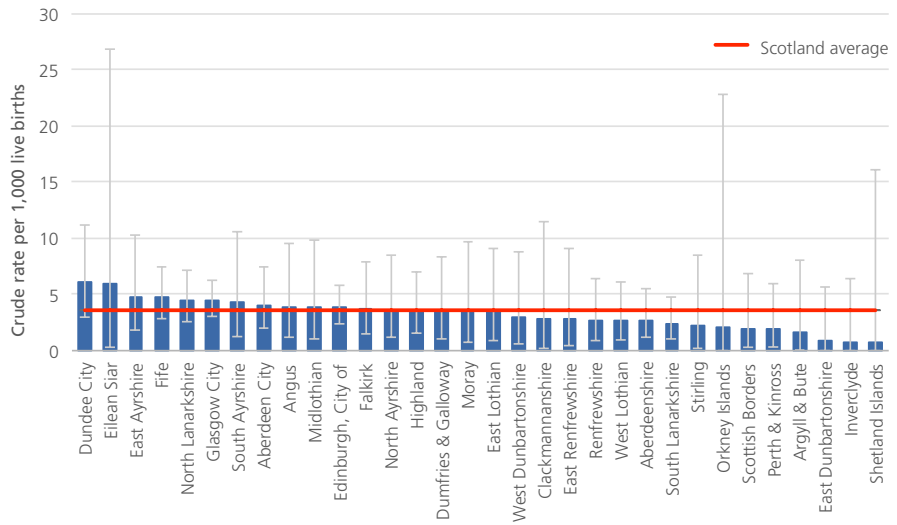
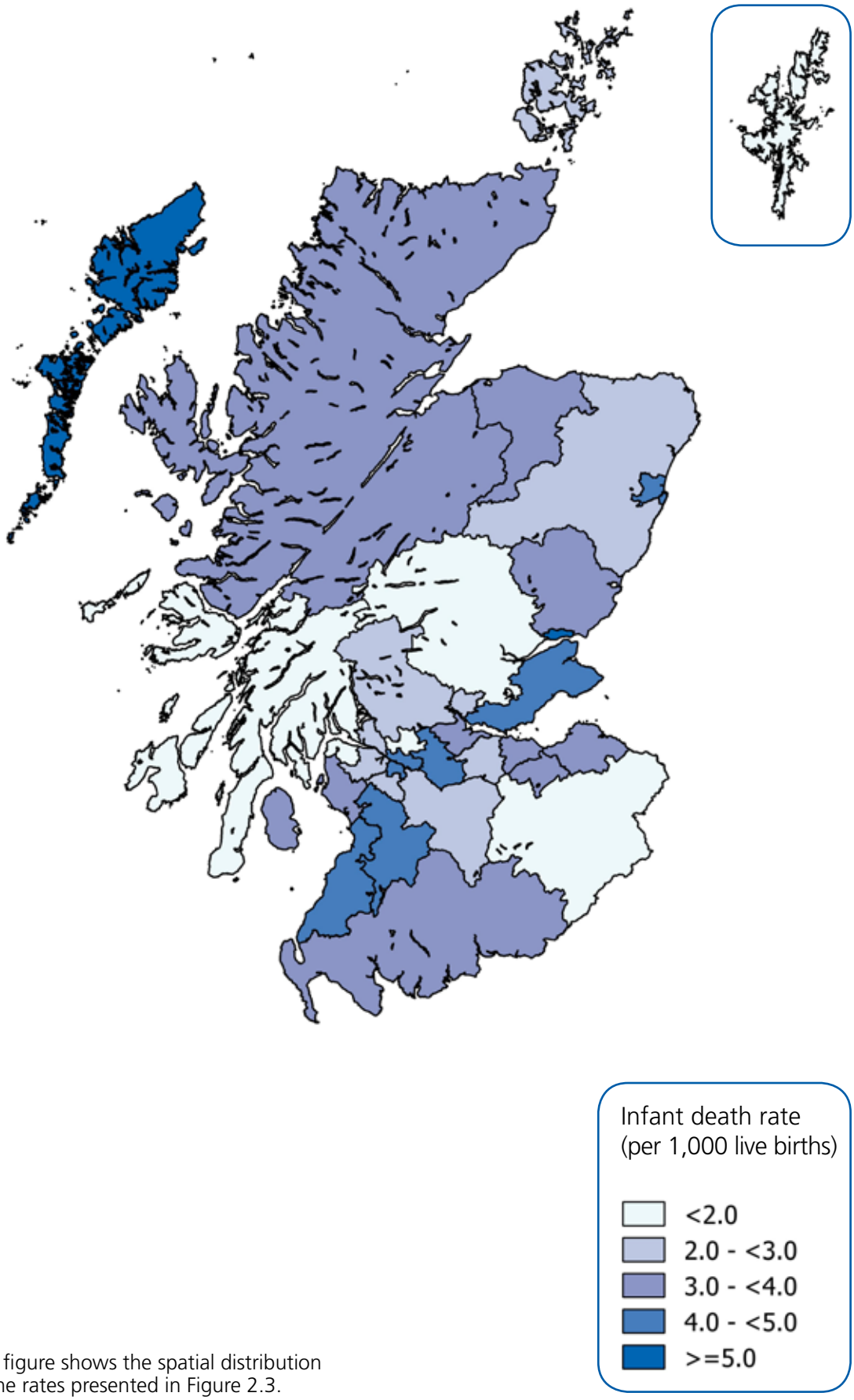


Figure 2.4: Infant death rate by local authority, five-year rolling average, 2011–15.



Note: This figure shows the spatial distribution of the rates presented in Figure 2.3.

Healthy: Child obesity in primary 1

3

Background

Every child has the right to be in the best state of physical and mental health possible.[1] Obesity can be detrimental to a child's health and wellbeing and can lead to physical and mental health problems in later life.[2] The Scottish Government has prioritised 'increasing the proportion of healthy weight children' by making it a national indicator.

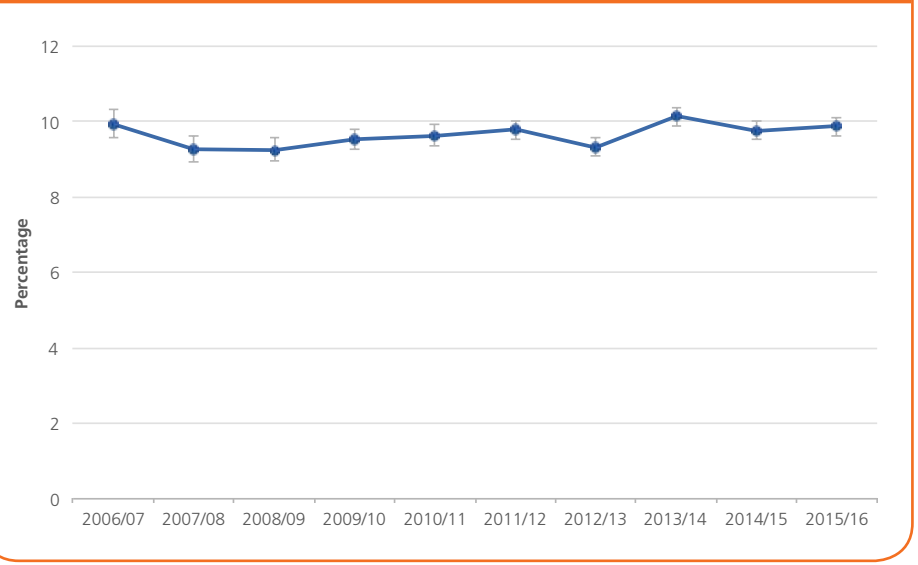
This indicator presents the percentage of children in the primary 1 school year (approximate age five years) whose body mass index (BMI)[3] is within the top 5% of the 1990 UK reference range for their age and sex (the population-based threshold for risk of obesity). All data are presented for single school years with the latest available data being for 2015/16. The participation of local authorities in the data collection has increased over time. This may introduce systematic biases in the trends because of the greater participation of different subgroups throughout the time series. As a result, time trends should be interpreted with caution.

[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing
[2] Reilly et al. Health consequences of obesity. Archives of Disease in Childhood 2003;88:748–752.
[3] BMI is calculated by dividing the child's weight in kilograms by their height in metres squared.

Latest data and trend over time

In 2015/16, around one in 10 (9.9%) primary 1 children in Scotland were at risk of obesity. This was identical to the proportion at risk in 2006/07 (9.9%) with little change being seen over time (**Figure 3.1**).

Figure 3.1: Percentage of primary 1 children at risk of obesity, 2006/07 to 2015/16.

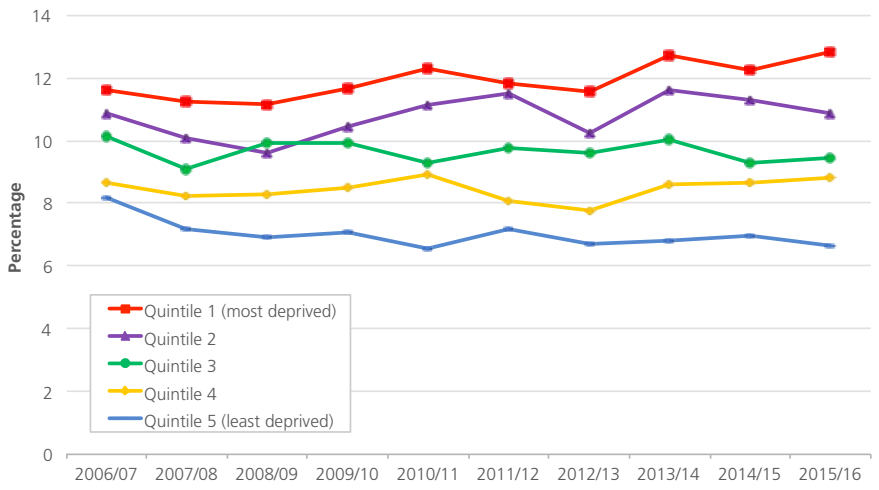


Inequalities by deprivation

Children in the most deprived areas are almost twice as likely to be at risk of obesity compared with those in less deprived areas. In 2015/16, one in eight primary 1 children in the most deprived areas (12.9%) was at risk of obesity, compared with only one in 15 (6.7%) in the least deprived areas (**Figure 3.2**).

The inequality in the risk of obesity is widening. In 2006/07 rates were 1.4 times higher in the most deprived areas compared with the least deprived areas. This is primarily due to rates in deprived areas increasing, while the lower rates in the least deprived areas have improved a little further.

Figure 3.2: Percentage of primary 1 children at risk of obesity by SIMD quintile, 2006/07 to 2015/16.



Geographical variation

The most recent data (2015/16) show a twofold difference in local authority rates of children at risk of obesity. The proportion at risk of obesity was highest in Inverclyde (12.0%) and lowest in East Dunbartonshire (6.0%) (**Figure 3.3**). Mapping the rates of children at risk of obesity for intermediate zones (**Figure 3.4**) reveals wide variation even within individual local authorities.

Figure 3.3: Percentage of primary 1 children at risk of obesity by local authority, 2015/16.

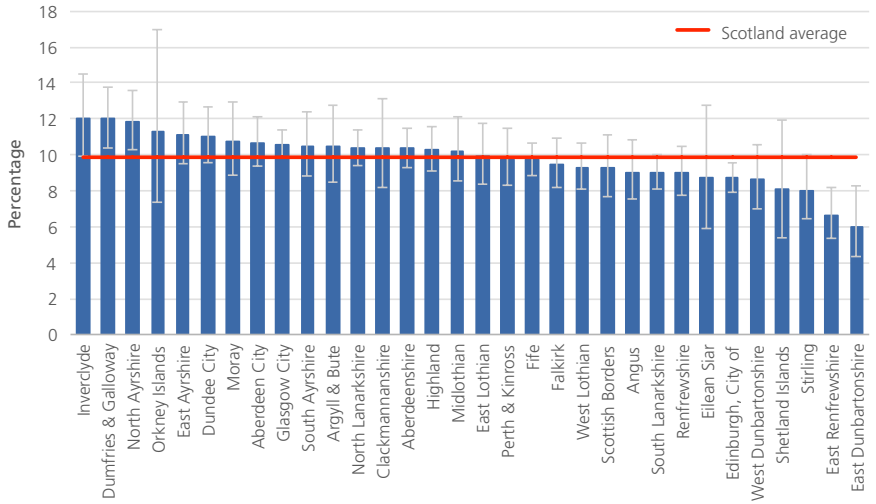
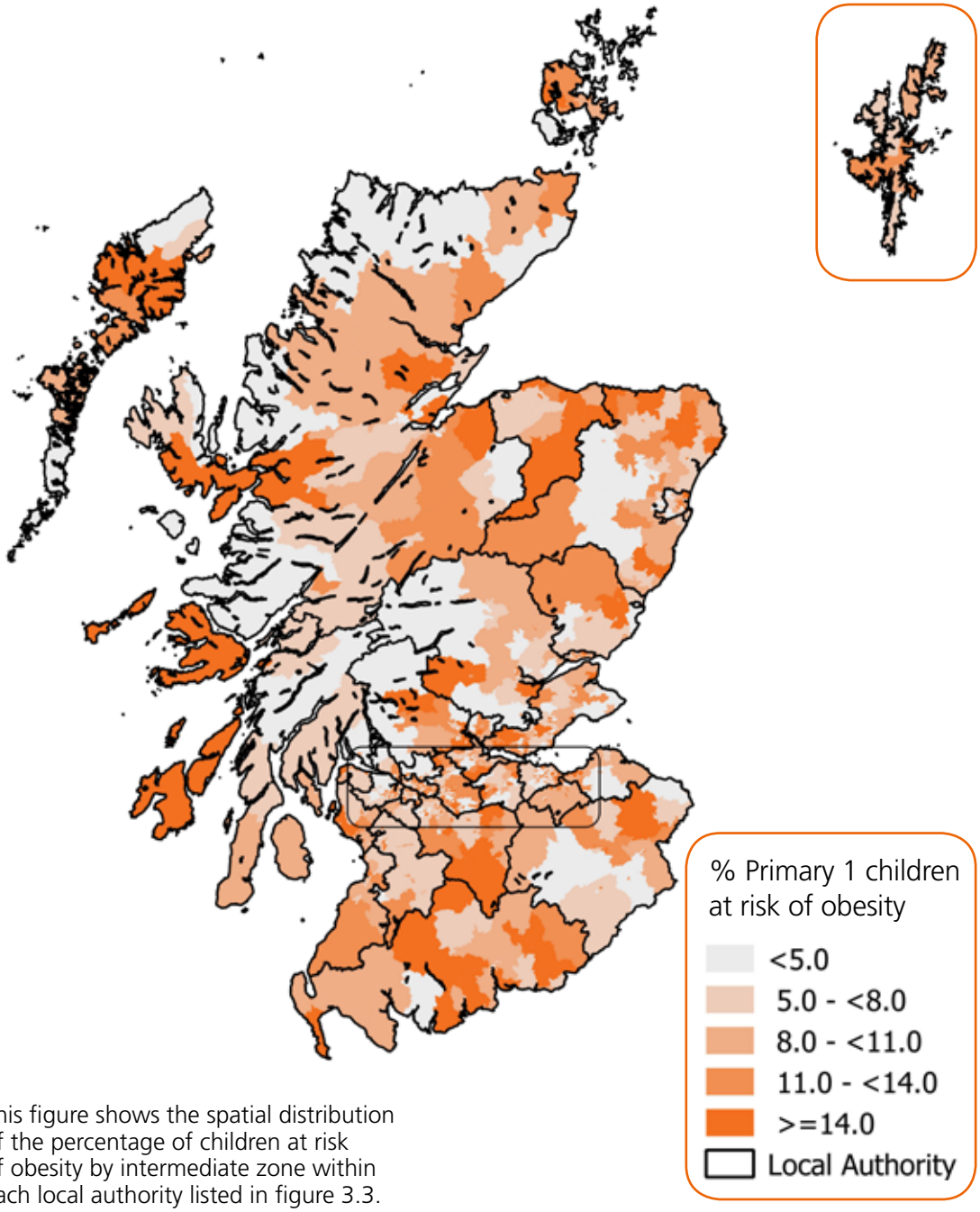
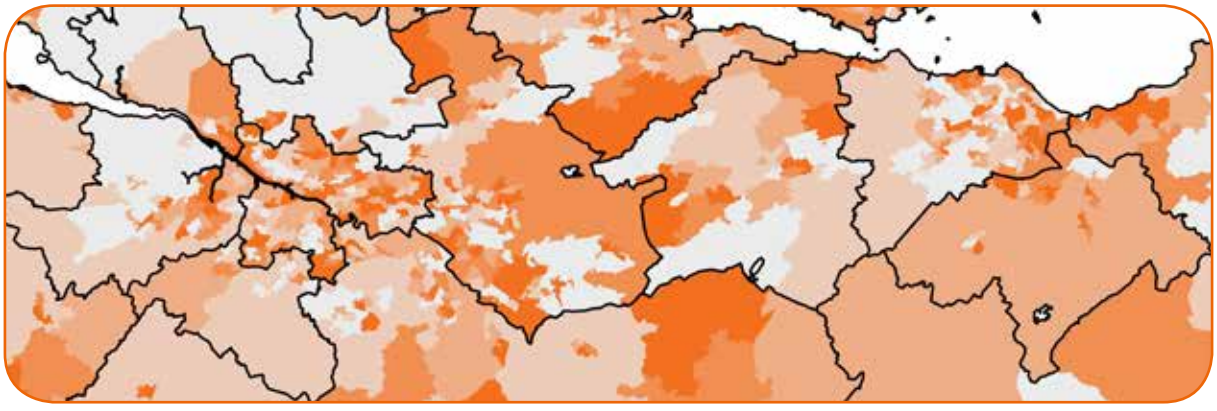


Figure 3.4: Percentage of primary 1 children at risk of obesity by intermediate zone, 2015/16.



Note: This figure shows the spatial distribution of the percentage of children at risk of obesity by intermediate zone within each local authority listed in figure 3.3.



Healthy: Women smoking during pregnancy

4

Background

Smoking during pregnancy markedly increases the risks of complications, stillbirth, premature delivery, low birth weight and sudden infant death syndrome.[1] Protecting an unborn child from tobacco smoke is one of the most important contributors to giving a child a healthy start in life.

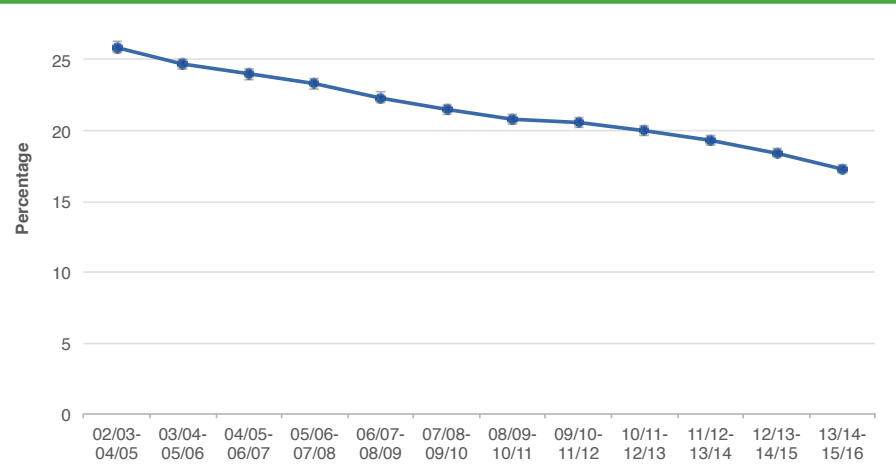
This indicator presents the proportion of pregnant women recorded as a 'current smoker' at their antenatal booking appointment. All data are presented as three-year rolling averages with the latest available data being for the period 2013/14–15/16.

[1] Cnattingius S. The epidemiology of smoking during pregnancy: Smoking prevalence, maternal characteristics, and pregnancy outcomes. *Nicotine and Tobacco Research* 2004;6(S2):S125–S140.

Latest data and trend over time

In the three-year period from 2013/14–15/16, approximately one in six (17.3%) pregnant women were recorded as 'current smokers' at antenatal booking; this was the lowest reported figure in the available time series. The proportion has decreased markedly over time with around one in four pregnant women (25.9%) reporting they smoked at booking in the period 2002/03–04/05 (**Figure 4.1**).

Figure 4.1: Percentage of women recorded as 'current smoker' at antenatal booking, three-year rolling averages, 2002/03–04/05 to 2013/14–15/16.

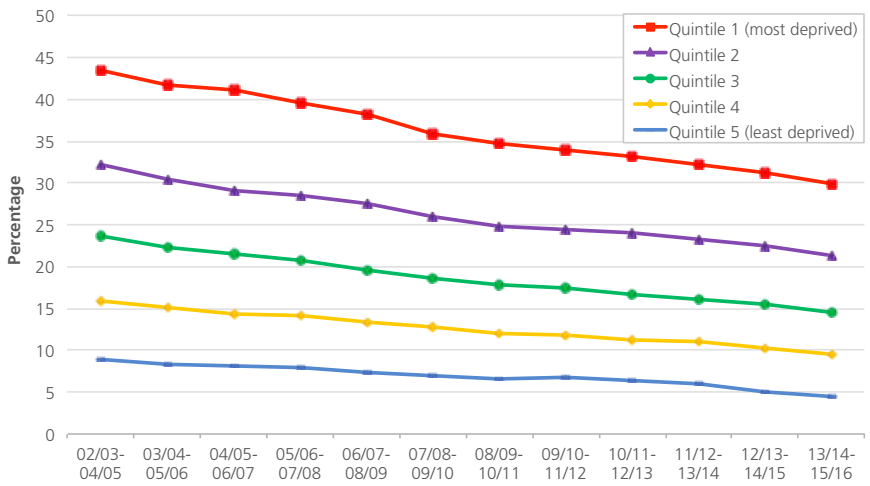


Inequalities by deprivation

Women in the most deprived areas are nearly seven times more likely to smoke during pregnancy than those living in the least deprived areas (**Figure 4.2**). In 2013/14–15/16, approximately one in three (29.9%) pregnant women in the most deprived areas reported that they smoked, compared with only one in 22 (4.5%) in the least deprived areas.

The proportion of women who report smoking during pregnancy has fallen in all deprivation groups over the time period. However, it has not reduced equally in all groups; as a result, the relative inequality has increased. The proportion reporting smoking during pregnancy is now nearly seven times higher in the most deprived areas than the least, compared with a fivefold difference in 2002/03–04/05.

Figure 4.2: Percentage of women recorded as 'current smoker' at antenatal booking by SIMD quintile, three-year rolling averages, 2002/03–04/05 to 2013/14–15/16.



Geographical variation

The proportion of women reporting smoking during pregnancy varies considerably by local authority. Most recently (2013/14–15/16), rates of smoking during pregnancy were highest in North Ayrshire (25.1%) and lowest in East Renfrewshire (8.9%) (**Figure 4.3**). At intermediate zone the variation was greater, ranging from less than 1% to 51.6%. Mapping rates of smoking during pregnancy by intermediate zone shows some patterning in association with deprivation. Clustering of high rates in the west of Scotland and across the central belt are particularly noticeable (**Figure 4.4**).

Figure 4.3: Percentage of women recorded as 'current smoker' at antenatal booking by local authority, three-year rolling average, 2013/14–15/16.

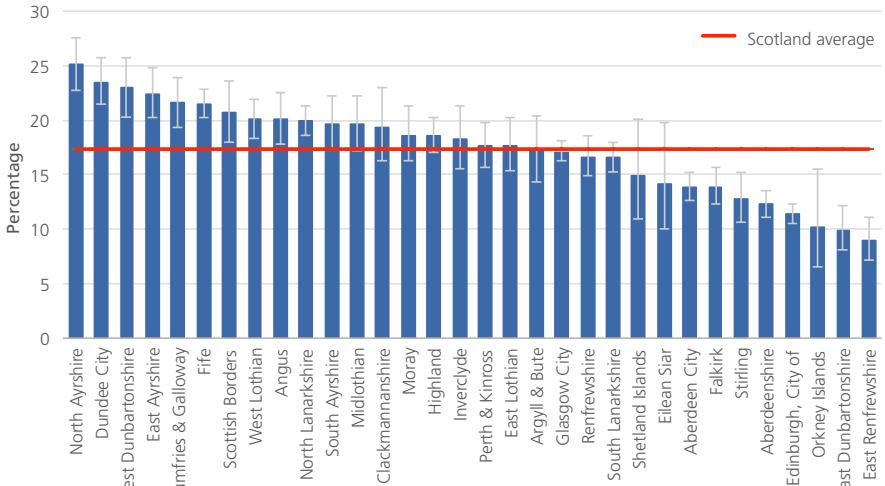
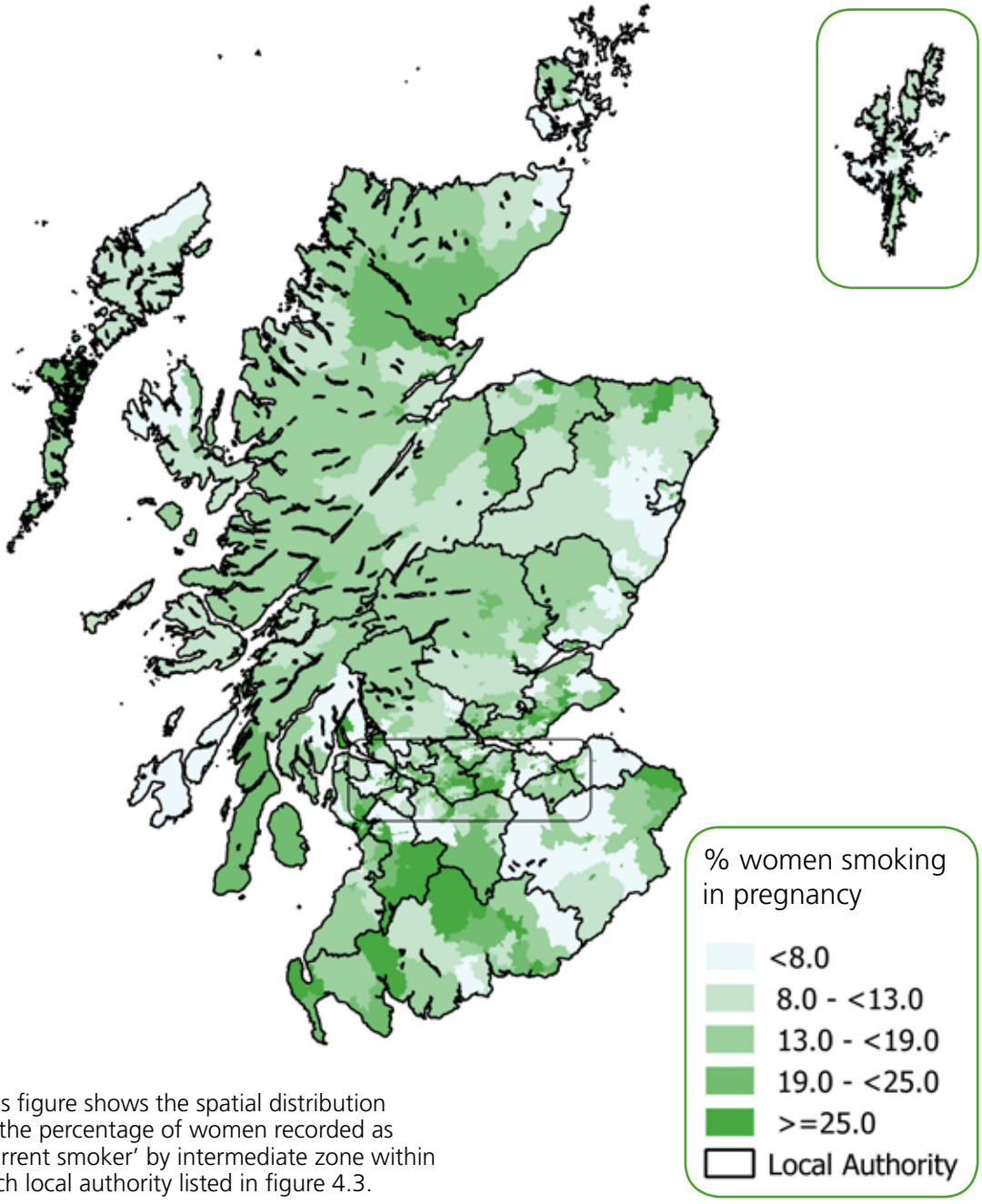
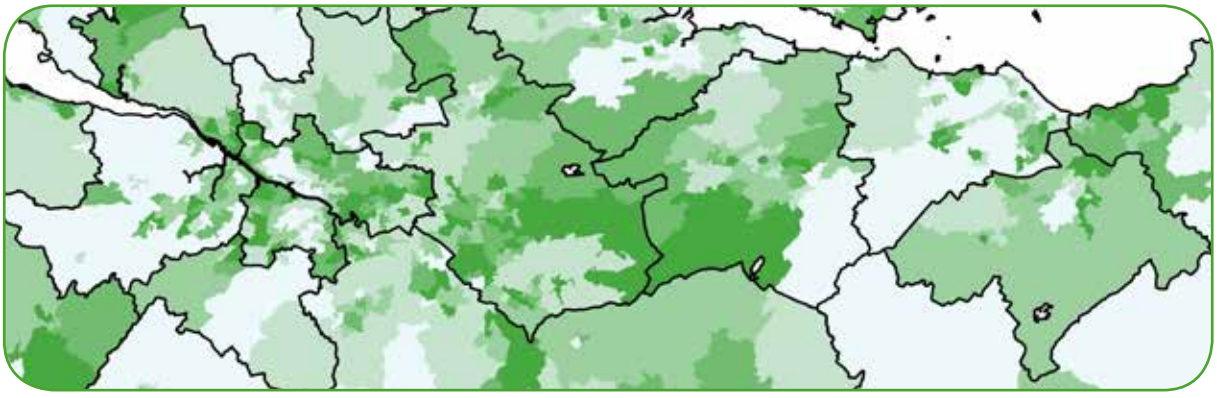


Figure 4.4: Percentage of women recorded as 'current smoker' at antenatal booking by intermediate zone, three-year rolling average, 2013/14–15/16.



Note: This figure shows the spatial distribution of the percentage of women recorded as 'current smoker' by intermediate zone within each local authority listed in figure 4.3.



Achieving: School leaver attainment

5

Background

Every child and young person has a right to the opportunities and support to maximise their potential.[1] Those who leave school without qualifications are more likely to be unemployed, earn less and be in low-status jobs in the future.[2] Further, those from the poorest backgrounds are more likely to leave school without qualifications, and the attainment gap between the richest and poorest is wider in Scotland than in many similar countries. The Scottish Government has prioritised equity in educational outcomes, with a particular focus on closing the poverty-related attainment gap.

This indicator presents the proportion of young people leaving school with at least one qualification at SCQF (Scottish Credit and Qualifications Framework) level 6. Level 6 qualifications are attained at the end of compulsory education, and are required for entrance to university. All data are presented for single school years with the most recent data being for 2015/16. In addition to the percentage for all young people, the percentage for those living in the most deprived SIMD quintile are also given.

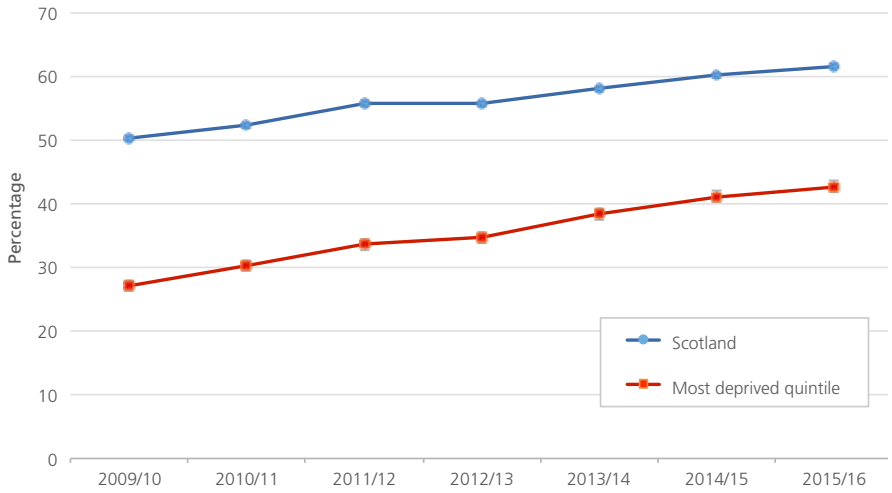
[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

[2] Howieson C, Iannelli C. The effects of low attainment on young people's outcomes at age 22-23 in Scotland. *British Educational Research Journal* 2008;34(2):269–90.

Latest data, trend over time and inequalities

In 2015/16, three out of every five young people (61.6%) left school with at least one level 6 qualification (**Figure 5.1**). In contrast, only around two out of every five (42.7%) young people living in Scotland's most deprived areas left school with the same level of attainment (**Figure 5.1**). Nonetheless, attainment in the most deprived group is improving faster than in the general population. In the time period shown here the proportion achieving at least one level 6 SCQF qualification had improved by 23% in the general population but by 58% in the most deprived quintile in Scotland.

Figure 5.1: Percentage of school leavers with at least one SCQF level 6 qualification, 2009/10 to 2015/16.



Geographical variation

In 2015/16, a higher percentage of young people left school with a level 6 qualification in East Renfrewshire (83.7%) than in any other local authority (**Figure 5.2**). Just over half of the young people in Clackmannanshire (51.7%) left school with a level 6 qualification in 2015/16. The map (**Figure 5.3**) shows that most of the local authorities with the lowest rates are located in central Scotland.

Figure 5.2: Percentage of school leavers with at least one SCQF level 6 qualification by local authority, 2015/16.

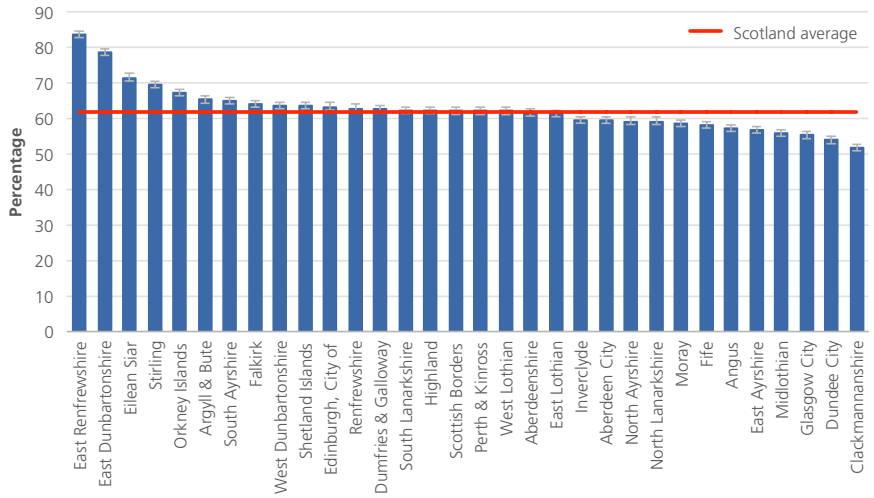
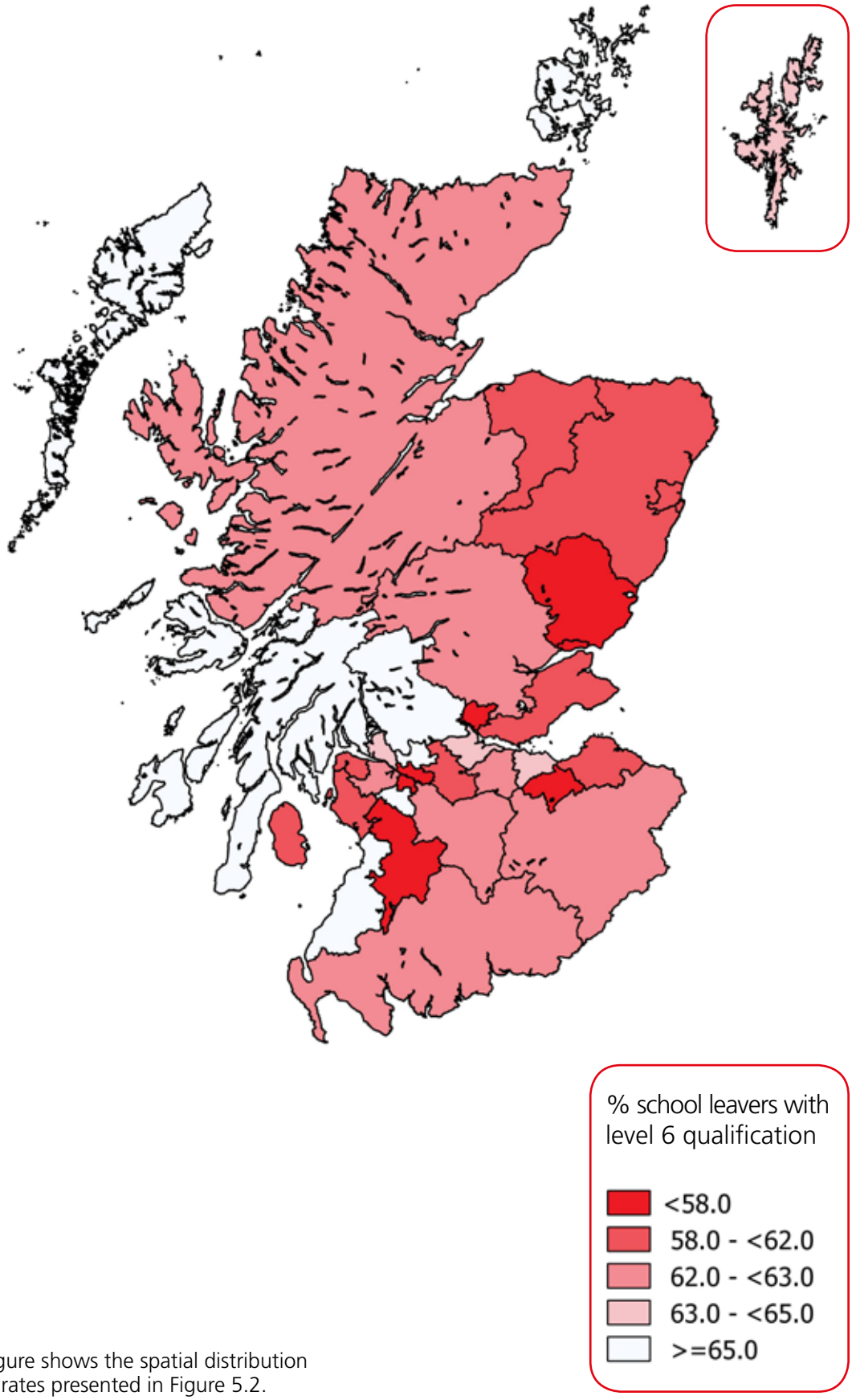


Figure 5.3: Percentage of school leavers with at least one SCQF level 6 qualification by local authority, 2015/16.



Note: This figure shows the spatial distribution of the rates presented in Figure 5.2.

Nurtured: Babies exclusively breastfed at 6–8 weeks

6

Background

Every child has the right to be nurtured so that they thrive and develop into a healthy child, young person and adult.[1] Being breastfed in infancy is highly beneficial for health in childhood and in later life. It is considered one of the most critical behaviours for health promotion and protection, and the World Health Organization recommends that babies are breastfed exclusively until six months of age.[2]

This indicator presents the proportion of babies recorded as being exclusively breastfed at their 6-to-8-week health visitor review. All data are presented as three-year rolling averages with the latest available data being for the period 2013/14–15/16. The participation of local authorities in the data collection has increased over time. This may introduce systematic biases in the trends caused by the greater participation of different subgroups throughout the time series. As a result time trends should be interpreted with caution.

[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

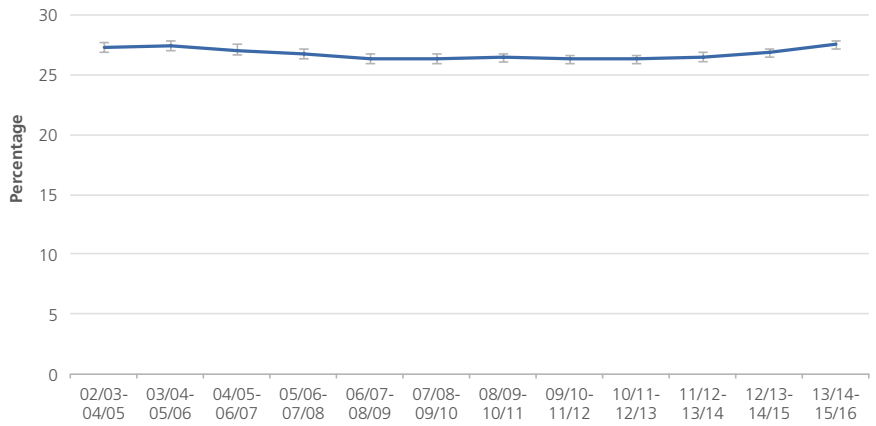
[2] World Health Organization. The optimal duration of exclusive breastfeeding: Report of an expert consultation. Geneva: WHO; 2002.

Latest data and trend over time

In the most recent time period (2013/14–15/16), on average, 27.5% of babies in Scotland were recorded as exclusively breastfed at their 6-to-8-week health visitor review.

The proportion of babies who are exclusively breastfed has changed little over time, with the rate being 27.3% in 2002/03–04/05 (**Figure 6.1**).

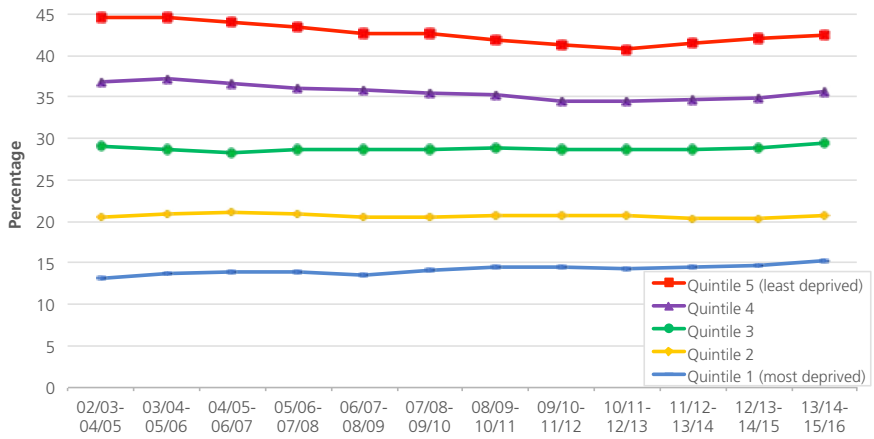
Figure 6.1: Percentage of babies exclusively breastfed at 6–8 weeks, three-year rolling averages, 2002/03–04/05 to 2013/14–15/16.



Inequalities by deprivation

There is a strong and persistent association between deprivation and breastfeeding. In the most recent three-year period (2013/14–15/16), rates in the least deprived areas (42.5%) were nearly three times higher than those in the most deprived areas (15.3%) (**Figure 6.2**). This inequality in breastfeeding rates has narrowed slightly over time. At the start of the time series, breastfeeding rates were 3.4 times higher in the least deprived areas than in the most deprived areas. This is a combined effect of rates having decreased in the least deprived areas while increasing in the most deprived areas.

Figure 6.2: Percentage of babies exclusively breastfed at 6–8 weeks by SIMD quintile, three-year rolling averages, 2002/03–04/05 to 2013/14–15/16.



Geographical variation

Exclusive breastfeeding rates vary considerably by local authority. In 2013/14–15/16 exclusive breastfeeding rates were highest in Shetland Islands (46.2%) and lowest in Inverclyde (14.3%) (**Figure 6.3**). At intermediate zone level the difference in breastfeeding rates is even starker, ranging from 4.0% to 73.7%. Overall the lowest rates of breastfeeding are concentrated in intermediate zones in the central belt and southwest Scotland (**Figure 6.4**). It should be noted that variation in breastfeeding rates may be due to a number of factors, including deprivation, differences in local practices and the age of the baby at the time of review.

Figure 6.3: Percentage of babies exclusively breastfed at 6–8 weeks by local authority, three-year rolling average, 2013/14–15/16.

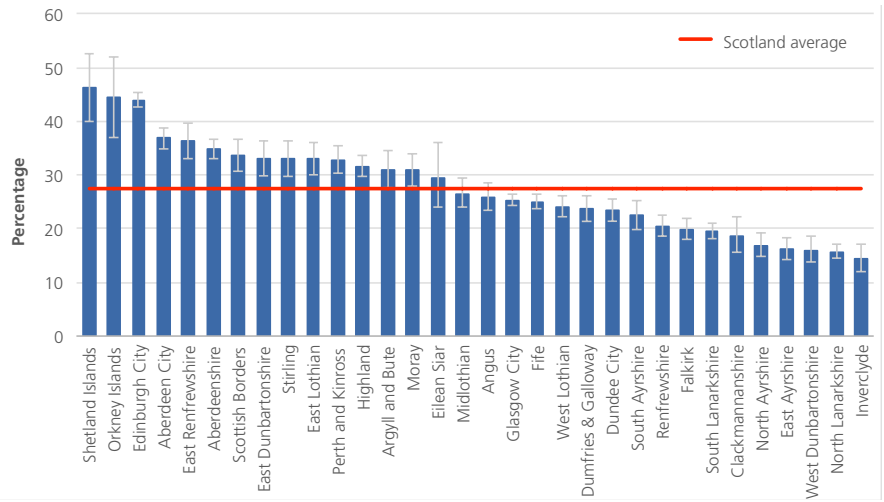
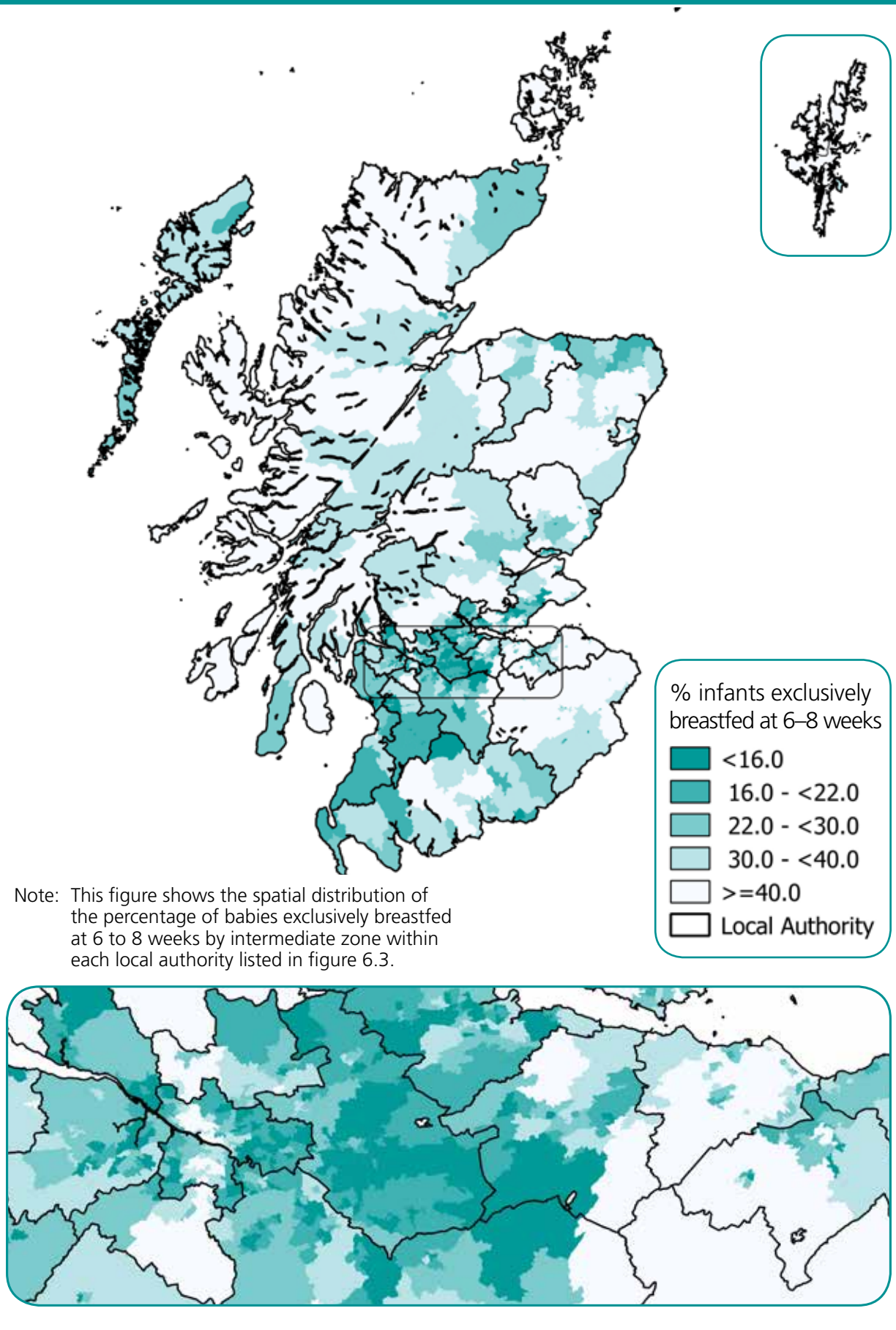


Figure 6.4: Percentage of babies exclusively breastfed at 6–8 weeks by intermediate zone, three-year rolling averages, 2013/14–15/16.



Note: This figure shows the spatial distribution of the percentage of babies exclusively breastfed at 6 to 8 weeks by intermediate zone within each local authority listed in figure 6.3.

Active: Active travel to school

7

Background

Children should have opportunities to be physically active.[1] Physical activity has benefits for children's growth, development, mental health and wellbeing, and can contribute to the prevention of many chronic conditions such as obesity and diabetes.[2] Active travel, including to and from school, offers an opportunity to incorporate regular physical activity into a child's daily routine. The Scottish Government has prioritised 'increasing physical activity' in the general population by making it a national indicator.

This indicator presents the proportion of primary and secondary school children normally travelling to school in an active way (walking, cycling, and using a scooter, skateboard or inline/roller skates). All data are presented for single years with the latest available data being for 2016. Data were not available below local authority level, therefore, differences by deprivation could not be assessed.

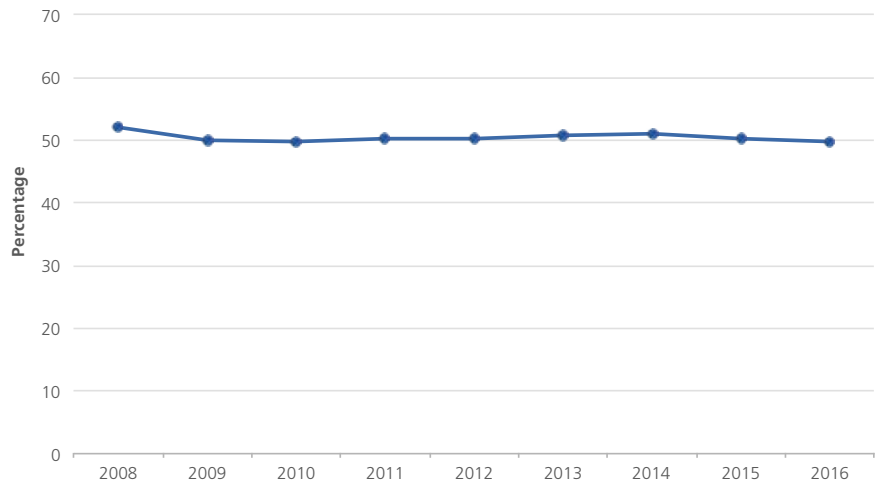
[1] Scottish Government. Wellbeing; 2016. URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

[2] Committee on Physical Activity and Physical Education in the School Environment; Food and Nutrition Board. Educating the student body: taking physical activity and physical education to school. Washington (DC): National Academies Press; 2013.

Latest data and trend over time

In 2016, half (49.9%) of primary and secondary school children in Scotland travelled to school in an active way. This has changed little over time with the proportion of pupils engaging in active travel to school remaining at around 50% between 2008 and 2016 (**Figure 7.1**).

Figure 7.1: Percentage of primary and secondary school children travelling to school in an active way, 2008–2016.



Geographical variation

The most recent data (2016) show that active travel rates were highest in the City of Edinburgh (68.0%) and lowest in Eilean Siar (17.3%) (**Figure 7.2**). Mapping the rates (**Figure 7.3**) shows the geographical patterning of active travel: the islands (Orkney, Shetland and the Western Isles) have the lowest rates, and the local authorities in the Lothian region have among the highest rates. It is likely that average distance to school is greater on Scotland's islands, and that this contributes to their lower rates of active travel.

Figure 7.2: Percentage of primary and secondary school children travelling to school in an active way by local authority, 2016.

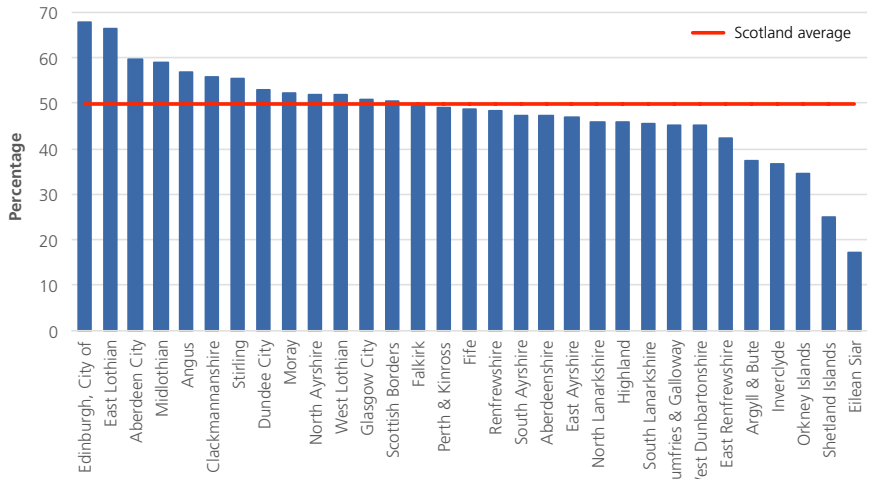
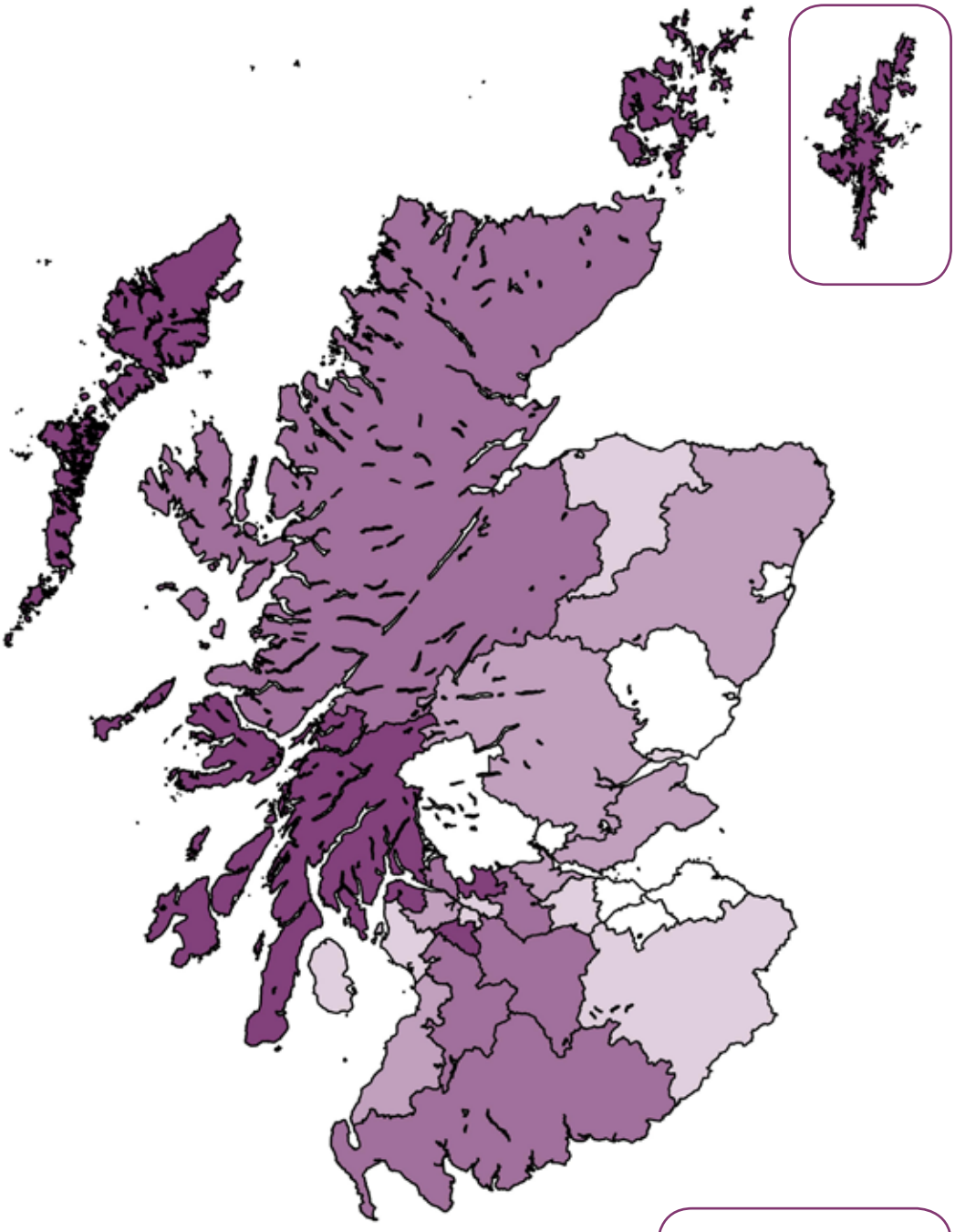


Figure 7.3: Percentage of primary and secondary school children travelling to school in an active way by local authority, 2016.



Note: This figure shows the spatial distribution of the rates presented in Figure 7.2.

Responsible: Young people in prison

8

Background

Developing a sense of responsibility and showing respect for others, both at school and in the community, is an important aspect of growing up.[1] The reasons a young person may be given a custodial sentence can be multifaceted and complex; young people in prison can therefore have multiple problems. In addition, the health prospects of young people in prison can be affected by being isolated from family and friends, and the impact on education and employment can have a considerable effect in later life.

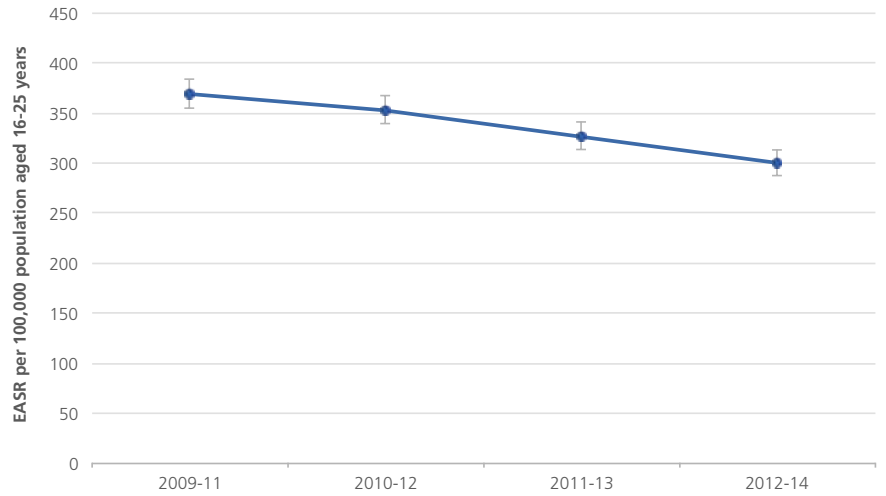
This indicator presents the number of 16- to 25-year-olds in prison as a standardised rate per 100,000 young people. All data are presented as three-year rolling averages with the latest available data being for the period 2012–14. This indicator is based on a snapshot of data taken on 31 March each year.

[1] Scottish Government. Wellbeing; 2016.
URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

Latest data and trend over time

In the most recent period (2012–14), an average of approximately 2,100 young people were in prison at any given time. This is a standardised rate of 300 per 100,000 population, or three in every 1,000 young people. The number of young people in prison has decreased over time; rates have fallen by 19%, from 369 per 100,000 in 2009–11 to 300 per 100,000 in 2012–14 (**Figure 8.1**).

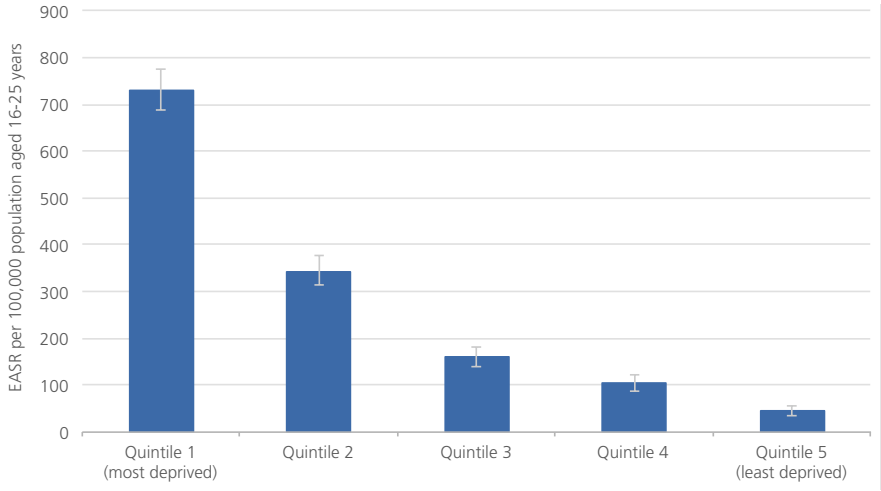
Figure 8.1: Rate of young people in prison in Scotland, three-year rolling averages, 2009–11 to 2012–14.



Inequalities by deprivation

The rate of young people in prison varies considerably with area deprivation (**Figure 8.2**). In 2012–14 there were 17 times as many young people from the most deprived areas in prison as there were from the least deprived areas.

Figure 8.2: Rate of young people in prison in Scotland by SIMD quintile, three-year rolling average, 2012–14.



Geographical variation

The most recent data (2012–14) show that rates of young people in prison were highest in West Dunbartonshire (543 per 100,000) and lowest in East Renfrewshire (95 per 100,000) (**Figure 8.3**). Mapping these figures shows that areas with the highest rates are clustered in the west of Scotland (**Figure 8.4**).

Figure 8.3: Rate of young people in prison in Scotland by local authority, three-year rolling average, 2012–14.

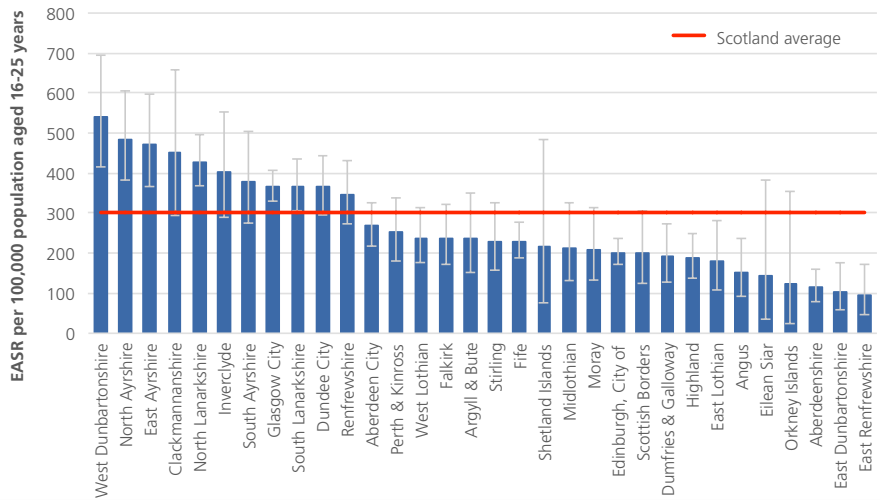
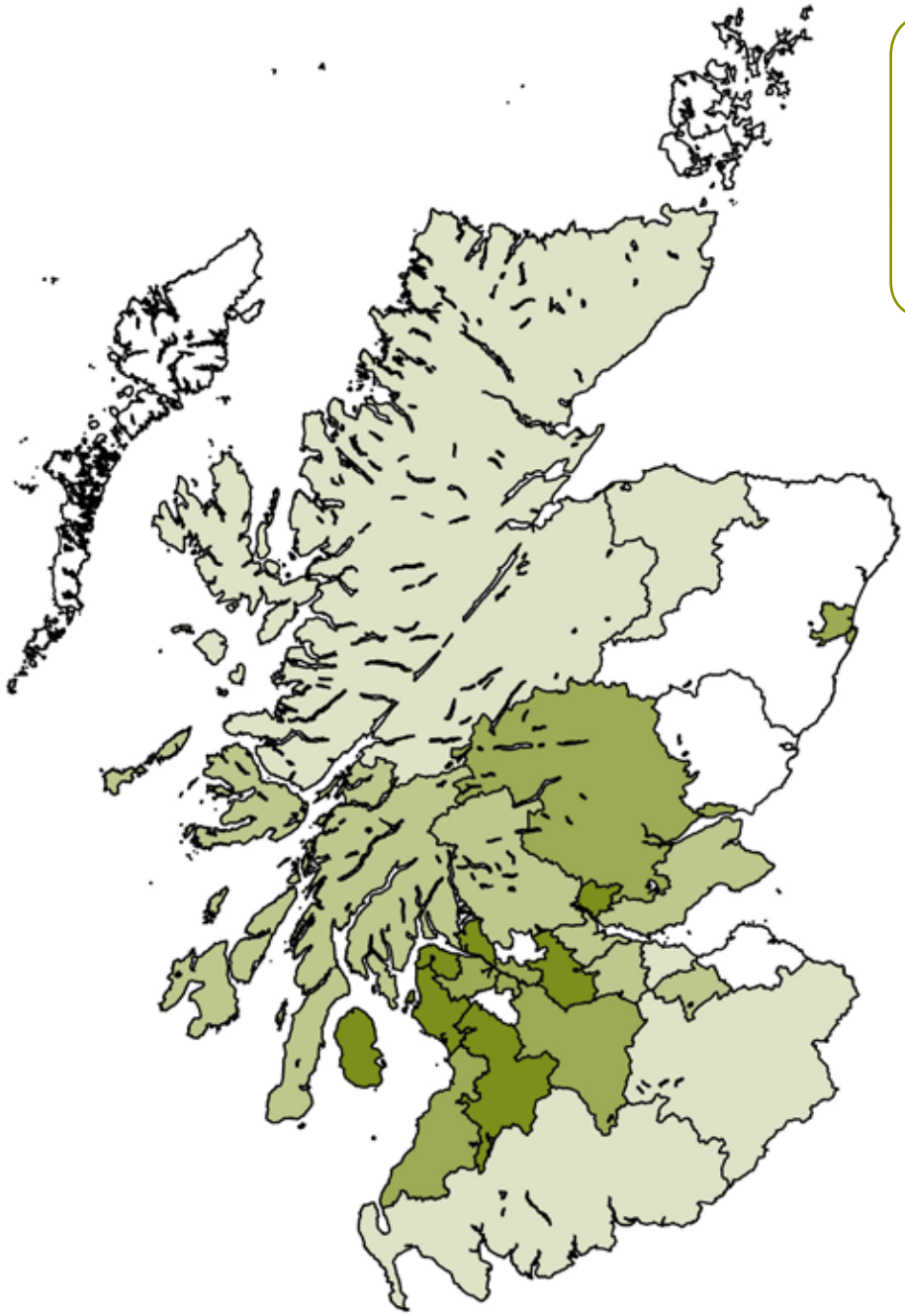


Figure 8.4: Rate of young people in prison in Scotland by local authority, three-year rolling average, 2012–14.



Note: This figure shows the spatial distribution of the rates presented in Figure 8.3.

Included: Children in low-income families

9

Background

Being included means that children and young people are accepted as part of their communities. Social, educational, physical and economic inequalities can present perceived or actual barriers to inclusion.[1] Childhood poverty is one such inequality: reducing the numbers of children who experience poverty should help to alleviate exclusion, and to improve health into adulthood. The Scottish Government has set national indicators to 'reduce the proportion of individuals living in poverty', and 'reduce children's deprivation'.

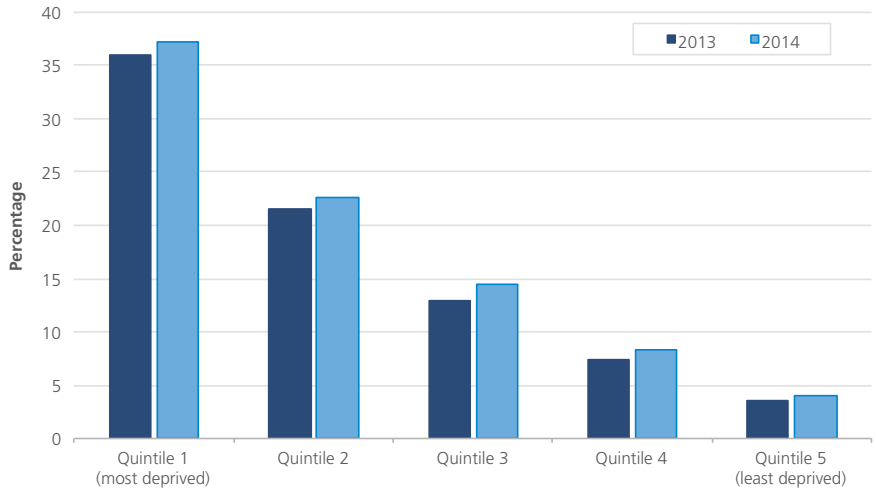
This indicator presents the proportion of children (dependents under 20 years old) living in families in receipt of out-of-work benefits or in receipt of child tax credits. All data are presented for single years with the most recent data being for 2014. This indicator is based on a snapshot of data taken on 31 August each year.

[1] Scottish Government. Wellbeing; 2016.
URL: www.gov.scot/Topics/People/Young-People/gettingitright/wellbeing

Latest data, trend and inequalities by deprivation

According to the latest available data (2014), 18.4% of children in Scotland live in low-income families. This figure is slightly higher than in 2013 (17.2%). While childhood poverty occurs across all groups in Scotland it is not surprising that the most deprived areas have the highest proportion of children in low-income families. In 2014, the proportion of children living in low-income families in the 20% most deprived areas in Scotland was nine times that in the 20% least deprived areas (**Figure 9.1**).

Figure 9.1: Percentage of children in Scotland living in low-income families, by SIMD quintile and year.



Geographical variation

There is a greater than fourfold difference in rates of children in low-income families between local authorities. Almost one in every three children in Glasgow City (30.8%) were from low-income families in 2014, compared with one in 14 in the Shetland Islands (6.9%; **Figure 9.2**). The variation is far greater between intermediate zones, ranging from 1% to 70%. From the map (**Figure 9.3**) it is apparent that rates are highest in central and southern Scotland, and are concentrated in and around Glasgow.

Figure 9.2: Percentage of children in Scotland living in low-income families by local authority, 2014.

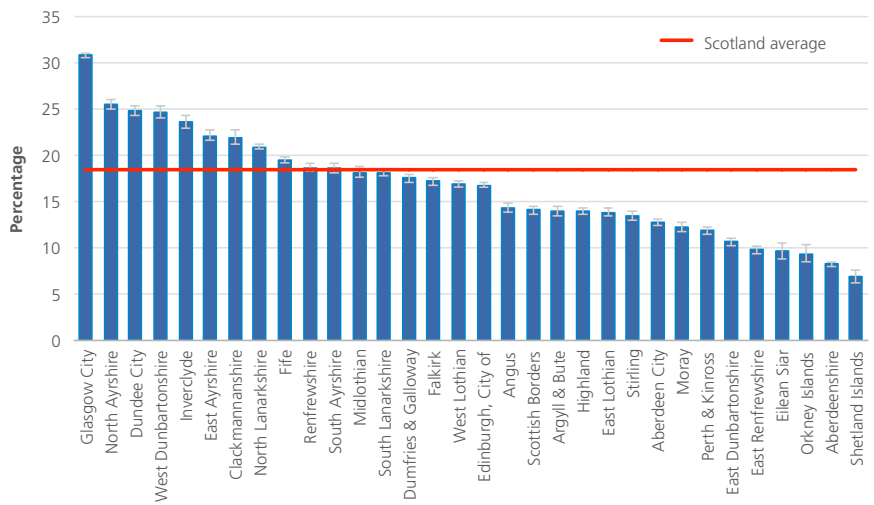
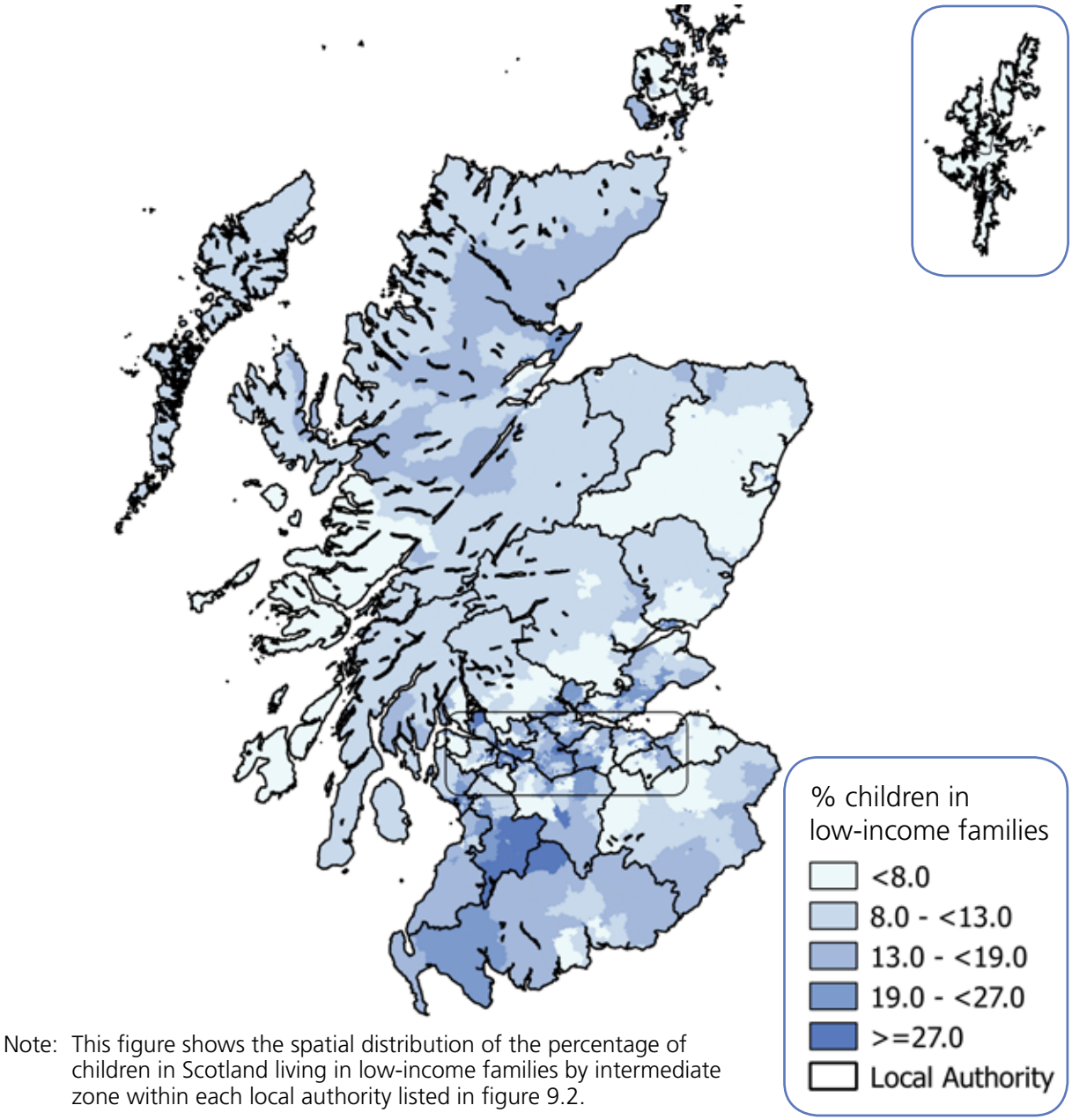


Figure 9.3: Percentage of children in Scotland living in low-income families by intermediate zone, 2014.



Note: This figure shows the spatial distribution of the percentage of children in Scotland living in low-income families by intermediate zone within each local authority listed in figure 9.2.

Appendices

Appendix 1: Indicator definitions and sources

No.	Domain	Indicator name	Full description	Source
1	Safe	Children on the child protection register	Children on the child protection register; number and rate per 1,000 children under 18 years	Children's Social Work Statistics, Scottish Government
2	Safe	Children looked after by the local authority	Children looked after by the local authority; number and rate per 1,000 children under 18 years	Children's Social Work Statistics, Scottish Government
3	Safe	Children referred to the Children's Reporter for care and protection	Children aged 0–15 years referred to the Scottish Children's Reporter Administration for reasons of care and protection; number and crude rate per 1,000 children aged 0–15 years	Scottish Children's Reporter Administration
4	Safe	Unintentional injuries in under fives	Emergency hospital admissions for unintentional injury in children under five years; three-year rolling average number and directly age–sex standardised rate per 100,000 population	SMR01, ISD Scotland
5	Safe	Young people admitted to hospital due to assault	General acute inpatient and day case admissions in young people aged 15–25 years with a diagnosis of assault in any position; three-year rolling average number and directly age–sex standardised rate per 100,000 population	SMR01, ISD Scotland
6	Safe	Young people living in the most crime deprived quintile	Number and percentage of the population aged 0–25 years living in the 20% most crime deprived areas (2011 data zones) in Scotland, based on ISD population-weighted SIMD	SIMD 2016, Scottish Government and ISD Scotland

No.	Domain	Indicator name	Full description	Source
7	Healthy	Infant deaths	Deaths in children aged up to one year; five-year rolling average number and crude rate per 1,000 live births	National Records of Scotland
8	Healthy	Deaths in children aged 1–15 years	Deaths in children aged 1–15 years; five-year rolling average number and crude rate per 100,000 people aged 1–15 years	National Records of Scotland
9	Healthy	Women smoking during pregnancy	Women recorded as a 'current smoker' at first antenatal booking appointment; three-year rolling average number and percentage of all women with a known smoking status	SMR02, ISD Scotland
10	Healthy	Premature births	Live births before 37 weeks' gestation; three-year rolling average number and percentage of all live births	SMR02, ISD Scotland
11	Healthy	Low birth weight	Low weight (under 2,500g) live full-term (at least 37 weeks) singleton births; three-year rolling average number and percentage of all live singleton births	SMR02, ISD Scotland
12	Healthy	Teenage pregnancies	Pregnancies in under 20 year olds; three-year rolling average number and crude rate per 1,000 females aged 15–19 years	National Records of Scotland registered births and stillbirths, and notifications of abortions to the Chief Medical Officer for Scotland under the Abortion Act 1967
13	Healthy	Maternal obesity	Pregnant women recorded as obese (BMI 30 kg/m^2 and over) at antenatal booking; three-year rolling average number and percentage of all maternities	SMR02, ISD Scotland

No.	Domain	Indicator name	Full description	Source
14	Healthy	Child obesity in primary 1	Number and percentage of primary 1 children (with a valid height and weight recorded) whose BMI is within the top 5% of the 1990 UK reference range for their age and sex	Child Health Systems Programme School, ISD Scotland
15	Healthy	Child dental health in primary 1	Number and percentage of primary 1 children receiving a letter 'C' (no obvious decay experience but should continue to see the family dentist on a regular basis) at basic inspection	National Dental Inspection Programme Basic Inspection, ISD Scotland
16	Healthy	Child dental health in primary 7	Number and percentage of primary 7 children receiving a letter 'C' (no obvious decay experience but should continue to see the family dentist on a regular basis) at basic inspection	National Dental Inspection Programme Basic Inspection, ISD Scotland
17	Healthy	Children admitted to hospital due to asthma	General acute inpatient and day case admissions for asthma in children aged 0–15 years; three-year rolling average number and directly age–sex standardised rate per 100,000 population	SMR01, ISD Scotland
18	Healthy	Mean mental wellbeing score for S4 pupils	Mean score for S4 pupils on the Warwick–Edinburgh Mental Wellbeing Scale (WEMWBS)	Scottish Schools Adolescent Lifestyle and Substance Use Survey
19	Healthy	Mean total difficulties score for S4 pupils	Mean total difficulties score for S4 pupils from the Strengths and Difficulties Questionnaire (SDQ)	Scottish Schools Adolescent Lifestyle and Substance Use Survey
20	Healthy	Proportion of S4 pupils in good or excellent general health	Proportion of S4 pupils who report they are in good or excellent general health	Scottish Schools Adolescent Lifestyle and Substance Use Survey

No.	Domain	Indicator name	Full description	Source
21	Healthy	Alcohol-related hospital stays, aged 11–25 years	General acute inpatient and day case stays in young people aged 11–25 years with a diagnosis of alcohol misuse in any position; three-year rolling average number and directly age–sex standardised rate per 100,000 population	SMR01, ISD Scotland
22	Healthy	Drug-related hospital stays, aged 11–25 years	General acute inpatient and day case stays in young people aged 11–25 years with a diagnosis of drug misuse in any position; three-year rolling average number and directly age–sex standardised rate per 100,000 population	SMR01, ISD Scotland
23	Healthy	Deaths from suicide in young people	Suicides in young people aged 11–25 years; five-year rolling average number and crude rate per 100,000 people aged 11–25 years	National Records of Scotland
24	Achieving	School leavers with one or more qualification at SCQF level 4	Number and percentage of school leavers with one or more qualification at SCQF level 4 or better	Education Analytical Services, Scottish Government
25	Achieving	Looked-after school leavers with one or more qualification at SCQF level 4	Number and percentage of looked-after school leavers with one or more qualification at SCQF level 4 or better	Education Analytical Services, Scottish Government
26	Achieving	School leavers with one or more qualification at SCQF level 6	Number and percentage of school leavers with one or more qualification at SCQF level 6 or better	Education Analytical Services, Scottish Government
27	Achieving	School leavers in the most deprived quintile with one or more qualification at SCQF level 6	Number and percentage of school leavers living in the most deprived quintile with one or more qualification at SCQF level 6 or better	Education Analytical Services, Scottish Government
28	Achieving	Secondary school attendance	Number and percentage of all secondary school half days attended	Education Analytical Services, Scottish Government

No.	Domain	Indicator name	Full description	Source
29	Achieving	Secondary school attendance by looked-after children	Number and percentage of all secondary school half days attended by looked-after children	Education Analytical Services, Scottish Government
30	Achieving	School exclusion rate	Cases of exclusion from primary and secondary school; number and crude rate per 1,000 pupils	Education Analytical Services, Scottish Government
31	Achieving	School leavers in positive destinations	Number and percentage of school leavers, aged 16–19 years, in positive destinations at 9-month follow-up	Education Analytical Services, Scottish Government
32	Achieving	Looked-after school leavers in positive destinations	Number and percentage of looked-after school leavers, aged 16–19 years, in positive destinations at 9-month follow-up	Education Analytical Services, Scottish Government
33	Achieving	Employment rate for 16- to 24-year-olds	Number and percentage of people aged 16–24 years who are in employment	Annual Population Survey
34	Nurtured	Babies exclusively breastfed at 6–8 weeks	Number of babies reported by parent as being exclusively breastfed at 6–8 week review; three-year rolling average number and percentage of all babies with a valid feeding status recorded at 6–8 week review	Child Health Systems Programme Pre-school, ISD Scotland
35	Nurtured	Exposure to second-hand smoke at 6–8 weeks	Number of babies reported by parent as being exposed to second-hand smoke at 6–8-week review; three-year rolling average number and percentage of all reviews with a valid response at 6–8 week review	Child Health Systems Programme Pre-school, ISD Scotland
36	Nurtured	Immunisation uptake at 24 months – 5-in-1	Immunisation uptake for children at 24 months for 5-in-1 (diphtheria, pertussis, tetanus, polio, hib); three-year rolling average number and percentage of eligible children	Scottish Immunisation & Recall System, ISD Scotland

No.	Domain	Indicator name	Full description	Source
37	Nurtured	Immunisation uptake at 24 months – MMR	Immunisation uptake for children at 24 months for MMR (measles, mumps and rubella); three-year rolling average number and percentage of eligible children	Scottish Immunisation & Recall System, ISD Scotland
38	Nurtured	Developmental concerns at 27–30 months	Children with one or more developmental concerns at 27–30 month review; three-year rolling average number and percentage of all children reviewed	Child Health Systems Programme Pre-school (CHSP-PS), ISD Scotland
39	Nurtured	Households with children living in homes that fail the Scottish Housing Quality Standard	Households with children living in homes that fail the Scottish Housing Quality Standard; three-year rolling average number and percentage of all households with children	Scottish House Condition Survey
40	Nurtured	Households with children living in fuel poverty	Households with children living in fuel poverty (required fuel costs >10% of income); three-year rolling average number and percentage of all households with children	Scottish House Condition Survey
41	Nurtured	Uptake of the human papilloma virus (HPV) vaccine in S3 girls	Girls completing the HPV vaccination course by end of S3; three-year rolling average number and percentage	Scottish Immunisation & Recall System, ISD Scotland Child Health Systems Programme Pre-school, ISD Scotland
42	Active	Active travel to school	Percentage of primary and secondary school children normally travelling to school in an active way (walking, cycling, and using a scooter, skateboard or inline/roller skates)	Hands Up Scotland Survey, Sustrans
43	Responsible	Proportion of S4 pupils who are regular smokers	Proportion of S4 pupils who report usually smoking one or more cigarettes per week (regular smoker)	Scottish Schools Adolescent Lifestyle and Substance Use Survey
44	Responsible	Proportion of S4 pupils who are weekly drinkers	Proportion of S4 pupils who report usually drinking alcohol at least once a week	Scottish Schools Adolescent Lifestyle and Substance Use Survey

No.	Domain	Indicator name	Full description	Source
45	Responsible	Proportion of S4 pupils who use drugs monthly	Proportion of S4 pupils who report usually using drugs at least once a month	Scottish Schools Adolescent Lifestyle and Substance Use Survey
46	Responsible	Children referred to the Children's Reporter for offences	Children aged 8–15 years referred to the Scottish Children's Reporter Administration for offence reasons; number and crude rate per 1,000 children aged 8–15 years	Scottish Children's Reporter Administration
47	Responsible	Young people in prison	Young people aged 16–25 in prison; three-year rolling average number and directly age–sex standardised rate per 100,000 population	Scottish Prison Service
48	Included	Children in low-income families	Number and percentage of children (dependents under 20 years old) in families in receipt of out-of-work benefits or in receipt of child tax credits (reported income is less than 60% of UK median)	HM Revenue & Customs
49	Included	Young people living in the most income-deprived quintile	Number and percentage of the population aged 0–25 years living in the 20% most income-deprived areas (2011 data zones) in Scotland, based on ISD population-weighted SIMD	SIMD 2016, Scottish Government and ISD Scotland
50	Included	Children registered for free school meals	Number and percentage of children, in primary 4 and above, registered for free school meals	Education Analytical Services, Scottish Government
51	Included	Young people living in the most access-deprived quintile	Number and percentage of the population aged 0–25 years living in the 20% most access-deprived areas (2011 data zones) in Scotland, based on ISD population-weighted SIMD	SIMD 2016, Scottish Government and ISD Scotland
52	Included	Proportion of S4 pupils participating in recreational groups and activities	Proportion of S4 pupils participating in recreational groups and activities in the last 12 months	Scottish Schools Adolescent Lifestyle and Substance Use Survey

For a full description of each indicator, its definition, source and any notes and caveats please see the **technical document**.

Appendix 2: Methods

Measures used in the report

The measures presented in this report follow the statistics and methods recommended by the Association of Public Health Observatories (APHO).[1] The definitions given below are adapted from the APHO paper.

Proportions and percentages

Proportions are statistics where the denominator is the count of a 'closed' population, and the numerator is the count of members of this population that have a specified characteristic. If *O* is the observed number of individuals in the sample/population having the specified characteristic and *n* is the total number of individuals in the sample/population, then the estimated proportion is given by $p = O/n$. In this profile, proportions have been multiplied by 100 to obtain percentages for presentation purposes.

Crude rates

Crude rates are calculated in this report as follows. If *O* is the number of children experiencing an event (such as a hospital admission) in a population of size *n* during a period *t*, then the estimated crude rate, *r*, is given by $r = O/nt$. The crude rates are expressed per 100,000 population, 10,000 population or 1,000 population, per year.

1 The Association of Public Health Observatories. Technical Briefing 3. Commonly used public health statistics and their confidence intervals; 2008.

Directly age–sex standardised rates

Directly age–sex standardised rates have been calculated for some indicators because the overall rate may vary with the age–sex structure of the populations. The direct standardisation method was used, with the age–sex specific rates of the local population applied to the age–sex structure of a standard population. In this case the European standard population 2013 (ESP2013) was used. This gives the overall rate that would have occurred in the local population if it had the same age–sex profile as the standard population. It allows valid comparisons to be made between local areas with differing population age–sex structures. In the profiles, age–sex standardised rates are expressed per 100,000 population per year. The European standard population (ESP), which was first used in 1976, was revised in 2013. European age–sex standardised rates (EASR) using ESP1976 cannot be compared with EASR using ESP2013.

Confidence intervals

A confidence interval is a range of values that is normally used to describe the uncertainty around a point estimate of a quantity, for example a mortality rate. In the case of indicators based on a sample of the population, uncertainty arises from random differences between the sample and the population itself. The stated value should therefore be considered as only an estimate of the true or 'underlying' value. Confidence intervals quantify the uncertainty in this estimate and, generally speaking, describe how different the point estimate could have been if the underlying conditions stayed the same, but chance had led to a different set of data. The wider the confidence interval, the greater the uncertainty in the estimate.

Confidence intervals are given with a stated probability level. In the Children and Young People's Profile this is 95%, and so there is a 95% probability (i.e. a 19 in 20 chance) that the confidence interval includes the 'true' value of the indicator. The use of 95% is arbitrary,

but is conventional practice in medical and public health statistics. The 95% confidence interval for an indicator value for an area is used to compare the area against the overall Scotland exact reference value. When the comparator is changed from Scotland to another area, the comparator is no longer treated as an exact reference value. Instead the confidence interval for the comparator value is used.

Table 1 details the methods used to calculate confidence intervals for the different measures used in the profiles, following APHO recommendations.

Table 1: Methods used to calculate confidence intervals.

For indicator presented as	Method	Comments/assumptions	References
Proportions and percentages	Wilson Score method	Wilson Score performs well when the numerator and/or denominator is small	Wilson EB. Probable inference, the law of succession, and statistical inference. *J Am Stat Assoc* 1927;22:209–12
Crude rates	Byar's approximation	Performs well with low rate and large denominator (i.e. the variability in the observed event *O* is described by the Poisson distribution). This method is simple to calculate and gives very accurate approximations to the exact Poisson probabilities even for small counts	
Directly age–sex standardised rates	Dobson	Rates assume the Poisson distribution	Dobson A, et al. Confidence intervals for weighted sums of Poisson parameters. *Stat Med* 1991;10:457–62

Scottish Index of Multiple Deprivation

Some additional analyses by deprivation have been presented in this report. These use the Scottish Index of Multiple Deprivation (SIMD) to determine differences by deprivation and allow comparisons to be made.

Wherever possible, data were obtained for both 2001 and 2011 data zones. The most appropriate version of SIMD was then applied as per Information Services Division (ISD) Deprivation Guidance for Analysts.[1] ISD population-weighted SIMD ranking was applied; each quintile therefore represents approximately 20% of the population rather than 20% of the data zones in Scotland.

The appropriate SIMD version was applied to single years of data using the correct data zone version (see **Table 2**). Where three- or five-year rolling averages are presented, the numerators and denominators for each year and quintile were first aggregated. Rolling averages for each quintile in each aggregated time period were then calculated.

Table 2: Allocation of SIMD version to single year data

SIMD version	Data zone version	Year of indicator data
SIMD 2004	2001	2002, 2003
SIMD 2006	2001	2004, 2005, 2006
SIMD 2009	2001	2007, 2008, 2009
SIMD 2012	2001	2010, 2011, 2012, 2013
SIMD 2016	2011	2014, 2015, 2016

Data for 2001 data zones were not available for the following two indicators; in these instances SIMD 2016 has been applied:

- young people in prison
- children in low-income families.

In the case of school leaver qualifications (indicator 5), the SIMD version was applied by the data provider. SIMD 2009 was applied to data for 2009/10 and 2010/11; SIMD 2012 was applied to all other years.

[1] Deprivation Guidance for Analysts, Public Health and Intelligence, NHS National Services Scotland. **www.isdscotland.org/Products-and-Services/GPD-Support/Deprivation/SIMD/_docs/PHI-Deprivation-Guidance.pdf**

Appendix 3: Abbreviations

EASR	European age–sex standardised rate
ISD	Information Services Division (NHS)
NRS	National Records of Scotland
SCQF	Scottish Credit and Qualifications Framework
SG	Scottish Government
SIMD	Scottish Index of Multiple Deprivation
SMR01	Scottish Morbidity Record 01; the General/Acute inpatient admission record
SMR02	Scottish Morbidity Record 02; the Maternity inpatient admission record

Appendix 4: Population summary

Presented within the profile are a number of population indicators. While not forming part of the spine chart, these indicators can provide some context in which the health and social indicators can be interpreted. Table 3 presents the latest available population data for Scotland. The same indicators are available at local authority, Health Board and, where available, intermediate zone within the online profile tool itself.

Table 3: Population indicators, Scotland.

Indicator	Year	Number	Measure	Measure definition	Source
Mid-year population estimate: aged 0–25 years	2016	1,601,160	29.6	Proportion of the total population	NRS
Mid-year population estimate: aged <1 year	2016	55,516	1.0	Proportion of the total population	NRS
Mid-year population estimate: aged 1–4 years	2016	231,722	4.3	Proportion of the total population	NRS
Mid-year population estimate: aged 5–15 years	2016	628,679	11.6	Proportion of the total population	NRS
Mid-year population estimate: aged 16–25 years	2016	685,243	12.7	Proportion of the total population	NRS
Live births	2016	54,488	10.1	Crude rate per 1,000 population	NRS
Primary school children	2016	396,237	7.3	Proportion of the total population	SG
Secondary school children	2016	280,408	5.2	Proportion of the total population	SG

This report focuses on a selection of indicators from the ScotPHO Children and Young People's Profile and looks at some of the trends and inequalities observed.

This resource may also be made available on request in the following formats:

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