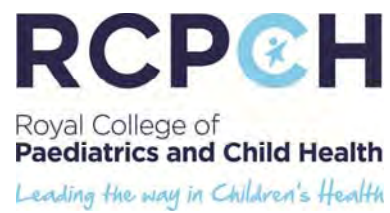


State of Child Health

Report 2017



State of Child Health Report 2017



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All of the information and data contained in this report was accurate and up to date on 30 November 2016.

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Foreword

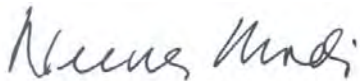
Some months ago, early in my tenure as RCPCH President, I suggested that we might put together a report that provided insight into the state of child health in the UK. I am proud that the team at the RCPCH rose superbly to the challenge; the result is this first RCPCH report on the 'State of Child Health in the UK'.

The report represents an immense amount of work, expertly led, executed with attention to detail and involving a wide range of staff and members offering their time and expertise. I congratulate everyone involved.

The health of infants, children and young people in the UK has improved dramatically over the last 30 years. Many will lead happy and healthy lives, but the future health and happiness of a significant and growing number is in jeopardy. The bottom line is that the UK could do far more to improve child health and wellbeing; UK performance on several measures, though better than the United States, is worse than many European countries. Particularly troubling are the stark inequalities in child health that have widened in the last five years.

The consequences to the health and prosperity of the nation from inaction in improving infant, child and young people's health are serious. For example, a substantial number of risk factors for disease in adults are initiated in intrauterine life and infancy, and amplified in childhood and young adult life; prematurity, slow intrauterine growth, and maternal diabetes and obesity are all risk factors for poor metabolic health in adult life, and around 80% of overweight and obese children will become overweight and obese adults, reducing their lifespan and imposing an enormous burden upon our health and care services from the ravages of chronic, non-communicable disease.

The opportunities for the UK are clear. Concerted action to implement our recommendations in England, Northern Ireland, Scotland, and Wales offers hope to improve child wellbeing and reduce health inequalities; and where the evidence is uncertain, research to unravel mechanisms, test interventions, and monitor policy are essential to drive future change. We pledge to do all we can to improve and safeguard the health and wellbeing of our children, and call upon Government and all who care for our most vulnerable, and our nation, to join us in taking action now.



Professor Neena Modi

**President
Royal College of Paediatrics and Child Health**

Introduction

‘A vital and productive society with a prosperous and sustainable future is built on a foundation of healthy child development.’ Centre for the Developing Child, Harvard¹.

High income countries, including the UK, have seen extraordinary improvements in child and adolescent health over the past 100 years. At the beginning of the 20th century, one in six infants did not live until their first birthday in the UK (the infant mortality rate was around 150 to 160 per 1,000 live births). Today, infant mortality in the UK is 3.9 per 1,000 – meaning that only one in 256 infants do not reach their first birthday. Similar gains in mortality, morbidity and general health have been seen across childhood and also into adolescence. These improvements have continued over the past 30 years, albeit at a slower pace.

Advances in child health have particularly come from the control of infectious diseases, history’s great killer of children, but also from preventing injuries and better management of common conditions such as asthma and diabetes. Much of this improvement is the result of the UK’s strong public health system and child health workforce, as well as continued advances in clinical medicine for children, underpinned by research.

Tracking progress

The UK was one of the world leaders in improving children’s health through the 20th century, and our public health system, our NHS and the research undertaken within them are the envy of many across the world.

Yet there are concerning signs that not all is right and that the UK fares poorly in some child health comparisons with other wealthy countries. Mortality is the most concerning, with data showing that child deaths are higher than in comparable countries. There are also worrying signals from conditions such as diabetes, from public health issues such as obesity and in our children’s overall wellbeing.

The RCPCH therefore decided to put together the first snapshot of infant, children and young people’s health across the UK. It covers physical and mental health and some of the main determinants of health, showing where our children are doing well but also where we must improve and how we can achieve this.

The report has been guided by the issues children and young people have told the RCPCH are important to their health and wellbeing (the next section outlines what they told us). This gives it a credibility and authority that complement the scientific work done in identifying, analysing and checking each indicator. The selection of indicators and collation of data were then overseen by a steering group of paediatricians and other child health experts. The report also focuses on the social determinants of health, examining how we as a society create the optimal environment for children to survive and thrive.

Perspective across the four nations

A key element of this report is that it is focused on the four nations of the UK. We have only included indicators where data are available from two or more countries (with a few exceptions). This has meant that some important data available only in one country could not be included. However, we felt it important to ensure this was a UK-wide perspective. In most indicators we see similar trends across countries, but those where there are differences provide us with opportunities to see how things could be better.

One issue highlighted by taking this approach is the lack of data on many of the included indicators for Northern Ireland.

Data shine a light on what we are doing and allow us to improve. Visibility in data is a key part of driving improvement, and we do a disservice to those who are not visible in our data systems.

Using data to drive improvement

There have been a number of overviews of children's and young people's health published in the four nations of the UK (Including, in England, the *Chief Medical Officer of England's 2012 Annual Report* and the *Children's and Young People's Health Outcome Forum's* reports; in Northern Ireland, the report *Health Inequalities - Regional Report 2016*; in Scotland the report *Growing Up In Scotland: New Findings, Tackling Health Inequalities in the Early Years* (October 2015); and in Wales, the *Annual Report of the Chief Medical Officer for Wales 2014/2015*). But this report is unique in pulling together available/comparable data to provide an overview of child and adolescent health in the UK. It is a thought-provoking document, highlighting areas which have improved in recent years but outlining where we are not doing well and what needs to be done to ensure the UK is the best place in the world for infants, children and young people to grow up in.

It is also a first attempt to standardise data on children's health across the UK in order to move towards a robust indicator framework to help drive improvements in outcomes.

Whilst this report provides an important snapshot of the health of our children and young people today, there are many gaps where adequate data are missing. These are particularly around the two epidemics of our time for our children - mental health problems and obesity - and around the key determinants of our children's health - maternal health and the social determinants of health. Other children, such as those with disabilities, are worryingly absent from current data systems. Pages 9 and 10 outline data selection and gaps in more detail.

Key findings

This report has some key messages for children and young people's health.

1. We are making progress, but slower than other countries

The first is one of progress - our children and young people's health has improved across most indicators in the past 10 to 20 years. We should celebrate success and recognise that many are alive and thriving today because of our public health and NHS systems and progress through research.

However, behind this progress lies a more subtle story - one of the UK falling behind other wealthy countries which have made more progress than we have. Our ambition must surely be to be in the top rank internationally for each indicator.

2. Inequality blights our children's lives

Across every indicator in this report, bar one, children from deprived backgrounds have much worse health and wellbeing than other children and young people.

Children living in our wealthiest areas have health outcomes that match the best in the world. But the gaps between the rich and the poor are stark, and some of the outcomes amongst our deprived groups are amongst the worst in the developed world.

It should not be this way. It must not be this way.

3. There is a clear pathway to improvement

Each indicator chapter outlines key actions needed to improve the health of our children and young people. The report also identified key recommendations that are urgently needed if we are to place all our child population in the top rank for health and wellbeing. More specific recommendations for each country will be produced separately to accompany this report.

The future

We will update the report when new data and research are available, also reviewing each of the indicators. New data systems are coming on line in each of the countries, which will be key to driving improvements in our children's health.

It is my sincerest hope that future publications will demonstrate serial improvements in children and young people's health, with outcomes in each UK country in the top rank internationally.

A handwritten signature in black ink, appearing to be 'RV', written over a horizontal line.

Professor Russell Viner
RCPCH Officer for Health Promotion

What children and young people told us

The RCPCH & Us[®] network actively seeks out and shares the views and opinions of children, young people and families in order to influence and shape policy and practice in child health.

Between January and October 2016, we consulted 326 children and young people across the UK to obtain their experiences and explore their views on the indicators discussed in this report and to inform the recommendations. Feedback was sought through online and ballot paper surveys, semi-structured interviews, discussion activities and activity-based workshops.

The views of the children and young people consulted are spread throughout the individual indicator chapters but a number of key themes emerged and they are summarised below.

1. Communication

Children and young people want to be involved in the discussions and decisions that affect their health. Children and young people shared concerns that adults working in children's health services do not always communicate effectively and appropriately with them.

The use of technology to aid communication was seen as a positive move by children and young people. They were keen for this to be increased where possible, for example, emailing letters or information rather than waiting for delivery through the post, use of websites and apps to encourage feedback and engagement between health professionals and patients.

2. PSHE (Personal, social and health education)

The need for wider health education with consistent messages was another repeated theme. Children and young people felt that one-day sessions allocated to particular subject areas (e.g. drugs and alcohol) were not enough. They wanted the opportunity to engage with adults who were non-judgemental and well-informed on where advice and guidance might be sought.

Children and young people suggested that PSHE sessions could be better utilised as a conduit for health literacy, and suggested using school projects, drama, visualisations, videos, social media and apps to communicate key messages, rather than lectures, leaflets or written guidance.

3. Mental health

Mental health was highlighted as a major area of concern for children and young people, particularly issues around self-esteem and self-confidence (on a personal level and within relationships), lack of support in both primary and secondary schools and the need to reduce waiting times for mental health services.

Children and young people felt they had a lack of knowledge around mental health, with specific anxieties around how to deal with mental health concerns in themselves and others, as well as questions about who they should turn to for guidance. Many children and young people thought that mental health education should be specifically taught from primary school onwards so that they could be more confident and better prepared to cope with the challenges of mental health in adolescence and adulthood.

4. Poverty

Poverty was highlighted in many of the discussions, although often not explicitly talked about as 'poverty'. For example, within discussions on nutrition and diet, many children and young people acknowledged the importance of a healthy environment, but were concerned about the ability to plan, budget and manage healthy food choices, especially with the increase in food poverty and fears over not being able to 'afford' to eat healthily. Food choices within schools were a source of frustration for many children and young people, as healthy choices tended to be more expensive or unavailable.

Measuring the health of infants, children and young people

A life course approach, coupled with a social determinants model, was used to identify key areas of focus for the report:

1. Mortality
2. Conception, pregnancy and infancy
3. Early years
4. School age and adolescence
5. Family and social environment
6. Health conditions of childhood

Given the multitude of possible measures of children and young people's health, a pragmatic approach was taken to select indicators that were felt to best present an overall picture of the health of infants, children and young people in the UK today.

The following criteria were used to guide the selection of indicators:

- The indicator is relevant to a large number of infants, children and young people and of public importance.
- Robust published data sources were available, including contemporary data and trend data from the recent past.
- Data were available for at least two of the four nations of the UK.

The case for better data capture and reporting

The selection of indicators was limited by the availability of comparable data across nations.

Every effort was made to source comparable or similar data for each selected indicator. However, for several of the indicators data were not available for some nations or the variation in collection methodology meant it was not possible to make comparisons between nations.

There were also a number of indicators it was not possible to include due to a lack of reliable data in any nation.

Many of these data gaps have been identified previously².

Mental health

The lack of data on children and young people's mental health is a gap that urgently needs action, given evidence of increasing concerns about our children's mental health across all countries. Prevalence data for mental health conditions in each country are a particular need.

Maternal health

An indicator on maternal smoking is included but adequate data were not available for either maternal mental health or maternal weight, two key areas that influence the health of their children.

Better data on the obesity epidemic

Two indicators are included on obesity - healthy weight at the start of school and healthy weight at the end of primary school. For the latter the only data available were for England. Much better data are needed to address the obesity epidemic, including additional weight measures across childhood and adolescence.

Neurodevelopmental outcomes and disabilities

The neglect of children with disabilities in data systems is stark, as is the absence of data on neurodevelopmental outcomes and disorders.

Social determinants of health

The strongest determinants of child health across every indicator are social, educational and economic factors. Child poverty is included as an indicator, but it was not possible to identify consistent data on housing or education (e.g. school readiness in early childhood or those not in education, employment or training at end of secondary school), although these are important determinants of child health, wellbeing and resilience. Consistent data on the social determinants of health relevant to infants, children and young people are needed across countries.

We are pleased to note many of these data sources are under development in some nations.

The importance of child health research

Children are not small adults and adolescents are not the same as small children. They need biomedical and health services research that takes account of their changing physiology and addresses their problems directly, generating evidence to improve the quality of the treatments and healthcare they receive, and the policies that affect their wellbeing.

There are other reasons why children's research is important to the nation. Early life exposures, many mediated through disadvantage and

deprivation, impact on adult health (both mental and physical) and wellbeing and on succeeding generations. The growing burden of chronic, long-term conditions that have a substantial component of their origins in early life – obesity, cardiovascular disease, vascular dementia and diabetes – are placing a strain upon the NHS and adversely affecting the health and economic wellbeing of the nation.

Participation of children and young people in research in a meaningful way is key to maximising research impact.

This report is one step towards the development of a meaningful indicator set for child health in the UK.

Major policy recommendations and calls to action

These high-level recommendations are drawn from across the indicators and they reflect the importance of seeing the whole child, their specific condition, their wider health, their family and the environment in which they are growing up. They are aimed at all governments and stakeholders across the UK. Bespoke recommendations for each of the four governments have been developed and are included in separate inserts. We welcome the opportunity to work with all stakeholders at supra and devolved government level to implement and monitor the recommendations. It is clear that there is no single answer to the question of how the health of infants, children and young people should be improved. Yet the economic case for intervening early and preventing ill health is now as evident as the case for action.

Early intervention and prevention can reduce and resolve issues before they become more difficult and expensive to treat later in life. The infants, children and young people of today are the productive future workers of the nation, and the parents of the next generation. They have the right to achieve their potential, and for this their health and productivity must prosper.

1. Implement a strategic coordinated set of cross-UK actions to improve children's health across the UK

To ensure that the health of infants, children and young people in the UK matches the best in Europe, co-ordinated government action across several departments is required. Responsibility for improving child health and reducing mortality is held by several government departments, not just the Department of Health. Achieving the best child health outcomes has to be a priority across government.

Recommendation:

- **Each government to develop an evidence-based child health and wellbeing strategy, coordinated, implemented and evaluated across the UK, with a clear accountability framework including professionals, the public and civil society.**

2. Develop integrated health and care statistics

This report makes repeated calls for new methods, more frequent and more consistent data capture so that data are available and comparable across the UK.

This is a pivotal time for the UK government. The relationship between the UK and Europe is changing, which will inevitably impact upon the relationship of the four nations and how well we can work together. Change will bring about challenges but it will also open the door to new opportunities. The government has a unique opportunity to develop integrated health and care statistics across England, Wales, Scotland and Northern Ireland and to ensure that all data collected are codified and analysed consistently.

An integrated approach will result in more accurate and comparable data to analyse trends

and provide an essential evidence base to inform the use of resources in the medium and long term.

Recommendation:

- **The UK government should develop an integrated system to ensure data systems across all age groups in health, social care, youth justice and education are connected.**

3. Develop research capacity to drive improvements in children's health

There is a need to support the sustained expansion of applied research into many conditions that affect infants, children and young people. In order to improve health outcomes there needs to be advancements in scientific knowledge, more development and evaluation of practice and greater understanding of the factors that influence behaviour.

Recommendation:

- **Support and develop clinical and non-clinical research, including pharmaceutical, medical, social sciences, youth justice and education.**

4. Reduce child poverty and inequality

The link between poverty and poor health is highlighted throughout this report. More must be done to reduce the number of children living in poverty in the UK and to minimise the impact of deprivation on health outcomes. Robust monitoring of child poverty is vital; hence the commitment by government, in law, to publish statistics on child poverty every year is welcomed. In particular health visitors and school nurses play a vital role in early

identification and intervention, preventing more serious problems later in life. These services must be preserved.

Recommendations:

- **The UK government should disclose information about the impact of the Chancellor's annual budget statement on child poverty and inequality, and consider what impact this may have on the devolved nations.**
- **Ensure universal early years' public health services are prioritised and supported, with targeted help for children and families experiencing poverty.**
- **Provide good quality, safe and effective prevention and care throughout the public health and healthcare services with a particular focus on primary care in order to mediate the adverse health effects of poverty.**

5. Maximise women's health before, during and after pregnancy

Maternal health and wellbeing has a profound impact on the health of children. This report demonstrates how being a healthy weight; breastfeeding and stopping smoking all improve health outcomes for both mothers and infants. Mental health support is also vital.

Recommendations:

- **All maternity services should achieve and maintain UNICEF UK Baby Friendly Initiative Accreditation.**
- **Reinstate the Infant Feeding Survey that was cancelled in 2015.**
- **Increase the visibility of national public health campaigns that promote good nutrition and exercise before, during and after pregnancy.**

6. Provide statutory comprehensive personal, social and health education and sex and relationships education in all schools

There is good evidence that high quality personal, social and health education gives children and young people the knowledge and skills to make positive, healthy decisions. Effective health education is embedded within a whole-school approach for promoting the health and wellbeing of students. This can lead to improved health outcomes and improved

education attainment, employability and social mobility³.

This has been reinforced time and time again by children and young people who have spoken to us, consistently saying that they want more personal, social and health education as well as more sex and relationships education at school, delivered by experienced, credible, influential and relatable people, starting as early as seven to 11 years of age. Annual topic-specific forums are not enough as messages need to be consistent and repeated throughout a child's education.

There is good evidence that various whole school health interventions are effective in preventing teenage pregnancy, smoking and bullying⁴. In June 2016 the UN Committee on the Rights of the Child recommended that meaningful sexual and reproductive health education is part of the mandatory school curriculum for all state schools - including academies, special schools and youth detention centres - and the Equality and Human Rights Commission subsequently called for personal, social and health education to be a statutory requirement for all schools⁵.

Recommendations:

- **Introduce statutory and comprehensive personal, social and health education programmes and sex and relationship education across all primary and secondary schools.**
- **Inspectorates should inspect the provision of personal, social and health education programmes and sex and relationship education within a robust inspection process.**

7. Strengthen tobacco control

Adolescence is the time young people start smoking, and exposure to tobacco in early life has major consequences across our lives. Smoking creates the greatest human-generated cost to the economy. It costs society more than war, armed violence and terrorism. Progress has been made but we must push onward towards ensuring our children have a tobacco-free childhood.

Recommendations:

- **Extend bans on smoking in public places to school grounds, playgrounds and hospital grounds, coupled with sustained public**

health campaigns about the dangers of second-hand smoke.

- **Prohibit all forms of marketing of electronic cigarettes to children and young people.**
- **Protect services that help pregnant women stop smoking and continue to look for innovative ways to engage the hard-to-reach groups.**

8. Tackle childhood obesity effectively

Obesity is the biggest human-generated burden on the economy after smoking⁶. This report illustrates the need for continued efforts by government and partners to reduce childhood obesity, starting with maternal health and wellbeing and continuing once children are born and grow into adulthood. The sugar levy to be introduced across the UK is a positive start. However, robust monitoring and evaluation will be necessary to determine their impact and whether more regulation is required. Children and young people who are already overweight or obese must be able to access the support and treatment they need to reduce their weight.

Recommendations:

- **Commission independent evaluation of the effectiveness of the sugar levy.**
- **Outline plans for a regulatory framework that will be enforced if voluntary work on sugar reduction does not achieve the targets set.**
- **Ban advertising of foods high in saturated fat, sugar and salt in all broadcast media before 9pm.**
- **Expand national programmes to measure children after birth, before school and in adolescence.**
- **Ensure children who are overweight or obese can access services to help them lose weight.**
- **Help all healthcare professionals make every contact count by having that difficult conversation with their patients (whatever their age) who are overweight.**

9. Maximise mental health and wellbeing throughout childhood

Half of adult mental health problems start before the age of 14, and 75% start before the age of 24⁷. Early identification and early intervention are essential in ensuring that young people can achieve their potential. All those caring for these groups require the skills to identify mental health

problems, and know what to do to intervene early. Paediatricians must also be better prepared to handle these issues.

Recommendations:

- **Support more GPs to access child health training opportunities by extending specialist training from three to four years, in line with RCGP proposals.**
- **Train all child health professionals so they are confident in dealing with children and young people presenting with mental health problems in non-mental health settings.**
- **Repeat the Survey of the Mental Health of Children and Young People every three years and extend it to Northern Ireland, to identify the prevalence of mental health problems among children and young people in order to aid the planning of healthcare services.**

10. Tailor the health system to meet the needs of children and young people, their parents and carers

Interventions for all children throughout their life course, and particularly the vulnerable and hard to reach groups, require a joined-up approach by health services and other agencies where necessary. For example, children and young people with long-term or complex conditions often need care from a variety of health professionals, and navigating that system can be daunting and confusing. Integration of care services can prevent duplication and waste as well as making the system more user friendly for children, young people and their families. Education also plays a key role, by giving children and young people and their families the information they need to manage their condition, by educating all young people to reduce the stigma associated with long-term conditions and by ensuring schools meet their legal obligations to provide support.

Recommendations:

- **Involve children and young people in the development of services designed for them.**
- **Extend patient surveys of young people in inpatient settings to cover outpatient and community settings.**
- **Ensure better transitions from child to adult services, involving children and young people in planning the transfer.**
- **Provide every child and young person with a long-term condition with a named doctor or health professional.**

11. Implement guidance and standards

There are many areas of infant, children and young people's health that already have a strong evidence base that should guide practice, but this report makes frequent mention of the importance of implementing existing guidance, guidelines and standards. This creates a very clear case for the consideration of greater regulation and enforcement. In times of austerity, what is measured is what matters when it comes to selecting from competing priorities.

Recommendation:

- **Identify the barriers to implementing guidelines and standards, and then create an action plan to overcome them.**

Chapter 1: Mortality

1.1 Infants (under one year)

Number of infant deaths per 1,000 live births

Key messages

- There were 2,517 deaths among infants in England and Wales in 2014. Most deaths during childhood occur during the first year of life, particularly the first month of life.
- Infant mortality rates across all UK countries have declined markedly over the past 40 years. However, progress has slowed over the past 20 years, particularly compared to other European nations.
- Conditions related to preterm birth are the most common causes of death in infancy.
- Socioeconomic status is strongly associated with infant mortality, with increasing risk associated with higher levels of maternal deprivation.

What is this indicator showing us?

This indicator shows number of deaths under one year of age per 1,000 live births in the UK each year, also known as the infant mortality rate (IMR).

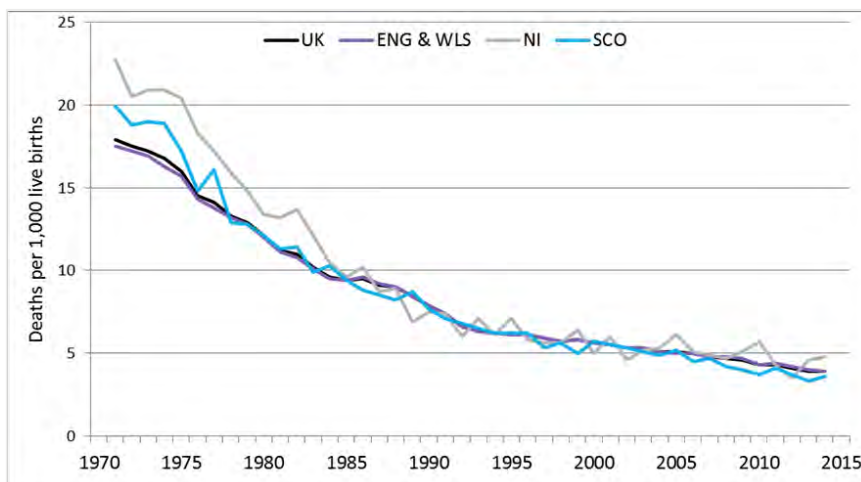
Data availability and comparability

Infant mortality can be split into neonatal mortality (deaths 0-27 days) and post-neonatal mortality (28-365 days). Births without signs of life (stillbirths if after 24 weeks of pregnancy) do not contribute to infant mortality but are also an important indicator of maternal and child health.

Comparable data for infant, neonatal and postnatal mortality rates are available for all four nations of the UK from the Office for National Statistics (ONS), Vital Statistics: Population and Health Reference Tables⁸. Stillborn data for the UK are available from the Childhood Mortality Tables produced by the ONS.

All countries of the UK use the same definitions for stillbirth and infant mortality. However, some international comparisons can be more difficult if definitions of live birth differ between countries.

Infant mortality rates for the United Kingdom, England and Wales, Northern Ireland, and Scotland



Latest data: In 2014 the IMR across the UK was 3.9 deaths per 1,000 live births: 3.9 in England and Wales, 3.6 in Scotland, and 4.8 in Northern Ireland.

Trend: The IMR across the UK has been declining. Data for Scotland and Northern Ireland are based on a smaller number of births and deaths and have been fluctuating from year to year.

Source: ONS, Vital Statistics: Population and Health Reference Tables, 2015⁸

Figure 1.1.1: Infant mortality rates per 1,000 live births, United Kingdom and constituent countries, 1971 to 2014

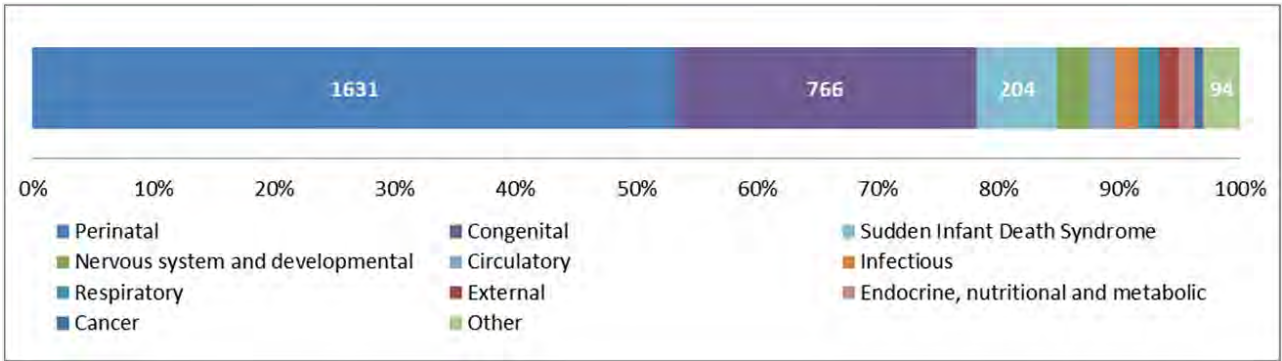


Figure 1.1.2: Leading causes of death, percentage of total and numbers, among infants in the UK, 2013⁹

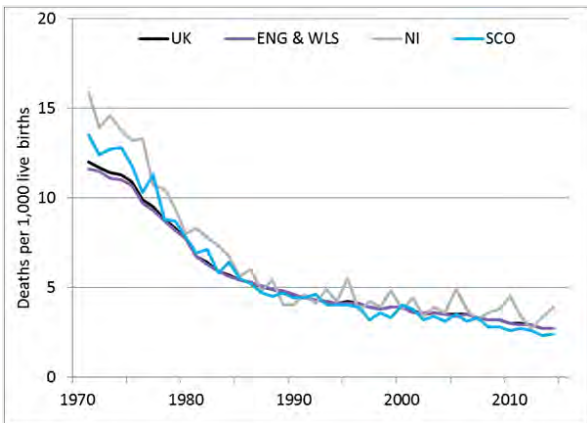


Figure 1.1.3: Neonatal mortality rate (deaths from 0 to 27 days of age) per 1,000 live births, United Kingdom and constituent countries, 1971 to 2014⁸

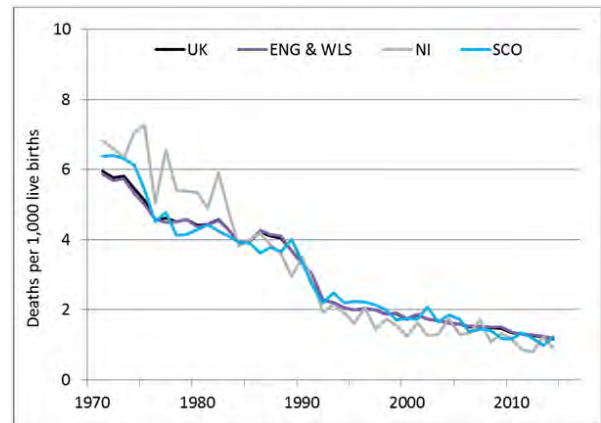


Figure 1.1.4: Post-neonatal mortality rate (deaths from 28 to 365 days of age) per 1,000 live births, United Kingdom and constituent countries, 1971 to 2014⁸

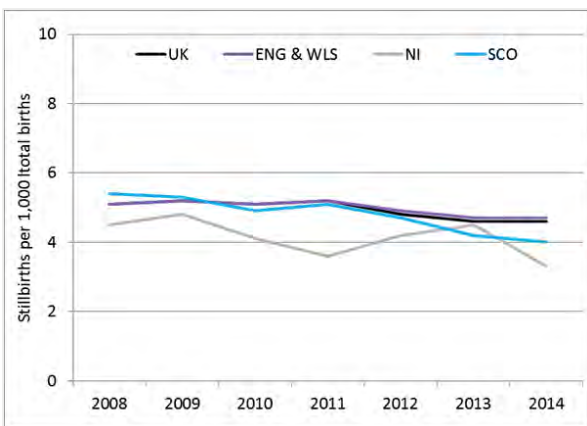


Figure 1.1.5: Stillbirth rate (births without any signs of life after 24 completed weeks of pregnancy) per 1,000 total births, United Kingdom and constituent countries, 2008 to 2014¹⁰

Why is this indicator important?

Around 60% of deaths during childhood occur under one year of age. The IMR is a commonly used basic indicator of population health and the quality of healthcare services¹¹⁻¹³. It is a key international indicator used in the United Nation's Sustainable Development Goals¹⁴ and in UNICEF international comparisons¹⁵.

Neonatal mortality accounts for between 70% and 80% of infant deaths. The great majority of neonatal deaths are due to perinatal causes, particularly preterm birth, and are strongly related to maternal health, as well as congenital malformations. The remainder of infant deaths are post-neonatal, due to a broad range of causes, including sudden infant death syndrome (SIDS).

Stillbirths (defined in the UK as a baby born without signs of life after 24 completed weeks of pregnancy) account for half of all deaths during the perinatal period (the period surrounding birth, from about 24 weeks of pregnancy up to either seven or 28 days of age)¹⁶.

Where are we now in the UK?

In 2014, the IMR across the UK was 3.9 deaths per 1,000 live births, ranging from 3.6 in Scotland to 3.9 in England and Wales and 4.8 in Northern Ireland. There has been an overall decline in the IMR across the UK over the past 45 years, with fluctuations seen in Scotland and Northern Ireland due to the smaller number of births and deaths (see Figure 1.1.1).

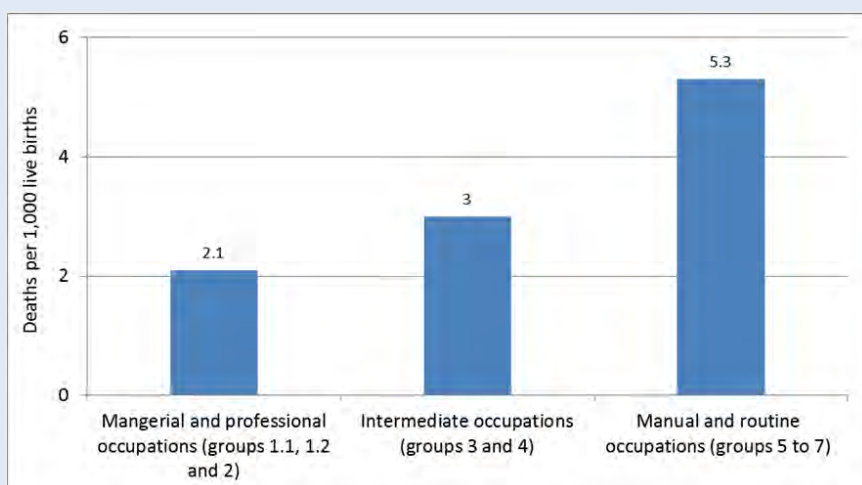
The two constituents of IMR, neonatal and post-neonatal mortality, both showed similar marked declines across the past four decades. However, in each there has been a slowing of progress since the mid-1990s. The development of excellent neonatal critical care services within regional networks has made a major contribution to reductions in neonatal mortality during this period. It is thought that the notable fall in post-neonatal mortality seen in the late 1980s and early 1990s may reflect a significant decline in SIDS¹⁷.

In 2014, the stillbirth rate in the UK was 4.6 deaths per 1,000 births, with little change observed in rates since 2008.

Spotlight on inequalities

Social inequalities play a role in almost all the leading causes of infant death. The risk of infant death increases with greater levels of maternal deprivation, as demonstrated in Figure 1.1.6^{16,18}. The mechanisms underlying this social gradient are related to increased risk of preterm delivery in more deprived groups, as well as to maternal health during pregnancy (for example, smoking, poor nutrition, substance abuse) and uptake of recommended practices such as breastfeeding and safe infant sleeping positions¹⁶.

Maternal age is also associated with infant mortality. Children of very young mothers have a substantially higher IMR; the IMR for mothers aged under 20 years is 6.1 deaths per 1,000 live births compared with 3.4 deaths per 1,000 live births in mothers aged 25 to 29 years in England and Wales¹⁰. It is likely that some of this age effect in fact represents the influence of deprivation, as mothers from more deprived groups give birth at younger ages.



Trend: The infant mortality rate in mothers giving birth to live babies collectively in NS-SEC groups 5 to 7 is more than twice that of live babies born to mothers from groups 1.1, 1.2 and 2.

Source: Childhood Mortality in England and Wales¹⁰

Figure 1.1.6: Infant mortality rates by National Statistics Socioeconomic Classification (NS-SEC) for England and Wales, 2014

What does good look like?

Despite historical progress, the reduction in infant mortality in the UK has not equalled the gains observed in comparable countries over the past 20 years.

An international study of mortality in the UK compared with similar wealthy countries in Europe and elsewhere (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Australia, Canada and Norway) showed the UK to have IMR in 1970 similar to the average of the group, but that the UK had become among the worst performing 10% by 2008¹⁹.

International variations in still/live-birth definitions have led some to question the validity of comparisons of the UK's IMR with other European countries. However, the same comparative trends are seen for post-neonatal mortality as for neonatal or overall infant mortality¹⁹, suggesting strongly that the UK's poor infant mortality performance is not only due to differences in definitions relating to viability.

The UK's position in Europe is shown in Figure 1.1.7; in 2014 the UK had a higher IMR than nearly all comparable Western European countries²⁰.

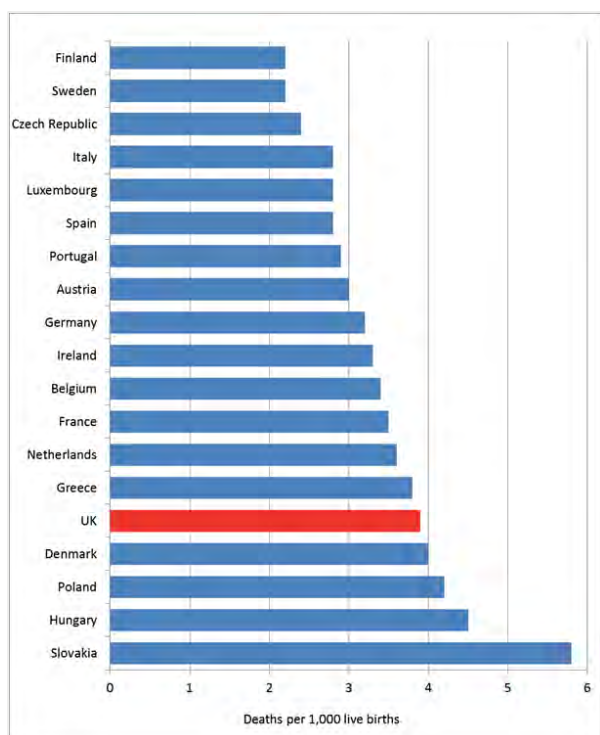


Figure 1.1.7: Infant mortality rates per 1,000 live births in countries across Europe, 2014²⁰

How can we improve?

Many of the causes of infant mortality are preventable. Infant survival can be improved by taking action to reduce risk factors and enhance factors that protect against mortality. Effective action must target policy and practice at the population level as well as the individual level.

Reducing poverty and inequalities and promoting social health: Deaths during infancy are strongly associated with preterm birth, fetal growth restriction and congenital abnormalities, which disproportionately affect the most disadvantaged families in society²¹. Government efforts to reduce child poverty remain crucial to improving infant survival²². Other protective factors, such as social protection policies (for example, benefits, child care, and housing) and economically redistributive policies, should be implemented to improve and maximise infant survival.

Improving maternal health and education: Maximising the health and wellbeing of women before conception and during pregnancy is central to efforts to reduce the IMR.

Smoking during pregnancy is one of the most important risk factors linked to adverse pregnancy outcomes, associated with impaired fetal growth and development and subsequent increased risk of stillbirth, preterm birth, low birth weight, and the development of some congenital abnormalities. Reducing smoking during pregnancy is therefore vital to reducing infant mortality (see Indicator 2.1 for further detail).

Poor maternal nutrition before and during pregnancy is associated with adverse outcomes in both underweight and overweight women. Folate supplementation to prevent birth defects is a key part of quality peri-conceptual care. Obesity before and during pregnancy and gestational diabetes are associated with an increased risk of stillbirth and fetal and infant deaths, with even a modest increase in a mother's BMI associated with higher risk^{21,22}.

Improving preconception nutrition and preventing maternal obesity are important for reducing infant mortality.

Infant feeding and care: Breastfeeding is a protective factor for infant survival, particularly for infants born preterm; therefore it is vital that women are supported to breastfeed²³ (see Indicator 2.2 for further detail).

Promoting safe sleeping positions is key to prevention of SIDS. Maternal mental health is an important risk factor for poor child health outcomes. Universal midwifery and health visiting services are one of the key ways in which new mothers receive education and support in managing their new baby, including supporting breastfeeding and safe sleeping positions.

Other protective factors such as social protection policies (for example, benefits, child care and housing) and economically redistributive policies should be implemented to improve and maximise infant survival.

Supporting young mothers: Each of the above issues is particularly important for young and first-time parents. Increased efforts to reduce unplanned pregnancy during adolescence and providing additional support for younger mothers antenatally and postnatally are likely to contribute to reducing infant mortality. Providing high-quality, evidence-based sex, relationships and reproductive health education in schools is a key part of improving outcomes.

Knowledge and practice: Greater focus on research and its application to practice is an essential prerequisite for improving outcomes from before birth, through the first year of life. For example, tremendous progress has been made in reducing SIDS through public health research translated into changes in practice and health education campaigns.

Key actions

- Reduce child poverty and social inequalities in the UK.
- Maximise health during pre-conception and pregnancy, including smoking cessation programmes, promotion of breastfeeding and promoting healthy weight in women of childbearing age.
- Protect and support health promotion and early intervention services such as universal midwifery and health visiting services for new mothers, and expand provision of targeted support for younger mothers.
- Ensure provision of high-quality, evidence-based sex, relationships and reproductive health education in schools.
- Establish a UK-wide system for systematic collection, analysis, and interpretation of infant mortality and maternal health data which can be used for accurate international comparison.
- Promote and support research into maternal and infant health and translate findings into improved practice and policy.
- Ensure that policy strategies to improve maternal and child health are joined up.

Additional data note

Comparability of IMR amongst countries is challenging as the denominator of live births may be defined differently, even within Europe. The World Health Organisation (WHO) definition of live birth is any infant born demonstrating independent signs of life, including breathing, heartbeat, umbilical cord pulsation or definite movement of voluntary muscles, irrespective of gestation²⁴.

Chapter 1: Mortality

1.2 Children (one to nine years)

Annual deaths of children aged one to nine years per 100,000 population

Key messages

- 838 children aged one to nine years died in 2014 across the UK: 761 in England and Wales, 28 in Northern Ireland and 49 in Scotland.
- Mortality rates amongst 1- to 9-year-olds have declined across the UK in the last four decades, although progress has slowed in the past 20 years.
- The leading causes of death in this age group are cancer, injuries and poisonings, congenital conditions and neurological and developmental disorders. Preterm birth also contributes to mortality for up to 10 years after birth.
- There is a strong association between deprivation and the risk of death throughout childhood, with children in deprived areas more likely to die.

What is this indicator showing us?

This indicator shows the mortality rate of children aged one to nine years per 100,000 population of that age.

Data availability and comparability

The number of registered deaths by age-group and year for England and Wales was obtained from the Office for National Statistics (ONS)²⁵. Comparable data for Scotland and Northern Ireland were obtained from National Records of Scotland²⁶ and Northern Ireland Statistics and Research Agency²⁷ respectively. Numbers were converted into age-specific rates by using the Population Estimates for the UK, England and Wales, Scotland and Northern Ireland²⁸ produced by the ONS.

Child mortality rates (one to nine years) for the United Kingdom, England and Wales, Northern Ireland, and Scotland

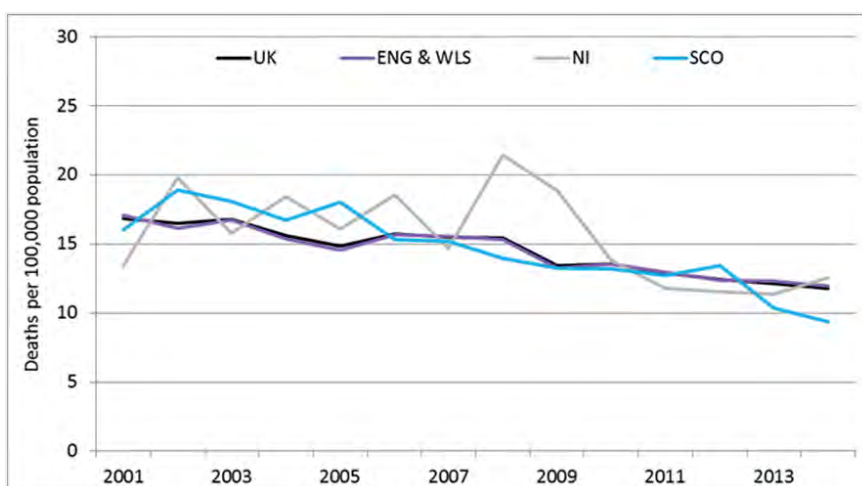


Figure 1.2.1: Mortality rate amongst 1- to 9-year-olds per 100,000 population by country and sex, 2001 to 2014

Latest data: The mortality rate per 100,000 population for children aged one to nine years in 2013/2014 was 12.1 in the UK overall and 12.2 in England and Wales, 11.8 in Northern Ireland and 11.1 in Scotland.

Trend: Mortality rates in all countries have declined since 2001, by 5.1 per 100,000 across the UK from 2001 to 2014. Note that fluctuations in rates in Northern Ireland and Scotland reflect small numbers in each year.

Source: 21st Deaths Registered in England and Wales (ONS), Vital Events (National Records of Scotland), Deaths by Ten Year Age-band (Northern Ireland Statistics & Research agency), and Population Estimates (ONS)²⁵⁻²⁸.

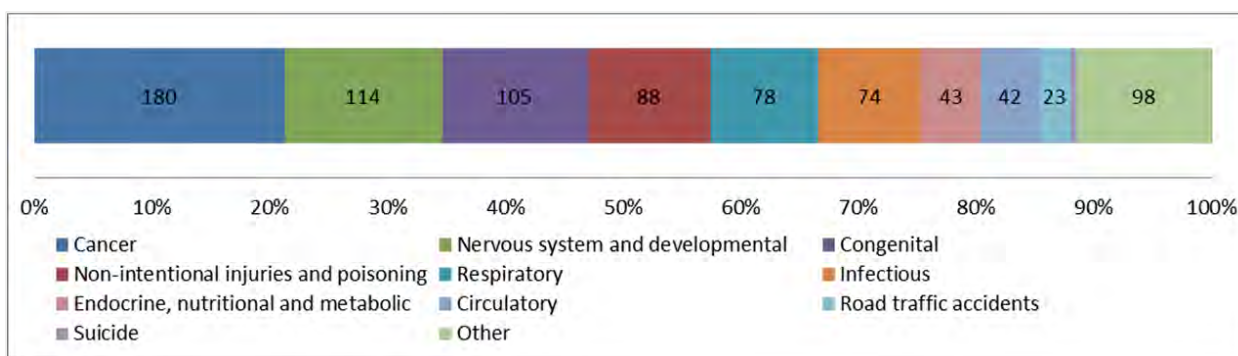


Figure 1.2.2: Leading causes of death, percentage of total and number of deaths, among 1- to 9-year-olds in the UK, 2013⁹

Why is this indicator important?

Over 800 children aged one to nine years die each year in the UK despite great improvements in children's health over the past 30 years. Every child's death is a tragedy for the family and for society. Many of these deaths are preventable, and monitoring causes and patterns of death can drive changes to reduce avoidable deaths during childhood^{11,29}.

Factors that contribute to death during childhood can be different to those which contribute to death during infancy or adolescence. The main causes of death amongst 1- to 9-year-olds are cancer, injuries and poisonings, congenital conditions and neurological and developmental disorders.

Injuries and poisonings from external causes are the leading cause of death in boys aged one to four years, whilst cancer is the leading cause of death in girls of the same age¹⁶.

For both girls and boys five to nine years of age, cancer is the leading cause of death. However, injuries continue to cause more deaths in this age group in boys than girls¹⁶.

Very early life also still has an impact on mortality in later childhood; children who were born preterm remain more likely to die before age 10 years compared with children born on time.

Where are we now in the UK?

The one to nine years mortality rate per 100,000 population was 12.1, 12.2, 11.8 and 11.1 for the UK, England and Wales, Northern Ireland and Scotland respectively when recalculated for the average of 2012–2014.

Mortality has declined across the UK since the 1970s¹⁸ and declined in most UK countries in the past two decades, as shown in Figure 1.2.1. Trends are unclear in Northern Ireland due to the smaller number of deaths. The overall decline in the UK mortality rate for 1- to 9-year-olds was 5.1 per 100,000 population from 2001 to 2014. However, improvement has slowed over the past 20 years compared with previous decades, and the UK's recent progress has been significantly lower than in other wealthy European countries¹⁸.

What does good look like?

The child mortality rate in the UK compares unfavourably with similar wealthy countries. A study comparing the UK with 17 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, Australia, Canada and Norway) showed that in 1970 the UK was among the best 25% of countries, in terms of child mortality, but by 2008 the UK had fallen to the bottom quartile. The scale of difference between the UK child mortality rate and the average suggests there are around 130 excess deaths of 1- to 9-year-olds each year in the UK¹⁸.

Many childhood deaths are preventable. A recent study of deaths in under 19-year-olds in England found that 24% were due to potentially modifiable causes³⁰.

Spotlight on inequalities

There is a strong association between deprivation and mortality during childhood, with social inequalities found to affect many of the leading causes of death among young children^{16,31}. This association can be illustrated using data from the Wales Child Death Review programme which showed that between 2009 and 2013 the rate of death in children aged under 18 years living in the most deprived quintile (fifth) of the population in Wales was 70% higher than that in the least deprived quintile²⁹.



Figure 1.2.3: Deaths from all causes amongst <18-year-olds by deprivation quintile, Wales, 2009-2013²⁹

How can we improve?

Understanding the reasons why children die remains challenging, and requires an analysis of both the immediate cause of death and the multitude of factors which led up to the death of a child³². Causes amenable to intervention include environmental and social factors as well as health service factors³¹.

A full set of policy recommendations to reduce child mortality is set out in the RCPCH 2015 report *Why Children Die*³³.

A healthy society: Across all age groups children who live in poverty and deprivation are less likely to survive than their richer peers; hence government efforts to reduce child poverty remain crucial to child survival²⁰.

Ensuring that children have the best start in life is central to improving child health outcomes. This means working to ensure that expectant mothers and their infants are as healthy as possible and supported pre-conception, during the antenatal period, during labour and birth, and postnatally.

Maternal age plays an important role, with both early and late childbearing associated with higher rates of death¹². An increased risk of death has been shown for children of mothers aged under 30 years of age compared to mothers aged between 30 and 34 years in the UK, which is closely linked to social disadvantage³⁴. Safe play, home, and outdoor environments are vital, as injuries still account for a large proportion of the mortality burden, particularly in boys^{31,33}.

Knowledge and practice: High-quality data and research are crucial to better understanding the reasons why children die, and efforts need to be made to strengthen child death review processes to inform policy and practice nationally and locally^{33,35}. Knowledge needs to be translated into better practice and policy to improve health.

More knowledge and better practice are required for both common and rare long-term conditions in childhood. For example, the progress in childhood cancer survival in the past four decades has been driven by very high involvement of children with cancer in clinical trials, and the changes in practice that followed discovery. Non-communicable disease (NCD)

research for children is urgently required. The incidence of death during childhood due to NCDs (for example, asthma and diabetes) is higher in the UK than similar wealthy countries, although it remains unclear whether this reflects differences in population or in healthcare¹⁸.

Children with long-term or pre-existing medical conditions must have access to high-quality healthcare and national outcome data collection should be expanded to enable quality improvement. Many conditions remain life-limiting, despite advances in medical care. There should be services and appropriate support in place to ensure that children with life-limiting conditions receive high-quality palliative care, at home or in a hospice³².

Key actions

- Reduce child poverty and social inequalities in the UK.
- Establish a UK-wide system for the analysis and interpretation of child mortality data which can be used for accurate international comparison.
- Expand routine outcome data collection in long-term conditions in children.
- Increase involvement of children with rare and common long-term conditions in developing guidelines, measuring outcomes, service design and research trials.
- Maximise health during pre-conception and pregnancy, including smoking cessation programmes, promotion of breastfeeding, and promoting healthy weight in women of childbearing age.
- Protect and support early intervention services and strategies.
- Create safe environments, including access to information and safety equipment schemes to promote safety in the home.
- Reduce road speed limits in built-up areas to 20mph.
- Ensure that clinical teams looking after children with known medical conditions make maximum use of tools to support improved communication, management and self-care. These might include the utilisation of epilepsy passports or asthma management plans where appropriate. There should be better cross-sector working to ensure adequate support in schools for children and young people to manage their long-term conditions.
- Increase provision of high-quality end-of-life care and access to appropriate palliative care.

Chapter 1: Mortality

1.3 Young people (10 to 19 years)

Annual deaths of young people aged 10 to 19 years per 100,000 population

Key messages

- Nearly 1,300 young people aged 10 to 19 years died across the UK in 2014: 1,121 in England and Wales, 57 in Northern Ireland and 113 in Scotland. The majority of these deaths are among 15- to 19-year-olds; the risk of dying for young men is notably higher than for young women.
- There has been a decrease in mortality among adolescents in all UK nations in recent years. However, the UK has not matched the reductions in adolescent mortality seen in comparable wealthy countries, largely due to higher rates of death from non-communicable diseases.
- The most common causes of death in this age group are injuries, violence and suicide, followed by cancer, substance misuse disorders and nervous system and developmental disorders.
- Deprivation and mental health problems increase the risk of death throughout adolescence.

What is this indicator showing us?

This indicator shows the mortality rate of young people aged 10 to 19 years per 100,000 population of that age.

Data availability and comparability

The numbers of registered deaths by age-group and year for England and Wales were obtained from the Office for National Statistics (ONS)²⁵. Comparable data for Scotland and Northern Ireland were obtained from National Records of Scotland²⁶ and Northern Ireland Statistics and Research Agency²⁷ respectively. Numbers were converted into age-specific rates by using the Population Estimates for UK, England and Wales, Scotland and Northern Ireland²⁸ produced by the ONS.

Child mortality rates (10 to 19 years) for the United Kingdom, England and Wales, Northern Ireland, and Scotland

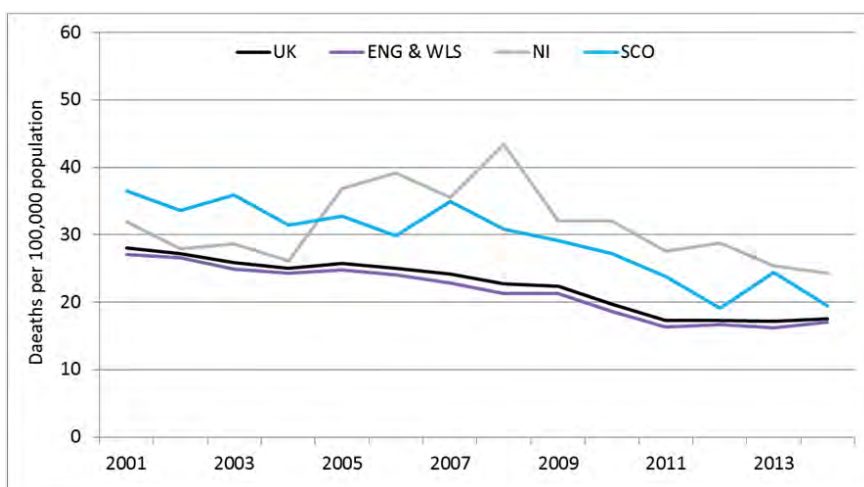


Figure 1.3.1: Mortality rate amongst 10- to 19-year-olds per 100,000 population by country and sex, 2001 to 2014

Latest data: The rate of mortality per 100,000 population for children aged 10 to 19 years in 2014 was 17.3 in the UK and 16.7 in England and Wales, 26.2 in Northern Ireland and 21.0 in Scotland.

Trend: Since 2001 there has been a decrease in the mortality rate of young people aged 10 to 19 years in all four nations, although the rate for Northern Ireland has fluctuated considerably due to much smaller numbers.

Source: 21st Deaths Registered in England and Wales (ONS), Vital Events (National Records of Scotland), Deaths by Ten Year Age-band (Northern Ireland Statistics & Research agency) and Population Estimates (ONS)²⁵⁻²⁸.

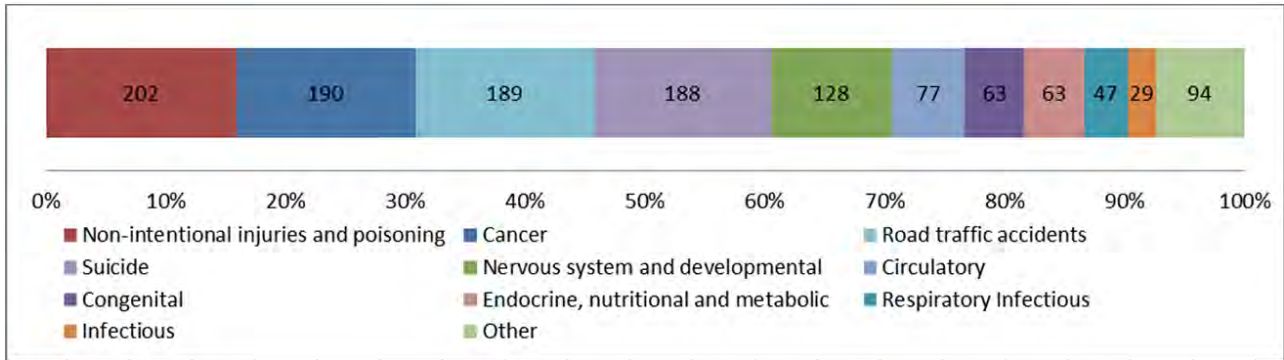


Figure 1.3.2: Leading causes of death, percentage of total and numbers, among 10- to 19-year-olds in the UK, 2013⁹

Why is this indicator important?

Nearly 1,300 young people die each year across the UK, despite improvements in young people's health over the past 30 years. The majority of deaths are preventable. Knowledge about the causes, patterns, and trends of death is important to direct efforts towards changes in practice and policy to reduce avoidable deaths²⁹.

After the first year of life, adolescence is the life stage when children are most likely to die. The factors leading to death in adolescence are different to those in earlier childhood, and causes can differ between males and females. Therefore, it is important to examine adolescent mortality patterns separately from younger children and separately by sex.

Adolescence is when injury mortality peaks and non-communicable diseases (NCD) risks begin to emerge as young people experiment with their growing independence and physical capacity. Adolescents may initiate behaviours including smoking, alcohol use, sexual risk and a range of diet and nutrition behaviours linked with NCDs and health problems.

The death of a child or young person is a personal and family tragedy. For the nation, adolescents are the productive citizens of the next decade and the parents of the next generation³⁶. The annual loss of nearly 1,300 productive citizens of the future is an economic disaster.

Where are we now in the UK?

Mortality has decreased among young people across the UK since the 1970s, with a decline from 2001 to 2014 of 10.5 per 100,000 population. This decline can be seen across all four UK nations, although the rate for Northern Ireland has fluctuated considerably due to small numbers.

However, progress in the UK has been poorer than that seen in other wealthy countries over the same period. This has meant that the UK has moved from having among the lowest adolescent mortality in Europe in 1970 to having mortality in the middle of the group of comparable countries by 2008¹⁸.

The main category causes of death in adolescence are injury deaths and deaths due to NCD, although deaths specifically due to road traffic injuries and suicide cause the majority of deaths among older adolescents of both sexes (see Figure 1.3.2)¹⁶. Other common causes of death among this age group include cancer, substance use problems and nervous system and developmental disorders, in particular epilepsy and neurodevelopmental disorders¹⁶.

The UK's 'average' adolescent overall mortality today hides a combination of excellent low UK injury mortality, amongst the lowest in Europe, but also a higher rate of deaths due to NCDs than in other wealthy countries¹⁸. It remains uncertain whether this alarmingly high NCD mortality reflects higher NCD risks in the UK - for example, smoking, alcohol use and obesity - or represents issues with healthcare for long-term conditions. Either way, many deaths from NCDs are preventable, either with changes in traffic safety policies or through practice changes such as better care for adolescents with asthma.

Spotlight on inequalities

Social inequalities are associated with nearly all the leading causes of deaths in young people aged 15 to 19 years, especially injuries. Injury deaths in young people are linked with living in poor housing conditions, increased housing density and availability of off-street parking, proximity to high volumes of traffic, increased exposure to hazardous and illegal driving as well as parental mental health, employment, education, relationship status and income¹⁶.



Figure 1.3.3: Deaths from all causes amongst <18-year-olds by deprivation quintile, Wales 2009–2013²⁹

What does good look like?

The commonest cause of deaths among adolescents, such as injuries and suicide, are largely preventable. We have low injury mortality among adolescents in the UK, particularly for road traffic deaths. This must not breed complacency, as any deaths of young people on roads are too many and there is much that can still be done to reduce these further.

Action is needed on NCD mortality, as the UK now has mortality from long-term conditions and other NCDs in the worst quartile compared with other wealthy countries¹⁸.

How can we improve?

Understanding the reasons why young people die remains challenging, and requires an analysis of not only the immediate cause of death, but the multitude of factors which led up to the death of a young person³². There is a range of possible improvement actions across environmental and social issues as well as health service factors³¹.

A full set of policy recommendations to reduce mortality amongst young people is set out in the RCPCH 2015 report *Why Children Die*³³.

A healthy society: Poverty and deprivation remain central to most of the causes of death amongst young people, since injuries, suicide and NCD risks are higher in more deprived families and communities. Government efforts to reduce child and family poverty remain crucial for efforts to improve adolescent survival²⁰.

A strong health system: Poor adolescent mental health is part of the pathway for many causes of death in adolescence, most obviously suicide but also for many injuries and conditions, including substance use. Efforts to improve resilience and mental health amongst young people are central to improving survival in this age group.

Road traffic injuries (discussed fully at Indicator 4.4) are a leading cause of death in this age group, suggesting that giving young drivers more experience in conditions of low risk – as in graduated licencing schemes – could have positive benefits.

Suicide (discussed fully at Indicator 4.5) requires action through promoting and fostering positive mental health, and providing early intervention when young people encounter problems.

Long-term conditions: Young people with long-term conditions have traditionally fallen into the gaps between paediatric and adult health services, and experienced poor outcomes as a result. Teenagers with cancer have experienced a much lower improvement in survival over the past 40 years than younger children or older adults³⁷. Further development of self-management programmes and dedicated services for teenagers are needed as well as improving transition to adult care. Units for teenage cancer, adolescent and young adult cystic fibrosis and 'grown-up' congenital heart disease and their linked transition programmes have led the way in improving services for this age group.

Knowledge and practice: Data and research are crucial to better understanding the reasons why young people die, and efforts need to be made to strengthen child death review processes nationally and locally, and ensure they focus on young people as well as younger children^{33,35}. Knowledge needs to be translated into improved practice and policy to improve health.

Key actions

- Reduce child poverty and social inequalities.
- Reduce deaths from traffic injuries through the introduction of a graduated licensing scheme (see Indicator 4.4).
- Improve adolescent mental health and wellbeing in the UK.
- Protect and support early intervention services and strategies.
- Promote healthy physical, mental and social health through statutory, comprehensive, evidence-based personal health and social education in all schools.
- Improve quality of physical and mental healthcare for young people with long-term conditions, including developing dedicated services for young people and transition programmes to adult care (see Indicators 4.5, 6.2 and 6.4).
- Provide high-quality end-of-life care and access to appropriate palliative care.
- Establish a UK-wide system for systematic collection, analysis and interpretation of child and adolescent mortality data which can be used for accurate international comparison.
- Increase involvement of young people with rare and common long-term conditions in developing guidelines, measuring outcomes, service design and research trials.
- Promote and support research into adolescent health and translate findings into improved practice and policy.

Chapter 2: Conception, pregnancy and infancy

2.1 Smoking and pregnancy

Proportion of mothers recorded as smokers at time of delivery or at first post-natal visit

Key messages

- Smoking during pregnancy is one of the most important modifiable risk factors for improving infant health.
- Despite moderate declines over the past 10 years in England and Scotland, rates of smoking during pregnancy in the UK are higher than in many European countries.
- Smoking during pregnancy is highest in deprived populations and in mothers under 20 years of age.
- Parental smoking increases offspring smoking initiation later in childhood and adolescence.
- Improved monitoring and management of smoking throughout pregnancy is essential, alongside the development of high-quality and comparable data across countries and reinforcement of smoking reduction efforts across the whole population.

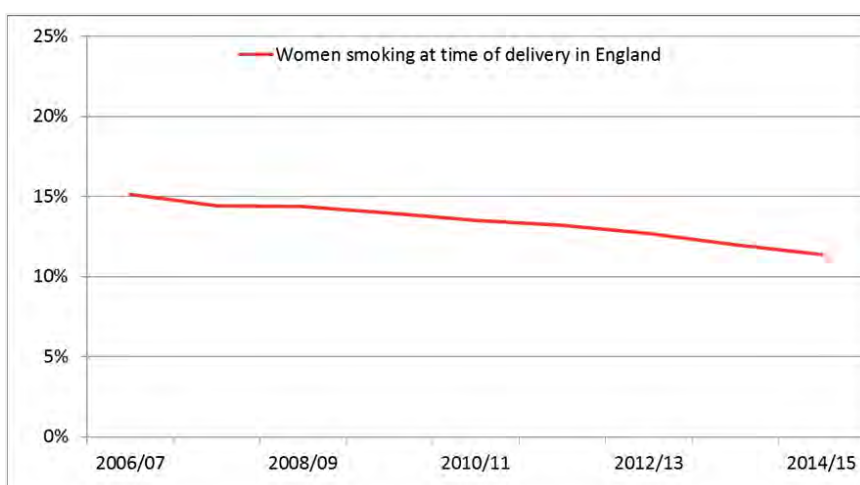
What is this indicator showing us?

This indicator shows the number of pregnant mothers who reported smoking (at all) at the time when they delivered their baby (in England) or during their first health visitor appointment following the birth of their baby (in Scotland).

Data availability and comparability

Data are available for England³⁸ and Scotland³⁹ but not for Northern Ireland or Wales. Data presented for England are captured at delivery by the Health and Social Care Information Centre, and data presented for Scotland are captured by health visitors within 10 days of birth as part of the Child Health Systems Programme Pre-School (CHSP-PS). Both datasets rely on women to self-report smoking habits.

Proportion of mothers recorded as smokers at time of delivery in England and Scotland

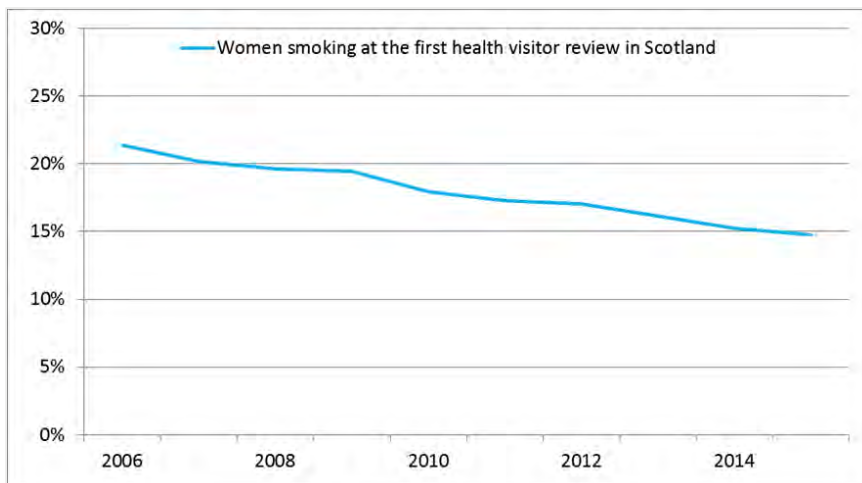


Latest data: 11.4% of women were smoking at time of delivery in 2014/2015.

Trend: There has been a moderate decline in the proportion of women recorded as smoking at time of delivery since 2006/2007.

Source: Health and Social Care Information Centre, Lifestyles Statistics

Figure 2.1.1: Proportion of women recorded as smoking (any smoking) at time of delivery in England, 2006/2007 to 2014/2015



Latest data: 14.7% of women were smoking at their first health visitor review in 2015.

Trend: There has been a moderate decline in the overall number of women recorded as smokers at their first health visitor review since 2006.

Source: CHSP-PS, ISD Scotland, year of birth ending 31 March

Figure 2.1.2: Proportion of women reported as smokers (any smoking) at first health visitor review after birth in Scotland, 2006 to 2015

Why is this indicator important?

Maternal smoking during pregnancy is linked with an extremely wide range of problems during the pregnancy, for the birth and for the child later in life.

Smoking during pregnancy has been suggested to cause around 2,200 preterm births, 5,000 miscarriages and 300 perinatal deaths (babies who are stillborn or those who die before seven days of age) each year in the UK⁴⁰.

Maternal smoking during pregnancy places unborn babies at an increased risk of⁴⁰:

- impaired fetal growth and development;
- being born small for gestational age;
- having reduced birth weight;
- reduced lung function; and
- developing some congenital abnormalities, including those of the heart, limb and face.

Passive smoking (exposure to the smoke of others) is likely to have similar adverse effects on the child's growth and development, although to a lesser extent⁴¹.

Smoking during pregnancy also increases the risk of Sudden Infant Death Syndrome⁴² (SIDS) and a range of problems later in a child's life, including obesity⁴³ and asthma⁴⁴. It affects the child's growing brain, affecting overall intelligence and increasing the risk of mental health problems from attention deficit hyperactivity disorder (ADHD) to conduct problems and anxiety⁴⁵. It also makes it more likely that children themselves will go on to smoke later in life.

Preconception and pregnancy are key opportunities for women to give up smoking, and important times to promote smoking cessation. However, it is estimated that 43% of UK women who quit smoking during pregnancy resume smoking within six months of giving birth⁴⁶.

Where are we now in the UK?

Recent figures from England suggest that the proportion of pregnant women known to be smokers at the time of delivery is 11%. There has also been a steady decline in this figure over the past 10 years.

In Scotland, recent figures indicate that 15% of women in participating NHS Boards were recorded as smokers during their first health visitor review, with a steady decline over recent years also observed.

These figures are likely to be underestimates, as non-disclosure of smoking can be up to 25% in some studies⁴⁷.

There are limited comparable international data on smoking during pregnancy, due to variation in collection methods. Researchers have previously estimated (using data from 2010) that rates of smoking late in pregnancy were as low as 5% in countries such as Lithuania and Sweden, and as high as 15% in Northern Ireland, 16% in Wales, 17% in France, and 19% in Scotland¹².

Spotlight on inequalities

There are dramatic variations in smoking during pregnancy across different parts of the UK, associated strongly with levels of deprivation. In Scotland over a quarter (25.9%) of women in the most deprived areas were recorded as smokers at their first health visitor review following the birth of their baby, compared with only 3.3% in the least deprived areas in 2015. Additionally, around one-third (34.7%), or 7 in 20 pregnant women under 20 years of age were recorded as smokers, compared with around 9.5%, or 2 in 20 women aged between 30 and 34⁴⁸.

Variation is also seen in England, with rates of smoking at delivery in the North of England at almost 15%, compared with just over 10% in the South of England³⁸; again, this likely reflects deprivation.

There are strong associations between smoking in pregnancy and lower breastfeeding rates⁴⁹, with this link almost certainly due to deprivation.



Figure 2.1.3: Proportion of mothers smoking at the first health visitor review, Scottish Index of Multiple Deprivation (SIMD) 2012 quintile (fifth of population), year ending 31 March 2015⁴⁸

What does good look like?

There is no safe level of exposure to tobacco for an unborn baby. Therefore, we should strive to eliminate all exposure to tobacco in the womb⁵⁰.

The good news is that stopping smoking before or during pregnancy decreases the risk of outcomes such as infant mortality⁵¹. Quitting early brings the greatest benefits for the child, but quitting at any time yields health improvements.

The marked variation in smoking rates associated with deprivation shows us what can be achieved. If smoking rates at the first health visitor review for all women in Scotland were to match those in the least deprived areas (3.3%), there would be over 6,000 fewer women smoking at their first health visitor review.



This first group of post-natal women live in Scotland's **most deprived** areas. Of these 20 women, at least **five** would be smoking at the time of their first health visitor review.



This second group of 20 post-natal women live in Scotland's **least deprived** areas. Of these 20 women, **fewer than one** would be smoking at the time of their first health visitor review.

How can we improve?

Women smokers are more likely to quit or reduce during pregnancy than at any other time of life⁵². Smoking cessation programmes in pregnancy reduce the proportion of women who continue to smoke in late pregnancy, and reduce low birthweight and preterm birth⁵².

A range of interventions are needed, including those targeted to pregnant women, reduction of their exposure to passive smoke, and continued efforts to reduce smoking across the population.

First, we need better data to accurately monitor smoking during pregnancy. Current self-report data are only collected after birth and almost certainly underestimate the problem. Carbon monoxide screening (a non-invasive breath test) can be used to objectively assess active smoking and passive smoke exposure in pregnancy; it is recommended by the National Institute for Health and Care Excellence (NICE) and should be in routine use from early pregnancy in all maternity services.

Second, all maternity services must implement the NICE Guidance, *Smoking: Stopping in pregnancy and after childbirth*, ensuring that smoking is addressed early in all pregnancies and that all women have access to equitable and tailored smoking cessation services⁵³. There is some evidence to suggest that incentive schemes can improve smoking cessation rates in pregnant women; however, further research into the efficacy of these programmes across the UK is required^{54,55}.

The children and young people we consulted identified the following elements of a healthy pregnancy:

- no smoking, drugs or alcohol
- good nutrition
- healthy and balanced diet
- exercise as much as possible
- good weight
- healthy lifestyle
- lots of check-ups
- being happy

(RCPCH & Us[®] Voice Bank 2016)

Key actions

- Strengthen data collection across the UK by ensuring accurate recording of smoking status supplemented with carbon monoxide screening at a woman's initial booking visit, and at regular intervals throughout pregnancy, including at 36 weeks. Data should be recorded centrally to allow for local, regional and national comparisons.
- Commissioners and providers must ensure widespread implementation of the NICE Guideline, *Smoking: Stopping in pregnancy and after childbirth*, with a particular emphasis on routine carbon monoxide testing, training of health care staff and the setting of local targets to monitor implementation⁵³.
- Reinforce population level efforts to reduce smoking, particularly amongst deprived populations. This will be the most effective way of reducing smoking in adults with dependent children. Reducing adolescent smoking is the most effective way of reducing smoking amongst the next generation of parents.

Additional data note

There are no comparable data on smoking during pregnancy collected across the UK.

Data for England and Scotland are presented separately because they have been collected at different times and by different personnel, although in both cases smoking was self-reported.

Previously, comparison between the four nations was collected via the Infant Feeding Survey. However, this survey was cancelled in 2015, meaning the last dataset available is from 2010. In England, women whose smoking status at the time of delivery is unknown are currently included in the calculation of the proportion of women smoking at the time of delivery, but from April 2017 this will change and unknowns will no longer be included. This could result in figures increasing slightly. In 2016/2017 both sets of figures will be published so the impact of this change can be monitored.

Chapter 2: Conception, pregnancy and infancy

2.2 Breastfeeding

Proportion of mothers recorded as breastfeeding at six to eight weeks post birth.

Key messages

- Breastfeeding is a natural process that is highly beneficial for infant and mother, and benefits the child across its lifespan.
- Breastfeeding rates in England and Scotland have shown minimal improvement since data collection commenced, and remain lower than in many other comparable high-income countries.
- New national strategies for infant nutrition are required, along with increased efforts to support women to initiate and maintain breastfeeding, with strengthened data collection across all four nations.

What is this indicator showing us?

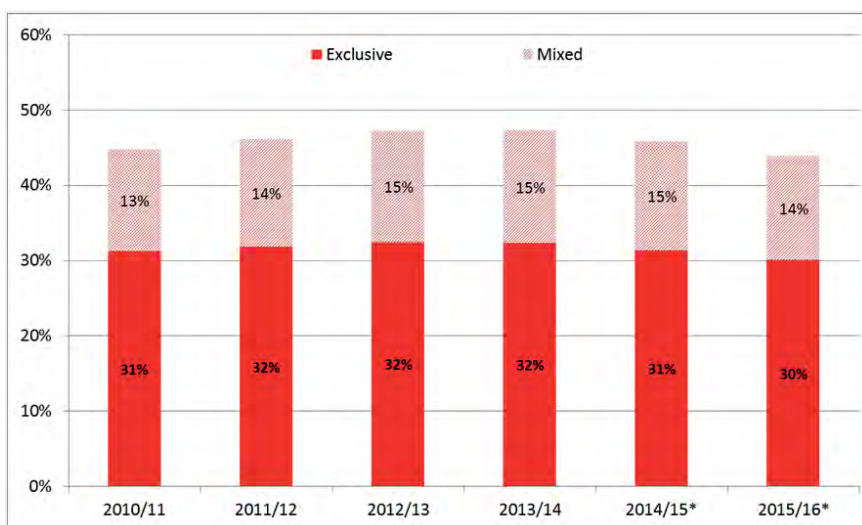
This indicator shows the number of women recorded as breastfeeding at their six to eight week health visitor review following the birth of their baby. Breastfeeding is recorded as either exclusive (the infant is only receiving breastmilk) or mixed (the infant is receiving a combination of breastmilk and infant formula).

Data availability

Exclusive and mixed data are available for England⁵⁶ and Scotland⁵⁷. Total breastfeeding data (not broken down by exclusive or mixed) are available for Northern Ireland⁵⁸ (in 2013/2014, 27.6% of infants were breastfed at six weeks). UK-wide breastfeeding comparison data were previously collected via the Infant Feeding Survey⁵⁹, capturing self-reported data. This survey was cancelled in 2015, and the last available data were collected in 2010.

Breastfeeding rates in England, Scotland and Northern Ireland

England



Latest data: 44% of mothers in England were recorded as breastfeeding at their 6 to 8 week health visitor review in 2014/2015 (either mixed or exclusive).

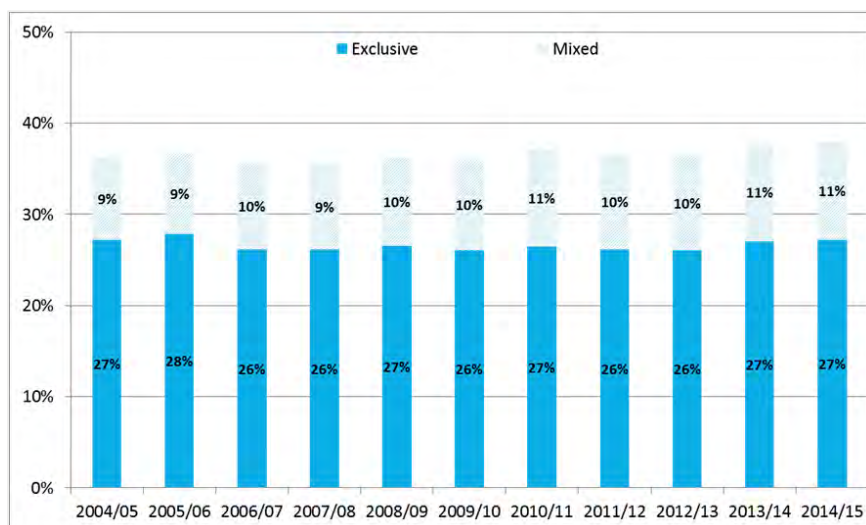
Trend: Although a slight increase in breastfeeding rates was observed from 2009 to 2011, this was not sustained.

Source: NHS England⁵⁶

(*) Note that methodology for data collection changed. Data coverage was 85% for these years and ≥90% for other years.

Figure 2.2.1: Proportion of women recorded as breastfeeding at 6 to 8 week review in England, 2010/2011 to 2015/2016

Scotland



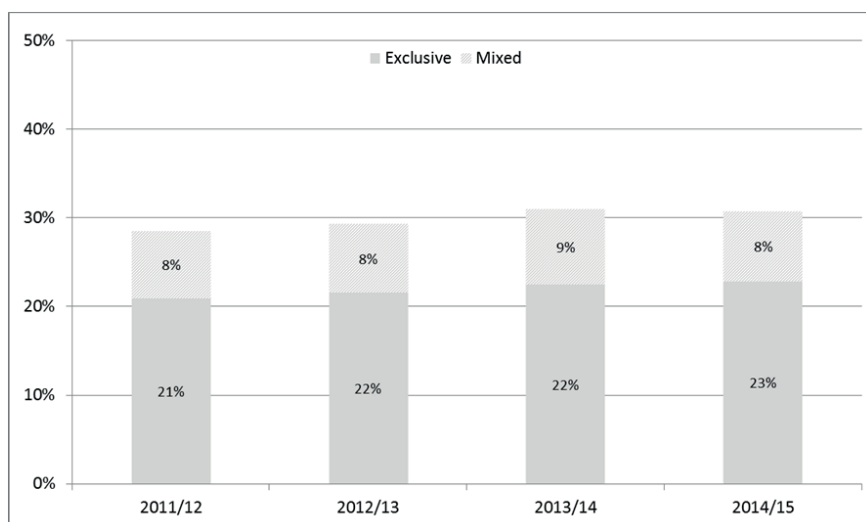
Latest data: 27% of mothers in Scotland were recorded as breastfeeding at their 6 to 8 week health visitor review in 2014/2015.

Trend: There has been minimal increase in breastfeeding rates at 6 to 8 weeks since 2004/2005; a 2% increase over 10 years.

Source: CHSP-PS, ISD Scotland⁵⁷

Figure 2.2.2: Proportion of women recorded as breastfeeding at 6 to 8 week review in Scotland, 2004/2005 to 2014/2015

Northern Ireland



Latest data: 23% of mothers in Northern Ireland were recorded as breastfeeding at their 6 to 8 week health visitor review in 2014/2015.

Trend: There has been a steady, gradual increase in breastfeeding rates at 6 to 8 weeks since 2011/2012; a 2% increase over three years.

Source: Child Health System (Northern Ireland)⁵⁸

Figure 2.2.3: Proportion of women recorded as breastfeeding at 6-8 week review in Northern Ireland, 2011/2012 to 2014/2015

Why is this indicator important?

Breastfeeding is beneficial for the overall health and wellbeing of children across their lifetime. In the UK exclusive breastfeeding is recommended for around the first six months of a baby's life, in line with recommendations from the World Health Organisation^{60,61}.

In early childhood, breastfeeding helps protect babies from gastro-intestinal, respiratory and ear infections^{62,63}, and hospitalisation for infections, and has additional benefits including increased intelligence; breastfeeding may result in reduced

risk of later overweight and Type 2 diabetes, but the evidence for these effects is less certain.

For mothers, breastfeeding provides protection against breast cancer and improves birth spacing; breast-feeding may protect against ovarian cancer and Type 2 diabetes, but again the evidence for these benefits is less certain.

For infants born preterm, breastmilk is particularly important, reducing the risk of infections and potentially life-threatening conditions such as necrotising enterocolitis

(where tissues in the bowel can become inflamed and die)²³.

Breastfeeding is also protective against developing obesity in childhood and in later life¹¹. There is also growing evidence that longer duration of breastfeeding has further benefits, being associated with increased intelligence, along with reducing the risk of developing diabetes and being overweight later in life^{64,65}.

Where are we now in the UK?

With support and knowledge, the vast majority of women should be able to breastfeed. However, women's decisions about breastfeeding balance the best interests of the infant, maternal options and choices and the very real difficulties some infants and mothers have in breastfeeding. Some women are unable to or choose not to breastfeed for a range of appropriate reasons. There are also a small number of infants who cannot be breastfed for medical reasons related to either the mother or the child.

Less than half (43.8%) of new mothers were breastfeeding by the six to eight week review in England in 2014/2015: 30.1% breastfeed exclusively, and 13.7% feed a mixture of breastmilk and formula. This is substantially lower than the 74.3% of new mothers who were recorded as initiating breastfeeding during the same period following the birth of their baby⁶⁶.

In Scotland, 38% of babies were breastfed at the six to eight week review in 2014/2015: 27.3% exclusively and 10.7% fed a mixture of breastmilk and formula. This is again lower than the 48.3% of women who were recorded to be breastfeeding at their first health visitor review soon after birth.

Time trends show little reason for optimism in either country. There has been no change in England since data collection commenced and minimal improvement in Scotland.

What does good look like?

Much higher breastfeeding rates and persistence of breastfeeding in comparable wealthy countries suggests that the UK needs to take action to improve breastfeeding initiation, breastfeeding at six to eight weeks and continued breastfeeding throughout the first six months of an infant's life.

There are limited data available to compare trends in breastfeeding internationally, particularly at six to eight weeks. An analysis of global breastfeeding prevalence at six months found that in the UK only 34% of babies are

receiving some breastmilk compared with 49% in the US and 71% in Norway⁶⁷.

The children and young people we consulted had mixed views around the importance of breastfeeding. Those who thought it was important believed that breastfeeding was good for the baby, contained more nutrients, was healthier, and provided a better start for babies because they get the correct antibodies. Others felt that it depends if the baby is well, and that a bottle can be just as good.

(RCPCH & Us[®] Voice Bank 2016)

How can we improve?

Reasons for the UK's low breastfeeding rates are complex. They include low levels of education of mothers, particularly young mothers and those from deprived groups, as well as practical problems in establishing breastfeeding after birth and concern about whether the infant is growing adequately and receiving sufficient milk. Negative perceptions by mothers of how breastfeeding is viewed by family, peers and the public appear widespread, and undoubtedly influence breastfeeding initiation and continuation.

In order to improve breastfeeding rates across the UK, governments, health agencies and health services must ensure that the wider community is informed about the importance of breastfeeding, that women feel socially supported to breastfeed and that all women have equitable access to high-quality breastfeeding support services.

Maternity services need to be equipped to support women to make informed choices about breastfeeding. This can be achieved through the UNICEF Baby Friendly Initiative accreditation which provides an evidence-based framework for best practice^{68,69}. Education should begin antenatally and continue through birth and beyond. Universal midwifery and health visiting services must continue to be commissioned and improved to help support breastfeeding initiation soon after birth and its subsequent continuation⁷⁰.

Research indicates that 81% of mothers who breastfed for less than a week and 86% of mothers who breastfed for between one and two weeks said they would have liked to have breastfed for longer⁵⁹. Failing to initiate

breastfeeding when it is highly desired is associated with post-natal depression.

Primary care and paediatric services also have a role and there should be improved education of paediatric and primary care teams to support breastfeeding.

National breastfeeding strategies should be developed or refreshed to strengthen efforts in this area, taking account of the lack of recent progress. Robust monitoring and evaluation of subsequent activities is essential⁷¹. Northern Ireland currently has a breastfeeding strategy in place for 2013 to 2023⁷², and Scotland launched their framework for improving maternal and infant nutrition in 2011⁷³.

Data collection is imperative to monitor national and local breastfeeding rates and support evaluation of existing breastfeeding services in line with the NICE *Postnatal Quality Service*

*Statement 5: Breastfeeding*⁷⁰. This is particularly important given the recent cancellation of the Infant Feeding Survey.



This first group of mothers live in the UK's **least deprived** areas. In this group of 20 mothers, around **13 mothers** would be breastfeeding (mixed or exclusive) at six weeks.



This second group of mothers live in the UK's **most deprived** areas. In this group of 20 mothers, around **nine mothers** would be breastfeeding (mixed or exclusive) at six weeks.

Spotlight on inequalities

There is a strong impact of deprivation on breastfeeding (mixed or exclusive) at six weeks across the UK. Data from the 2010 Infant Feeding Survey showed that 46% of mothers in the most deprived areas were breastfeeding, compared with 65% in least deprived areas. This difference was greatest for exclusive breastfeeding (see Figure 2.2.4). Breastfeeding also increases with maternal age, with around a quarter (24%) of women under 20 years of age breastfeeding at six weeks compared with around two-thirds (67%) of women aged 35 and over⁵⁹.

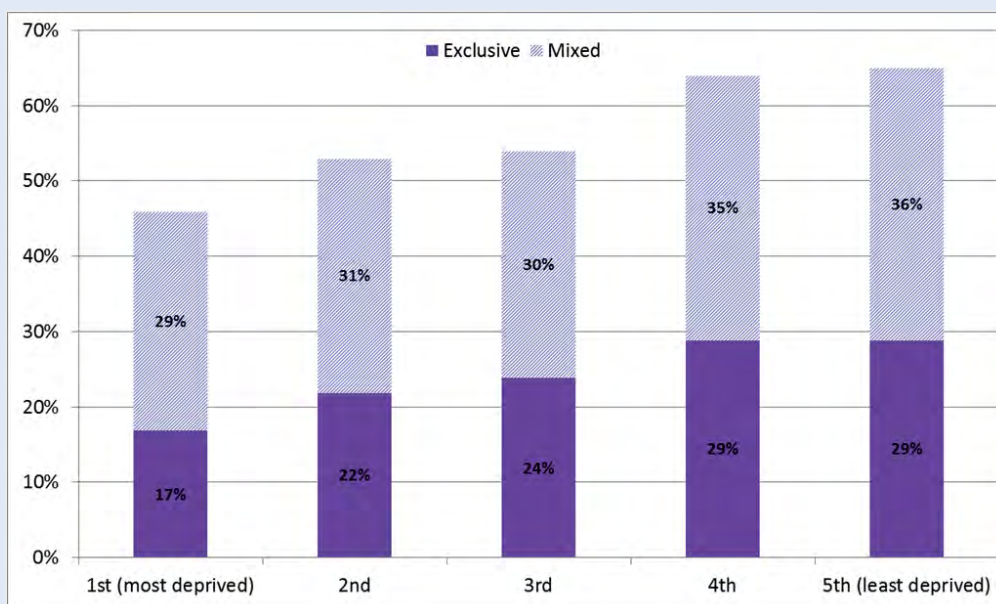


Figure 2.2.4: Proportion of mothers breastfeeding at six weeks by deprivation quintile (fifth of population) in the UK, 2010⁵⁹

Key actions

- National strategies for infant feeding should be developed or refreshed and evaluated.
- Robust and comparable data should be collected across the UK, measuring breastfeeding initiation, breastfeeding at six to eight weeks, and at suitable intervals up until 12 months of age. Data should be recorded centrally to allow for local, regional and national comparisons and monitoring of trends in different socioeconomic groups.
- All maternity services should achieve and maintain UNICEF Baby Friendly Initiative accreditation⁶⁸. All services should provide antenatal education and health promotion regarding breastfeeding to both parents.
- Local breastfeeding support should be planned and delivered to mothers in the form of evaluated, structured programmes, in line with NICE *Postnatal Quality Statement 5: Breastfeeding*⁷⁰.
- Ensure preservation of universal midwifery and health visiting services to all mothers.
- Healthy infant nutrition should be taught as part of statutory personal health and social education in secondary schools.

Additional data note

Data for England extend from 2008/2009 to 2014/2015 and were collected directly from maternity service providers and child health information system providers. Data for 2008/2009 did not pass data quality checks and are therefore not presented here.

Data for Scotland extend from 2004/2005 to 2014/2015 and were collected by a health visitor and recorded on the national Child Health Systems Programme Pre-School System.

Chapter 2: Conception, pregnancy and infancy

2.3 Immunisation

Proportion of children who received the full course (three doses) of the 5-in-1 vaccination by 12 months

Key messages

- Vaccinations in early childhood protect children against serious and potentially fatal diseases. By 12 months of age, babies should have received several vaccinations, including three doses of the 5-in-1 vaccination.
- Since 2006/2007, the uptake rate of the 5-in-1 vaccine across the UK has increased modestly.
- Wales, Northern Ireland and Scotland meet the WHO target of having vaccination rates for the full course of the 5-in-1 vaccine at 12 months above 95%; England falls below this target at 94.2%.

What is this indicator showing us?

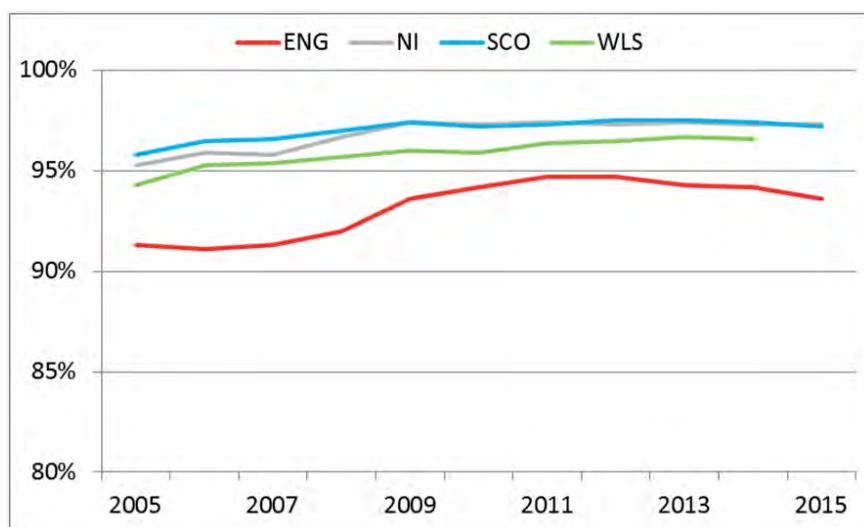
This indicator shows us the proportion of babies in the UK who, by 12 months of age, have received all three doses of the 5-in-1 vaccination to protect them against five communicable diseases: diphtheria, tetanus, whooping cough (pertussis), polio and *Haemophilus influenzae* type b (Hib). There are multiple potential vaccination indicators; this was chosen as the best proxy for system coverage.

Data availability and comparability

Data for England, NI, and Wales are collected via the Cover of Vaccine Evaluated Rapidly (COVER) programme⁷⁴⁻⁷⁷. Data for Scotland are collected by the Information Services Division Scotland⁷⁸. Data for England and Wales are presented in financial years; data for Wales and Northern Ireland are presented by calendar year (see additional data note).

Immunisation rates in England, Northern Ireland, Scotland and Wales

5-in-1 vaccination



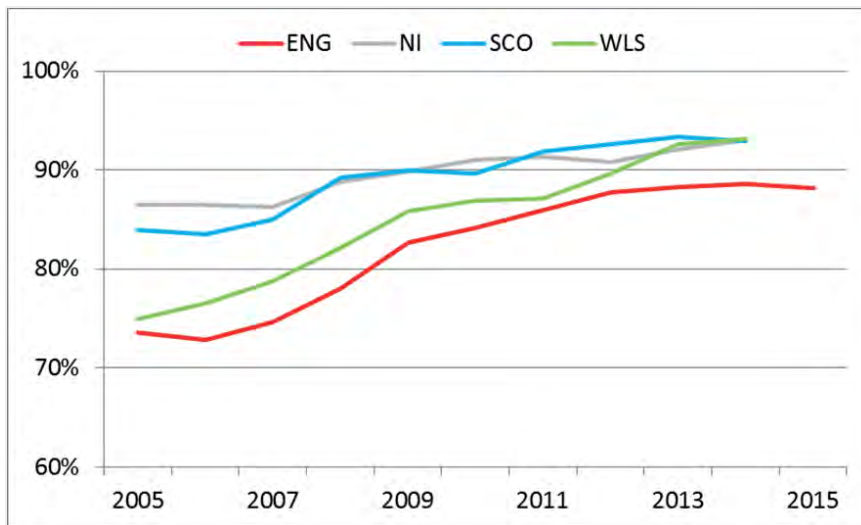
Latest data: In 2015 England's 5-in-1 immunisation rate was 93.6%, and Wales' was 96.6% in 2014. In 2015, Northern Ireland's 5-in-1 immunisation rate was 97.3%, and Scotland's was 97.2%.

Trend: Since 2005, the uptake rate of the 5-in-1 vaccine across England and Wales has increased – both by 2.3%, with minor year-on-year fluctuations. The uptake rate of the 5-in-1 vaccine across Northern Ireland and Scotland also increased between 2005 and 2015: 2% and 1.4% respectively, with minor year-on-year fluctuations.

Most recent annual data coverage available for the 5-in-1 vaccination at 12 months in England 2015/2016 is 93.6% – slightly lower (0.6%) than in 2014/2015 at 94.2%.

Figure 2.3.1: 5-in-1 vaccination (at 12 months) uptake rates in the UK 2005 to 2015, by country and calendar year

MMR2 vaccination



Latest data: Most recent uptake data (2015) for both doses of the MMR vaccination in England was 88.2% (0.4% lower than 2014/2015 at 88.6%). For Northern Ireland and Scotland in 2014, the uptake rates were 93.0% and 92.9% respectively. For Wales in 2013, the uptake rate was 92.6%.

Trend: Since 2005 the uptake rate has increased significantly across all countries.

Source: Public Health England, Public Health Wales Health Protection Division, ISD Scotland, HSC Public Health Agency

Figure 2.3.2: MMR2 vaccination (at 5 years) uptake rates in the UK 2005 to 2014, by calendar year

Why is this indicator important?

Immunisation across the life course is vital for the prevention of many communicable diseases and their associated morbidity and mortality. The World Health Organisation (WHO) reports that vaccinations prevent an estimated 2.5 million deaths globally each year, with the annual number of deaths in children under five years of age reducing from approximately 9.6 million to 7.6 million between 2000 and 2010⁷⁹.

The 5-in-1 vaccine is a single injection administered on three separate occasions at 8, 12 and 16 weeks of age providing protection against five diseases⁸⁰:

- Diphtheria
- Tetanus
- Pertussis (whooping cough)
- Polio
- Hib (*Haemophilus influenzae* type b)

Apart from tetanus (which is not passed from person-to-person), these diseases are generally highly contagious and can cause a range of debilitating symptoms which are, in some cases, fatal⁸¹⁻⁸⁴.

In addition to the 5-in-1 vaccination, it is useful to examine uptake of the measles, mumps and rubella (MMR) vaccine later in early childhood. The first dose of the MMR vaccine is offered to children at one year of age with a second dose at three years four months, although this can be given earlier.

High rates of vaccination result in high levels of immunity to infections throughout the population (herd immunity), which is particularly important for protecting individuals who cannot be vaccinated and can also lead to the elimination of some diseases. Even when a disease is no longer common in the UK, without sustained high rates of vaccination it is possible for these diseases to return⁸⁵, as we have seen with measles outbreaks.

Where are we now in the UK?

The WHO recommended immunisation rate against vaccine-preventable diseases is at least 95%. The 5-in-1 uptake rates from 2015 in the UK (excluding Wales) averaged 94.0%, ranging from 94.2% in England to 97.3% in Northern Ireland and 97.2% in Scotland (latest rate for Wales was 96.6% in 2014), meaning that only coverage in England is currently below this target⁸⁶.

Coverage for the 5-in-1 for all four nations has increased overall since 2005, with England seeing the greatest increase at 2.3% over 11 years.

It is relevant to look at uptake rates for other vaccinations, such as MMR. Data from 2013 show that vaccination rates for two doses of the MMR vaccine by age five across the UK averaged 89.2%, ranging from 88.6% in England to 92.6% in Wales and Scotland and 92.1 in Northern Ireland all of which are below the WHO target of 95%.

Since its introduction in 1988 in place of the single-antigen measles vaccine⁸⁷, the MMR vaccine had a relatively high uptake at 80–90% between 1988 and 2000⁸⁸. A significant decrease in the uptake of MMR vaccine occurred during the early 2000s, resulting from much publicised concerns over a possible link between the vaccine and autism and bowel disease after a paper published in 1998 was interpreted as suggesting such a link. The paper was later retracted and in 2013 uptake of the first dose of MMR vaccine in England was reported to have recovered and to be at its highest levels since its introduction in 1988⁸⁹. Subsequently, uptake of the first MMR dose has declined slightly in England to 91.9% in 2015/2016⁷⁷, but it still remains higher than before the MMR controversy.

What does good look like?

An effective vaccination programme should be taken up by as much of the target group as possible. This will ensure that the greatest number of infants, children and young people are protected from vaccine-preventable diseases and will also provide protection to unimmunised infants and children through herd immunity.

Immunisation rates of the 5-in-1 vaccine in England are currently below the WHO recommended level of at least 95%, although six out of nine regions are meeting this target⁹⁰. We should therefore aim to increase vaccination coverage throughout the population, with a particular focus on areas where rates are below the WHO threshold.

Spotlight on inequalities

A recent study of vaccination uptake at five years of age in England found that lower immunisation coverage of the 5-in-1 booster and second MMR dose at five years of age was associated with higher area-level socioeconomic deprivation, although the strength of association was weak⁹¹.

However, there is evidence that immunisation uptake rates may increase or decrease with deprivation. Some studies have found that mothers of unimmunised infants are older and more highly qualified than those of partially immunised infants⁹².

Geographic variation has also been shown to have an impact on vaccination uptake rates (see Figure 2.3.3), and many English regions meet the WHO target whilst others do not. Poor uptake of vaccinations in London may be due to a number of factors: greater fragmentation of services; high mobility of the population; children not registered with a GP, including vulnerable groups such as refugee children; non-participation in immunisation programmes as parents become more knowledgeable and are able to make informed decisions about vaccinating their children. These factors may also contribute to the inaccuracy of immunisation data and falsely lower immunisation coverage rates⁹³.

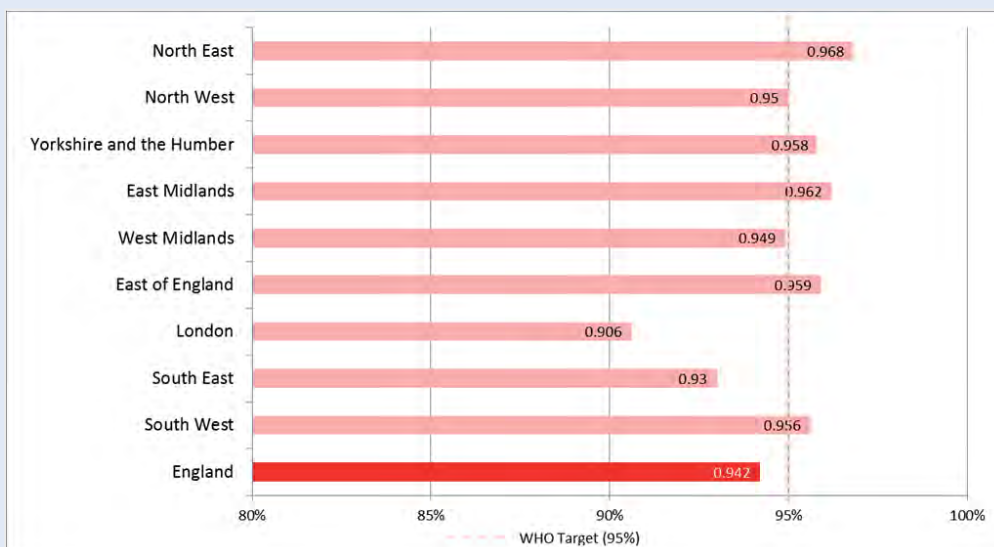


Figure 2.3.3: 5-in-1 coverage at 12 months, England by region 2014/2015⁹³

How can we improve?

National strategies to raise awareness and promote the importance of immunisations throughout childhood are required to both maintain and improve current immunisation uptake, with strong clinical leadership among public health, primary care and secondary care health professionals⁹⁴.

Central to any strategy needs to be robust data collection systems which enable children who have missed immunisations to be followed-up locally, as outlined by the National Institute for Health and Care Excellence (NICE)⁸⁶.

There are a range of barriers which can impact on immunisation uptake, such as lack of access to services, perceived medical contraindications, and other competing pressures. Given this, care must be taken to better understand how to tailor interventions and increase uptake for different social and cultural groups^{95,96}.

To date there is limited evidence on ways to successfully address vaccine refusal⁹⁷. There needs to be continued research and evaluation of strategies to increase uptake in families where a conscious decision has been made to not immunise their child in the absence of a medical indication⁹⁵.

Key actions

- Maintain high awareness of the importance of immunisation across the UK through national strategies which ensure leadership across all health professional groups.
- Strengthen implementation of NICE guidance, *Reducing differences in the uptake of immunisations (PH21)*, including, but not limited to, robust local monitoring of the vaccination status of children and young people and adopting multifaceted programmes across different settings⁸⁶.
- Recognise the impact of various social factors, including deprivation, on vaccine uptake, developing and evaluating methods to increase uptake within these groups.
- Further research into methods to improve vaccination uptake amongst families who make a conscious decision not to vaccinate their child.
- All child health professionals to improve vaccination rates, and, if necessary, to signpost families to register their children with a general practitioner.

Additional data note

England: Primary 5-in-1 coverage figures are only published from 2006/2007 onwards; figures for 2005/2006 cover the primary diphtheria vaccine only.

Scotland: Primary 5-in-1 coverage figures are only published from year ending December 2011; figures for 2006-2010 cover the primary diphtheria vaccine only.

Comparison of UK 5-in-1 and MMR2 vaccine uptake rates are based on 2013 figures as complete data for all four nations were available in 2013 only.

Lower uptake rates of immunisations in London have been exacerbated by high levels of social mobility. There are a large number of ethnic groups living in London and the population is transient, with some areas experiencing a 20-40% turnover on GP lists⁹³. As a result, it can prove difficult for localities and GP practices to maintain an accurate record of immunisation figures.

Chapter 3: Early years

3.1 Healthy weight when starting school

Proportion of children at a healthy weight during their first year of primary school

Key messages

- Weight status at the commencement of primary school is an important predictor of health outcomes later in life.
- Across England, Scotland and Wales more than one in five children during their first year of primary school are overweight or obese.
- There has been minimal overall improvement in the proportion of children at a healthy weight in the past decade in any country.
- Children living in the most deprived areas are much more likely to be overweight or obese compared to children in the least deprived areas.
- The promotion of healthy weight in children requires a range of interventions to both reduce the obesogenic environment and target critical periods in the life course.

What is this indicator showing us?

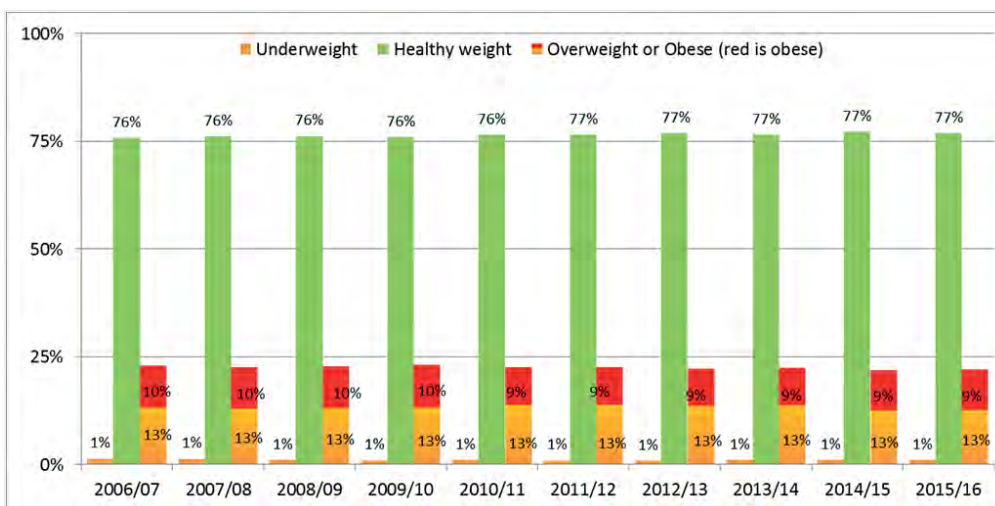
This indicator shows us the proportion of children who are a healthy weight, underweight, overweight and obese during their first year of primary school, using cut-offs based upon the Body Mass Index (BMI) as a measure of weight for height relative to sex and age.

Data availability and comparability

Data on children’s weight at school entry are available in England, Wales and Scotland. In England and Wales the height and weight of children are measured between 4.0 to 5.5 years through the National Child Measurement Programme England, and the Child Measurement Programme for Wales^{98,99}. In Scotland children are measured between 4.5 and 6.25 years as part of a universal Child Health Programme (see additional data note)¹⁰⁰.

Proportion of children at a healthy weight when starting school in England, Wales and Scotland

England



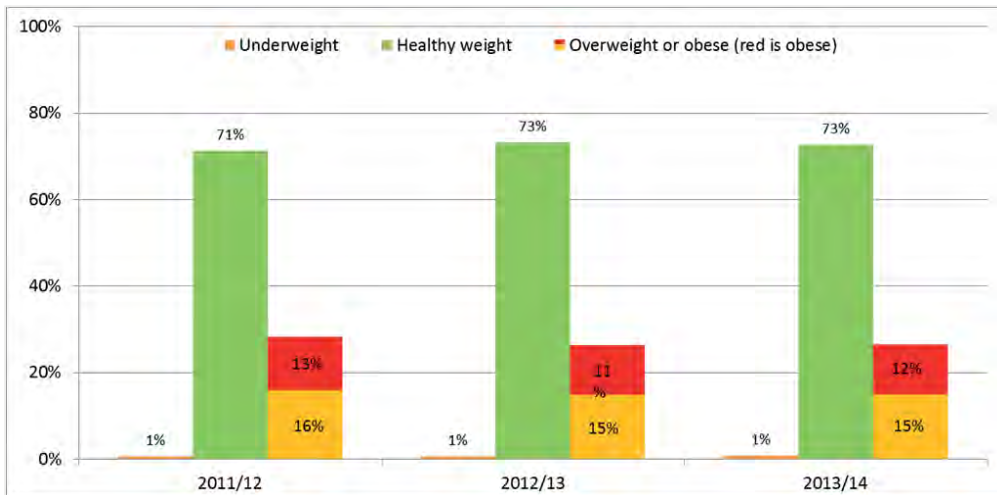
Latest data: In 2015/2016, 77% of children at school entry in England were within the healthy weight BMI centile.

Trend: Since the National Child Measurement Programme began, there has been little improvement in the number of children at a healthy weight in England.

Source: National Child Measurement Programme, England

Figure 3.1.1: Proportion of children underweight, healthy weight, overweight or obese in England, 2006/2007 to 2015/2016

Wales



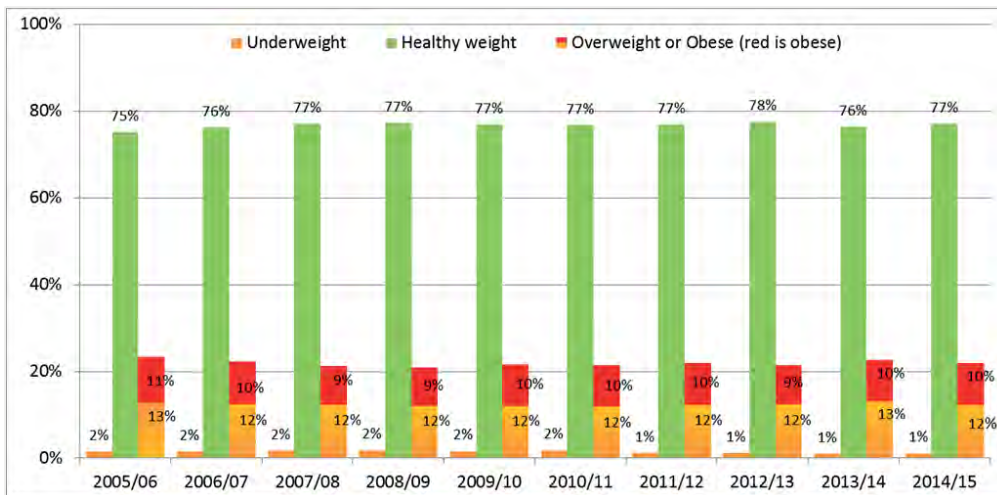
Latest data: In 2013/2014, 73% of children at school entry in Wales were within the healthy weight BMI centile.

Trend: Since the Child Measurement Programme began, there has been little improvement in the number of children at a healthy weight in Wales.

Source: Child Measurement Programme for Wales.

Figure 3.1.2: Proportion of children underweight, healthy weight, overweight or obese in Wales, 2011/2012 to 2013/2014

Scotland



Latest data: In 2014/2015, 77% of children at school entry in Scotland were within the healthy weight BMI centile.

Trend: Since the Child Health Programme began, there has been little improvement in the number of children at a healthy weight in Scotland.

Source: Child Health Programme, Scotland.

Figure 3.1.3: Proportion of children underweight, healthy weight, overweight or obese in Scotland, 2005/2006 to 2014/2015

Spotlight on inequalities

Data from England, Wales and Scotland illustrate the very strong relationship between deprivation and overweight/obesity prevalence. As deprivation increases the number of children at a healthy weight decreases, and the number of children measured as overweight or obese increases.

The most recent data show that overweight and obesity prevalence for children living in the most deprived areas is greater than it is for those living in the least deprived areas: in England, 25.8% compared to 18.0%; in Scotland, 25.1% compared to 17.1%. This pattern is in contrast to the early 1970s where obesity prevalence was greater in children from the most affluent areas than in the most deprived¹⁰¹.

Of most concern, in England it appears that overweight and obesity may be reducing over time in the least deprived but not amongst the most deprived.



Figure 3.1.4: Trends in proportions of overweight and obesity for England and Scotland by deprivation quintile 2010/2011 to 2014/2015 or 2015/2016^{98,100}



This second group of children live in England and Scotland's least deprived areas. Of these 20 children at least **three** would be overweight or obese in 2014/2015.



This first group of children live in England and Scotland's most deprived areas. Of these 20 children at least **five** would be overweight or obese in 2014/2015.

Why is this indicator important?

The childhood obesity epidemic presents one of the greatest health threats both to children and their future and the UK's future. This threat is now universal across all countries, rich and poor¹⁰².

Weight status in early childhood is an important predictor of overweight and obesity in later life and of health and mortality risk across the life-course¹⁰²⁻¹⁰⁴. Overweight also has a major impact on health and wellbeing in childhood¹⁰².

Being overweight or obese during childhood can^{102,105,106}:

- lead to an increased risk of a host of conditions including Type 2 diabetes, high blood pressure, cardiovascular disease and bowel cancer
- negatively impact educational attainment

- lead to low self-esteem and negative body image, and limit the ability to take part in physical activity
- increase visits to GP

Assessing weight status in early childhood is an essential part of a coordinated approach to childhood obesity prevention, and for individuals it is key to taking action to help children stay on or return to a healthy weight across their life. Recognition is a problem – it is estimated that a third of parents in England are unable to recognise that their children are overweight¹⁰⁷.

Where are we now in the UK?

In 2015/2016 around 77%, or just over three in four children, were within the healthy weight category during their first year of primary school in England and Scotland. In Wales, the proportion was slightly lower at 73%.

Across all three nations, more than one in five children during their first year of primary school were overweight or obese, with Wales having the highest proportion of children assessed as overweight or obese.

The proportion of children at a healthy weight, underweight, and overweight and obese has not changed substantially over the past five to 10 years, although rates of children who are overweight are still higher than those recorded in 1994¹⁰⁸. This is in contrast to the gradual increase in the proportion of overweight and obese 5 and 6-year-olds living in Scotland from the mid-1970s until 2000¹⁰¹.

“Many young people don’t realise how fun sport can be.”

RCPCH & Us[®] Voice Bank 2016

What does good look like?

Childhood obesity is very largely preventable. Therefore, we should aim for a decrease in the proportion of children who are overweight or obese across all countries. A logical target is 5%, the expected prevalence of obesity arising from the definition of obesity as BMI at or over the

95th centile when the UK growth reference was devised. Reductions in underweight should also be a target.

Although the relative plateau of obesity across most countries is welcome, it is not enough.

How can we improve?

The causes of obesity in childhood are multifaceted, with contributions from multiple aspects of environmental change (leading to the so-called ‘obesogenic’ modern environment) together with genetic and likely epigenetic factors. There is therefore no single intervention or policy approach that can be implemented to deal with the issue.

When implementing initiatives it is important to consider the multitude of stakeholders involved, including parents, children, businesses and civil society actors, in addition to government¹⁰⁹. It is also important to consider the social and cultural context of childhood obesity and, in particular, address the growing inequality in childhood obesity.

The WHO Report on Ending Childhood Obesity 2016 emphasised the need for coordinated cross-sectorial action and a strong focus on actions in pregnancy and early life¹⁰². A full set of policy recommendations is set out in the RCPCH 2015 report *Tackling England’s Childhood Obesity Crisis*¹¹⁰.

The recent announcement to introduce a sugar levy in the UK is welcomed. However, we must ensure that this new tax is robustly evaluated and, if successful, consideration should be given to extending this levy to other sugar-sweetened products.

The government in England has recently introduced a Childhood Obesity Plan. Whilst disappointing in its reach, it is one of the few international cross-government strategies to specifically and strategically address childhood obesity. Robust evidence-based childhood obesity strategies are needed across all countries, involving government departments and including rigorous evaluation.

Additionally, we must ensure that children who have significant obesity have timely access to evidence-based weight-management services.

Key actions

- Enact cross-government childhood obesity strategies across all countries, including rigorous evaluation and quality improvement plans.
- Robust evaluation to monitor the effectiveness of the proposed sugar levy and other sugar-reduction initiatives on sugar-sweetened beverages in all countries.
- Expand nutritional standards to all schools. Make school-based health education a statutory subject in all schools, with schools focusing on the importance of both physical activity and nutrition.
- Introduce a ban across the UK on the advertising of foods high in saturated fats, sugar and salt before 9pm, and evaluate the impact of online food marketing on children.
- Extend the reach and effectiveness of universal measurement programmes in different countries to include an increase in the number of measurement points and longitudinal tracking of children, starting much earlier in childhood. There should be sharing of data with general practitioners, school nurses and parents. Introduce Year 6 and P6 cohorts in child measurement programmes in Scotland, Wales and Northern Ireland.
- Support a research environment that enables sustained, long-term expansion of basic science and applied research to identify the causes of obesity and effective interventions to tackle it.
- Ensure that overweight and obese children have timely access and support to attend evidence-based programmes, via prescriptions or referrals by their GP.
- Ensure children with significant underweight have timely access to specialist child health services

Additional data note

BMI is calculated as weight divided by height squared (kg/m^2) and is a measure of weight independent of height. Assessing BMI in children is more complicated than in adults, because children's BMI will change as they grow and mature. BMI centiles are therefore used to measure how far a child's BMI is above or below the average BMI value for their age and sex, and usually categorised as healthy weight, overweight, obese or underweight¹¹¹⁻¹¹³.

Categories based upon BMI centiles are calculated for surveillance purposes¹⁰⁰ as follows:

- **Underweight:** a BMI centile less than or equal to the 2nd centile
- **Healthy weight:** a BMI centile greater than the 2nd centile but less than the 85th centile
- **Overweight:** a BMI centile greater than or equal to the 85th centile but less than the 95th centile (i.e. overweight but not obese)*
- **Obese:** a BMI centile greater than or equal to the 95th centile

There is variation in the age of children when they are measured. For example, in Scotland a child's age at measurement ranges from around 4.5 to 6.25 years, whereas in England it ranges from 4.5 years to 5.5 years. As resulting BMI centiles are adjusted for age, this variation has a negligible impact on the BMI distribution rates reported. However, data have been displayed separately for each nation.

Data are collected as part of the Health Survey Northern Ireland¹¹⁴ but are aggregated for ages two to 10 years and therefore are not comparable.

Chapter 3: Early years

3.2 Healthy teeth and gums

Proportion of children with no obvious tooth decay at age five

Key messages

- Good oral health is essential for children’s overall health and wellbeing.
- Despite tooth decay being almost entirely preventable, 31 to 41% of 5-year-old children across the UK have evidence of tooth decay, with rates higher for those in deprived populations.
- Tooth decay is the most common single reason why children aged five to nine require admission to hospital.
- Good oral hygiene and reduced sugar consumption, coupled with access to timely primary dental care, are important for reducing tooth decay in children.

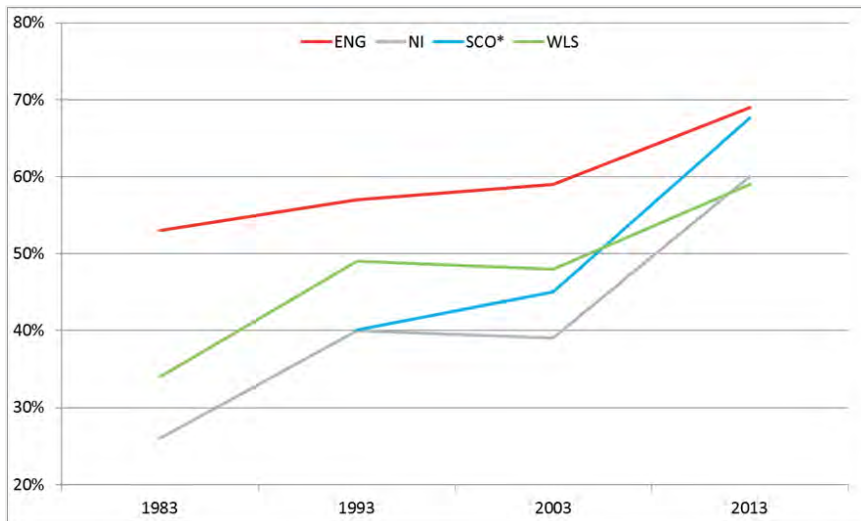
What is this indicator showing us?

This indicator shows the proportion of 5-year-olds with no obvious tooth decay (also known as dental caries) in their primary (baby or milk) teeth.

Data availability and comparability

Comparable data for England, Northern Ireland and Wales are collected as part of the Children’s Dental Health Survey, a representative sample of children aged five, eight, 12 and 15 years who undergo a dental examination every 10 years¹¹⁵. Data presented for Scotland are taken from the National Dental Inspection Programme, a universal biennial dental examination of children during their first and final years of primary school (see additional data note)¹¹⁶.

Health teeth and gum rates for England, Northern Ireland, Scotland and Wales



Latest data: The proportion of 5-year-old children with no obvious tooth decay in 2013 was 69% in England, 68% in Scotland, 60% in Northern Ireland and 59% in Wales.

Trend: Since the early 1990s there has been an increase in the proportion of 5-year-olds with no obvious tooth decay across all four nations. Improved oral health since 2003 has been most noticeable in Scotland (23% increase) and Northern Ireland (21%).

Source: Children’s Dental Health Survey for England, Northern Ireland and Wales and the National Dental Inspection Programme for Scotland (see additional data note*)¹¹⁷⁻¹²¹.

Figure 3.2.1: Proportion of children aged five years with no obvious tooth decay in their primary teeth, 1983 to 2013

Spotlight on inequalities

Tooth decay remains a significant public health issue, particularly for deprived populations where children are less likely to have good oral hygiene practices and more likely to have high sugar diets; these risks are often coupled with poorer access to dental care⁹⁴. Figure 2 shows that 5-year-olds living in the most deprived areas of England, Northern Ireland and Wales were at least three times more likely to experience severe tooth decay than their peers living in the most affluent areas.

Data from Scotland also show a similar trend. In 2014, 53% of 4- to 5-year-old children in the most deprived quintile showed no obvious decay, compared with 83% in the least deprived quintile¹²¹.

In England, in 2015, around 32% of 5-year-olds living in the most deprived local authorities had tooth decay compared to around 18% living in the least deprived local authorities¹²².

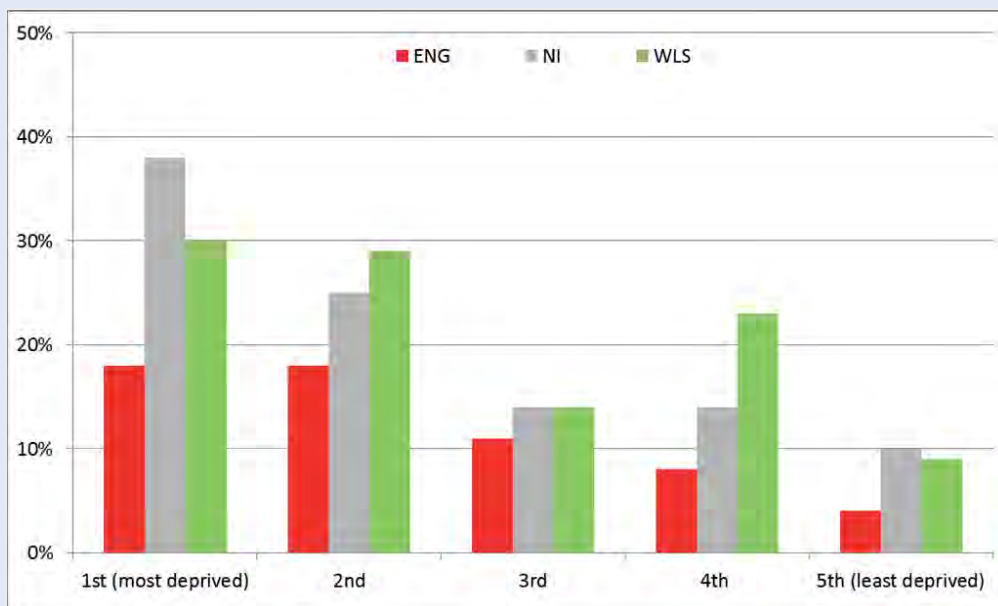


Figure 3.2.2: Proportion of 5-year-olds with severe or extensive tooth decay by deprivation quintile (fifth of population) in 2013 for England, Wales and Northern Ireland

Why is this indicator important?

Poor oral health can have a major impact on a child's physical health and their quality of life^{123,124}. Poor oral health and tooth decay in early childhood can lead to a series of health problems, including^{124,125}:

- pain;
- infections;
- altered sleep and eating patterns;
- school absence; and
- need for dental extraction (with the potential for subsequent dental problems later in life).

Tooth decay occurs when mouth bacteria produce acids which soften the outer covering (enamel) of the tooth. Research suggests that development of these bacteria may be compensated in part by good oral hygiene practices and diet¹²⁶. Sugar has been found to be an important factor in the development of tooth

decay, as it can fuel the acid formation by oral bacteria^{120 125}.

Whilst this indicator specifically looks at 5-year-olds, good oral health is important for children of all ages.



This first group of children live in Northern Ireland's **least deprived** areas. In this group of 20 children, **two children** would be experiencing severe or extensive tooth decay.



This second group is children live in Northern Ireland's **most deprived** areas. In this group of 20 children, almost **eight children** would be experiencing severe or extensive tooth decay.

Where are we now in the UK?

Over the past few decades dental health across the UK has improved considerably, due to increased awareness of oral hygiene practices and the availability of fluoride¹²⁵.

Across the four nations around three in five children now have no obvious tooth decay. Since 2003, the rate of improved oral health in children has been most noticeable in Scotland (23%) and Northern Ireland (21%)¹¹⁷⁻¹²¹.

Further, in comparison with other European countries, England (along with Finland, Denmark and Germany) has the lowest decayed, missing or filled teeth (DMFT) scores^{127,128} for 12-year-olds, according to data from the WHO Oral Health Database. As there are variations in data collection methodologies across Europe, caution must be taken when making international comparisons.

Despite these improvements, tooth decay remains the most common single reason that children aged five to nine require admission to hospital, in many cases requiring general anaesthetic for tooth extraction¹²⁵.

What does good look like?

Tooth decay is almost entirely preventable. We should expect to see a steady increase in the number of children with no tooth decay at age five across the UK, with an ultimate aim of eradicating tooth decay in almost all children.

How can we improve?

Promoting improved oral health in children requires action at a national, local and individual level, and should be evidence-based and standardised.

Families need to be equipped from birth with the knowledge to enable good oral hygiene and encouraged to maintain regular brushing. All children should receive their first check up as soon as their first teeth come through and by their first birthday (Dental Check by One), and this should be recorded in their Personal Child Health Record. Paediatricians should include oral health in assessment of children's all-round health.

Reduction in consumption of high-sugar foods, particularly drinks, is key; national actions to reduce sugar in children's food should be accompanied by education of children and parents in reducing and replacing high-sugar foods and drinks.

Children need timely access to both primary and specialist dental care to reduce the likelihood of serious complications following early tooth decay.

Fluoridation of public water supplies also requires consideration as an effective public health measure which has been shown to also reduce health inequalities^{129,130}.

Key actions

- Ongoing development, implementation and evaluation of national oral health programmes for children and young people across the UK, building on existing initiatives, including Childsmile (Scotland) and Designed to Smile (Wales)^{131,132}.
- All children in the UK should receive their first check-up as soon as their first teeth come through, and by their first birthday, and have timely access to dental services for preventative advice and early diagnosis of dental caries, with targeted access for vulnerable groups^{133,134}.
- Fluoridation of public water supplies, particularly in areas where there is a high prevalence of tooth decay.

Additional data note

The Children's Dental Health Survey collective sample size for children aged five in England, Northern Ireland and Wales for the 2013 inspection was 2,549.

The Scottish National Dental Inspection Programme captures data following universal biennial dental examinations of children during their first and final years of primary school. The sample size for Primary 1 children (4 to 5 years) for the 2014 inspection was 16,251.

Data for Scotland are not directly comparable with the other three nations. However, the Scottish data have been interpolated to correspond with the Children's Dental Health Survey (e.g. data for 1992 and 1994 have been averaged to produce a figure for 1993).

In all cases, except for the data from the Children's Dental Health Survey in 2013, the proportion of children with healthy teeth was calculated by subtracting the proportion of children with tooth decay from the total population.

Chapter 3: Early years

3.3 Hospital admissions due to non-intentional injury

Rate of hospital admissions for non-intentional injuries in children under 5 years

Key messages

- In 2014/2015 there were 45,168 non-intentional injury-related hospital admissions across England, Scotland and Wales for children under five years.
- Injuries are non-random, preventable events. Yet non-intentional injuries remain a major cause of ill health and serious disability in children that require continued focus on safety improvements.
- Around 72% of non-intentional injuries in children occur in the home.
- Injury reductions can be achieved at low cost, particularly through parent education and local coordination.

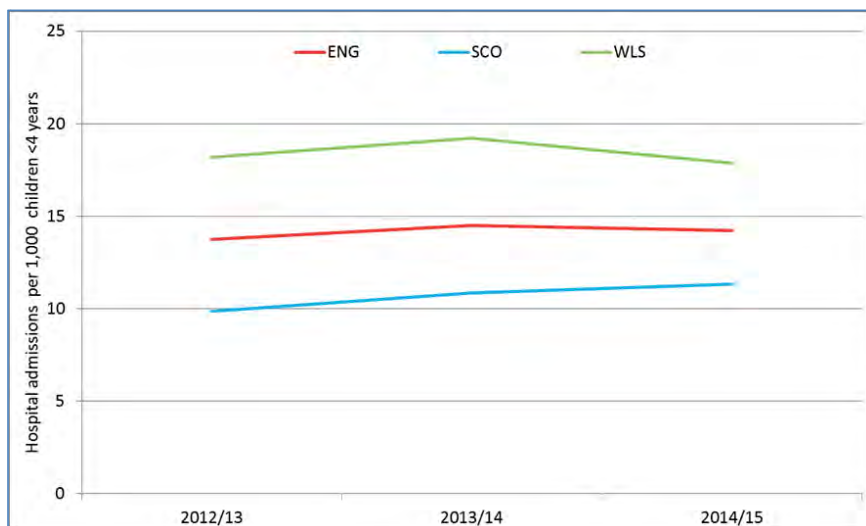
What is this indicator showing us?

This indicator shows the rate of children (one to four years in England and Wales, and 0 to four years in Scotland) who have been admitted to hospital for non-intentional injury and the top three causes of admission by injury type per 1,000. Note that this excludes road transport injury admissions.

Data availability and comparability

In England, Scotland and Wales, hospital admissions due to non-intentional injury are recorded by diagnostic codes relating to the cause of the patient's emergency hospital attendance between 2012 and 2015 (for children up to four years). Note that data for Scotland do not include infants younger than one year. Data are also collected by the Royal Society for the Prevention of Accidents, and the Royal College of Emergency Medicine.

Hospital admission rates due to non-intentional injuries in children under 5 years in England, Scotland and Wales



Latest data: The number of children who were admitted to hospital due to non-intentional injury in 2014/2015 was 18 per 1,000 in England, 14 per 1,000 in Wales, and 11 per 1,000 population in Scotland.

Trend: During the last three years across the three nations, the number of non-intentional injuries per 1,000 population has been essentially unchanged, with a slight increase in admissions in Scotland, and a decrease in England and Wales.

Source: Hospital Episode Statistics (HES) for England¹³⁵⁻¹³⁷, Patient Episode Database for Wales and NHS Wales Informatics Service (PEDW)¹³⁸, and ISD for Scotland¹³⁹⁻¹⁴¹ and Population Estimates (ONS)²⁸.

Figure 3.3.1: Children (<4 years) admitted to hospital for non-intentional injury by country per 1,000 population 2012/2013 to 2014/2015

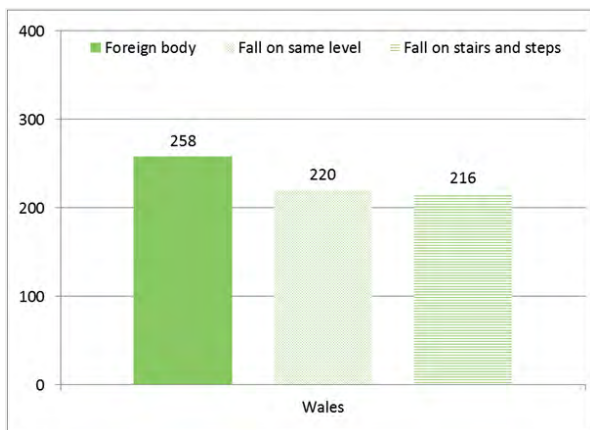
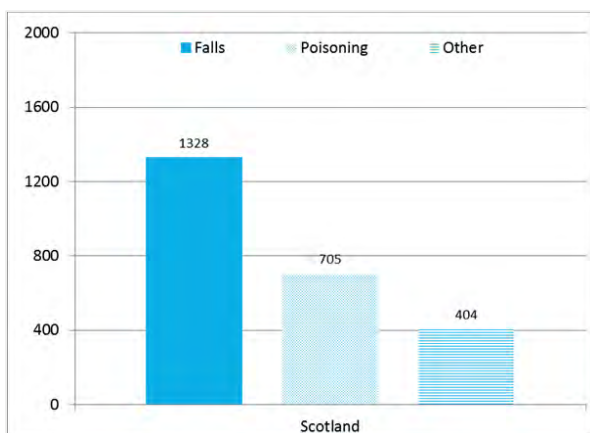
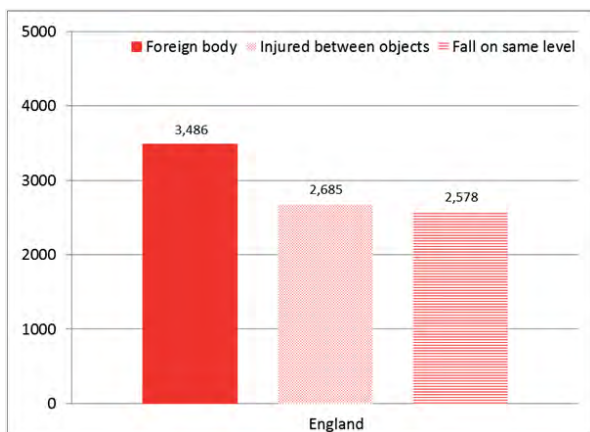


Figure 3.3.2: Top three total hospital admissions by non-intentional injury type in children (<5 years) in England, Scotland and Wales, 2014/2015

Latest data: In 2014/2015 the most common injury type was recorded as 'foreign body' in England and Wales, and 'falls' in Scotland. The difference in cause patterns between countries may reflect differences in coding of cause of admission.

Source: Hospital Episode Statistics (HES) for England¹³⁵⁻¹³⁷, Patient Episode Database for Wales and NHS Wales Informatics Service (PEDW)¹³⁸, and ISD for Scotland¹³⁹⁻¹⁴¹.

Why is this indicator important?

Injuries are not 'accidents' but are non-random events that are preventable through action at family, local and national levels. The impact of severe injuries on children and families can be immense.

Non-intentional injuries make up around 1-2% of hospital admissions for children (<5 years) in England, Wales and Scotland and are one of the leading causes of ill health, serious disability and even death in this age group¹⁴². The great majority (72%) of non-intentional injuries occur in and around the home in this age group, emphasising the need for a focus on home safety improvement.

Safety recommendations may also help reduce the cost burden on the NHS. The estimated wider costs associated with a serious accident at home in a young child are around £33,000, a potentially avoidable burden on the NHS and society¹⁴².

Inequality in risk of injury is stark. One study suggested that the most deprived have 13 times the risk of death due to injury compared to the most affluent in society, highlighting the need for action to target inequalities¹⁴³.

Where are we now in the UK?

In 2014/2015 there were 45,168 non-intentional injury-related hospital admissions in England, Scotland and Wales. Unintentional injuries accounted for approximately one in eight emergency hospital admissions for children in Scotland in that year.

The main reasons for admission across countries were:

- foreign body entering into or through the eye or other natural orifice
- falls
- being caught, crushed or jammed between objects
- poisoning

During the past three years the number of hospital admissions related to injury has been steady across the three countries. However, as shown in Figure 3.3.1, Scotland saw a slight increase in 2014/2015. Note that differences between the countries may reflect differences in coding of injuries or in policies on admission as much as real differences in injury rates. In comparison to other European countries the UK nations scored in the middle of the pack for 0 to 19-year-olds across 115 safety indicators in 2012,

with England and Scotland above average and Wales just below¹⁴⁴.

What does good look like?

Non-intentional injuries are almost entirely preventable. The variation in injury rates by level of deprivation shows us that an achievable target is to reduce injury rates across the population to that of the most affluent groups.

In addition to reduction in injury and suffering for families, reduction of injury attendances at A&E and hospital admissions will provide significant cost savings to the NHS¹⁴². Targeted information in the form of education and safety equipment, particularly for vulnerable families, has shown positive results at a local scale⁹⁴.

How can we improve?

Injury prevention is everyone's business, and injury reductions can be achieved at low cost¹⁴². Actions are needed at local authority, neighbourhood and family levels.

Local authorities have a responsibility to provide strategic leadership for injury prevention, bringing together a very wide range of services from diverse sectors including health, education, social care, housing and emergency services¹⁴².

Health, education and social care early years professionals need training to prevent injuries in early years' settings and to educate and support parents in injury prevention. Parenting interventions are effective in improving home safety and reducing injury¹⁴⁵. Paediatricians have a role to play in supporting parents in injury prevention, as well as in data collection and identification of children at greater risk of non-intentional injuries¹⁴⁶.

In the home, many important safety practices – such as 'child proofing' kitchen and bathroom cupboards¹⁴⁵ and safe bathing – can be achieved at minimal cost.

There is also a range of available modern safety equipment such as smoke alarms, safety gates on stairs and thermostatic mixer valves to reduce hot tap water temperature which may be effective in reducing the risk of injury^{94,145}.

Spotlight on inequalities

Children and young people living in the most deprived households are at a higher risk of non-intentional injury than those living in the least deprived¹⁴⁷. The impact of this can be seen in Figure 3.3.3, where the Standard Discharge Ratio* for non-intentional injury in children under 15 years old declines as deprivation decreases. The decrease is particularly noticeable between the first and second deprivation quintiles. Deprivation is linked to injuries through poor and crowded housing infrastructure, lack of home safety planning and equipment, poorly functioning equipment and poorer parental education in how to protect children.



*Standardised discharge ratio – see additional data note

Figure 3.3.3: Standard Discharge Ratio for non-intentional injury in children (<15 years) by deprivation quintile in Scotland 2014-2015¹⁴¹

Key actions

- Ensure co-ordinated cross-sectorial action to reduce non-intentional injuries through improved home safety education for parents and health and other early years' professionals.
- Ensure that technological and engineering interventions are combined with education and inspection for maximum efficacy.
- Reduce inequalities relating to admission rates for children and their families in the most deprived areas compared to those in the least deprived areas.

Additional data note

The data provided by HES on the number of hospital admissions for England include children one to four years. In Wales data was provided by NHS Wales Informatics Service for children aged one to four years. Scottish data are provided by ISD Scotland for children aged zero to four years.

The hospital admissions data include the top three most common admissions caused by non-intentional injury and do not comprise an exhaustive list. Data provided by Scotland have been summarised and do not present the same diagnostic codes as England and Wales.

Data are available for Northern Ireland but for zero to nine years. The latest data are for 2014/2015, when the rate of hospital admissions was three per 1,000 population.

The *standardised discharge ratio* is equal to the number of observed discharges divided by the number of expected discharges, times 100, where the number of observed discharges is defined as the number of discharges in each area of interest (e.g. deprivation quintile), and the number of expected discharges is defined as the number of discharges that would have been 'expected' in the area of interest if the Scottish discharge rates had prevailed. Note that a value of 100 represents the value across the population as a whole.

Chapter 4: School age/adolescence

4.1 Healthy weight at Year 6 (10 to 11 years)

Proportion of children at a healthy weight during their final year of primary school

Key messages

- Weight status at the end of primary school, like earlier in childhood, is an important predictor of health outcomes later in life.
- Monitoring of trends in weight status across childhood helps identify pivotal points during childhood to intervene and prevent children becoming overweight and obese.
- In England, the proportion of children at healthy weight at Year 6 has stayed fairly constant since 2007, although there was an increase in the proportion of obese children in 2015/2016.
- Children living in the most deprived areas are more likely to be overweight or obese compared with children in the least deprived areas.

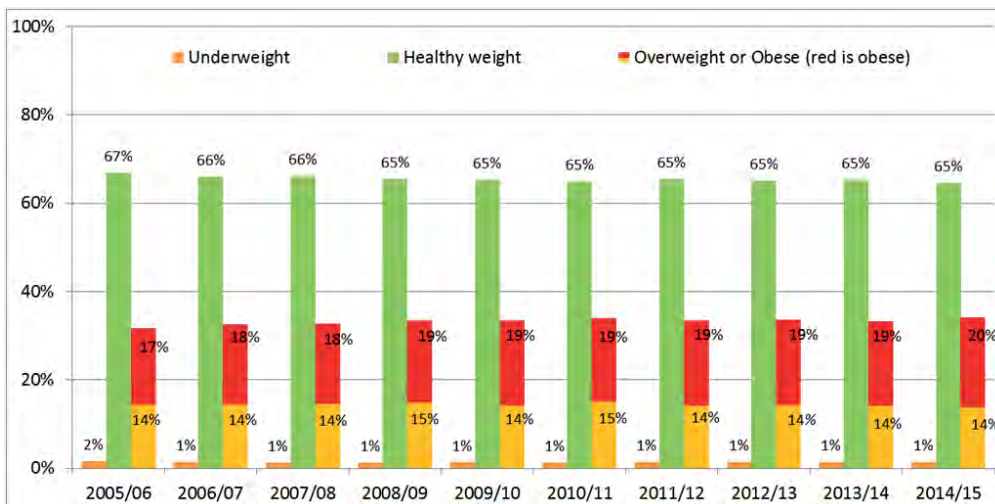
What is this indicator showing us?

This indicator shows us the proportion of children in England who are a healthy weight, underweight, overweight and obese in Year 6 (aged between 10 and 11 years), using a measure of Body Mass Index (BMI).

Data availability and comparability

Data on children’s weight status at Year 6 are only available in England – see Indicator 3.1 for a cross-country comparison for healthy weight when starting school. The data for children aged 10.5 to 11.5 years were obtained through the National Child Measurement Programme⁹⁸. The child measurement programmes in Wales and Scotland only capture data on children aged between four and five years of age and cannot be used for this indicator (see additional data note).

Proportion of children at a healthy weight in their final year of primary school in England



Latest data: In 2015/2016, 65% of children in Year 6 in England were within the healthy weight BMI centile.

Trend: Since 2006/2007 there has been a small decrease (2%) in the percentage of children leaving school in Year 6 who are within the healthy weight BMI centile. During the same time period the percentage of children who leave school in Year 6 identified as obese has increased by 3% from 17% to 20%.

Figure 4.1.1: Proportion of children underweight, healthy weight, overweight or obese in England 2006/2007 to 2015/2016 in Year 6

Source: National Child Measurement Programme, England⁹⁸.

Spotlight on inequalities

Children are at a much greater risk of being overweight or obese if they grow up in deprived circumstances. Obesogenic environmental factors are concentrated in deprived neighbourhoods. In 2015/2016, 40% of children in England's most deprived areas were overweight or obese, compared to only 27% in the least deprived areas. These inequalities appear to be rising. The prevalence of obesity and overweight among Year 6 pupils is increasing among the most deprived groups. In comparison, the rate is consistently lower among the least deprived groups (most deprived 40% in 2015/2016 compared to 38% in 2010/2011; least deprived 27% in 2015/16 and in 2010/2011).

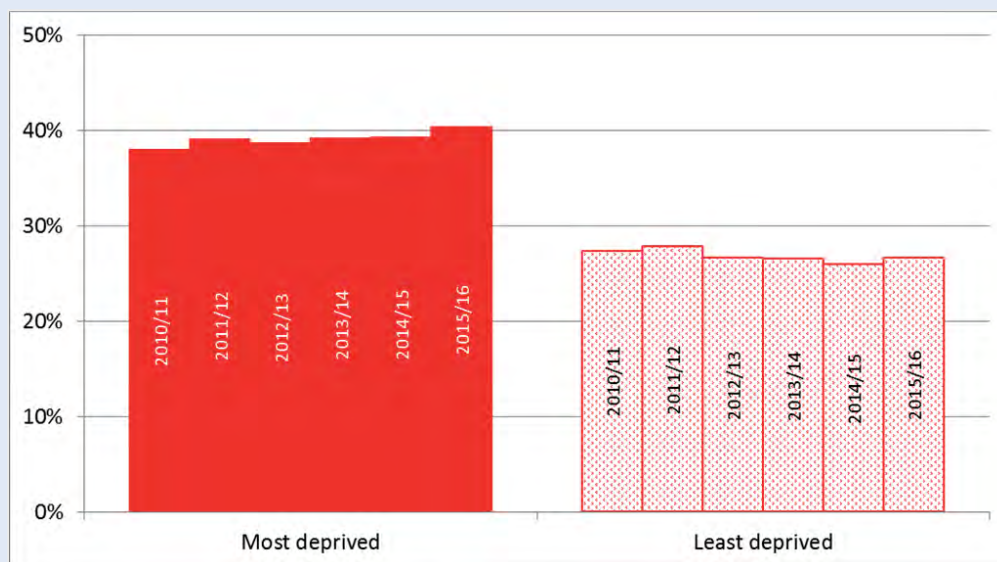


Figure 4.1.2: Prevalence of overweight and obesity among Year 6 pupils in England by deprivation quintile (first and fifth) 2010/2011 to 2015/2016⁹⁸

Why is this indicator important?

The childhood obesity epidemic presents one of the greatest health threats to children and their future. This threat is now universal across all countries, rich and poor¹⁰².

Weight status in childhood is an important predictor of overweight, obesity, health, and mortality risk across the life-course¹⁰²⁻¹⁰⁴. Overweight also has a major impact on health and wellbeing in childhood¹⁰².

Being overweight or obese during childhood can:^{32,35,36,102,105,106}

- lead to an increased risk of a host of conditions including Type 2 diabetes, high blood pressure, cardiovascular disease and bowel cancer
- negatively impact educational attainment
- lead to low self-esteem and negative body image, and limit the ability to take part in physical activity
- increase visits to GPs

Measuring children's weight at school entry and Year 6 provides an opportunity to map trends

and identify pivotal points during childhood to intervene in order to prevent overweight and obesity and to improve the health of future generations¹¹².

The children and young people we consulted told us that the following things were important to them:

- **healthier canteen:** healthy options should be less expensive than unhealthy options
- **having a healthy environment:** when junk food is all around and your peers are eating unhealthily you are more likely to make poor choices
- **for young people to hear from an inspirational person about the importance of physical activity:** sporting stars could do more, such as going into schools to encourage young people to participate in sports

(RCPCH & Us[®] Voice Bank 2016)

Where are we now in the UK?

In 2015/2016 just over three in every five (65%) Year 6 children in England were classed as having a healthy weight, and this has remained fairly constant since 2007/2008.

The risk of being overweight or obese increases as children progress through primary school. In Reception class, around 20% of children are overweight or obese, rising to around a third of children by the time they are in Year 6.

Globally, there is a rising trend of obesity prevalence; however, there is variation among countries¹⁴⁸. Data from 2010 show that around one in five children aged 3 to 17 years were overweight or obese in wealthy countries in the OECD (21% of boys and 23% of girls). The UK prevalence was slightly higher than the OECD average (22% of boys and 22% of girls), compared with 14% of girls and 15% of boys in Norway and 44% of boys and 38% of girls in Greece

What does good look like?

Childhood obesity is very largely preventable. Therefore, we should aim for a decrease in the proportion of children who are overweight or obese across all countries. A logical target is 5%, the expected prevalence of obesity arising from the definition of obesity as BMI at or over the 95th centile when the UK growth reference was devised. Reductions in underweight should also be a target.

How can we improve?

There are many complex factors that create an obesogenic environment, shape behaviours and, together with some biological risk factors, affect the likelihood of a child being overweight or obese. These include maternal stress and smoking, maternal nutrition, genetics, breastfeeding status, weaning and food choices, timing of puberty, primary and secondary school, societal influences, and the workplace and the family environment¹⁴⁹. These factors also contribute to overweight and obesity being passed down through generations¹⁰².

The WHO Report on Ending Childhood Obesity 2016 emphasised the need for coordinated cross-sectoral action and a strong focus on actions in pregnancy and early life¹⁰². A full set of policy recommendations is set out in the RCPCH 2015 report *Tackling England's Childhood Obesity Crisis*¹¹⁰.

Key actions

- Enact cross-government childhood obesity strategies across all countries, including rigorous evaluation of their impact.
- Robust evaluation to monitor the effectiveness of the proposed sugar levy and other sugar-reduction initiatives on sugar-sweetened beverages in all countries.
- Expand nutritional standards to all schools. Make school-based health education a statutory subject in all schools, fostering and focusing on the importance of both physical activity and nutrition.
- Introduce a ban across the UK on the advertising of foods high in saturated fats, sugar and salt before 9pm, and evaluate the impact of online food marketing on children.
- Extend the reach and effectiveness of universal measurement programmes in different countries to include an increase in the number of measurement points and longitudinal tracking of children, starting much earlier in childhood. There should be sharing of data with general practitioners, school nurses and parents. Introduce Year 6 and P6 cohorts in child measurement programmes in Scotland, Wales and Northern Ireland.
- Support a research environment that enables sustained, long-term expansion of basic science and applied research to identify the causes of obesity and effective interventions to tackle it.
- Ensure that overweight and obese children have timely access and support to attend evidence-based healthy weight programmes, via prescriptions or referrals by their GP.
- Ensure children with significant underweight have timely access to specialist child health services.

Additional data note

BMI is calculated as weight divided by height squared (kg/m^2) and is a measure of weight independent of height. Assessing BMI in children is more complicated than in adults, because children's BMI will change as they grow and mature. BMI centiles are therefore used to measure how far a child's BMI is above or below the average BMI value for their age and sex and usually categorised as underweight, healthy weight, overweight or obese¹¹¹⁻¹¹³.

Categories based upon BMI centiles are calculated for surveillance purposes¹⁰⁰ as follows:

- **Underweight:** a BMI centile less than or equal to the 2nd centile
- **Healthy weight:** a BMI centile greater than the 2nd centile but less than the 85th centile
- **Overweight:** a BMI centile greater than or equal to the 85th centile but less than the 95th centile (i.e. overweight but not obese)*
- **Obese:** a BMI centile greater than or equal to the 95th centile

Data for ages two to 15 years are collected as part of The Scottish Health Survey. However, because this is aggregated we are not able to make country comparisons. Data are collected in Northern Ireland as part of the Health Survey Northern Ireland but are aggregated for ages two to 10 years.

Chapter 4: School age/adolescence

4.2 Human Papilloma Virus (HPV) vaccination

Proportion of girls who have received the completed Human Papilloma Virus (HPV) course of immunisation

Key messages

- The Human Papilloma Virus (HPV) vaccination during adolescence is a highly effective public health measure to prevent cervical cancer and genital warts.
- The UK has one of the highest coverage levels for HPV (over 80% of girls have completed their HPV course), probably due to the school-based delivery mechanism in the UK.
- HPV coverage provides data on the performance of school immunisation services for adolescents.
- Girls of black and ethnic minority background, and girls not in mainstream education, are less likely to take up or complete the vaccination course.
- Universal HPV vaccination for adolescent boys should be considered across the UK.

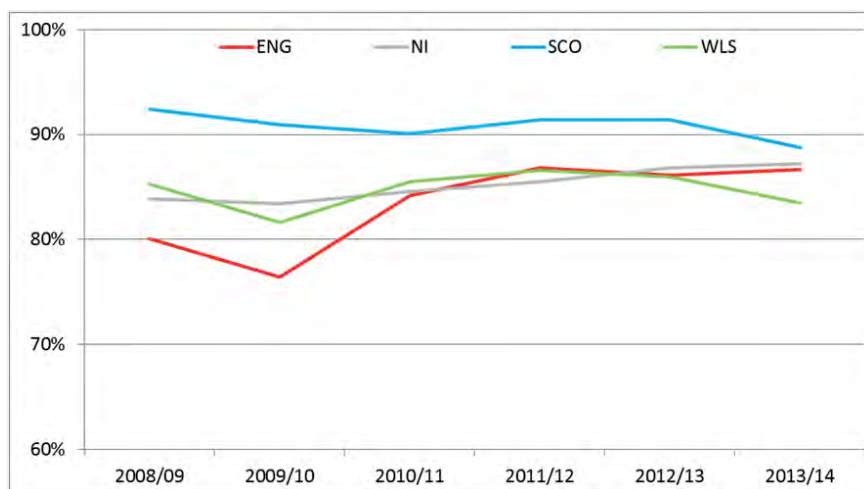
What is this indicator showing us?

This measure tells us how many adolescent girls have been fully immunised against the Human Papilloma Virus (HPV) (i.e. received all three doses of the vaccine until 2014, when it was changed to two doses) since the UK government's immunisation programme commenced in 2008.

Data availability and comparability

Data on the uptake of the HPV vaccine are available from the beginning of the vaccination programme in 2008 to the school year 2013/2014 for England, Wales, Scotland and Northern Ireland. Data are for 12- to 13-year-old girls in school Year 8 in England and Wales, in school Years S2 and S3 in Scotland and Year 8 in Northern Ireland (see additional data note).

Human Papilloma Virus (HPV) vaccination rates in England, Northern Ireland, Scotland and Wales



Latest data: In 2013/2014 83.5% of girls in Wales, 86.7% of girls in England, 87.2% of girls in Northern Ireland and 88.8% of girls in Scotland received all three doses of the HPV vaccine.

Trend: The percentage of girls completing the HPV course only once dropped below 80% in any of the UK nations (75.4% in England in 2009/2010). Generally, the percentage of girls completing the vaccine course has remained steady between 80% and 90%.

Source: Public Health England; Public Health Wales; Information Services Division, Scotland; and Health Protection Surveillance Centre, Northern Ireland¹⁵⁰⁻¹⁵³.

Figure 4.2.1: Proportion of girls receiving the complete course of the HPV vaccine, 2008/2009 to 2013/2014

Why is this indicator important?

This indicator tells us how many girls have been protected from HPV during their teenage years and young adulthood, the time when HPV infection is highest.

HPV is a group of over 100 common, very contagious types of viruses, sub-groups of which are linked to cancer and genital warts^{154,155}. Some types of HPV are present in most cases of cervical cancer and a smaller proportion of other anogenital and head and neck cancers which can affect both men and women¹⁵⁶. Protection against HPV infection can also protect against at least seven out of 10 cervical cancers¹⁵⁷.

In 2008 the UK government began a vaccination programme in 12- to 13-year-old school girls to protect them against the two types of HPV that are linked to 70% of cervical cancer cases in the UK¹⁵⁴. The original vaccine was changed in 2012 to one that protects against a further two types of HPV that cause the majority of genital warts.

High vaccination rates during adolescence are also an important measure of the overall health system effectiveness for this section of the population.

Where are we now in the UK?

HPV vaccination uptake rates across the four nations in the UK are relatively high, with 84% to 89% of girls in the target year groups receiving all three doses of the vaccine. Rates of vaccination are generally highest in Scotland, with 89% of girls receiving all three doses in the 2013/2014 school year compared to 87% in England, 84% in Wales and 87% in Northern Ireland.

Originally, girls received three doses of the HPV vaccine, but in 2014 this changed to two doses given between six and 24 months apart, as studies showed that two doses were as effective as three¹⁵⁸.

Rates of a completed vaccination course among girls in the UK are higher than in Australia (73.1%) and the USA (39.7%), while in Europe only seven out of 21 countries with a HPV vaccination programme have achieved coverage rates of over 80%^{159,160}.

Spotlight on inequalities

Reports on English data have shown that black and ethnic minority girls were less likely to take up the HPV vaccine than white British girls, as were girls who were not being educated in mainstream schools, i.e. those being home schooled, in special needs schools or those in a hospital or young offenders education unit¹⁶¹.

A study on the effect that deprivation has on HPV vaccination rates has shown girls living in the most deprived areas in England were only marginally less likely to receive the vaccine¹⁶².

In Scotland, while the uptake of the first dose of the vaccine is not affected by deprivation, it has been reported that increasing levels of deprivation are associated with lower uptake of the second and third doses of the vaccine¹⁶³.

What does good look like?

An effective vaccination programme should be taken up by as much of the target group as possible. This will ensure that the greatest number of girls and women are protected from HPV infection and will also provide protection to unimmunised males and females through what is known as herd immunity (i.e. the overall prevalence of the disease across the population is reduced).

High vaccination coverage in the UK compared to the US is likely to be in part due to the UK having a successful school-based vaccination programme¹⁶³.

Studies which have modelled the long-term impact of the HPV vaccine, using a coverage of 80%, predicted large reductions in the number of women that would be diagnosed with cervical cancer and die from it^{164,165}.

Although it is still too early to see the real impact of the vaccine on cervical cancer in the UK, data from sexually active women aged 16 to 18 years undergoing chlamydia screening show that infection with cancer-causing HPV was 66% lower than before the vaccination was available¹⁶⁶. Studies from Australia have also shown that the number of girls under the age of 18 who have abnormal cervical cells detected at their smear test has fallen significantly since the introduction of the vaccination programme¹⁶⁷.

How can we improve?

In order to maintain a vaccination rate above 80%, there must be continued promotion of the vaccination to young people and families, including education and awareness programmes which tackle concerns such as those that link the vaccine to increased sexual activity, which have been shown to be false^{168,169}.

HPV vaccination status should be recorded on local child health information systems and GP records. This will allow identification of those who missed vaccination before their 18th birthday. Vaccination data should also be linked with the NHS systems that will invite women for cervical screening.

Consideration should also be given to extending the vaccination programme to adolescent boys, as the virus is associated with a number of non-cervical cancers which are more common in men (such as anal and oropharyngeal cancer) for which there are no screening programmes, as well as with genital warts¹⁵⁹.

Adolescent boys are not currently offered the vaccine in the UK. In Australia, however, the HPV vaccination is provided free to all boys and girls aged 12 to 13 years¹⁷⁰. There is evidence that immunising boys strengthens herd immunity, protects them from other diseases associated with HPV, and ensures universal, equitable access for both genders¹⁷¹. However, extending the programme to adolescent boys still requires further evidence of cost-effectiveness¹⁷².

Key actions

- Increase knowledge and awareness amongst girls and their families of the importance of the HPV vaccine.
- Further research is required into the long-term effectiveness of the vaccine, including continued assessment of the optimal number of vaccine doses.
- Further research to identify population groups less likely to commence or complete the vaccination course, including an exploration of barriers to access.
- Ensure data on HPV vaccination are linked to child health data systems and cervical screening systems.
- Examine the cost effectiveness of extending HPV vaccine to adolescent boys in the UK.

Additional data note

From 2014 onwards data coverage is incomplete as data on the numbers of girls receiving the vaccine are collected annually in the academic year following the year the vaccinations were received, and so this information is still being collected and summarised.

Chapter 4: School age/adolescence

4.3 Smoking in young people

Proportion of regular smokers aged 15 years

Key messages

- Smoking continues to be the greatest single cause of avoidable mortality in the UK. Starting to smoke during adolescence increases the likelihood of being a life-long smoker.
- Latest figures show that the percentage of 15-year-olds smoking regularly is 6% in England and 8% in both Wales and Scotland. Smoking is rarely initiated after adolescence.
- Significant inequalities in adolescent smoking persist, with higher rates of smoking in young people from deprived populations.
- Tobacco control measures across the whole population are the most effective measures for reducing smoking and smoke exposure in children and young people.

What is this indicator showing us?

This indicator shows the percentage of 15-year-olds who report that they are 'regular smokers', with 'regular' defined as smoking at least one cigarette a week (see additional data note).

Data availability and comparability

Data are available for England¹⁷³, Scotland¹⁷⁴ and Wales¹⁷⁵ showing the percentage of regular smokers at aged 15 years, from 1982 to 2014. Data from England have been taken from the report *Smoking, Drinking and Drug Use Among Young People in England in 2014*; data from Scotland are from the *Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS)*, and data from Wales are from the *Health Behaviour in School-Age Children (HBSC)*; from 1998 onwards). There are no comparable data for Northern Ireland.

Smoking rates among young people in England, Scotland and Wales

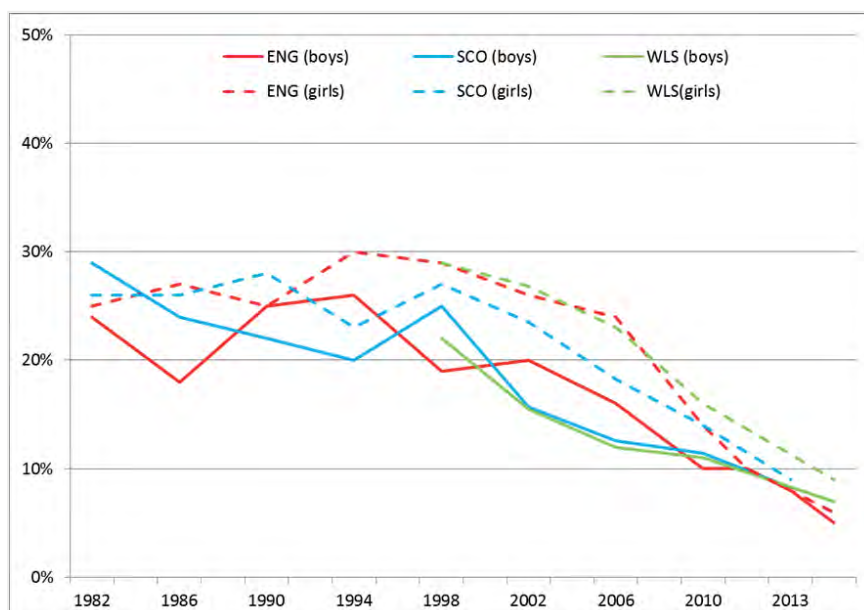


Figure 4.3.1: The proportion of regular smokers at age 15 in England, Scotland and Wales by sex, 1982 to 2014

Latest data: Percentage of 15-year-olds recorded as regular smokers - England 2014: 5% boys and 6% girls; Wales 2013/2014: 7% boys and 9% girls; Scotland 2013: 8% boys and 9% girls.

Trend: There has been a steady decline across all countries and both sexes in the overall number of 15-year-olds recorded as regular smokers since 1998.

Source: Data from England have been taken from *Smoking, Drinking and Drug Use Among Young People in England in 2014*; data from Scotland is from *SALSUS*; data from Wales is from *HBSC*.

Spotlight on inequalities

Smoking is the single most important cause of inequalities of health in the UK. When smoking rates are assessed by levels of deprivation, adolescents of lower socioeconomic status (SES) continue to have much higher levels of smoking than their wealthier counterparts (see Figure 4.3.2). In addition, the SALSUS survey in Scotland found a very clear association between the SES of young smokers and their age of initiation, with lower SES smokers starting at a younger age.

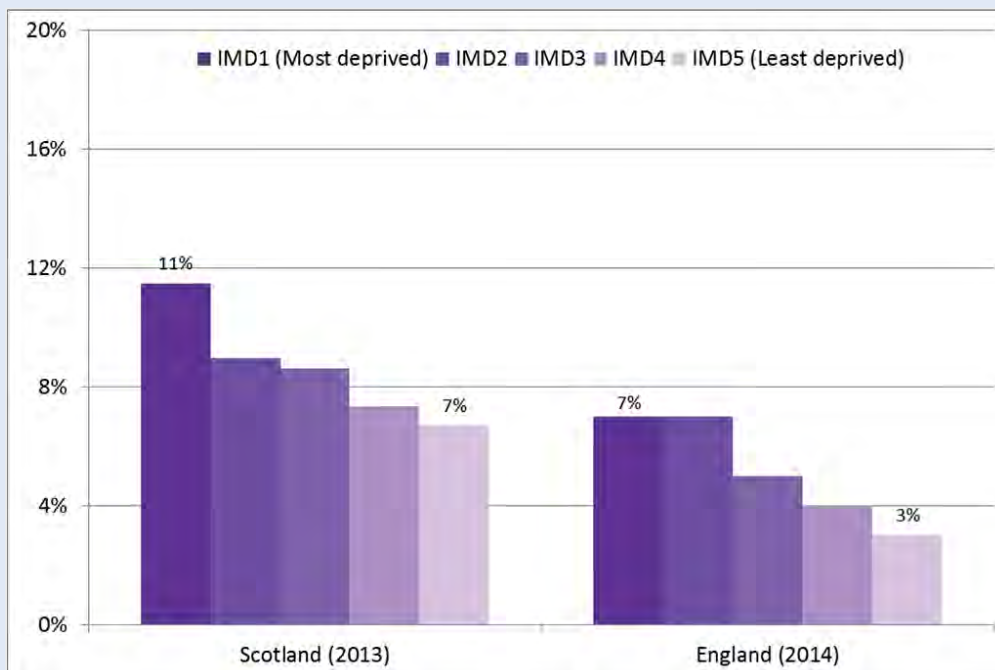


Figure 4.3.2: Proportion of regular smokers at age 15 by Index of Multiple Deprivation (IMD) quintiles (fifth of population) in England (2014)¹⁷⁶ and Scotland (2013)¹⁷⁴

Why is this indicator important?

Smoking causes approximately 96,000 deaths in the UK each year¹⁷⁷, including 80% of all deaths from lung cancer, 80% of deaths from bronchitis and emphysema, and 14% of deaths from heart disease. More than a quarter of all cancer deaths are related to smoking¹⁷⁷.

The main source of tobacco exposure for children is now passive exposure, particularly through parents and carers. Yet active smoking remains a problem, with many thousands of young people still starting to smoke each year in the UK. Smoking has diverse effects on young people's health, including reduced lung function, higher risk of asthma, reduced exercise tolerance, and even impaired growth¹⁷⁸.

As smoking behaviour is almost always established during adolescence, preventing children from starting smoking is a priority. Most adult smokers have had their first cigarette or were already addicted to nicotine by age 18¹⁷⁹, and 90% of lifetime smoking is initiated between the ages of 10 and 20 years in the UK⁹⁴.



This first group represents children living in Scotland's most deprived areas. Of these 20 young people aged 15 years, at least two would be regular smokers.



This second group represents children living in England's least deprived areas. Of these 20 young people aged 15 years, less than one would be a regular smoker.

Where are we now in the UK?

Latest figures show that the percentage of 15-year-olds smoking regularly is at an all-time low at 6% in England (2014) and 8% in both Wales (2013/2014) and Scotland (2013). Data from the past 30 years show an encouraging trend with the rates of 15-year-olds who are smoking regularly declining each year. Rates appear similar in boys and girls in each country (see Figure 4.3.1).

All three countries use self-reported data on smoking habits; however, this has been shown to be a valid and stable indicator of current smoking behaviour in young people¹⁸⁰.

Comparable data from across Europe are available from the HBSC survey¹⁷⁵. In 2013/2014 this showed that England had amongst the lowest levels of smoking in Europe, ranked 7th out of 42 countries, with Wales at 9th, and Scotland at 15th (Northern Ireland was not included in the survey). The lowest levels of regular smoking at aged 15 were recorded in Armenia (1% for girls and 5% for boys) and Iceland (3% for girls and 3% for boys).

Children and young people identified the various influences they felt concerning smoking:

- older siblings
- family members
- peers
- television / media

Although the dangers of smoking cigarettes appear to be widely accepted and understood, the children and young people we consulted had mixed views concerning the use of electronic cigarettes, suggesting confusion as to the health risks and long-term effects.

(RCPCH & Us⁸ Voice Bank 2016)

What does good look like?

The negative health consequences caused by smoking are well established. The UK should be aiming for a tobacco-free society – and at the very least a tobacco-free childhood. This means no young people under 18 years of age taking up smoking or exposed to smoke from parents or others.

A pragmatic target to reduce regular and occasional smoking among 15-year-olds to 2% by 2025¹⁸¹ has been suggested.

Variation between the rich and poor tells us what could be achieved. If rates of smoking in all young people aged 15 years in England, Scotland and Wales were to equal those of the least deprived areas of England (i.e. 3%), there would be approximately 36,500 fewer young people smoking across the three nations.

It is important to remember that the main source of tobacco exposure for children and young people is parental smoking. Tobacco control measures have led to a fall in children's exposure to second-hand smoke by 79% between 1998 and 2012 in England; however, around one-third of children still had evidence of smoke exposure in 2012¹⁸², indicating the need for further efforts to control direct and indirect tobacco exposure.

How can we improve?

The most effective methods of reducing smoking and passive smoke exposure amongst children and young people are policy measures that affect the whole population. Measures include taxation, retail controls, and extending bans on smoking in public places. The introduction of standardised packaging of cigarettes across the UK from May 2016 is a further positive step to reduce exposure and de-normalise smoking¹⁸³⁻¹⁸⁶.

It is essential to reduce smoking in pregnancy, as it is a risk factor for adverse birth outcomes and because children born to women who smoke in pregnancy are more likely to become smokers themselves (see Indicator 2.1). Services to stop smoking among parents are a further important step in protecting children and young people's health.

Actions focused on reducing initiation amongst young people are also needed – both for their immediate benefit but also to contribute to reducing smoking across the population.

Experimentation with smoking in early adolescence represents a developmental vulnerability to social influence, particularly from peers and adult role models, as well as a desire for perceived status³⁶. The duration of smoking and number of cigarettes required to establish nicotine addiction are lower for adolescents than adults; consequently, addiction is established more quickly¹⁸⁷.

Interventions must continue to reduce the accessibility and affordability of, and exposure to, cigarettes for children and young people.

Reducing adult smoking, particularly around children, and maintaining bans on cigarette promotion are the most effective ways to reduce exposure to pro-smoking modelling behaviour.

Direct interventions with young people to reduce smoking initiation can have small individual effects that are important at the population level. Some of the most effective interventions have been peer-led^{188,189}.

Banning smoking in private vehicles carrying children under the age of 18 was a welcome development in England and Wales; however, consideration should be given to extending this to all private motor vehicles in the UK, with implementation supported by high-impact and sustained public health campaigns and advice from health professionals¹⁹⁰.

Electronic cigarettes are not recommended for young people, and it is illegal to sell them to anyone under 18 or to buy them on their behalf in the UK. There is little evidence that nicotine replacement products are effective in helping young people to quit. Young smokers who want to quit should be referred to specialist behavioural stop-smoking support.

Key actions

- Increase knowledge and awareness of the harms of smoking amongst children and young people through statutory evidence-based, personal health education in schools.
- Extend bans on smoking in public places and in vehicles, coupled with sustained public health campaigns about the dangers of second-hand smoke for children and young people.
- Protect and extend population level tobacco control measures and individual level stop-smoking services for children, young people, and their parents.
- Continue to monitor the impact of electronic cigarettes on smoking behaviour in children and young people.
- Strengthen data capture across the UK so rates of smoking in young people can continue to be monitored and compared.

Additional data note

Three different sources of data were used. The HBSC data used for the Wales sample also recorded data for England and Scotland. However, *Smoking, Drinking and Drug Use Among Young People in England in 2014* and the SALSUS for Scotland were chosen because they had significantly larger sample sizes for these countries than the HBSC. Each survey asked a sample of 15-year-olds how many cigarettes they smoked a week. The samples were selected from different schools and regions within each country.

These data define 'regular smoking' as at least one cigarette per week, yet in a 2014 survey pupils classed as 'regular smokers' recorded a mean number of 31.1 cigarettes a week¹⁷³; consequently the definition of 'regular smoker' allows for a significant variation in levels of actual smoking.

Chapter 4: School age/adolescence

4.4 Alcohol and drug use

Proportions of regular alcohol users and those who have ever used cannabis aged 15 years

Key messages

- Alcohol and cannabis use in young people has significantly declined over the past decade, but the UK still ranks poorly among other European countries.
- In 2013, 9% of pupils in England had drunk alcohol in the last week, compared to 25% in 2003¹⁹¹.
- Alcohol and drug use among school-aged children often predicts negative social and health outcomes into adulthood^{192,193}, making health promotion activities at school a vital opportunity for intervention.
- Whilst the prevalence of drug use in young people has steadily fallen, this decline has slowed since 2013, with 15% of pupils reporting that they had ever taken cannabis¹⁹¹.

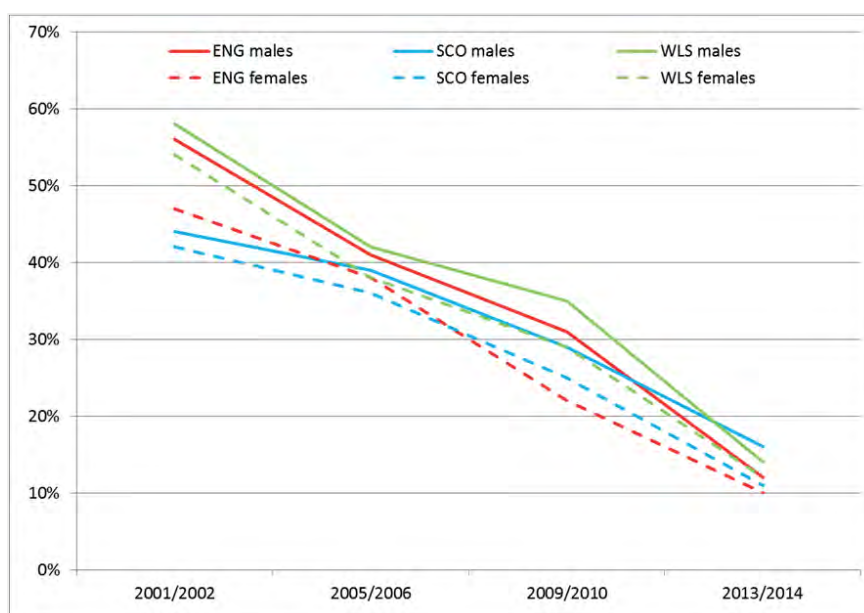
What is this indicator showing us?

This indicator shows the proportion of 15-year-olds in England, Wales and Scotland who report that they are regular drinkers (i.e. drink at least once a week) and the proportion of 15-year-olds who have ever used cannabis.

Data availability and comparability

Survey data on reported weekly alcohol use and whether young people have ever used cannabis are available in England, Wales and Scotland and are collected through the Health Behaviour in School-Aged Children Survey¹⁷⁵ (HBSC). Comparable data for Northern Ireland are not available.

Alcohol and drug use among young people in England, Scotland and Wales



Latest data: Proportion of 15-year-olds reported drinking alcohol weekly – England 2013/2014: 12% boys and 10% girls; Wales 2013/2014: 14% boys and 12% girls; Scotland 2013/2014: 16% boys and 12% girls.

Trend: Across all three nations there has been a steady decline in the overall number of 15-year-olds regularly drinking since 2002. The data show a minimal gender gap at age 15 in the latest data in all countries, suggesting drinking amongst girls is now similar to amongst boys.

Source: Health Behaviour in School-Aged Children Survey, World Health Organisation.

Figure 4.4.1: Proportion of 15-year-olds in England, Scotland and Wales who drink alcohol weekly

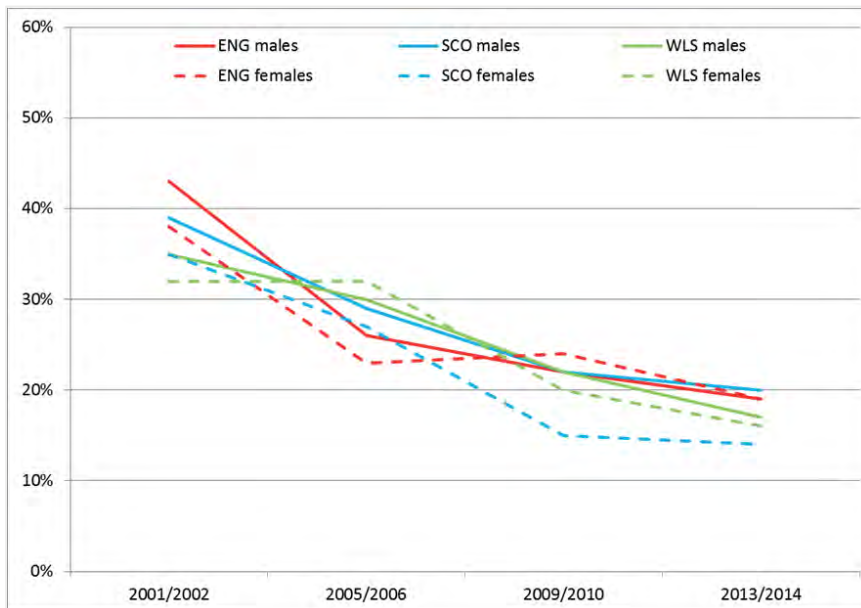


Figure 4.4.2: Proportion of 15-year-olds in England, Scotland and Wales who have ever used cannabis 2001/2002 to 2013/2014

Latest data: Proportion of 15-year-olds reported to have ever used cannabis – England 2013/14: 19% boys and 19% girls; Wales 2013/14: 17% boys and 16% girls; Scotland 2013/14: 20% boys and 14% girls.

Trend: Across all three nations there has been a steady decline in the overall number of 15-year-olds reporting to have tried cannabis since 2002. Similarly to alcohol, sex differences appear to be diminishing.

Source: Health Behaviour in School-Aged Children Survey, World Health Organisation

Why is this indicator important?

Alcohol and drugs are some of the leading risk factors for overall burden of disease in the UK¹⁹⁴. Substance misuse and abuse are preventable problems with major sequelae for young people, families and society.

Alcohol use can negatively impact upon a young person’s friendships, the relationship with their parents and carers and the dynamics of their peer group, as well as affecting their short- and longer-term educational performance¹⁹².

Young people between the ages of 15 and 17 years are more likely to binge drink (drinking multiple drinks in a row), which is linked with other health risk behaviours such as:

- unprotected or regretted sexual activity
- antisocial and criminal behaviour¹⁹⁵
- self-harm and thoughts of suicide¹⁹⁶

Those who drink alcohol regularly from an early age are more likely to develop later alcohol misuse or abuse and a range of other negative health and social outcomes when they reach adulthood¹⁹². Alcohol is also a risk factor for many adult diseases, including a range of cancers and cirrhosis.

Frequent cannabis use in young people can be associated with negative mental health experiences such as depression, anxiety and even psychosis¹⁹³. Cannabis and alcohol may also act as a gateway to other drug use, although this remains controversial.

Whilst the prevalence of drug use in young people has steadily declined since 2001, this decline has slowed since 2014 with 17.5% of 15-year-olds reporting having ever used cannabis in England, Scotland and Wales¹⁹⁵.

Children and young people told us that they are more likely to listen to and take note of people who have had experience of drug and alcohol abuse, and then been rehabilitated, such as Robert Downey Jnr., rather than being lectured to by a teacher. They also called for greater access to adults they feel comfortable talking to, who may also be able to offer non-judgemental guidance.

(RCPCH & Us⁹ Voice Bank 2016)

Where are we now in the UK?

Alcohol: In 2013/2014, data from the HBSC survey showed that 13% of 15-year-olds surveyed in Wales, 11% in England and 13.5% in Scotland reported drinking alcohol at least once a week. These figures are in line with the average for all European nations (13%) who took part in the survey. Across the three nations these figures have declined considerably since 2001/2002, with declines of 43% in Wales, 41% in England and 30% in Scotland. Data on reported drunkenness in Northern Ireland show that almost a quarter (23%) of young people 11 to 16 years report that they have been drunk more

than twice¹⁹⁷. HBSC data for England, Scotland and Wales also show that there has been a decline in the number of 15-year-olds reporting that they have been drunk on two or more occasions, from 55% to 31% between 2002 and 2014¹⁷⁵.

Cannabis: In 2013/2014, HBSC data showed that 19% of 15-year-olds surveyed in England, 16.5% in Wales and 17% in Scotland reported having ever tried cannabis. These figures are slightly higher than the average (15%) for all European nations that took part. Across all three nations these figures have declined since 2001/2002, with declines of 17.5% in Wales, 21% in England and 20% in Scotland.

Cannabis use in children between 11 and 16 years old in Northern Ireland has shown a similar pattern of decline, with 14% reported to have used cannabis in 2000 but declining to 5% by 2013¹⁷⁵.

What does good look like?

The negative health consequences associated with alcohol and cannabis are well established; therefore, the UK should be aiming for young people to enjoy a cannabis-free adolescence and to minimise alcohol use. The Chief Medical Officer advised children, parents and carers that an alcohol-free childhood is the healthiest and best option. However, if children do drink alcohol, it should be infrequently, until at least the age of 15, and with adult supervision¹⁹⁸.

Whilst progress is being made in both alcohol and cannabis, the UK compares poorly to other European countries¹⁷⁵. Data from the HBSC survey ranked England, Wales and Scotland 16th, 21st and 22nd respectively out of 42 European countries that reported 15-year-olds drinking alcohol at least once a week. The best performing country reported just 2.5% of 15-year-olds drinking weekly¹⁷⁵.

Spotlight on inequalities

Alcohol use is often found to have either no social gradient or a reversed social gradient (i.e. more use amongst the wealthy) amongst adolescents, which is thought to represent issues of status and access^{175,199}. This is shown in Figure 4.4.3 using data from the *What About YOUth?* Survey in England reporting the occurrence and regularity of alcohol use amongst 15-year-olds by quintile (population fifth) of deprivation. Data from the Scottish Schools Adolescent Lifestyle and Substance Use Survey (SALSUS) show no significant social inequality associated with 15-year-olds reporting having had a drink in the last week¹⁷⁴.

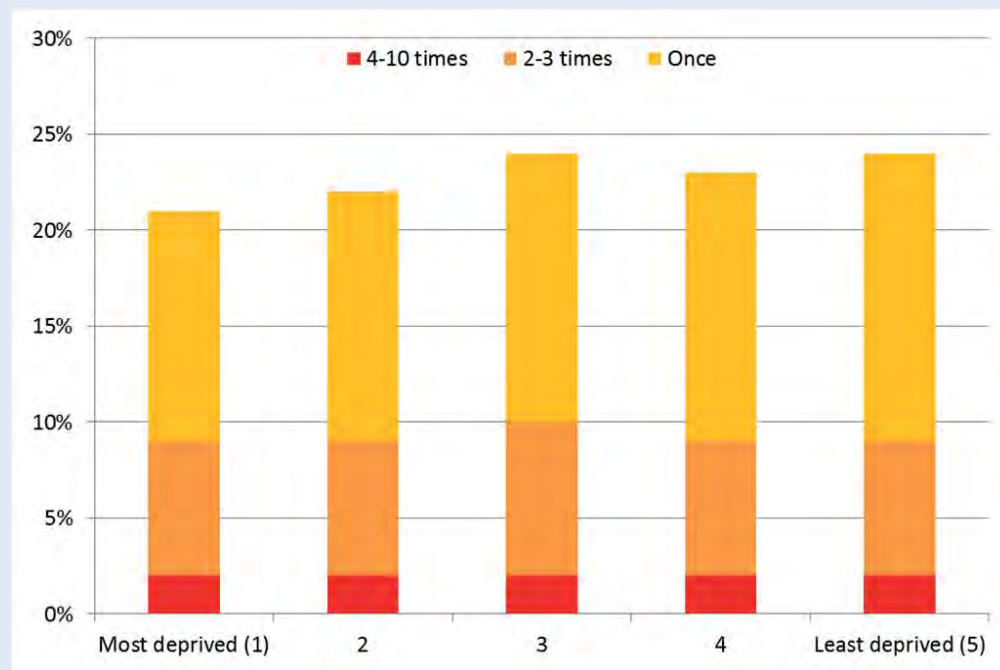


Figure 4.4.3: Frequency of drunkenness over the last 4 weeks of 15-year-old pupils in England who have had an alcoholic drink in their lifetime by Index of Multiple Deprivation Quintile¹⁷⁶

How can we improve?

Due to the potential addictive nature and psychological impact of cannabis and alcohol use, it is far better to prevent young people from initiating substance use than to deal with the consequences of their use later in adolescence or young adulthood. Once young people have initiated these behaviours, early intervention is crucial to ensuring that children and young people encountering issues with substance use are provided with appropriate support to minimise ongoing harm²⁰⁰.

Prevention starts with ensuring young people have the knowledge and skills to make informed decisions about their health and wellbeing. Young people who have spoken to the RCPCH have highlighted the need to bring discussions about alcohol and drugs into the classroom, and have also highlighted that they are more likely to acknowledge the negative impacts of alcohol and drug use through peer-led learning²⁰¹. NICE guidelines recommend that education on alcohol is tailored to children's age and social background and that it should enable young people to explore the impacts alcohol has on their physical, social and mental health²⁰².

Health professionals including paediatricians also have a key role, with NICE guidelines recommending that primary care professionals be appropriately trained to deliver extended brief interventions to young people aged 16 and 17 who are drinking harmfully²⁰³. Data collected from the World Health Organisation shows that alcohol use and cannabis use increase with age from very early adolescence¹⁷⁵, emphasising the need for early education and age-appropriate interventions within child health services.

Both alcohol and cannabis consumption in the UK are firmly regulated. However, a growing body of evidence suggests more could be done from a national perspective to better protect children and young people, particularly from alcohol; such measures include increases in taxation, changes in pricing such as minimum unit pricing as well as reducing the promotion to and availability of alcohol for young people²⁰⁴.

Key actions

- Ensure all schools adopt comprehensive, up-to-date, evidence-based approaches to drug and alcohol education, which incorporate peer-led learning and are in line with NICE guidance²⁰². This should be within statutory personal social health and economic education (PSHE).
- Strengthen implementation of NICE guidance across the UK, in particular the provision of brief interventions in primary and secondary healthcare settings²⁰⁴.
- Prevent the uptake of young people drinking alcohol by prohibiting products that are targeted to a younger market²⁰⁵.
- Restrict availability of alcohol to young people by ensuring the purchasing of alcohol is made by individuals with valid forms of ID and for the alcohol industry to encourage Challenge 21 and 25 schemes²⁰⁶.
- Governments should introduce and implement minimum unit pricing policies for alcohol²⁰⁷.

Additional data note

The sample size of HBSC survey and What About YOUth Survey is significantly different and should not be compared.

Chapter 4: School age/adolescence

4.5 Wellbeing

Proportion of young people aged 15 years who report high life satisfaction, by gender.

Key messages

- Wellbeing is a broad concept often understood to include aspects of satisfaction with life and positive mental health as well as other elements. It can be defined as 'a dynamic state, in which individuals are able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community'²⁰⁸.
- Lower levels of wellbeing amongst young people are linked with bullying and disruptive behaviours at school²⁰⁹, whilst higher levels of life satisfaction have been linked to healthier levels of physical activity, screen time, nutrition, and mental health.
- UNICEF reported that young people in Britain had low wellbeing compared with other rich countries in the last decade²¹⁰.

What is this indicator showing us?

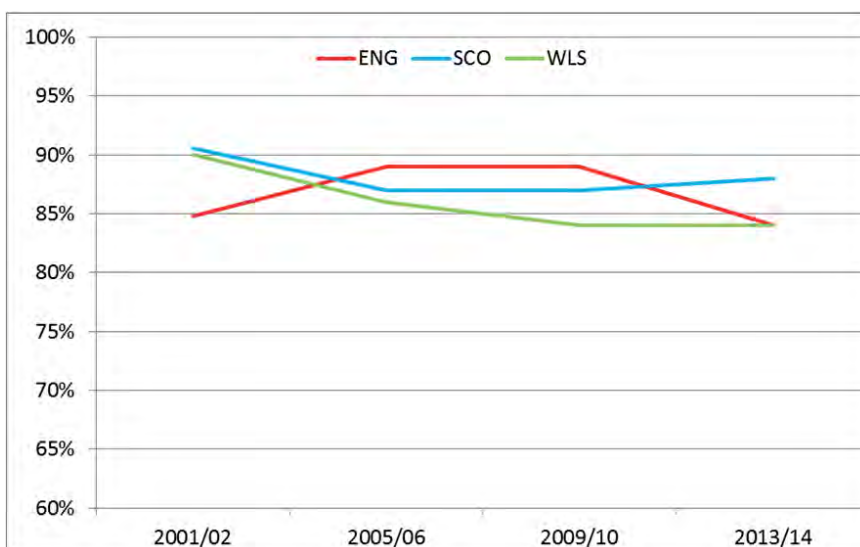
As a key indicator for wellbeing we are using a measure of subjective wellbeing, i.e. the proportion of young people (15 years old) who recorded high life satisfaction using a visual analogue scale (the Cantril ladder). Young people were asked to indicate the step of the ladder at which they would place their lives at present (from '0' (low) to '10' (high)). High life satisfaction is defined as a score of six or more on the Cantril ladder.

Data availability and comparability

Data are available for England, Wales and Scotland as part of the Health Behaviour in School Age Children (HBSC) survey. There are limited data for Northern Ireland.

Life satisfaction scores among young people in England, Scotland and Wales

Females



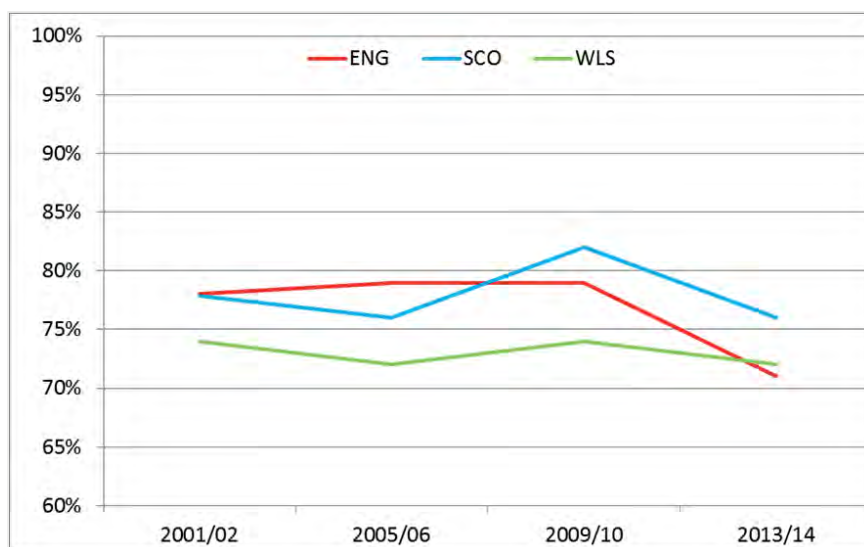
Latest data: The proportion of 15-year-old girls with high life satisfaction scores in England, Scotland and Wales in 2013/2014 were 71%, 76% and 72% respectively.

Trend: There has been an overall decrease in the proportion of girls with high life satisfaction since 2001/2002. Scores in England have decreased most notably by 11%, scores in Scotland by 5%, and scores in Wales by 6%.

Source: HBSC survey, 2004²¹¹, 2008²¹², 2012²¹³ and 2016¹⁷⁵

Figure 4.5.1: Proportion of 15-year-old girls with high life satisfaction scores by country, 2001/2002 to 2013/2014

Males



Latest data: The proportion of 15-year-old boys with high life satisfaction scores in England, Scotland and Wales in 2013/2014 were 84%, 88% and 84% respectively.

Trend: Life satisfaction amongst boys has fluctuated over time with no clear trend across the three countries.

Source: HBSC survey, 2004²¹¹, 2008²¹², 2012²¹³ and 2016¹⁷⁵

Figure 4.5.2: Proportion of 15-year-old boys with high life satisfaction scores by country, 2001/2002 to 2013/2014

Why is this indicator important?

Children's wellbeing is an important issue, especially in the UK. As the *Good Childhood Report 2015*²¹⁴ revealed, the UK is lagging behind after a period of improvement from 1994.

The UNICEF *Innocenti Report Card 12 (2014)*²¹⁵ used a basket of indicators to define wellbeing, including life-satisfaction as a measure of subjective wellbeing, but also including health, education, income and housing indicators. The Report Card showed a relationship between national economic performance and children's wellbeing, demonstrating the importance of ensuring the national economy works for all children, rich and poor.

Childhood wellbeing or life satisfaction is a more direct indicator of young people's health than many apparently more objective indicators, as it reflects what is important to children and young people²¹⁶.

Children with low wellbeing have been reported to be²¹⁴:

- eight times as likely to feel there is conflict in their family;
- almost five times as likely to have been recently bullied;
- three times as likely to feel they do not have enough friends; and
- three times as likely to feel they have a fewer resources than their friends.

A low level of life satisfaction during adolescence is associated with depression and other adverse health outcomes in later life²¹⁷.

Where are we now in the UK?

Over the past decade the proportion of young people with high life satisfaction in the UK has fluctuated. Trends appear clearly downward for girls, but less clear for boys. This has led to the gap between boys and girls widening.

There appears to be some variations between countries of the UK in young people's evaluations of their life satisfaction. However, ranking of countries changes over time, suggesting there are no stable trends. There may also be cultural differences in the way children report wellbeing between countries, particularly in international comparisons²¹⁸.

What does good look like?

International agencies such as UNICEF use scorecards including a range of indicators rather than a single measure of wellbeing.

The Netherlands were ranked first amongst OECD countries in the most recent UNICEF league table²¹⁹, with the Netherlands scorecard shown in Figure 4.5.3. Whilst the Netherlands scored 'green' in the majority of indicators, there remain indicators where the Netherlands does not perform well (e.g. environmental quality and civic engagement).

Dimension	Indicator	Netherlands	UK
Income and Wealth	Disposable income of households with children (1000, USD in PPPs)	28.97	26.53
	Child income poverty (%)	10.60	9.54
Jobs and Earnings	Children in workless households (%)	5.96	15.50
	Children with a long-term unemployed parent (%)	0.64	3.18
Housing conditions	Average rooms per child	1.26	1.21
	Children in homes that lack basic facilities (n)	0.94	3.42
Environmental quality	Children in homes with poor environmental conditions (%)	31.10	23.20
Health Status	Infant mortality (rate per 1,000 live births)	3.70	4.10
	Low birth weight (%)	6.00	6.90
	Self-reported health status (%)	13.70	20.40
	Obesity (%)	0.89	3.11
	Adolescent suicide rate (per 100,000 children)	4.50	3.20
	Teenage birth rate (per 1,000 women 15-19 years)	6.17	25.76
Education and Skills	Reading skills among 15 year olds (PISA scores)	511	499
	Creative problem solving among 15 year olds (PISA scores)	511	517
	Youth neither in employment nor education/training (%)	4.06	9.05
	Education deprivation (per 1,000 15 year olds)	1.21	3.38
Civic engagement	Intention to vote (%)	73.52	71.95
	Civic participation (%)	36.46	39.24
School and family environment	Children who find it easy to talk to their parents (%)	93.70	85.50
	Students reporting having kind classmates (%)	80.40	64.80
	Students feeling a lot of pressure from schoolwork (%)	4.37	14.10
	Students liking school (%)	83.50	76.80
	Sense of belonging in school at 15 years old (PISA score)	-0.03	-0.02
	Time children spend with parents (minutes)		151
Personal security	Child homicide rate (100,000 children)	0.59	0.65
	Bullying (%)	7.51	9.31
Subjective well-being	Life satisfaction (score)	7.99	7.51

Ranking compared to other OECD countries:




Top third	
Middle third	
Bottom third	

Figure 4.5.3: Child wellbeing rankings of the Netherlands and UK compared with other OECD countries^{219,220}.

How can we improve?

There are no simple solutions to improving wellbeing amongst young people. Given the very strong links between wellbeing and other areas of health, each of the actions outlined in the other indicator chapters in this report will contribute to improving wellbeing amongst children.

Reducing inequalities must be at the heart of improving wellbeing. Opportunities to share in the wealth and resources of a country are key to the wellbeing of its citizens, particularly its children and young people. For actions to reduce child poverty, see Indicator 5.1 (Poverty). Within each indicator outlined in this report, actions to reduce inequity related to income,

gender, ethnicity or sexuality are again key to improving the wellbeing of children²²⁰.

More directly, strengthening protective individual and social determinants and improving the position of children and young people in society are essential to improve children's wellbeing. These include social determinants such as family relationships and access to quality education but also cultural factors relating to the valuation of children in society, ethnic and gender equality and reduced tolerance for child abuse and exploitation. The UN Convention on the Rights of the Child guarantees young people's rights to respect and control over their lives. Promoting young people's empowerment and participation in

society is a further key part of enhancing wellbeing.

Central to improving children’s wellbeing is gathering and acting upon information directly from them about their lives²²¹. In preparing this report, young people from the RCPCH & Us[®] network were clear that improved communication by adults, and having their rights to information, healthcare and involvement in decision-making respected and acted upon with a focus on increased accessibility of services, improving health education in schools, mental health and issues resulting from poverty, were key to improving their wellbeing.

The Children Society recommends six priority areas that children and young people need to thrive²²²:

- the right conditions to learn and develop
- a positive view of themselves and a respect for their identity
- enough of the items and experiences that matter to them
- positive relationships with their family and friends
- a safe and suitable home environment and local area
- opportunities to take part in positive activities that help them thrive

Spotlight on inequalities

The HBSC cross-national study highlights three sources of inequality for child wellbeing¹⁷⁵:

Age: There is a significant decline in levels of life satisfaction between ages 11 and 15 among girls in almost all countries, but this applies to boys in only a minority of countries.

Gender: In the majority of countries, boys report a high life satisfaction more often than girls at ages 13 and 15.

Socioeconomic status (SES): High life satisfaction is significantly associated with higher SES in almost all countries for both boys and girls. Children with lower SES are also more likely to be at the bottom of the life satisfaction scale.

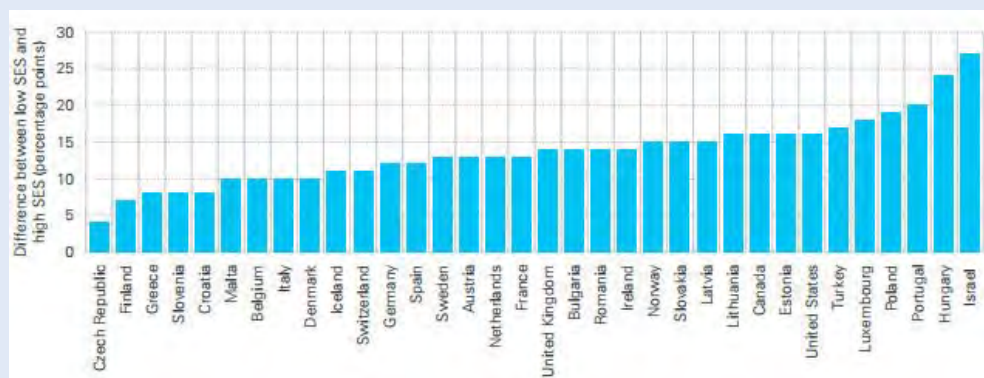


Figure 4.5.4: Influence of SES on the gap between low and high reported life satisfaction of 11- to 15-year-olds by country in 2014²²³.

Key actions

- Reduce inequalities in health across a range of health outcomes.
- Promote protective and resilience factors in young people's lives.
- Ensure full compliance with the UN Convention on the Rights of the Child.
- Analyse the effects of decision-making on children at a central and local government level.
- Maintain the commitment to eradicate child poverty in the UK by 2020, with a political focus on the poorest children, particularly in times of exceptional financial pressure on families.

Additional data note

Life satisfaction relates to the evaluations that children make about their lives at a cognitive level, and comprises judgements about life as a whole as well as judgements about different aspects of life (e.g. happiness with family relationships)²²¹.

The data collected for England, Scotland and Wales were subjective as they reflect the wellbeing of the children based on their own assessments of how their lives were going. Scorecards such as those produced by UNICEF attempt to collate data that reflect the subjective and objective wellbeing of children.

It will be important to gather comparative data for Northern Ireland, as children in Northern Ireland may have higher subjective wellbeing than children living in England²¹⁰.

Chapter 4: School age/adolescence

4.6 Suicide

Suicide rate amongst young people aged 15 to 19 years

Key messages

- Suicide is the second most common cause of death in young people aged 15 to 19, and accounts for more than a quarter of all deaths among this age group.
- Suicide rates in England, Wales and Scotland have declined since 2002.
- Young men are more likely to take their own lives than young women.
- Suicide is strongly linked with mental health problems, substance misuse, abuse, academic worries and bullying.
- Suicide is preventable: reduced access to means of suicide and improved mental health support for young people is essential to reduce suicide rates amongst youth.

What is this indicator showing us?

This indicator shows the rate of completed suicides amongst young people aged 15 to 19 years per million. We have used a three-year moving average to smooth fluctuations due to small numbers in each year²²⁴.

Data availability and comparability

The suicide rate is defined as deaths registered as a result of intentional self-harm or an event of undetermined intent. Statistics in the UK conventionally include undetermined intent deaths, as the great majority are thought to be suicides when reviewed by clinicians²²⁵.

Data on youth suicide are available for all four nations and can be obtained from mortality data which is coded in line with the International Classification of Diseases (ICD).

Suicide rates among young people in England, Northern Ireland, Scotland and Wales

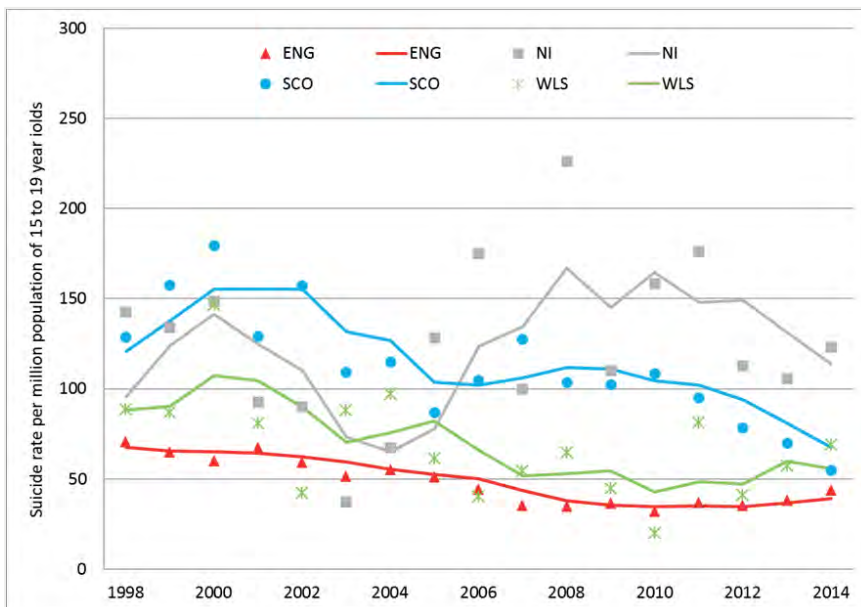


Figure 4.6.1: Suicide rate (including three-year moving average) for 15- to 19-year-olds, by country, 1998 to 2014

Latest data: In 2014 there were 136 registered deaths as a result of intentional self-harm, and a further 51 deaths identified as undetermined intent among 15- to 19-year-olds in the UK. The suicide rate was lowest in England (43.9 per million). The highest rate was in Northern Ireland (122.9 per million). Scotland and Wales had rates of 54.7 and 69.0 per million, respectively.

Trend: Until recently, the three-year averaged suicide rate was in stable decline in England, falling by 42% from 1998 to 2014. In Wales, a decline was seen between 2000 and 2010, with some suggestion of a rise from 2012. In Scotland, rates have declined since 2000. Rates in Northern Ireland have fluctuated, likely reflecting small numbers, although they have remained notably higher than in all other countries from 2006 onwards.

Source: ONS (England and Wales), NISRA (Northern Ireland) and NRS (Scotland)²²⁶⁻²²⁸

Why is this indicator important?

Suicide is one of the key indicators of the mental health of young people. It is also a strong contributor to mortality: after the first year of life, child and adolescent mortality is highest among young people aged 15 to 19. The most common category of death amongst this age group is non-intentional injury, with suicide as the second most common cause, accounting for more than a quarter of all deaths in young people aged 15 to 19.

Suicide is strongly linked to mental health problems, deprivation, family environment and bereavement, substance misuse, abuse or neglect, academic worries and bullying.

Suicide is preventable and policy actions, such as reducing paracetamol pack sizes, have contributed to reduced suicide rates over the past two decades²²⁹. Yet only a minority of young people who die from suicide have had contact with mental health services in the past year, suggesting health services are not meeting the mental health needs of young people.

Where are we now in the UK?

Since the early 2000s, the three-year average combined suicide rate for children aged 15 to 19 in England was thought to be in steady decline²²⁴. However, in recent years rates appear to have risen, climbing from 34.5 per million to 39.1 per million between 2010 and 2014.

Small numbers in Wales, Scotland and Northern Ireland make long-term trends harder to identify. However, Wales shows similar trends to England, while Scotland shows a decline since 2000 with no recent plateau. Rates in Northern Ireland have fluctuated, although they have remained higher than in all other countries from 2006 onwards.

Across the UK in 2014, there were 136 registered deaths as a result of intentional self-harm, and a further 51 deaths registered as undetermined intent among 15 to 19-year-olds. The majority of these were registered in England, where together there were 142 suicide deaths. In Scotland, Northern Ireland and Wales, there were 17, 15 and 13 suicides respectively.

In 2014, the combined suicide rate was 43.9 per million in England. The highest prevalence was in Northern Ireland (122.9 per million), followed by

Wales (69 per million) and Scotland (54.7 per million).

Across the UK young males are, on average, three times more likely to take their own lives than their female counterparts. Those from deprived areas had a nearly 80% higher risk of suicide than those from the most affluent areas²²⁴. Over the past decade, hanging has replaced self-poisoning as the most common method of suicide for both females (42%) and males (55%)²³⁰. Other methods include self-poisoning, drowning and falls²³⁰.

Spotlight on inequalities

There is a strong association between growing up in deprivation (defined using the English Index of Multiple Deprivation^{224,231}) and risk of suicide.

A recent study of suicide deaths from 2001 to 2011 found that, in England, the mean rate of suicide among 15- to 19-year-olds living in the most deprived areas was 79% higher (109 per million) than those living in the least deprived areas (61 per million). The research shows that towards the later part of the decade, the social gradient began to narrow.

What does good look like?

Suicide is preventable. The aim must be for no young person to die by their own hand. With appropriate public health and public policy initiatives we can reduce the number of suicides among children and young people.

Many children who die from suicide receive inadequate mental health support services. A 2006 study found many children did not have any contact with mental health service before death while others did not receive appropriate follow-up care relating to previous mental health problems or self-harm²³².

There is a particular need to increase targeted support services for young males. Young men who commit suicide were less likely to have had contact with mental health services than young women, and they were also less likely to show signs of concern before death²³³.

How can we improve?

We believe that each government should develop a child and adolescent mortality plan to reduce the number of preventable child deaths, including deaths through suicide, with clear targets for reduction.

Many countries already have national suicide prevention plans across all ages, which outline key strategies such as restricting means to access suicide²³⁴⁻²³⁷. Yet more must be done specifically for young people.

Governments must increase investment in improving the mental health and wellbeing of children and young people. This should focus on universal mental health promotion across the whole youth population, as well as on better services across education, social care, youth justice and health.

Specific suicide prevention strategies are needed at multiple levels, including that of the individual, family, schools, media and community. Restriction of access to methods was highly effective for reducing self-poisoning; however, the rise of hanging as a cause of suicide presents challenges as method restriction is not possible for the majority²³⁸. The RCPCH report *Why Children Die* recommends that the government take further steps to restrict children and young people's access to alcohol by the introduction of a minimum price per unit, regulation of marketing and availability, and action on under-age sales. To date, the government has not adequately addressed this issue.

Further work is needed to reduce the stigma of seeking help for mental health problems, particularly amongst young men.

In terms of services, there is a need for improved early identification of young people in trouble across primary and community services, better coordinated working across education, health, youth justice and social care as well as rapid

upscaling of capacity in mental health services for young people.

Early identification of mental health difficulties should be established as a core capacity of all education, youth justice and social care professionals who work with children – as well as health professionals in primary care and the community. This will require major investment into training and workforce development.

Schools, colleges and further education settings have a vital role to play in fostering the development of resilience and promoting better mental health, as well as identifying young people at risk and providing appropriate interventions or referral onwards where needed. In *Why Children Die*²³⁹ the RCPCH and the National Children's Bureau (NCB) proposed two key policy recommendations to support the mental health and wellbeing of children and young people in education and elsewhere.

Inspection frameworks for schools and colleges should include consideration of the extent to which these settings provide an environment that promotes young people's social and emotional wellbeing and this should be a 'limiting judgement'. An equivalent approach will need to be taken for other settings such as children's homes and youth justice settings.

Departments for Education should ensure that high-quality, comprehensive personal, social and health education (PSHE) programmes are mandated and implemented across all primary and secondary schools. This should foster social and emotional health and wellbeing through building resilience and specifically tackling issues around social inclusion, bullying, drug and alcohol use, and mental health.

Increased capacity within mental health services, particularly Child & Adolescent Mental Health Services (CAMHS), is a widely recognised need across the UK, with poor access, long waiting times and high symptom thresholds all identified as key issues needing to be addressed²⁴⁰.

Key actions

- Develop cross-government mortality plans to significantly reduce the number of preventable child and adolescent deaths, including deaths through suicide.
- Develop national youth suicide prevention strategies, with particular focus on young people in deprived communities
- Ensure all health, social care, youth justice and education professionals who work with children and young people are equipped with the skills and knowledge to ensure children and young people with mental health needs get the support they need as early as possible.
- Ensure service design recognises the role and importance of schools in relation to children and young people's health.
- Ensure that paediatric and specialist CAMHS services have sufficient capacity to meet the needs of children and young people.

Additional data note

In official statistics, the definition of suicide in England and Wales differs from the definition in Scotland and Northern Ireland; therefore, data for each of the four nations are not immediately comparable²³⁰. We chose to widen the definition of suicide in England and Wales in line with that in Scotland and Northern Ireland – the same approach used by the NSPCC in *How Safe Are Our Children?*²⁴¹.

Figures are for deaths registered, rather than deaths occurring in each calendar year. Due to the length of time it takes to complete a coroner's inquest, it can take months or even years for a suicide to be registered. More details can be found in the 'Suicides in the UK' bulletin²³⁰.

Chapter 4: School age/adolescence

4.7 Road traffic injuries

Number of 17- to 19-year-olds killed or seriously injured in cars

Key messages

- Road traffic injuries are a leading cause of death in young people in the UK.
- Globally, young people are the most likely age-group to be involved in transport accidents.
- In 2015 there were 847 reported car driver or passenger deaths or serious injuries amongst 17- to 19-year-olds in England, Northern Ireland, Scotland and Wales. Boys were 1.6 times more likely to be injured or killed on the roads compared with girls.
- There has been a decrease in the number of road traffic injuries per 100,000 population amongst young people in all four nations over the past decade.
- Compared with other wealthy countries, the UK has an excellent record on reducing traffic injuries; nevertheless, these are preventable causes of death and there remains room for improvement.

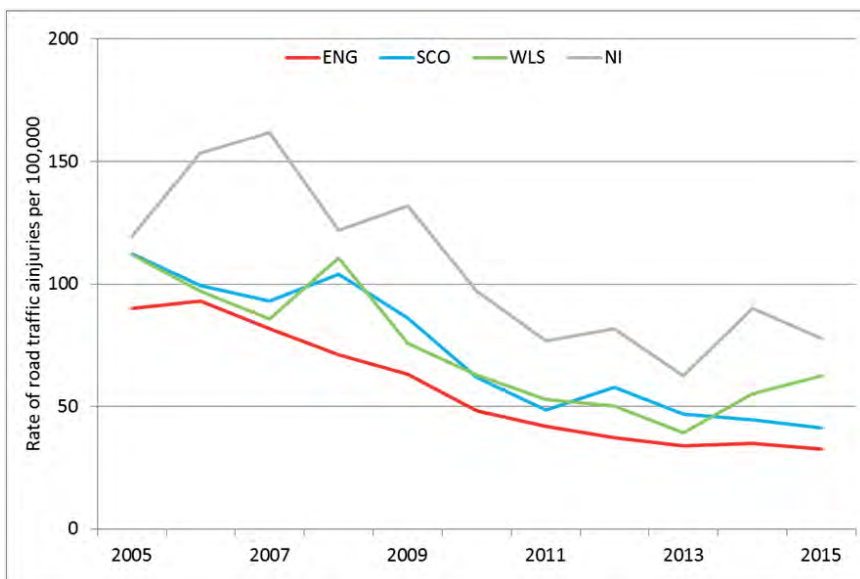
What is this indicator showing us?

This indicator shows the number of young people aged 17 to 19 years who have been reported killed or seriously injured as a driver or passenger of a car. Note these figures do not include pedestrian injuries on the roads.

Data availability and comparability

Comparable data are available for road traffic injuries among drivers and passengers by severity of injury (serious and fatal) for England, Northern Ireland, Scotland and Wales between 2005 and 2015.

Road traffic injuries involving young people in England, Northern Ireland, Scotland and Wales

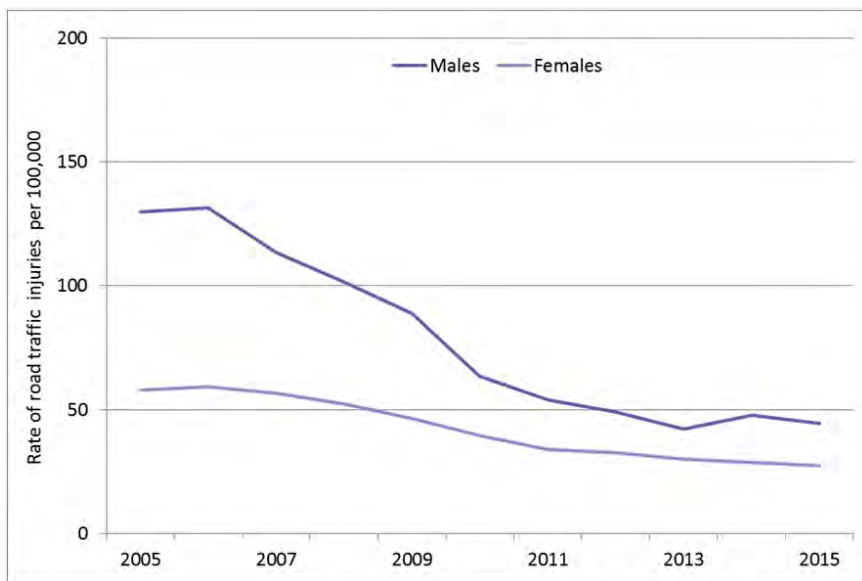


Latest data: The injury rate for young people aged 17 to 19 years who were either seriously injured or killed as a driver or passenger in road traffic accidents in 2015 was 33 in England, 78 in Northern Ireland, 41 in Scotland and 62 in Wales (all per 100,000 population).

Trend: During the last decade there has been a decrease in the rate of road traffic injuries in all four nations. The greatest reduction in mortality rate, 64%, has occurred in England. There are greater year-on-year fluctuations in Northern Ireland, probably reflecting the smaller population.

Source: Road Safety Statistics for England, Scotland and Wales²⁴², Statistics Branch, Police Service for Northern Ireland²⁴³ and mid-year population estimates (ONS)²⁸.

Figure 4.7.1: Road traffic injury (reported killed or seriously injured as car drivers or passengers) rate amongst 17- to 19-year-olds by country, 2005 to 2015



Latest data: In the UK, injury rates for 17–19 years either seriously injured or killed as a driver or passenger in 2015 were 27 amongst females and 44 amongst males (both per 100,000 population).

Trend: During the last decade there has been a decrease in the rate of road traffic injuries in both young males and females. Males have experienced the greatest decline in rate but still have a much higher rate than females (by 2015 males were still 1.6 times more likely to be injured or killed in road traffic injuries compared with females).

Source: Road Safety Statistics for England, Scotland and Wales²⁴², Statistics Branch, Police Service for Northern Ireland²⁴³ and mid-year population estimates (ONS)²⁸

Figure 4.7.2: Road traffic injury (reported killed or seriously injured as car drivers or passengers) rate amongst 17- to 19-year-olds by sex across the UK, 2005 to 2015

Why is this indicator important?

Road traffic injuries are a leading cause of death in teenagers and young people in the UK, and injuries sustained as a result of non-fatal accidents have major long-term implications for physical and mental health, as well as for educational attainment and employment prospects^{16,244}.

Young drivers aged 17 to 19 years make up 1.5% of full UK licence holders. However, 9% of fatal and serious crashes between 2007 and 2014 involved a driver aged between 17 and 19 years²⁴⁵⁻²⁴⁷. Furthermore, a review of road deaths between 2003 and 2010 in Wales found that of the 25 motor vehicle deaths of adolescents aged 13 to 17 years, 17 (68%) occurred in a vehicle being driven by a 17- to 19-year-old²⁴⁸.

Similar patterns are seen internationally, with young people, particularly young men, more at risk than other age groups. Clearly inexperience in handling driving situations is a major contributor. Other factors identified as contributing to increased risk of injuries amongst this age group include²⁴⁹:

- driving with other young people in the car
- driving at high speed
- driving under the influence of alcohol or drugs
- driving without the use of a seatbelt
- driving at night

Many of these factors are suggested to relate to developmental immaturity in the adolescent brain, particularly relating to the impact of the presence of other young people in the car on decision-making²⁵⁰.

Ongoing monitoring of road traffic injury rates is vital for assessing the effectiveness of interventions designed to improve young driver safety.

Spotlight on inequalities

Social deprivation is linked to an increased risk for all types of road crashes and fatalities in children under the age of 15 years, including pedestrians and cyclists¹⁴⁷. These social gradients appear less for teenager drivers, with higher rates of injuries across all socioeconomic groups amongst this age group.

Where are we now in the UK?

In 2015 there were 847 reported car driver or passenger deaths or serious injuries amongst 17- to 19-year-olds in the UK. Of these, 66 were fatal: 41 in England, six in Northern Ireland, eight in Scotland and 11 in Wales.

During the past decade there has been a decrease in the rate of road traffic injuries in both males and females. Males have experienced the greatest decline but still have a much higher rate than females; in 2015 young males were 1.6

times more likely to be injured or killed in road traffic accidents than young females.

Compared with other wealthy countries, the UK has an excellent record on reducing traffic injuries. Road traffic injury rates across all age groups are amongst the lowest in the Organisation for Economic Co-operation and Development (OECD), which includes wealthy countries across the world as well as in Europe²⁵¹.

When consulted, the children and young people we spoke to felt the key message to send out to their peers to promote safety was that ‘your life matters to us’, which links to ideas around improving self-confidence, creating a positive outlook and improving mental health.

(RCPCH & Us[®] Voice Bank 2016)

What does good look like?

The UK has the sixth lowest rate of deaths by transport crashes of children aged 10 to 19 years (3.7 per 100,000) across Europe. However, road traffic injuries are preventable, therefore we must aim to continue to reduce incidence of all road traffic deaths of young drivers and passengers 17 to 19 years of age. Lower rates in some countries (Spain, the Netherlands, Sweden, Portugal and Denmark) show that considerable progress is possible within the current state of technology¹⁶.

How can we improve?

There are many aspects of road design and transport policy that would reduce traffic injuries across all age groups.

Specifically for young people, strengthening regulations for novice teenage drivers could improve safety and align UK policy with international best practice.

Graduated Licencing Schemes (GLS) have been introduced in several countries, including the USA, Canada, New Zealand and Australia, as an attempt to reduce known risks amongst teenage drivers. The schemes usually contain one or more of the following components:

- restrictions on carrying passengers
- particularly other young people
- limitations on driving during darkness
- lower alcohol tolerance levels
- requirements for the learning process to include driving in specific settings or for a minimum number of hours

Evidence from countries where GLS schemes have been introduced shows that such measures can reduce road-related deaths^{252,253}. GLS schemes may be successful because they base policy on what we are starting to discover about the adolescent brain.

In addition to the introduction of a GLS across the UK, further evidence and evaluation of current pre-driver education programmes and their impact on young driver safety is required, to ensure young people in the UK are gaining the knowledge and skills for safe driving²⁵².

Key actions

- Introduce Graduated Licencing Schemes across the UK for novice drivers, particularly young people.
- Strengthen the evidence base underpinning young driver education programmes across the UK.

Chapter 4: School age/adolescence

4.8 Sexual and reproductive health

Number of conceptions per 1,000 females under 18 years of age

Key messages

- Young people are the parents of the next generation. The sexual and reproductive health of young people is an important indicator of population health.
- There has been an overall decline in the conception rate of 15- to 17-year-old females since 2007 across England, Scotland and Wales.
- Teenage conception rates are highest amongst young women in the most deprived areas.
- Statutory sex and relationships education, coupled with access to youth-friendly sexual and reproductive health services, are vital for improving the health of young people.
- Early and coordinated support is needed for young parents to improve outcomes for themselves and their children.

What is this indicator showing us?

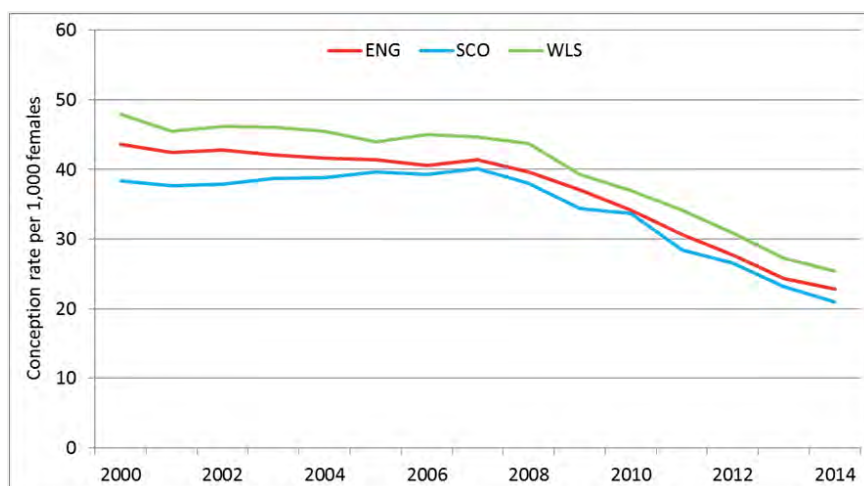
This indicator shows the number of conceptions per 1,000 females aged 15 to 17 years. This is known as the under-18 conception rate as conceptions below age 15 years are rare.

Data availability and comparability

The number of conceptions for females aged 15 to 17 years was obtained for England and Wales from the Office for National Statistics (ONS)²⁵⁴. Comparable data for Scotland were obtained from the Information Services Division Scotland (ISD)²⁵⁵.

Related but not directly comparable data on live birth rates (but not conceptions) were available for 15- to 17-year-old females in Northern Ireland from the Northern Ireland Statistics and Research Agency (NISRA). Numbers were converted into age-specific rates by using the Population Estimates for the UK, England, Scotland and Wales produced by the ONS²⁸.

Conception rate in England, Scotland and Wales



Latest data: The conception rates per 1,000 population of 15- to 17-year-old females in 2014 were 23, 21 and 25 for England, Scotland and Wales respectively.

Trend: There has been an overall decline in the conception rate of 15- to 17-year-old females since 2007 across all three nations.

Source: Conceptions in England and Wales: 2014 (ONS), Teenage Pregnancy (ISD), and Population Estimates (ONS)

Figure 4.8.1: Under-18 conception rate, per 1,000 females aged 15 to 17 years for England, Scotland and Wales

Live birth rate in Northern Ireland

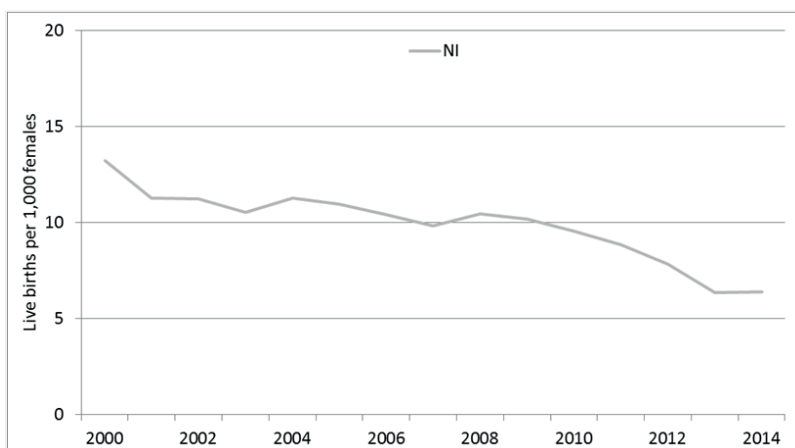


Figure 4.8.2: Live birth rate, per 1,000 females aged 15 to 17 years in Northern Ireland

Why is this indicator important?

The sexual and reproductive health of young people is an important indicator of population health, with significant implications for a young person's physical and mental health, their wellbeing, and their educational and economic outcomes.

Teenage pregnancy is associated with poor outcomes for young women and their children; for mothers there is an increased risk of poor educational outcomes, poor physical and mental health, social isolation and socioeconomic deprivation²⁵⁶⁻²⁵⁸. Risks for the children of young mothers include low birth weight and pre-term birth, along with some evidence of developmental problems²⁵⁹⁻²⁶².

Advice on sexual health was generally obtained from friends, parents, GPs or sexual health clinics. Children and young people called for an increase in the amount and effectiveness of sex education they receive at school.

(RCPCH & Us[®] Voice Bank 2016)

Where are we now in the UK?

In 2014, the under-18 conception rates across England, Scotland and Wales were 23, 21 and 25 conceptions per 1,000 women aged 15 to 17 years respectively. Rates have declined considerably since 1998 across all nations: by 51% in England and Scotland and 53% in Wales.

Although not directly comparable, data on live births in Northern Ireland show that there has been a similar marked decline, from 14 births per 1,000 women aged 15 to 17 years in 1998, to six births per 1,000 women in 2013.

What does good look like?

While the UK has seen an impressive and welcome decline in under-18 conception rates over the past two decades, current rates remain higher than many similar western European countries. The lowest under-20 conception rates in Europe are in Switzerland (8 per 1,000), and the Netherlands and Slovenia (both 14 per 1,000)²⁶³. The Swiss rate, whilst not exactly comparable with UK data, is highly similar to that amongst the least deprived fifth of the population in Scotland, indicating similar rates are achievable in the UK.

Spotlight on inequalities

Socioeconomic disadvantage can be both a cause and a consequence of teenage motherhood. A comparison of under-18 conception rates across regions in England shows that there are wide geographical variations, with the North East having the highest rate in 2014 (30.2 per thousand women aged 15 to 17) compared with the South East and South West with the lowest rate of 18.8 (per thousand women aged 15 to 17)²⁵⁴. In England, declines in under-18 conceptions have been greatest in the most deprived areas where rates were highest²⁶⁴.

Data from Scotland also demonstrate the link between deprivation and teenage pregnancy, where the under-18 conception rate in the most deprived areas was 5.3 times greater than the least deprived, with 42.2 compared to 8.0 per 1,000 women²⁵⁵.

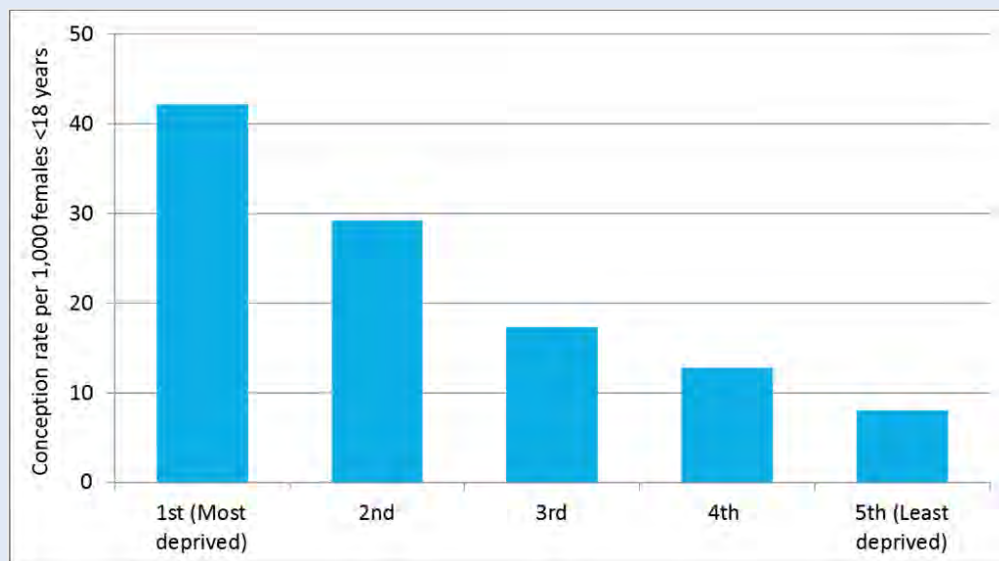


Figure 4.8.3: Under-18 conception rate, per 1,000 females by quintiles of the Scottish Index of Multiple Deprivation, 2014²⁵⁵

How can we improve?

Evidence from England suggests that the decline in under-18 conceptions since 1998 was due to concerted multi-faceted policy action across the health, education and social care sectors, in addition to social and educational change²⁶⁴.

Given regional variation in conception rates within nations, there is a need for targeted interventions to improve sexual health literacy in areas where under-18 conception rates are higher than the national average⁹⁴.

Sex and relationships education in schools is a fundamental component of ensuring young people are equipped with the knowledge and skills to make healthy decisions in relation to their sexual and reproductive health^{5,265}. A recent survey of 2,502 young people across the UK found that 90% agreed that it should be a legal requirement for all schools to teach sex and relationships education²⁶⁶ delivered in an

age-appropriate way in both primary and secondary schools^{267,268}.

In order to maximise effectiveness, sex and relationships education needs to be linked with timely access to confidential advice and dedicated young people's contraceptive services. In addition, the National Institute of Health and Care Excellence (NICE) guidance, *Contraceptive services for under 25s*, sets out a range of recommendations to strengthen local provision and uptake of sexual health services²⁶⁹.

Targeted provision is also essential for young people at increased risk of poor sexual and reproductive health. In addition to living in deprived areas, rates of under-18 conceptions are found to be associated with free school meal eligibility, persistent school absence by age 14, poorer than expected academic progress between 11 and 14 years of age and being looked after²⁷⁰. Targeted measures may include the provision of free or cost-priced condoms via a condom distribution scheme²⁷¹.

Key actions

- Provide universal statutory, comprehensive, evidence-based sex and relationships education as part of a wider health education curriculum, embedded within a whole school approach and linked appropriately with local sexual health service provision.
- Strengthen implementation of NICE guidance *Contraceptive services for under 25s*.
- Strengthen targeted measures for young people at increased risk of poor sexual and reproductive health, including implementation and continued evaluation of condom distribution schemes in response to local need.

Additional data note

The under-18 conception rate by deprivation index in Scotland represents the rate of terminations and deliveries combined.

Chapter 5: Family and social environment

5.1 Child poverty

Proportion of children living in households with income less than 60% of the median

Key messages

- Poverty is associated with adverse health, developmental, educational and long-term social outcomes.
- Nearly one in five children in the UK is living in poverty. This is predicted to increase²⁷². Therefore strategies are urgently needed to reduce poverty and to mitigate its impact on child health outcomes.
- Improving the health outcomes of children living in poverty requires provision of good-quality, effective and universal prevention and health care services¹³.
- All professionals caring for children should advocate for and support policies that reduce child poverty.

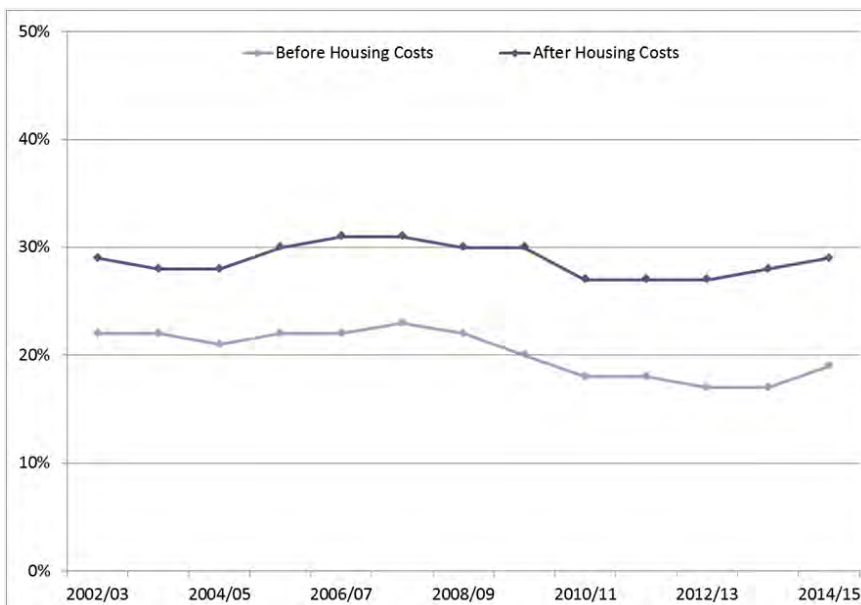
What is this indicator showing us?

This indicator shows us the number of children living in relative poverty, defined as living in households where income is less than 60% of the national median household income. There are other measures of poverty (see Box); however, this is the most widely used definition.

Data availability and comparability

Data on household income are available for all four nations from the Households Below Average Income (HBAI) Statistics issued by the Department for Work and Pensions. This uses data collected from the Family Resources Survey in the UK, which has a representative sample of 20,000 households. Adjustments are made to take account of the size and composition of households to make income figures comparable (see additional data note)²⁷³.

Relative child poverty rate (before and after housing costs) in the United Kingdom



Latest data: In the UK in 2014/2015, 19% of children were estimated to be living in relative poverty, before housing costs.

Trend: The proportion of children and young people living in poverty based on 'before housing costs' has fallen overall by 3% from 22% in 2002/2003 to 19% in 2014/2015, with a peak of 23% during the financial crisis of 2007/2008. Conversely, the percentage of children and young people living in poverty based on 'after housing costs' was the same in 2014/15 as it was 12 years previously, at 29%. Both figures show an increase in the percentage of children living in poverty since 2013/2014.

Source: Households Below Average Income (HBAI) Statistics 2002/2003 to 2014/2015, Department for Work and Pensions.

Figure 5.5.1: Proportion of UK children living in poverty from 2002/2003 to 2014/2015, shown calculated with or without including housing costs

Measuring child poverty in the UK²⁷⁴

Poverty is a complex concept with many definitions. Whilst there are a number of different ways in which it is measured, in general poverty tends to be measured in relation to a defined level of income known as relative poverty or in relation to a defined amount of income needed to meet basic needs known as absolute poverty.

Relative poverty: Relative measures of poverty compare the incomes of households with the average income in a country. In the UK, this is set at 60% of the current median (middle) income. This measure is often displayed in two ways:

- before housing costs; and
- after (i.e. including) housing costs.

The measure 'after housing costs' is often preferred as the cost of housing is unavoidable and essential²⁷⁵, although it should be noted that poverty 'after housing costs' is considerably higher. 'Before housing costs' is used throughout this document as a more conservative measure, unless noted otherwise.

Absolute poverty: Absolute measures of poverty use a fixed threshold that only rises with inflation and represents a certain level of income needed for basic goods and services. In the UK it is defined as living in a household

with income less than 60% of 2010/2011 median income adjusted for prices.

Persistent poverty: This is used to capture the prevalence of households living in poverty for a prolonged period of time. In the UK, this is defined as those living in households whose income is less than 60% of current median income for at least three out of the previous four years.

Combined low income and material deprivation: This measure goes beyond a simple measure of income poverty and in the UK it is defined as children who experience material deprivation and live in households with incomes less than 70% of current median income. Material deprivation is defined as lacking in basic goods and services needed to live in a country. In the UK, each nation uses its own index of material deprivation^{231,276-278}.

Severe low income poverty and material deprivation: Severe low income poverty measures the number of children living in households with an equivalised income below 50% of median before housing costs which also experience material deprivation.

Figures 5.1.1 and 5.1.2 illustrate some of the different measures used to capture poverty in the UK.

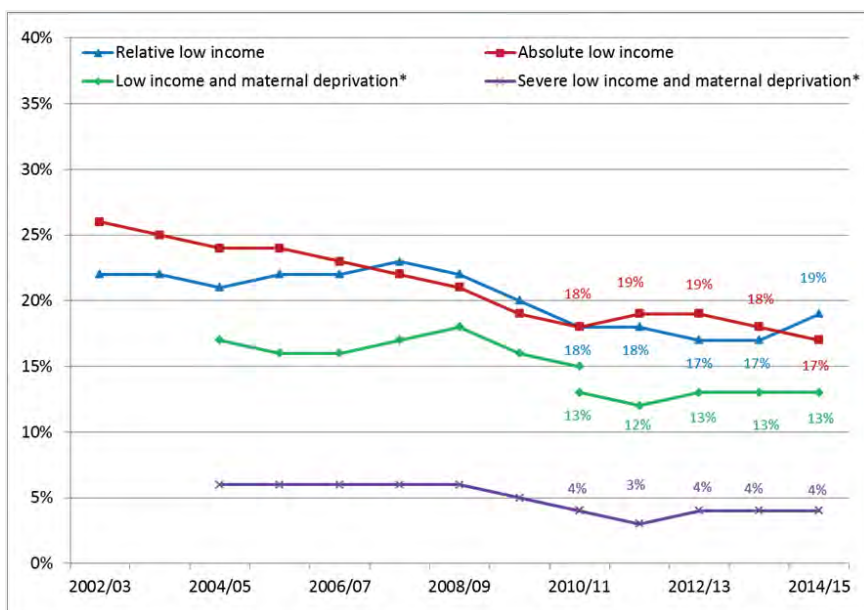


Figure 5.1.2: Proportion of UK children categorised as living in poverty by differing definitions, 2002/2003 to 2014/2015

Latest data: In 2014/2015, 19% of children in the UK experienced relative low income poverty, with 17% experiencing absolute low income, 13% with low income plus material deprivation and 4% experiencing severe low income and material deprivation.

Trend: There was a general downward trend between 1998/1999 to 2010/2011 in levels of low income poverty, after which rates plateaued.

Source: Households Below Average Income (HBAI) Statistics 1998/99 to 2004/2015, Department for Work and Pensions.

*Due to a break in the series in 2010/2011 it is not possible to make direct comparisons with results from earlier years for both the combined low income and material deprivation and severe low income and material deprivation series.

Why is this indicator important?

Throughout this report we highlight the impact of inequalities. This chapter looks specifically at child poverty, i.e. the proportion of children and their families whose resources do not allow them to engage in ordinary living patterns which are customary, or at least widely encouraged and approved, in UK society^{279,280}.

Poverty is associated with poorer health, developmental, educational and long-term social outcomes and is undoubtedly the most important determinant of child health in high income countries like the UK as captured by the strong inverse relationship between socioeconomic status and child mortality³¹.

There is also a strong correlation between levels of household financial resources and children's outcomes, meaning children living in low income households are more likely to have poor cognitive, social-behavioural and health outcomes²⁸¹. Living longer in poverty can also increase the severity of adverse outcomes compared to short-term experiences of poverty. Research shows that children living in poverty are more likely to die in the first year of life, become overweight, have tooth decay or die in an accident²⁸². They are also more likely to develop chronic conditions such as asthma compared with more affluent children²⁸³.

Poverty can also have lasting affects which often continue into adulthood; in particular, the risk of death in adulthood increases for many conditions including coronary heart disease, respiratory disease, injuries, and cancer²⁸⁴. In addition, mental health conditions in childhood are more likely to persist into adulthood²⁸⁵.

The impact of poverty has been emphasised by the voices of children and young people who feel they are unable to 'afford' to be healthy, particularly in relation to making healthy food choices and having safe and healthy living environments.

Where are we now in the UK?

In 2014/2015 around 19% or just under one in five children in the UK were living in relative poverty.

Although there was a general downward trend in the proportion of children experiencing poverty from 1998/1999 to 2010/2011, the trend has been stable since 2010/2011 despite the Child Poverty Act (2010) imposing a target for less than 10% of children in the UK to live in relative low income families by 2020/2021. The most recent figures show an increase for the first

time since 2007/2008. The 2020/2021 target was repealed by the Welfare Reform and Work Act 2016.

Figure 5.1.1 also illustrates the impact of housing costs on child poverty, whereby the inclusion of housing costs increases the child poverty rate from 19% to 29%. The increasing gap between these two measures - reflecting rising housing costs over the past 10 years - has pushed more families into poverty.

In absolute terms, poverty increased from 18% to 20% between 2010/2011 and 2011/2012, and currently sits at close to the relative low income poverty figure. On the other hand, the low income and material deprivation and severe low income poverty and material deprivation rates have remained comparatively stable and current rates stand at 13% and 4%, respectively (see Figure 5.1.2).

There is also regional variation across the UK. Figure 5.1.3 shows that a lower proportion of children in England and Scotland were living in poverty than in Wales and Northern Ireland. Some of this difference can be explained by higher levels of unemployment in Wales and Northern Ireland. Within England, children in inner city London were most likely to live in low income households, particularly after housing costs are considered²⁷³.

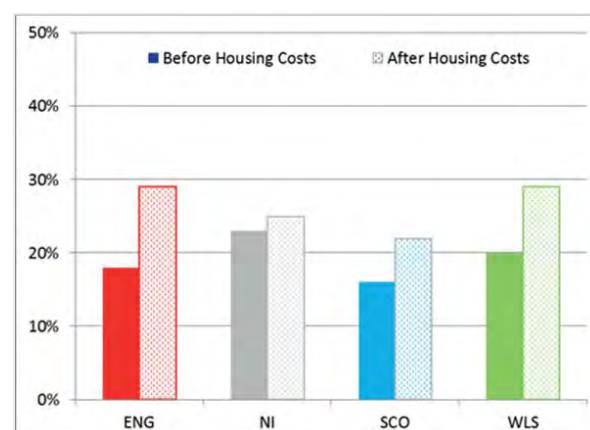


Figure 5.1.3: Proportion of children living in poverty by country, 2014/2015

In 2014/2015, two-thirds of poor children lived in households with parents in work. This trend for in-work poverty has increased over time, up from 54% in 2009/2010, reflecting falls in earnings and highlighting the importance of tackling poverty in both working and non-working households²⁸⁶.

The rise in income poverty is also linked to large numbers of households experiencing food poverty, with a subsequent impact on nutrition.

For example, the numbers of food parcels given out from the Trussell Trust has increased from 128,697 in 2011/2012 to over one million in 2014/2015²⁸⁷.

The IFS estimates that both relative and absolute low income child poverty rates are forecast to rise to 25.7% and 18.3%, respectively, by 2020/2021. This is driven by planned tax and benefit reforms²⁷².

How children and young people felt someone should react if they know someone living in poverty: 'Remember that they wouldn't like it if it happened to them.'

How they have seen people supported in poverty: 'I've seen a film which was about a true story, we have foodbank Friday at school where you bring in a donation, you need to use more propaganda to raise awareness.'

(RCPCH & Us[®] Voice Bank 2016)

What does good look like?

In 2012, UNICEF published a report comparing 35 countries from the European Union and Organisation for Economic Co-operation and Development (OECD) area. Using a slightly different measure of relative poverty (the percentage of children in households with incomes below 50% of national median income) the UK ranked 22nd out of 35 countries²⁸⁸. Countries at the top of the league table included Iceland (4.7%), Denmark (6.5%), Sweden (7.3%) and Norway (6.1%), which have similar economic development and per capita income to the UK²⁸⁸.

The report showed that legislative and policy decisions of governments can have an impact on protecting the poorest children and that it is possible to achieve a target of less than 10% of children living in relative low income households²⁸⁸.

How can we improve?

Social and fiscal policy can heavily influence children's chances of growing up in poverty. For children experiencing poverty, preventative and health care services can reduce the potential negative health consequences.

A well-functioning primary care service provides the bedrock for the rest of the health service¹¹.

The Marmot review of health inequalities in the UK suggests there should be a key focus on providing universal services for children with a scale and intensity proportionate to the level of disadvantage (termed 'proportionate universalism')¹³.

The relationship between poverty and health and the pathways through which exposure to disadvantage lead to adverse outcomes need to be better understood. Further research must be conducted to understand the links between child poverty and health, and to understand the impact of changing service provision on poverty and health inequalities²⁸⁹.

Key actions

- Governments must introduce comprehensive programmes to reduce child poverty.
- Increase awareness among health professionals of the impact of poverty on health and support all professionals working with children to become advocates for their patients experiencing poverty.
- Ensure universal early years' public health services are prioritised and supported, with targeted supports for children and families experiencing poverty.
- Provide good quality, safe and effective prevention and care throughout the public health and healthcare service with a particular focus on primary care in order to mediate the adverse health effects of poverty.
- Support research that examines the relationship between social and financial disadvantage and children's health.
- Support the continued recording of income-based measures of poverty so that trends and impacts of service provision can be meaningfully assessed, with a focus on achieving a target of less than 10% of children experiencing relative low income poverty.

Additional data note

Data presented define a child as an individual under 16 years of age or an unmarried or non-cohabiting 16- to 19-year-old in full-time non-advanced education.

Chapter 5: Family and social environment

5.2 Children in the child protection system

Number of children subject to child protection plans or on the child protection register

Key messages

- The number of children subject to a child protection plan (CPP) or on the child protection register (CPR) is one of several measures used to monitor children in the child protection system.
- Between 2004 and 2015, the number of children in the child protection system increased in all four nations; the greatest increase took place in England, where the rate increased from 24 to 43 per 10,000. For 2015, Wales recorded the highest rate: 47 per 10,000.
- Children in the child protection system are more likely to experience a range of physical and mental health issues. Better data are needed to support effective service delivery and improve health outcomes of these particularly vulnerable infants, children and young people.

What is this indicator showing us?

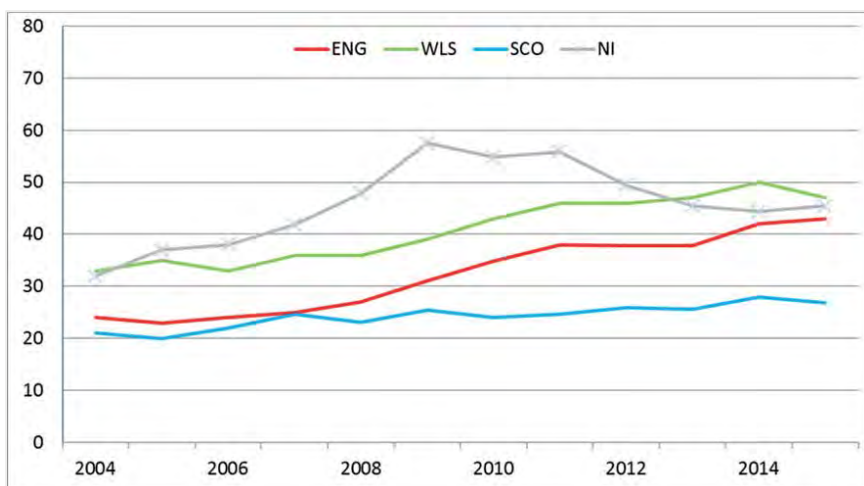
This indicator shows the rate of children aged 18 or under (per 10,000) subject to a CPP in England²⁹⁰ or on the CPR in Scotland²⁹¹, Wales²⁹² and Northern Ireland²⁹³ from 2004 to 2015 across the UK.

This particular measure only includes children who have been identified as at risk of or experiencing harm and, therefore, it is unlikely that it captures the true number of children who are at risk.

Data availability

Data are available across the UK²⁹⁴⁻²⁹⁷. A CPP is prepared for a child identified as being at risk of harm, whereas, the CPR lists all children identified as at risk. Although the two measures differ, they are similar and enable a useful comparison across the four nations regarding the number of children in the child protection system.

Proportion of children in the child protection system in England, Northern Ireland, Scotland and Wales



Latest data: In 2015, the rate of children on a CPP or CPR was in the mid-40s per 10,000 across Wales, England and Northern Ireland. The rate in Scotland was considerably lower at 27 per 10,000.

Trends: Since 2004, the rate of children subject to a CPP or on the CPR has increased in all four nations. England experienced the greatest increase, where it rose from 24 to 43 per 10,000, compared to Scotland who experienced a very gradual increase. Northern Ireland experienced a sharp rise between 2004 and 2009 although has declined somewhat since.

Source: Characteristics of Children in Need (England), Children's Social Care Statistics (NI), Children's Social Work Statistics (Scotland) and Local Authority Child Protection Registers (Wales)²⁹⁴⁻²⁹⁷.

Figure 5.2.1: Number of children aged 18 or under subject to child protection plans or on the child protection register (per 10,000), by country 2004 to 2015

Where are we now in the UK?

In 2015, rates were in the mid-40s per 10,000 and similar across Wales, England and Northern Ireland. The rate in Scotland was considerably lower at 27 per 10,000.

Since 2004, the prevalence of children subject to a CPP or on the CPR has increased in all four nations. The greatest increase took place in England, where the rate rose from 24 to 43 per 10,000 – a 79% increase.

Neglect and emotional abuse are the most common primary reasons for children being on a CPP or on the CPR in England and Wales (see Figure 5.2.2). Neglect, physical and multiple abuses were the most common categories in Northern Ireland.

Figure 5.2.3 shows that in Scotland in 2015, the most common concerns identified at the case conferences of children who were on the CPR were emotional abuse, neglect, parental substance misuse and domestic abuse.

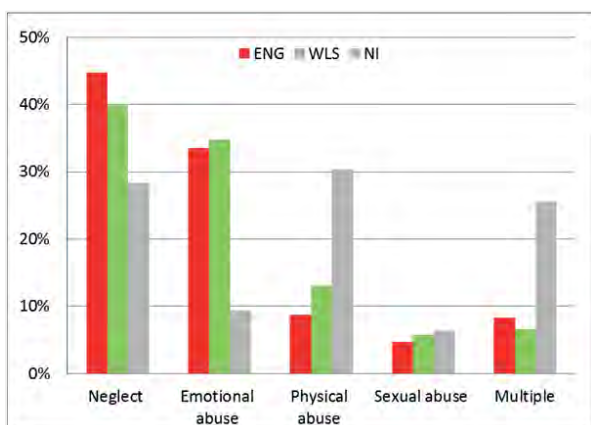


Figure 5.2.2: Categories of abuse for which children were subject to a CPP in England or on the CPR in Wales and Northern Ireland (at 31 March 2015).

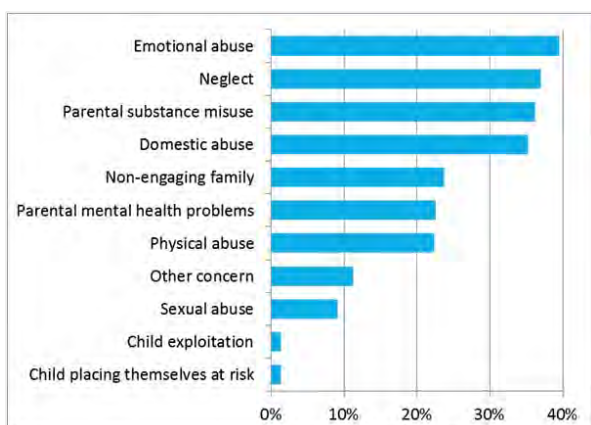


Figure 5.2.3: Concerns identified at the case conferences of children who were on the CPR in Scotland at 31 July 2015

Why is this indicator important?

The number of children on a CPP or on the CPR is one of several measures which can be used to monitor children in the child protection system. The benefit of this measure is that it looks at substantiated cases of abuse, i.e. those which have been reviewed at professional case conference.

Knowledge of the number of children in the care system and the reasons for being in the system provide some indication of the number of children at risk of harm in each of the four nations and the additional support required to meet their health needs. However, they are not a direct measure of the prevalence of abuse or neglect of children, as being subject to a plan/being on a register is dependent on notification and system process factors. A full set of child protection indicators is published annually by the NSPCC²⁴¹.

Children who experience abuse or neglect are more likely to experience physical or emotional harm which can last into adulthood^{298,299}. In particular, abuse or neglect can have lasting effects on health and wellbeing as a result of³⁰⁰:

- emotional difficulties
- mental health issues
- drug or alcohol misuse
- distress and confusion
- poor physical health
- relationship difficulties
- learning difficulties
- lower educational attainment
- behavioural issues

Furthermore, children who experience abuse or neglect are more likely to suffer abuse again; therefore, early intervention strategies to reduce subsequent exposure to abuse or neglect are of vital importance³⁰¹.

What does good look like?

All children have a right to protection against abuse, neglect, exploitation and violence³⁰². However, it is difficult to quantify the number of children at risk of abuse or being abused³⁰³.

Measures such as the number in the child protection system tell us little about the overall burden of child abuse, as low numbers may either indicate low levels of abuse, low levels of reporting or a poorly functioning system. Equally, higher numbers could reflect an increase in abuse or greater community awareness or a lower threshold for authorities to act.

This indicator does, however, tell us about the numbers known to the authorities and the burden on the system and allows monitoring of system performance to some degree.

How can we improve?

Wide ranging early identification and intervention strategies must be supported by an appropriately trained front line and multi-disciplinary child protection workforce. In addition, policy-makers must facilitate knowledge and awareness amongst the wider child health workforce around recognising and supporting children who are at risk or experiencing harm.

The NSPCC *It's Time*³⁰⁴ campaign has found that therapeutic services are not currently doing enough to support children who have experienced abuse, and the campaign is calling on the government to improve support services, develop a clear vision of what good support looks like and better evidence on demand, provision and best practice.

Children, young people and their families must also be educated about respectful and appropriate relationships, and where to seek help if needed.

Having access to up-to-date information on the prevalence of children at risk can assist local authorities in their planning and assist the government in ensuring it is doing enough to support its child protection system. In addition, more thorough methods of evaluation, such as impact evaluations, could help practitioners identify evidence-based models of best practice.

The Wood Review³⁰⁵ into the role that Local Safeguarding Children Boards (LSCBs) play in protecting and safeguarding children in England was published in March 2016. The review made the case for the fundamental reform of LSCBs, recommending a move towards a new statutory framework for multi-agency arrangements for child protection. The review's recommendations also included replacing Serious Case Reviews with an independent national body to oversee cases of serious harm to children and child deaths, and a shift in responsibility for child death overview panels from the Department for Education to the Department of Health.

The Government's response³⁰⁶ to the Wood Review and its resulting Children and Social Work Bill³⁰⁷ (which seeks to implement a number of the review's recommendations, along with other provisions for children in care) indicate that changes are on the horizon for the

child protection system in England. Any new legislative framework, however, must be developed with the health, wellbeing and rights of the child at its core.

Key actions

- Protect and continue to support the provision of early help services.
- Invest in a well-trained multi-disciplinary workforce that can respond to children and families at risk of or who experience harm.
- Strengthen knowledge and skills for those working in primary care, education and community settings who are well placed to spot the signs of harm.
- Ensure children and young people are educated to understand respectful relationships and provide them with information on seeking help through statutory health education.
- Increase therapeutic support for children and young people who have experienced harm.
- Strengthen evidence to inform demand, provision and best practice.
- Improve research, evaluation and monitoring to accurately identify the number of children experiencing abuse and the different types of abuse.
- Evaluate the services available to children experiencing harm so that these services are doing enough to support children and young people.

Additional data note

All four nations collect data annually: for England, Northern Ireland and Wales the year ends 31 March; for Scotland the year ends 31 July from 2011 onwards. The indicator captures the number of children subject to a CPP or on the CPR *at a specific point in the year* rather than the total number *for the entire year*. Generally, the latter tends to be higher because some children are subject to CPPs or on the CPR for less than a year, or some children are registered more than once in a given year. This is the case for England, Scotland and Wales, but not Northern Ireland (see Figure 5.2.1).

Chapter 5: Family and social environment

5.3 Counselling sessions by Childline

Reasons for contacting Childline across the UK

Key messages

- Childline is a free 24-hour helpline providing counselling for children and young people across the UK.
- Latest figures show that nearly half of all Childline contacts were with children who were concerned about low mood or unhappiness, bullying and family relationships.
- When a child or young person is in a life-threatening situation, or when they are requesting direct help, Childline will make the decision to make a referral to another agency on their behalf. In 2015/2016, Childline made 4,005 referrals to external agencies; 2,204 – more than half – were on behalf of children with suicidal concerns.

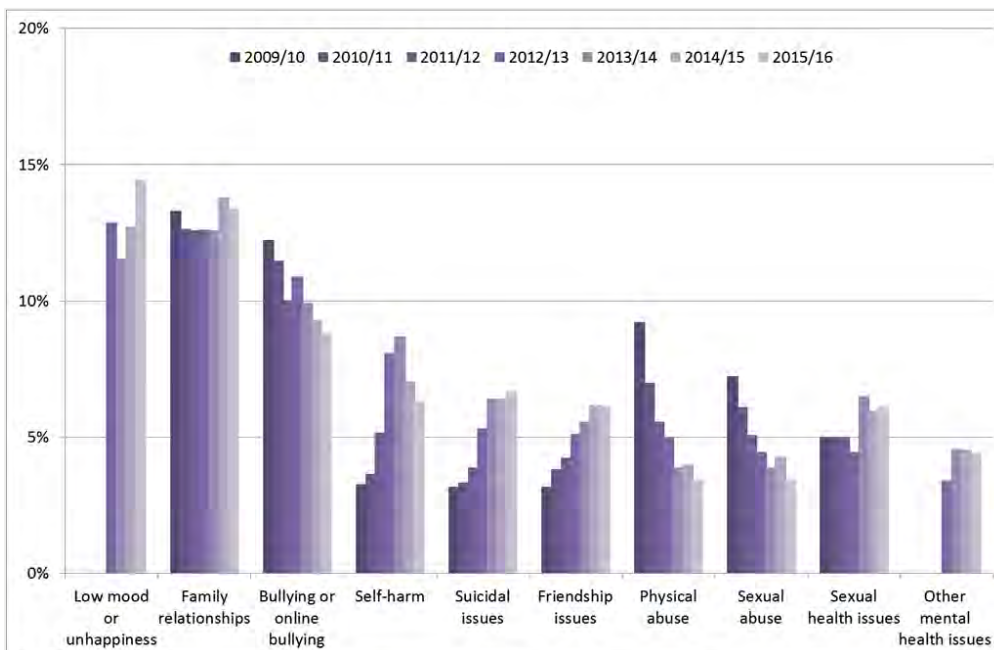
What is this indicator showing us?

This indicator shows the change in proportion of contacts Childline received between 2009/2010 and 2015/2016 by the child's primary concern. The total number of contacts is not shown here as that is dependent on accessibility and knowledge of the service. Note the proportion relates to the number of contacts received, not the number of children who have called the line, as a child may make multiple contacts. It is possible to monitor trends for most types of concerns and categories of abuse from 2009/2010 onwards.

Data availability and comparability

Childline collects data across the UK. It is not possible to break these data down by nation because few children and young people share information about where they live.

Number of contacts made to Childline across the UK



Latest data: In 2015/2016, the most common concerns were low mood or unhappiness (14%) and family relationships (13%).

Trend: Since 2009/2010, as a proportion of all counselling sessions, those concerning suicide, friendships and self-harm have approximately doubled, while contacts relating to bullying, physical abuse and sexual abuse decreased.

Source: NSPCC²⁴¹

Figure 5.3.1: Proportion of contacts broken down by primary concern across the UK, 2009/2010 to 2015/2016

Why is this indicator important?

Since launching in 1986, Childline has become a valuable source of information for policy-makers and practitioners as it provides insights into the challenges faced by children and young people and the changing trends in the main worries in their lives.

It is a unique source of information as issues are reported directly by children and young people, and it provides context which can sometimes be missing from official statistics. However, it is important to note that the reason why children contact Childline can be influenced by a variety of external factors, such as media coverage of particular issues, marketing and campaigns from government and third sector organisations, and alternate methods of contact (e.g. an online platform relaunched in 2016)²⁴¹.

This rich source of information is regularly used to support policy and practice at a national level. For example, referral data highlight the growing need for support services for children and young people experiencing mental health issues. As well, the data enable charities and the statutory sector to recognise trends and monitor specific concerns experienced by children and young people which can also inform policy and practice.

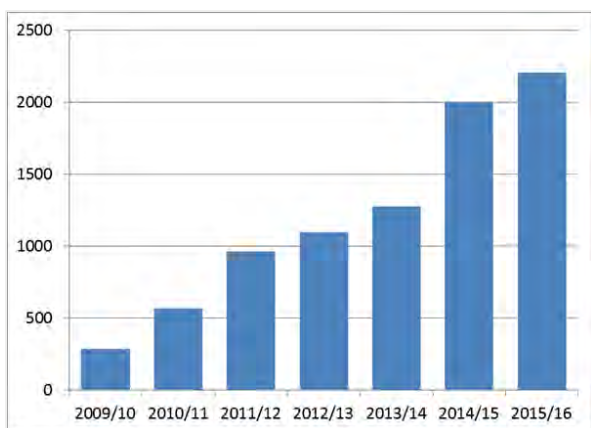


Figure 5.3.2: Number of referrals for suicidal concerns* made to external agencies by Childline, 2009/2010 to 2015/2016

Where are we now in the UK?

In 2015/2016, the three most common contacts to Childline were made by children who were concerned about low mood or unhappiness, family relationships and bullying. Other common concerns included self-harm, suicide, friendship issues and sexual health-related issues.

There has been a noticeable downward shift in the number of abuse-related contacts to Childline. In 2015/2016, Childline received 23,493 abuse-related contacts. In comparison, in 2010/2011, Childline received 38,569 – that is a 40% drop in the number of abuse-related contacts over five years. Sexual abuse and physical abuse are the most common types of abuse-related contacts, followed by emotional abuse and neglect.

In addition to counselling services, Childline also makes referrals to external agencies on behalf of children. In 2015/2016, Childline made 4,005 referrals (regarding 3,609 children) to support a number of different concerns (see Figure 5.2.3). Suicidal concerns continue to be the most common reason for referral. Since 2009/2010, referrals relating to suicide have increased considerably, rising from 283 to 2,204.

Main concern	2015/2016
Suicidal issues	2,204
Physical abuse	388
Runaway/thrown out/homeless	178
Sexual abuse / online sexual abuse	166
Abuser	114
Self-harm	111
Total number of referrals	4005

Figure 5.3.3: Referrals* made by Childline to external agencies by primary concern 2015/2016

What does good look like?

While the proportion of contacts with Childline offers useful insight into the types of concerns experienced by children and young people, it offers little information about the actual incidence or severity of mental health problems, abuse or neglect experienced by children and young people in the UK. However, ensuring there is an appropriate response when trends are identified is of vital importance.

How can we improve?

Childline is a free, 24-hour helpline for children and young people. Children across the UK benefit greatly from the counselling services offered by Childline and quite often this service is the initial point of contact for children and young people at risk of harm.

In addition, each year Childline refers more and more children to external agencies. To meet this growing demand, it is important that services are in place to support children and young people when needed. This is particularly the case for mental health, and it is essential that all professionals caring for children and young people receive training in recognising, managing and referring mental health problems.

Key actions

- Maintain ongoing monitoring of Childline contacts to inform policy and practice.
- Ensure training of all professionals working with children and young people enable them to support children and young people who contact Childline, as appropriate to their need and in line with demand.
- Further recommendations are outlined in the Indicator on suicide.

Chapter 6: Health conditions of childhood

6.1 Asthma

Emergency hospital admission rate for asthma for children and young people under 19 years of age in Great Britain

Key messages

- Asthma is the commonest long-term medical condition in the UK. One in 10 to 11 children and young people in the UK has asthma.
- The UK has one of the highest prevalence, emergency admission and death rates for childhood asthma in Europe.
- There is wide geographical variation in emergency asthma admission rates for children across the UK.
- Most emergency admissions are preventable, with high-quality management (including the use of asthma plans) and early intervention to address deterioration in control.

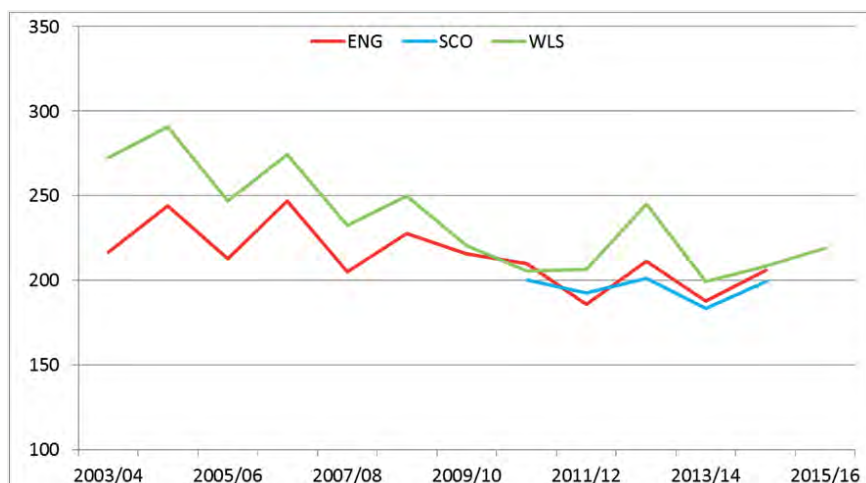
What is this indicator showing us?

This indicator shows the rate (per 100,000 children) of emergency admissions to hospital for asthma of children and young people under 19 years of age in Great Britain. Children and young people who are seen in the emergency department only (i.e. not admitted) are not included in this indicator.

Data availability and comparability

Data on emergency admissions are available for England from 2003/2004 to 2014/2015, for Scotland from 2010/2011 to 2014/2015 (historical data between 2005/2006 and 2009/2010 is only available for children aged 14 and under) and for Wales from 2003/2004 to 2015/2016. Data from Northern Ireland are not segregated by age and are therefore not available for these purposes.

Rate of emergency admissions to hospital for asthma among children and young people in England, Scotland and Wales



Latest data: The rate of emergency admissions to hospital of children under 19 with asthma in 2014/2015 was 206 in England, 199 in Scotland and 208 in Wales (all per 100,000 population).

Trend: Since 2003/2004 there has been a decrease in the asthma emergency admission rate in England and Wales, although the rate in both countries has fluctuated considerably within the period. Trends in Scotland are unclear.

Source: Health and Social Care Information Centre (HSCIC) for England, National Statistics Release for Scotland, and NHS Wales Informatics Service for Wales.

Figure 6.1.1: Emergency hospital admissions for asthma per 100,000 children (<19 years) in England, Wales and Scotland, 2003/2004 to 2015/2016

Spotlight on inequalities

As deprivation increases the number of emergency hospital admissions for asthma increases across all age-groups amongst children and young people. Further exploration is needed to understand if this variation is explained by variations in prevalence or if it is attributable to the aggravation of symptoms (for example, from air pollution or by active or passive smoking) or to differences in management.

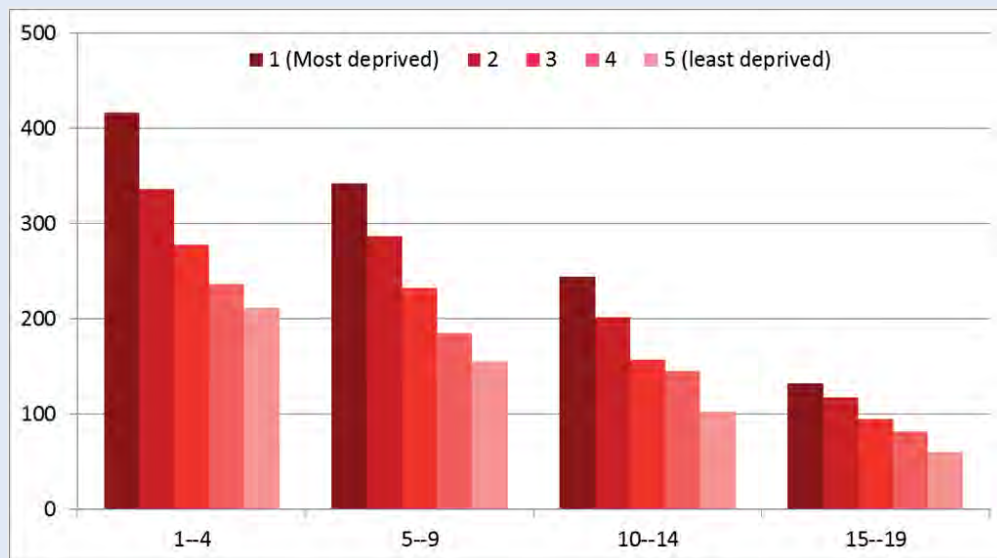


Figure 6.1.2: Emergency hospital admissions for asthma per 100,000 children by age and deprivation quintile (fifth of population), in England 2013/2014

Why is this indicator important?

The prevalence of asthma in the UK is among the highest in the world^{308,309}. It is estimated that 1.1 million children in the UK (36,000 children in Northern Ireland, 72,000 in Scotland, 59,000 in Wales and 932,000 in England) are currently receiving treatment for asthma³⁰⁹.

The number of reported asthma deaths in the UK is also amongst the highest in Europe^{310,311}. The National Review of Asthma Deaths (NRAD) found that the overall standard of care for children was inadequate in 46% of the deaths reviewed and that there were potentially avoidable factors related to patients and their families in 65% deaths³¹¹.

The NHS spends around £1 billion a year treating people with asthma³⁰⁹, with around half of this expense being for unscheduled care. It is estimated that up to 70% of emergency admissions for asthma (adults and children) may be preventable³¹².

Where are we now in the UK?

Asthma is a leading cause of admission to hospital for children. A child is admitted to

hospital every 20 minutes in the UK because of an asthma attack³⁰⁹.

In 2014/2015, there were 25,206 emergency admissions to hospital for children with asthma in England³¹³, 2,188 in Scotland³¹⁴ and 1,390 in Wales³¹⁵.

The rates of emergency admissions for asthma (per 100,000) have shown an overall decrease in England and Wales over the last decade. The rate in Wales was consistently higher than in England and Scotland but has fallen to largely match the other countries.

What does good look like?

Asthma is a long-term condition that cannot be cured, but for the great majority of children it can be effectively managed. Children and young people with asthma should be able to lead a normal and active life, and one that does not include hospitalisations for asthma.

There is substantial geographical variation in the emergency admission rate; within England in 2012/2013 the emergency asthma admission rate for children (excluding outliers) ranged from 93 to 449 per 100,000 population (4.8-fold variation)³¹⁶. The variation by deprivation shown

in Figure 6.1.2 suggests all UK children could have the same admission rate as the least deprived quintile.

Almost all emergency hospital admissions for asthma are preventable; therefore, with effective management we should see a decrease in the number of emergency admissions across the UK and a reduction in the geographical variation in admissions.

How can we improve?

The causes of asthma are not well understood and further research is needed. Good practice recommends that efforts begin with prevention, i.e. to reduce the risk of a child developing asthma. Actions should be focused on supporting pregnant women to stop smoking (see Indicator 2.1 on maternal smoking), encouraging breastfeeding (see Indicator 2.2 on breastfeeding) and reducing the impact of environmental smoke and air pollution^{317,318}.

A whole pathway approach is required to reduce emergency admissions for asthma³¹⁰, with a focus on high-quality management (through full implementation of applicable guidance, e.g. NICE³¹⁹ and SIGN³²⁰, and early intervention to address any deterioration).

Treatment needs to be tailored to the individual and all children with asthma should be provided with a personal asthma action plan and have a structured review by a healthcare professional with specialist training in asthma, at least annually^{310,311,316}.

The National Review of Asthma Deaths found that seven of 18 (39%) children were exposed to second-hand smoke³¹¹; exposure to allergens and second-hand smoke should be minimised wherever possible (see Indicator 2.1 on smoking). Poor recognition of risk factors which can trigger an asthma attack is an important avoidable factor for children. There needs to be better education to enable children and their families to understand what triggers their symptoms and support to help them avoid these triggers and self-manage their condition^{310,316,317}.

As adolescents move towards adulthood and more independent self-management, there can be challenges in maintaining good asthma control. Ensuring all primary and secondary care professionals have training in working with adolescents is essential to help them continue good disease control.

There is also a substantial role for schools to play to deliver their responsibilities to support children with long-term conditions such as

asthma. These responsibilities are statutory in some countries.

Health professionals must be aware of the factors that increase the risk of asthma attacks and death in order to better support children to understand and manage their known triggers

Key actions

- Strengthen research into the underlying causes of asthma and ways to prevent it.
- Ensure full implementation of NICE and SIGN asthma guidelines across the UK.
- Improve asthma education for children, families and healthcare professionals. Improve training for healthcare professionals in working with young people.
- Deliver school responsibilities in relation to children with asthma (e.g. implementation of statutory guidance in England compared with other nations etc.).

Chapter 6: Health conditions of childhood

6.2 Cancer

Proportion of children (0–14 years) surviving five years following a diagnosis of cancer

Key messages

- Despite continuing advances in treatment and consequent improvements in survival rates, cancer remains the most frequent medical cause of death for children in the UK³²¹.
- The proportion of children surviving five years following a cancer diagnosis has doubled since the 1970s. This increase is likely to be due to improvements in treatment and supportive care.
- The increases in survival for many of the principal types of childhood cancer have occurred in parallel with clinical trials in the same period of time³²².
- The UK has relatively low mortality rates compared with high-income countries worldwide, although there is some evidence that survival rates are poorer for some cancers than the best in Europe.

What is this indicator showing us?

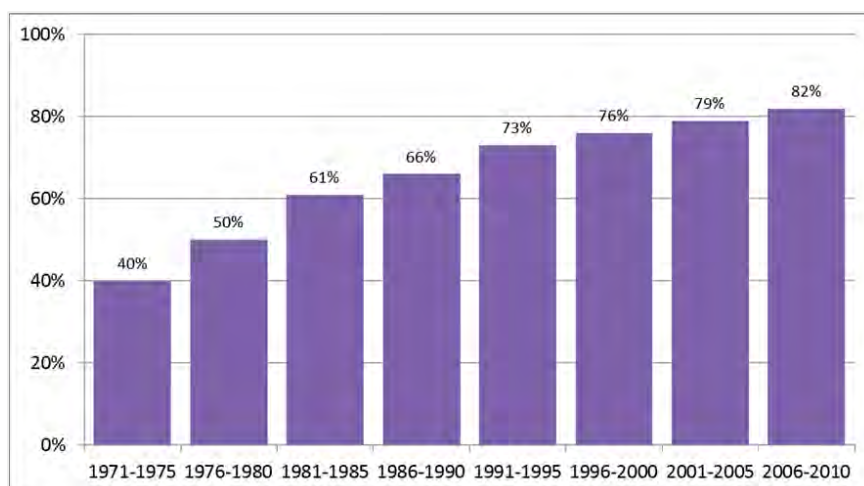
This indicator shows the percentage of children aged 0–14 years who survive cancer (all types) by the five-year follow-up.

Data availability and comparability

Data for the proportion of children surviving five years following a diagnosis of cancer are not comparable across between England, Northern Ireland, Scotland and Wales. We have therefore used data on survival collated across Great Britain³²³.

A range of other data are available within different countries of the UK, including incidence, mortality and proportions surviving for one, five or 10 years.

Cancer survival rates among children in Great Britain



Latest data: For the period 2006–2010, 82% of children aged 0–14 years with cancer in Great Britain have survived at the five-year follow-up.

Trend: The percentage of children surviving cancer for five years after diagnosis has doubled between 1971 and 2010 in Great Britain.

Source: Children's cancer survival statistics, Cancer Research UK

Figure 6.2.1: Proportion of children aged 0–14 years surviving cancer (all types) after five years in Great Britain by five year epoch, 1971 to 2010

Why is this indicator important?

Cancer is one of the leading causes of death during childhood^{11,16}.

Every day around five children in the UK are diagnosed with cancer³²⁴, with around 1,700 children in Great Britain diagnosed each year³²⁵.

There are many types of cancer that can affect children, which are often different from cancers in adults.

The most common type of cancer in childhood is leukaemia, with 480 cases diagnosed every year, followed by brain tumours (400 per year), lymphomas (160 per year) and soft tissue sarcoma (100 per year). Other cancers in childhood include germ cell, neuroblastoma, eye, kidney, liver and bone.

Cancer is also one of the leading causes of death in teenagers. Teenage cancer is not included in this indicator, because types of cancer differ from those in younger children

Where are we now in the UK?

Data show that across Great Britain between 2006 and 2010, 82% of children (0-14 years) survived five years following a diagnosis. This proportion has doubled since the early 1970s.

In England, 81% of children diagnosed with cancer in 2009 survived for at least five years³²².

In Northern Ireland between 2000 and 2009, 79% of children aged 0-14 years survived five years after a cancer diagnosis (all types excluding non-melanoma skin cancer)³²⁶.

In Scotland, the proportion of children surviving five years after a cancer diagnosis rose from 65% in 1983-1987 to 76% in 1998-2002³²⁷.

Specific data for Wales are not available³²⁸.

What does good look like?

Compared to countries across Europe the UK sits above the average for five year survival rates for children and young people diagnosed with cancer³²⁸. However, there is some evidence

that overall survival rates for some cancers are lower than the best in Europe³²⁹.

It is important that we continue to make improvements in five year survival rates alongside other European countries.

However, there has been little recent progress in cancer mortality across Europe for a number of cancers, including Hodgkin's lymphoma, Burkitt's lymphoma, CNS tumours, neuroblastoma, Wilms' tumour, Ewing's sarcoma, osteosarcoma, and rhabdomyosarcoma. Further work is needed to understand how we can make improvements in diagnosis, treatment and care for children and young people diagnosed with these types of cancer³²⁸.

How can we improve?

Improvements thus far have been based on science – on better understanding of the biology of cancer and on high-quality clinical trials of treatment regimens.

Research must continue to understand the basic biology of cancer, identifying the genes and molecules that are the cause of most childhood cancers. The UK and international system of research trials in childhood cancer has been one of the most impressive achievements of paediatric medicine over the last 30 years, and investment must continue to develop and test more effective, kinder treatments.

Survivors of childhood cancer need support throughout adulthood, and clinicians should be aware of risks to physical and mental health³³⁰, many of which are life long and require regular, active surveillance; as survival rates increase for children and young people, so do the number of adult survivors.

Primary care professionals in the UK need better access to support and training, both initial training and ongoing development opportunities, to help them to engage effectively with children and young people, and to confidently identify potential cancer diagnoses early in this age group^{329,331}.

It is essential to ensure that cancer services put children and young people at the centre of care provided to them and that they receive support, information and advice as part of a holistic approach to help them cope with adversity³³¹⁻³³³.

Key actions

- Collect comparable data across the UK to give a UK-wide and country-level overview of cancer incidence, mortality and survival.
- Re-establish the ability to analyse UK-wide data on childhood cancer routinely.
- Ensure children and young people are fully involved in decisions about their cancer treatment and care.
- Strengthen research into childhood cancers, including ensuring wide access to clinical trials.

Additional data note

Comparable data were not available for the four nations across the UK, hence aggregated Great Britain data have been used here.

Chapter 6: Health conditions of childhood

6.3 Diabetes

Proportion of children and young people with Type 1 diabetes meeting recommended targets for blood glucose control

Key messages

- Type 1 diabetes is an increasingly common childhood condition affecting rising numbers of children and young people in the UK.
- Poor management of the condition in childhood can have severe long-term health implications.
- There has been an increase in the proportion of children and young people in England and Wales with HbA1c levels below the target of 58mmol/mol since 2010/2011.
- Those from deprived or black and minority ethnicity backgrounds have poorer diabetes control.

What is this indicator showing us?

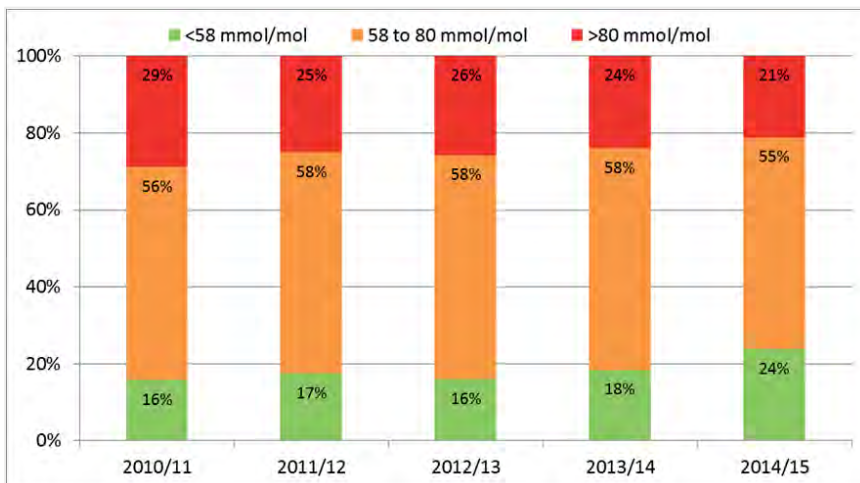
This indicator shows the proportion of children and young people with diabetes meeting the pre-August 2015 NICE recommended HbA1c target of less than 58mmol/mol, indicative of good control. The guidance has subsequently been updated and the threshold reduced to 48mmol/mol³³⁴. HbA1c refers to glycated haemoglobin and is used to estimate average blood glucose exposure over the previous two months.

Data availability and comparability

Data are available for England and Wales from 2010 to 2015³³⁵⁻³³⁹ through the National Paediatric Diabetes Audit for children and young people aged 0 to 24 years.

Proportion of children with Diabetes in England and Wales

England



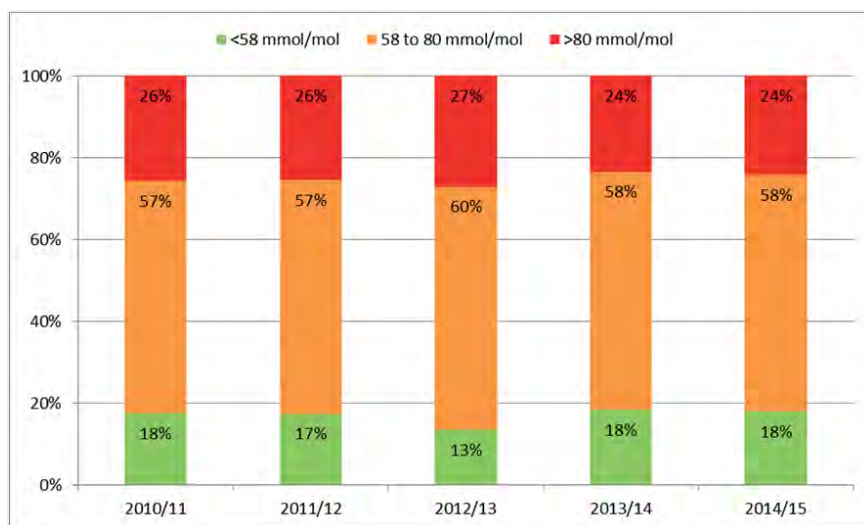
Latest data: In 2014/2015, 24% of children and young people in England had HbA1c levels less than the NICE recommended threshold of 58 mmol/mol.

Trend: There has been an increase in the proportion of children and young people with HbA1c levels below the 58 mmol/mol threshold and a corresponding fall in proportions with poor control (>80mmol/mol) since 2010/2011.

Source: NPDA Annual reports 2010/2011 to 2014/2015.

Figure 6.3.1: Proportion of children and young people* with diabetes by HbA1c level in England, 2010/2011 to 2014/2015

Wales



Latest data: In 2014/2015, 18% of children and young people in Wales had HbA1c levels less than the NICE recommended threshold from 2004 of 58mmol/mol.

Trend: There has been no overall change in the proportion of children and young people with HbA1c levels equal to or below the 58mmol/mol threshold since 2010/2011.

Source: NPDA Annual reports 2010/2011 to 2014/2015

Figure 6.3.2: Proportion of children and young people* with diabetes by HbA1c level in Wales, 2010/2011 to 2014/2015

Why is this indicator important?

Type 1 diabetes is a common condition of childhood, with an estimated 31,500 children in the UK under the age of 19 living with the illness³⁴⁰. The UK is currently sixth highest in the world for number of new cases of Type 1 diabetes, with 28.2 per 100,000³⁴¹ being diagnosed each year.

Early diagnosis is essential. In 2011/2012, 16% of Type 1 diabetes diagnoses occurred following the development of diabetic ketoacidosis (DKA)³⁴², a potentially life-threatening condition where there is a lack of insulin preventing the body from using glucose for fuel.

The twin goals of managing Type 1 diabetes are maintaining good control of blood glucose (assess by HbA1c below target) and maintaining a good quality of life for children and young people. Diabetes can lead to high or low blood glucose issues and psychological problems during childhood. There are also serious long-term complications related to poor diabetes control during childhood and adolescence, including retinopathy³⁴³, renal dysfunction³⁴⁴ and other microvascular complications, as well as later macrovascular complications including heart disease and stroke³⁴⁵ and higher risk of death³⁴⁶.

The direct and indirect costs of treating diabetes (of all types) in the UK were £23.7 million in 2010/2011, a figure estimated to increase to £39.8 million by 2035/2036³⁴⁷ although much of this is driven by increases in Type 2 diabetes.

What does good look like?

Children and young people with good diabetes control, i.e. an HbA1c below target, are less likely to develop complications related to diabetes. All children with Type 1 diabetes in the UK should have a HbA1c level of less than 48mmol/L as per current NICE guidance³³⁴.

There are marked variations in diabetes clinic performance in terms of patient and parent satisfaction with their care and in average HbA1c³⁴⁸. This may relate to differing use of or access to more intensive diabetes regimens, such as insulin pumps and continuous glucose monitoring. Both of these can improve diabetes control and patient satisfaction³⁴⁹, however, access to such technologies varies across and within each country.

Work is needed to minimise variation between clinics so that all children and young people with diabetes receive high-quality care.

All children and young people with Type 1 diabetes should be offered an ongoing integrated package of care by a multidisciplinary paediatric diabetes care team³⁵⁰. Monitoring progress in each young person is essential. All children and young people should receive four HbA1c tests each year, again following the NICE guidance³³⁴. In addition, those over the age of 12 years should have annual complication screening and other health checks completed and recorded, as per NPDA recommendations³³⁶.

Spotlight on inequalities

There is a strong social gradient in diabetes control, with more deprived groups having poorer control (higher HbA1c). However, it is also important to note that the strong social gradient seen in obesity is also visible in children and young people with chronic conditions such as diabetes. There are also significant inequalities by ethnicity, with black children and young people having poorer diabetes control; it is likely that the poor outcomes seen in minority ethnicity groups are not only due to deprivation^{351,352}.

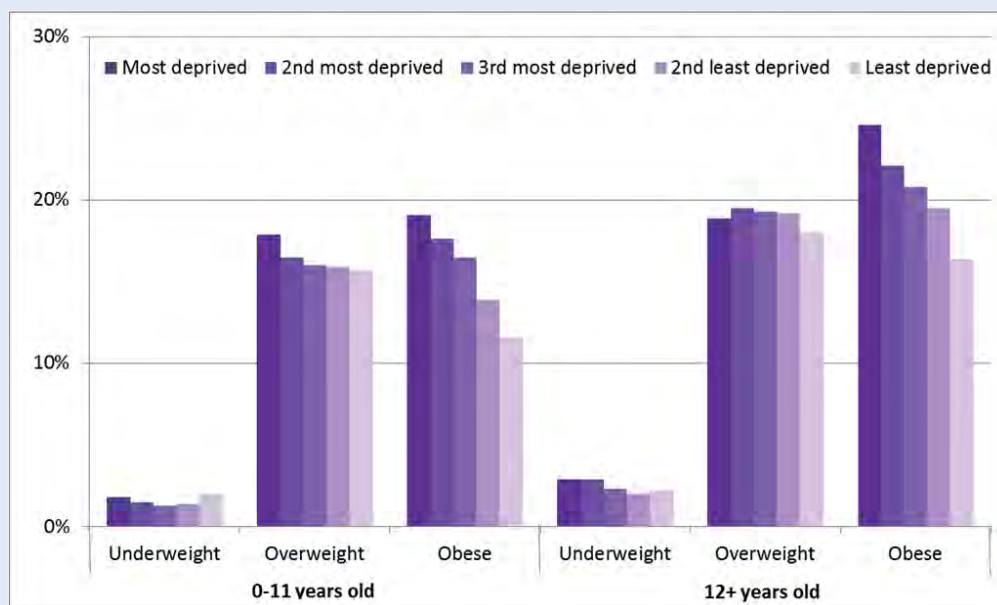


Figure 6.3.3: Proportion of children and young people with Type 1 diabetes within each body mass index (BMI) category by deprivation quintile (fifth of population) in England and Wales, 2014-2015³³⁵

Where are we now in the UK?

In 2014/2015, 24% of children and young people in England had HbA1c levels lower than the NICE recommended threshold of 58mmol/mol; this is an overall increase since 2010/2011. Correspondingly, overall levels of HbA1c above 80mmol/mol (poor diabetes control) have decreased since 2010/2011 by 8%.

In 2014/2015, 18% of children and young people in Wales had HbA1c levels lower than the NICE recommended threshold of 58mmol/mol, with no overall change since 2010/2011. However, levels of HbA1c above 80mmol/mol have decreased since 2010/2011 by 2%.

In Scotland, directly comparable data are not available; however, 13.8% of children and young people less than 15 years old had an HbA1c level below 58 mmol/mol in July 2016³⁵³.

How can we improve?

All four nations should collect data comparable with the NPDA data collected for England and Wales to give a UK-wide overview of diabetes care and management.

Further research is needed into ways to improve diabetes control at both the individual level and within diabetes clinics and networks.

At the individual level, all children and young people should have access to the full range of intensive insulin therapies as recommended by NICE and SIGN^{334,354,355}. All patients should receive appropriately tailored education concerning the management of diabetes from specialist multidisciplinary paediatric diabetes teams.

Schools have a major and statutory role to play in providing support for all children and young people with Type 1 diabetes³⁵⁶, ensuring they can achieve the same educational and social outcomes as all other children.

Clinics must work within geographic networks in each country to ensure spread of best practice, support training and facilitate access to intensive regimens and specialist opinion³⁵⁰.

Transition from paediatric to adult care should be a priority for all clinics, given evidence of poor diabetes outcomes if transition is managed poorly³⁵⁷. Research has shown the benefits of patient education and the institution of specific transition clinics³⁵⁷, along with transition co-ordinators³⁵⁸ to manage this process more effectively.

The routine collection of diabetes outcome data at a national level through ongoing national audits in each country is essential for supporting quality improvement both locally and nationally and improving outcomes for children and young people with diabetes.

Key actions

- Strengthen research into the underlying causes of diabetes and ways to manage it effectively.
- Collect comparable data across the UK to give a UK-wide overview of diabetes care and management.
- Ensure joined-up care which meets the wider needs of children with diabetes, including appropriate transition to adult diabetes services.
- Ensure full implementation of updated NICE guidance for HbA1c levels across the UK, along with the recommendations from the NPDA regarding care management.
- Improve diabetes education for children, young people, families and healthcare and educational professionals to decrease stigma and discrimination.

Additional data note

The National Paediatric Diabetes Audit reports include a small proportion of data from young people aged 19 to 24 years who have not yet transferred to adult diabetes services. It has not been possible to separate these from the reported data; however, they only represent a small proportion ($\leq 1.7\%$) of the total.

England: data from adults (19 to 24 years) who have not yet transitioned to adult services in Wales contribute a very small proportion ($\leq 1.5\%$) to the overall dataset.

Wales: data from adults (19 to 24 years) who have not yet transitioned to adult services in Wales contribute a very small proportion ($\leq 1.2\%$) to the overall dataset.

Chapter 6: Health conditions of childhood

6.4 Disability and additional learning needs

Percentage of pupils with Special Educational Needs and Disabilities (SEND) / Additional Support Needs (ASN)

Key messages

- Each country in the UK has its own statutory provisions and systems to identify and support children and young people with disabilities and learning difficulties.
- In the UK there are currently between 14% and 23% of children and young people identified as having a special or additional educational need.
- There is a clear link between low income and prevalence of a special/additional educational need being identified³⁵⁹.
- Children and young people with a special or additional educational need must be supported through appropriate statutory provisions and consistent data capture.

What is this indicator showing us?

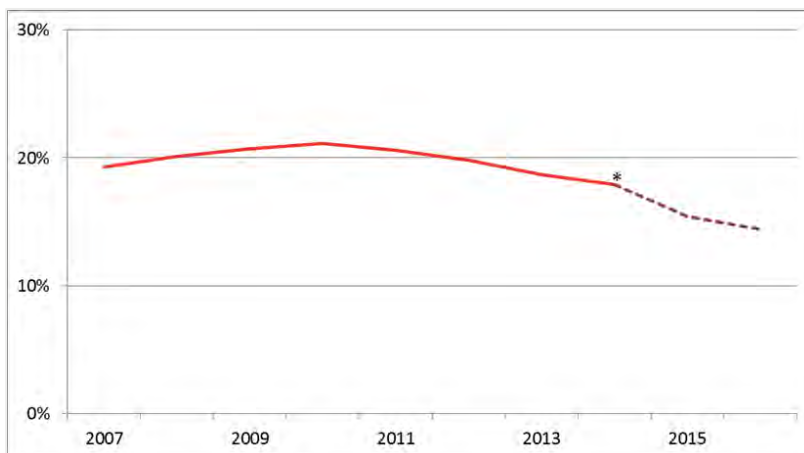
This indicator shows the percentage of pupils identified with Special Educational Needs and Disabilities (SEND) in England, Northern Ireland and Wales or Additional Support Needs (ASN) in Scotland. This reflects the different thresholds set for SEND or ASN in each country.

Data availability and comparability

Data are available for all four nations in the UK. Data presented for England have been taken from the Department for Education School Census Results 2007 to 2016. Data for Northern Ireland have been taken from the Annual Enrolments in Schools and in State Funded Pre-school Education in Northern Ireland. Data presented for Scotland have been taken from the Summary Statistics for Schools in Scotland 2010 to 2015. Data presented for Wales have been taken from the Welsh Government School Census Results 2003 to 2016 (see additional data note)

Pupils identified with Special Educational Needs and Disabilities (SEND) in England, Northern Ireland and Wales or Additional Support Needs (ASN) in Scotland

England



Latest data: The percentage of children and young people enrolled in education with an identified SEND is 14.4% as of January 2016.

Trend: There has been a steady decline in the percentage of children and young people identified as having SEND since 2011. Note the change in system in England in 2014.

Source: Department for Education School Census Results 2007 to 2016.

(*) Indicates change in system to transitional stage - see Additional Data Note

Figure 6.4.1: Proportion of children in England enrolled in education identified with SEND, January 2007 to January 2016*

Wales

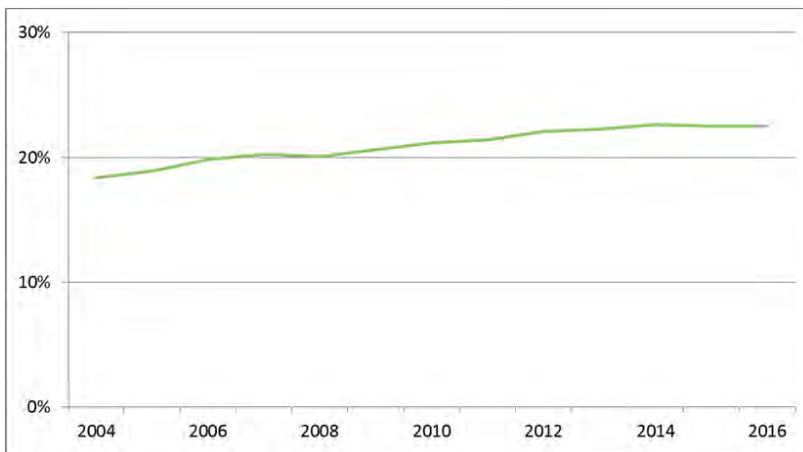


Figure 6.4.2: Proportion of children in Wales enrolled in education identified with SEND, January 2004 to January 2016

Latest data: The percentage of children and young people enrolled in education with an identified SEND is 23% as of January 2016.

Trends: There has been a slow increase in the overall number of children and young people identified as having SEND since 2003 – a 5% rise over 12 years.

Source: Welsh Government School Census Results 2004 to 2016.

Northern Ireland

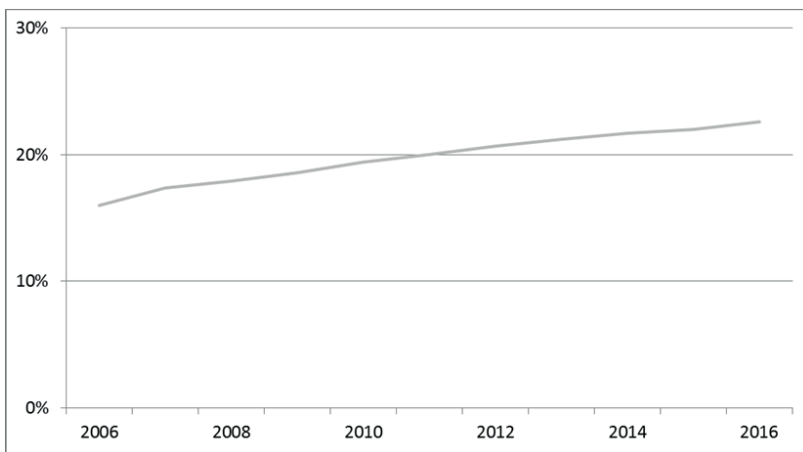


Figure 6.4.3: Proportion of children in Northern Ireland enrolled in education identified with SEND, March 2006 to March 2016

Latest data: The percentage of children and young people enrolled in education with an identified SEND is 23% as of March 2016.

Trends: There has been a slow increase in the overall percentage of children and young people identified as having SEND – a 6% rise over 10 years.

Source: Enrolments in Schools and in funded pre-school education in Northern Ireland 2006 to 2016.

Scotland

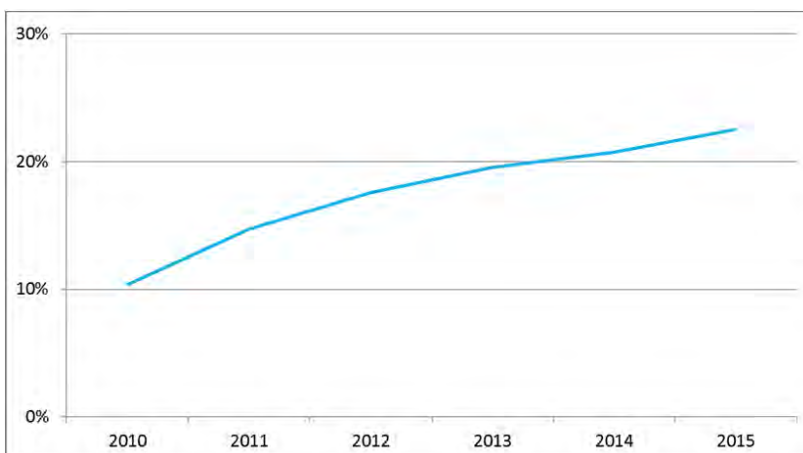


Figure 6.4.4: Proportion of children in Scotland enrolled in education identified with ASN, January 2010 to January 2015

Latest data: The percentage of children and young people enrolled in education with an identified ASN is 23% as of 2015.

Trends: There has been a notable increase in the overall number of children and young people identified as having ASN since 2010 – a 13% rise over five years.

Source: Summary Statistics for Schools in Scotland 2010 to 2015

Why is this indicator important?

This indicator provides a measure of the number of children in the UK identified as having a disability and/or other learning impairment. These are a population group who require specialist support to maximise their developmental, social, educational, and health outcomes as they develop and transition into young adulthood. This measure will only capture those children and young people who are considered to be above the threshold for having a special or additional need or disability; where this threshold is set will vary by locality. Some children who are not enrolled in formal education (many of whom may have very complex needs) will not be captured in the data.

Children with SEND or ASN tend to be less engaged in an educational setting³⁵⁹, and those with incorrect, unidentified or insufficiently supported needs are more likely to experience poorer outcomes in a range of areas³⁶⁰, including:

- increased risk of mental health difficulties³⁶¹
- lack of academic progress³⁶²
- poor behaviour
- difficulty in forming healthy relationships with others, impacting on their wellbeing³⁵⁹

A recent survey found that 83% of teachers and support staff in England did not feel that children with SEND were getting the support required for them to maximise their potential³⁶³.

Where are we now in the UK?

The proportion of children in England identified with SEND in January 2016 was 14.4%. Included within this category are those with complex needs who require a Statement of Special Educational Need (Statement) or an Educational Health & Care (EHC) Plan; this proportion has remained constant at 2.8% since 2007³⁶⁴. Similar proportions of children with SEND can be found in both local authority and academy primary and secondary schools in England³⁶⁴.

In Wales in 2016, 23% of pupils were identified to have SEND, although this varied markedly by school type. In maintained schools, 22.5% were identified to have SEND, with 11.8% of those having a Statement. This is compared with 13.8% of children at independent schools who have some form of SEND, with 33.6% of those having a Statement. Across Wales, similarly to England, the percentage of pupils with a Statement at maintained schools in Wales has remained at 2.7% since 2013.

In Northern Ireland, the number of children with an identified SEND has been rising steadily, with 1,300 more children identified in 2016 compared with 2015; this includes almost 600 additional children with Statements³⁶⁵.

In Scotland in 2015, the percentage of children and young people in education with an identified ASN was 23%. This has risen markedly since 2010 when only 10% were identified.

Spotlight on inequalities

There is a strong link between low income and higher rates of SEND prevalence (especially those with a Statement)³⁶⁶. In England, 27.2% of children with an identified SEND are eligible for free school meals, compared with 12.1% of children without SEND^{364,367}. Children identified as having a SEND are more likely to both experience poverty and have lower educational outcomes, each of which increases the risk of experiencing poverty as an adult³⁶⁸.

It should also be noted that families raising a disabled child experience higher costs than those raising a non-disabled child, with some estimates suggesting it can be up to three times more expensive^{369,370}.

What does good look like?

Proportions with SEND/ASN tell us more about numbers of children in the system than about the true prevalence of SEND/ASN, as it is dependent on definitions and thresholds for provision of additional support.

A good system is one with appropriate diagnostic thresholds, with mechanisms in place to allow proper identification of needs, and one that provides appropriate support for students once a need has been identified.

Services should:

- be staffed with well-trained professionals
- identify needs at the earliest possible stage
- place the needs of children, young people and their families at centre-stage at all times
- utilise all specialist and clinical resources available
- make long-term plans for the child or young person and their family, including transition to adult services
- create clinical and care networks between education, health, and social care services.

How can we improve?

There is a statutory duty imposed on local authorities in England that appropriate education provision is provided for all children and young people with an identified SEND, and that appropriate measures must be put in place to support children and young people with medical conditions³⁵⁶. This is not currently the case in Northern Ireland³⁷¹, Wales³⁷² or Scotland³⁷³, and similar guidance and implementation is required to ensure consistency and equality across the whole of the UK.

Having a consistent and unified method of data collection is vital for better understanding the needs of this group of children and young people, forward planning, allocation of resources and increasing the profile of children and young people with special or additional educational needs. One way in which this could be done is through the universal use of a recognised vocabulary throughout the UK, such as the Disabilities Terminology Set (DTS), so that data are comparable^{374,375}.

Provision in maintained and independent schools must be adequately funded, and all staff must be trained to identify, assess and fully support all children and young people, whatever their learning needs are. Often SEND or ASN are not identified until a child reaches the school environment – thus health visitors and early years' staff along with teachers and educational professionals have a vital role to play in helping to identify and assess the needs of the child at an early stage.

Finally, government, educational and local authorities should follow the guidance and learning resources available for free through Disability Matters³⁷⁶.

Key actions

- Ensure statutory provisions are in place for children and young people with SEND and ASN, in particular those with additional medical needs.
- Strengthen comparable data capture for SEND and ASN across all nations, and use a universal measure of recognised vocabulary.
- Implement Disability Matters across all educational, healthcare and social care settings³⁷⁶.

Additional data note

Data for England, Northern Ireland, Scotland and Wales are presented separately because each country sets its own education agenda and produces relevant legislation

England

According to the Department for Education, in England a child has SEND if he or she:

- *has a significantly greater difficulty in learning than the majority of others of the same age, or*
- *has a disability which prevents or hinders him or her from making use of facilities of a kind generally provided for others of the same age in mainstream schools*³⁷⁷

This encompasses a huge range of needs, from those requiring minimal support (e.g. more time to complete specific tasks) to those with a range of physical and medical needs necessitating specialist equipment and additional one-to-one support. English as an Additional Language (EAL), gifted and talented or higher ability are not included.

The English educational system has been reformed in recent years, and we are currently in a transitional period (September 2014 to April 2018) where schools are using both the old and new systems. Those with complex needs will slowly be transitioned from Statements to EHC plans during this period.

Wales

According to s.312(2) of the *Education Act 1996* a child has an SEN if they:

- have a significantly greater difficulty in learning than the majority of children of the same age; or*
- have a disability which prevents or hinders them from making use of educational facilities of a kind generally provided for children of the same age in schools within the area of the local education authority*³⁷⁸

This legal provision is identical to the old English system, and children are assessed and identified based on the complexity of their needs; those with the most complex needs will receive a Statement of SEN.

The Welsh educational system is currently undergoing reforms. The Welsh Government draft *Additional Learning Needs Bill*³⁷⁹ was published in July 2015, with accompanying Additional Learning Needs (ALN) Code of Practice published in September 2015³⁸⁰; the consultation closed in December 2015. The Bill is expected to be

introduced before Christmas 2016, with an updated ALN Code of Practice published thereafter³⁸¹. Some proposed changes include³⁸²:

- change in terminology from 'Special Educational Needs' to 'Additional Learning Needs', although ALN will incorporate all needs previously identified as being 'School Action', 'School Action Plus', and 'Statements of SEN'
- increased provision to cater for all children and young people from birth to 25 (in line with England)
- 'Statements of SEN' will be replaced with Individual Development Plans (IDPs)

Scotland

In Scotland, a child or young person has an Additional Support Need if, *'for whatever reason, the child or young person is, or is likely to be, unable without the provision of additional support to benefit from school education provided or to be provided for the child or young person'*³⁷³. *The focus of the Scottish system is circumstantial, focusing on a variety of factors that may affect a child's ability to learn, from having English as an Additional Language (this is expressly not included in England³⁷⁷), to being a young carer or having a physical disability. As of 2010 the term 'additional support' includes any extra resources or support required by the child inside or outside of the school environment*³⁸³.

Northern Ireland

A child is entitled to special educational provision in Northern Ireland if they have *'a learning difficulty which calls for special educational provision to be made for him'*³⁸⁴. If this is believed to be the case then the Education Authority is required to complete an assessment on the child, leading to a Statement of Educational Needs setting out the needs and additional resources required.

Northern Ireland is also in the process of educational reform in relation to SEND. The *Special Educational Needs and Disability (Northern Ireland) Act*³⁸⁵ received Royal Assent on 23 March 2016 and started to become operational on 30 September 2016, although most provisions are not expected to become operational until the Special Educational Needs (SEN) Framework is published around September 2017³⁸⁶.

Some notable changes include additional duties on schools to meet the needs of children and young people with SEND, new duties on the Educational Authority, and a requirement that every child with an SEND have a personal learning plan.

Chapter 6: Health conditions of childhood

6.5 Epilepsy

Emergency hospital admission rate for epilepsy in children and young people under 19 years of age

Key messages

- Epilepsies are a complex spectrum of conditions. Delivering high-quality diagnosis, treatment, and support can all be challenging. The Epilepsy 12 audit shows areas of progress across the UK, but also the need for continued improvement.
- There is wide geographical variation in emergency epilepsy admission rates for children across the UK.
- High-quality epilepsy care requires a holistic approach that includes psychological and practical support in addition to medical expertise, plus early recognition and support of additional needs (including mental health and special educational needs).

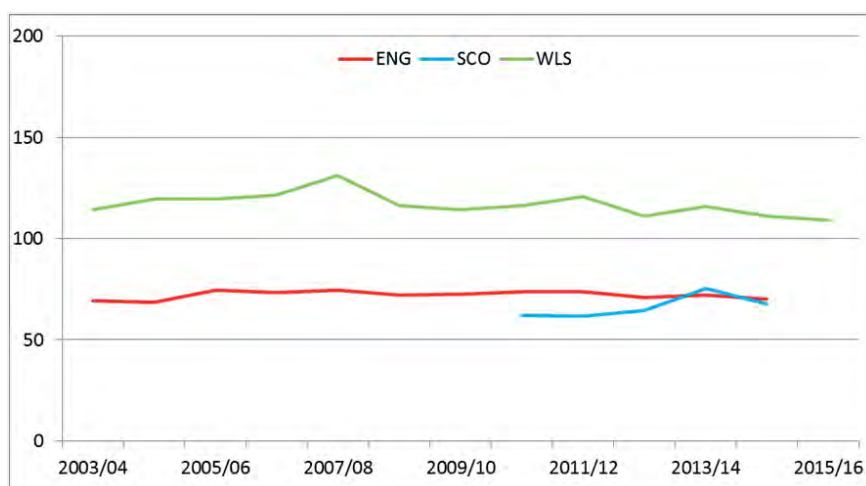
What is this indicator showing us?

This indicator shows the rate of emergency admissions to hospital for epilepsy per 100,000 children and young people under 19 years of age. Children and young people who are seen in the emergency department only (i.e. not admitted) are not included in this indicator. Admissions for febrile convulsions are not included.

Data availability and comparability

Data on emergency admissions are available for England from 2003/2004 to 2014/2015, for Scotland from 2010/2011 to 2014/2015 (although the exclusion criteria are slightly different in the Scottish data as they include all afebrile seizures, not just seizures secondary to epilepsy), and for Wales from 2003/2004 to 2015/2016. Data from Northern Ireland are not segregated by age and are therefore not available for these purposes.

Rate of emergency admissions to hospital for epilepsy among children and young people in England, Scotland and Wales



Latest data: The rate of emergency admissions to hospital of children under 19 with epilepsy in 2014/2015 was 70 in England and 68 in Scotland; in 2015/2016 the rate was 109 in Wales (all per 100,000 population).

Trend: The overall admission rates in England and Wales since 2003/2004 have remained fairly stable.

Source: Health and Social Care Information Centre (HSCIC) for England, National Statistics Release for Scotland, and NHS Wales Informatics Service for Wales.

Figure 6.5.1: Emergency hospital admissions for epilepsy per 100,000 children and young people < 19 years in England, Scotland and Wales, 2003/2004 to 2015/2016

Spotlight on inequalities

There is widespread variation in epilepsy admission rates, with admission rates in deprived areas being higher than those in less deprived areas⁹⁴. While some of this variation is likely to reflect population factors, the quality and co-ordination of care is also important. There may also be issues related to diagnostic accuracy and coding, as a diagnosis of epilepsy was not confirmed in up to 40% of children and young people referred to specialist clinics.

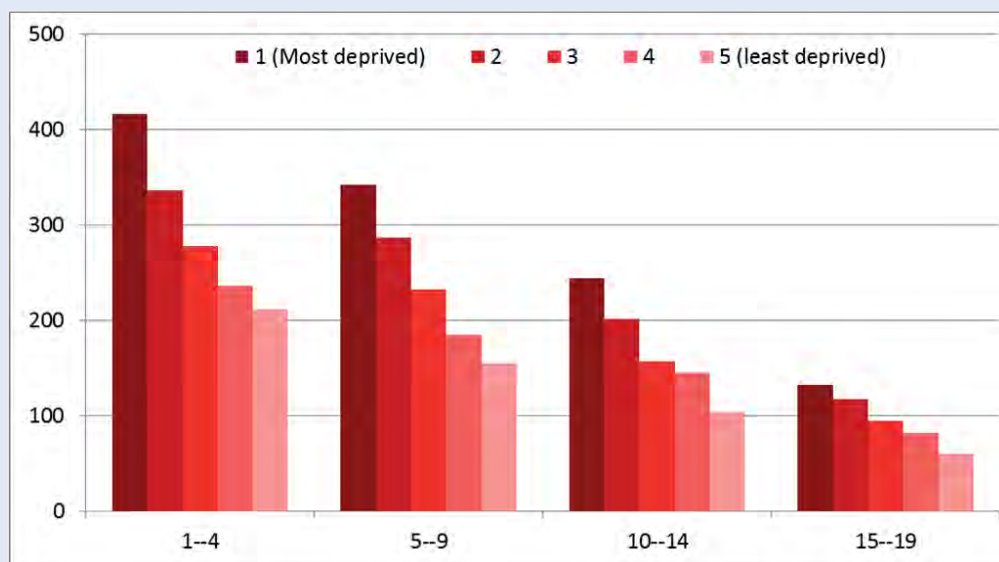


Figure 6.4.2: Emergency hospital admissions for epilepsy per 1,000 children and young people aged > 19 by age and deprivation quintile, in England 2013/2014

Why is this indicator important?

Epilepsy is the most common significant neurological disorder in children under the age of 19: more than one in 220 have epilepsy (approximately 63,400)³⁸⁷. Although some types of epilepsy last for a limited period of time, for most children it will be a life-long condition.

Whilst deaths from epilepsy are rare, there were 44 registered deaths of children aged zero to 17 where epilepsy was the underlying cause in England and Wales in 2014³⁸⁸.

It is recognised that a comprehensive measure of epilepsy outcomes would include a range of indicators, including deaths (especially potentially avoidable deaths and SUDEP deaths), school attendance, educational and mental health outcomes, and wider quality of life measures. However, unplanned admission rates act as a proxy for seizure control and quality of local acute pathways impact on quality of life, and are available at the local level. They therefore offer the best current available single indicator of epilepsy clinical outcomes for this purpose.

Where are we now in the UK?

In 2014/2015 the rate of emergency admissions to hospital of children under 19 with epilepsy was 70 in England, 68 in Scotland and 111 in Wales (all per 100,000 population).

Within each nation, the rates of emergency admissions for epilepsy have remained fairly stable over time.

Many children and young people and their families report poor experiences of care and management, and their epilepsy has a major impact on school attendance, educational attainment, mental health and life chances.

What does good look like?

Epilepsy is a long-term condition that cannot be cured but, for the majority of children and young people, it can be effectively managed to enable the child or young person to be able to lead a normal and active life.

Many hospital admissions for epilepsy are unnecessary and expensive³⁸⁹. Therefore, with effective management we should see a decrease

in the number of emergency admissions across the UK and a reduction in the geographical variation in admissions. Similarly, a national review by the RCPCH in 2013 showed that a significant proportion of epilepsy deaths were potentially avoidable³⁹⁰.

How can we improve?

The causes of different types of epilepsy are complex, and sometimes a root cause cannot be found. Further research is required to more fully understand the causes of different types of epilepsy and how they can be better treated.

Nearly four in five children and young people with epilepsy have some form of comorbidity, including mental health problems, neurological disorders, or other medical concerns. A fully-integrated, multi-agency approach is required to reflect the multifaceted impact of epilepsy and any related concerns on a child's life and reduce fragmented management which, ultimately, does not efficiently utilise increasingly limited resources³⁹¹.

Since 2011, the national Epilepsy12 programme has shown significant improvements in the standard of epilepsy care provided, as well as ongoing challenges. For example, the proportion of paediatric services with input from an epilepsy specialist nurse has increased from 46% to 59%. Some argue that this is welcome progress, but it remains the case that over one-third of paediatric services across the country do not contain a vital component of an adequate service.

The epilepsy passport was introduced by the RCPCH in 2015 in the hope of improving emergency care for children and young people with epilepsy³⁹² as vital information about a child's condition can be carried with them at all times.

It is essential to include children, young people, parents and carers in designing appropriate care and management strategies³⁹³.

As well as improving management and care of epilepsy for children, it should be noted that children with epilepsy often struggle with academic progress in educational settings³⁹⁴.

Key actions

- Strengthen research into the underlying causes of epilepsy and ways to prevent it.
- Develop new methods of collecting and sharing data to facilitate delivery of more integrated, person-centred care.
- Ensure joined-up care which meets the wider needs of children with epilepsy, including timely access to mental health services.
- Ensure full implementation of NICE^{395,396} and SIGN³⁹⁷ guidelines across the UK and the recommendations from the Epilepsy12 programme³⁹⁸.
- Increase use of the epilepsy passport or similar patient-held care plans.
- Improve epilepsy education for children, young people, families and healthcare and educational professionals to decrease stigma and discrimination.

Indicator list

Indicator	Indicator definition
Chapter 1: Mortality	
1.1 Infants (under one year)	Number of infant (under one year) deaths per 1,000 live births
1.2 Children (one to nine years)	Annual deaths of children aged one to nine years per 100,000 population
1.3 Young people (10 to 19 years)	Annual deaths of young people aged 10 to 19 years per 100,000 population
Chapter 2: Conception, pregnancy and infancy	
2.1 Smoking and pregnancy	Proportion of mothers recorded as smokers at time of delivery or at first post-natal visit
2.2 Breastfeeding	Proportion of mothers recorded as breastfeeding at six to eight weeks post birth
2.3 Immunisation	Proportion of children who received the full course (three doses) of the 5-in-1 vaccination by 12 months
Chapter 3: Early years	
3.1 Healthy weight when starting school	Proportion of children at a healthy weight during their first year of primary school
3.2 Healthy teeth and gums	Proportion of children with no obvious tooth decay at age five
3.3 Hospital admissions due to non-intentional injury	Rate of hospital admissions for non-intentional injuries in children under five years
Chapter 4: School age/adolescence	
4.1 Healthy weight at Year 6 (10 to 11 years)	Proportion of children at a healthy weight during their final year of primary school
4.2 Human Papilloma Virus (HPV) vaccination	Proportion of girls who have received the completed Human Papilloma Virus (HPV) course of immunisation
4.3 Smoking in young people	Proportion of regular smokers aged 15 years
4.4 Alcohol and drug use	Proportions of regular alcohol users and drug users aged 15 years
4.5 Wellbeing	Proportion of young people aged 15 years who report high life satisfaction, by gender
4.6 Suicide	Suicide rate amongst young people aged 15 to 19 years per million
4.7 Road traffic injuries	Number of car drivers or passengers aged 17 to 19 years reported killed or seriously injured
4.8 Sexual and reproductive health	Number of conceptions per 1,000 females under 18 years of age

Indicator	Indicator definition
Chapter 5: Family and social environment	
5.1 Child poverty	Proportion of children living in households with income less than 60% of the median
5.2 Children in the child protection system	Number of children subject to child protection plans or on the child protection register
5.3 Counselling sessions by Childline	Percentage of Childline counselling sessions by primary concern across UK
Chapter 6: Health conditions of childhood	
6.1. Asthma	Number of emergency hospital admissions for asthma for children and young people under 19 years of age
6.2 Cancer	Proportion of children (0-14 years) surviving five years following a diagnosis of cancer
6.3 Diabetes	Proportion of children with diabetes meeting recommended targets for blood glucose control
6.4 Disability and additional learning needs	Percentage of pupils with Special Educational Needs and Disabilities (SEND) / Additional Support Needs (ASN)
6.5 Epilepsy	Number of emergency hospital admissions for epilepsy for children and young people under 19 years of age

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