

Publication Report



Childhood Immunisation Statistics

Quarter ending 30 June 2011

Publication date – 22 September 2011



Contents

Contents.....	1
About ISD.....	2
Official Statistics.....	2
Introduction	3
Key points	4
Results and Commentary.....	5
Quarterly uptake rates by 12 months of age.....	5
Quarterly uptake rates by 24 months of age.....	7
Quarterly uptake rates by 5 years of age.....	9
Quarterly uptake rates by 6 years of age.....	11
Uptake rates in groups of children as they age, by quarterly birth cohort.....	11
Uptake rates by calendar and financial year.....	11
Glossary.....	12
List of Tables.....	13
Contact.....	14
Further Information.....	14
Appendix.....	15
A1 – Background Information	15
A2 – Publication Metadata (including revisions details).....	16
A3 – Early Access details (including Pre-Release Access)	17

About ISD

Scotland has some of the best health service data in the world combining high quality, consistency, national coverage and the ability to link data to allow patient based analysis and follow up.

Information Services Division (ISD) is a business operating unit of NHS National Services Scotland and has been in existence for over 40 years. We are an essential support service to NHSScotland and the Scottish Government and others, responsive to the needs of NHSScotland as the delivery of health and social care evolves.

Purpose: To deliver effective national and specialist intelligence services to improve the health and wellbeing of people in Scotland.

Mission: Better Information, Better Decisions, Better Health

Vision: To be a valued partner in improving health and wellbeing in Scotland by providing a world class intelligence service.

Official Statistics

Information Services Division (ISD) is the principal and authoritative source of statistics on health and care services in Scotland. ISD is designated by legislation as a producer of 'Official Statistics'. Our official statistics publications are produced to a high professional standard and comply with the Code of Practice for Official Statistics. The Code of Practice is produced and monitored by the UK Statistics Authority which is independent of Government. Under the Code of Practice, the format, content and timing of statistics publications are the responsibility of professional staff working within ISD.

ISD's statistical publications are currently classified as one of the following:

- National Statistics (ie assessed by the UK Statistics Authority as complying with the Code of Practice)
- National Statistics (ie legacy, still to be assessed by the UK Statistics Authority)
- Official Statistics (ie still to be assessed by the UK Statistics Authority)
- other (not Official Statistics)

Further information on ISD's statistics, including compliance with the Code of Practice for Official Statistics, and on the UK Statistics Authority, is available on the [ISD website](#).

Introduction

Children in Scotland are protected through immunisation against many serious infectious diseases. Vaccination programmes aim both to protect the individual and to prevent the spread of these illnesses within the population. As a public health measure, immunisations have been hugely effective in reducing the burden of disease. It is of public health concern when immunisation rates fall, as this increases the possibility of disease transmission and, hence, complications arising from outbreaks of infectious diseases.

In Scotland the target of the national immunisation programme is for 95% of children to complete courses of the following childhood immunisations by 24 months of age: diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and Meningococcal group C (MenC). An additional national target of 95% uptake of one dose of MMR vaccine by 5 years of age (with a supplementary measure at 24 months) was introduced in 2006 to focus efforts on reducing the number of susceptible children entering primary school.

Childhood immunisation uptake rates for Scotland are monitored and published quarterly by NHS Board and Community Health Partnership (CHP). This release includes quarterly data to 30 June 2011.

Childhood immunisation statistics in Scotland are published outwith the standard ISD timetable for National Statistics publications so that they are available at the same time as comparable statistics for other parts of the UK, published by the [Health Protection Agency](#).

[Statistics on Human Papilloma Virus \(HPV\) immunisation uptake](#) are published separately by ISD.

Key points

- In Scotland as a whole, quarterly uptake rates by 24 months of age for primary courses of immunisation against diphtheria, tetanus, pertussis, polio & Hib (DTP/Pol/Hib), MenC and PCV remain high and stable at around 96% to 98%.
- Quarterly uptake of one dose of MMR vaccine by 24 months is 93.5% (the previous quarterly figure was 93.3%). Quarterly uptake by 5 years of age is 96.4% (the previous quarterly figure was 96.2%).
- Quarterly uptake of the Hib/MenC booster by 24 months is 95.0% (the previous quarterly figure was 94.2%), and uptake of the PCV booster by 24 months is 93.9% (the previous quarterly figure was 93.6%).

Results and Commentary

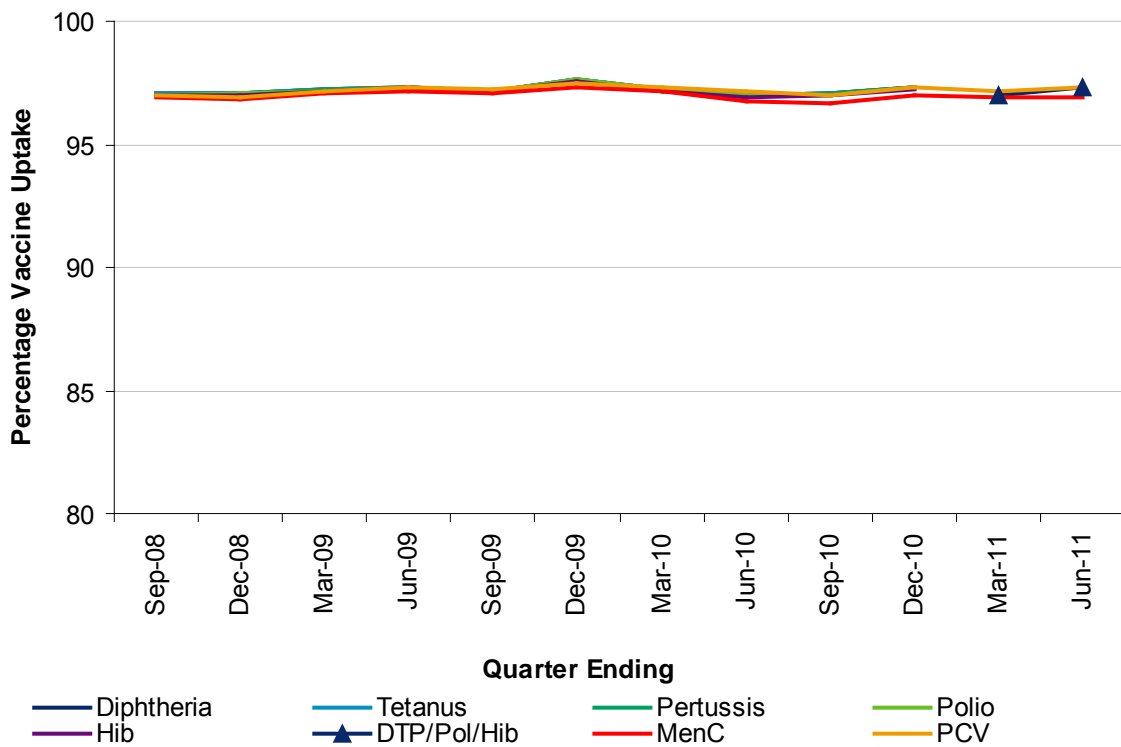
For the quarter ending 30 June 2011, at Scotland level:

Quarterly uptake rates by 12 months of age

(born 1 April to 30 June 2010)

In Scotland, coverage by 12 months of age for primary courses of immunisation against diphtheria, tetanus, pertussis, polio & Hib (DTP/Pol/Hib), MenC and PCV remains above 95%.

Primary Immunisation Uptake Rates, by 12 months of age, by quarter, Scotland



Source: SIRS, Aug 2011

Primary Immunisation Uptake Rates by 12 months of age, by NHS Board, quarter ending 30 June 2011

NHS Board	Number in Cohort ¹	% completed primary course by 12 months		
		DTP/Pol/Hib ³	MenC	PCV
Ayrshire & Arran	977	97.7	97.6	97.9
Borders	310	99.0	98.4	99.0
Dumfries & Galloway	373	98.9	97.9	98.4
Fife	1028	96.6	96.1	96.8
Forth Valley	877	97.7	97.3	97.3
Grampian	1570	97.2	96.8	97.1
Greater Glasgow & Clyde	3484	96.7	96.3	96.9
Highland	816	95.1	94.9	95.5
Lanarkshire	1560	97.8	98.0	98.3
Lothian	2345	97.9	97.3	97.7
Orkney	53	79.2	77.4	77.4
Shetland	58	100.0	98.3	100.0
Tayside	1099	98.5	98.2	98.5
Western Isles	57	100.0	100.0	100.0
NHS Board unknown ²	1	..	..	..
Scotland	14608	97.3	96.9	97.4

Source: SIRS, Aug 2011

1. Children reaching 12 months of age during the evaluation quarter 1 April to 30 June 2011 (i.e. born 1 April to 30 June 2010)
 2. For records from the former NHS Argyll & Clyde (which was dissolved on 31 March 2006), NHS board is derived from postcode. There are a small number of records which do not have a postcode recorded and therefore the health board is unknown.
 3. For this cohort of children the vaccination was recorded as one injection on the SIRS system. For children who received primary immunisations outwith Scotland it includes only those who received 3 doses of each: Diphtheria, Tetanus, Pertussis, Polio and Hib.
- .. Not Applicable.

Key:

DTP/Pol/Hib = Diphtheria, Tetanus, Pertussis, Polio and Hib (3 doses).

MenC = Meningococcal serogroup C conjugate vaccine (2 doses).

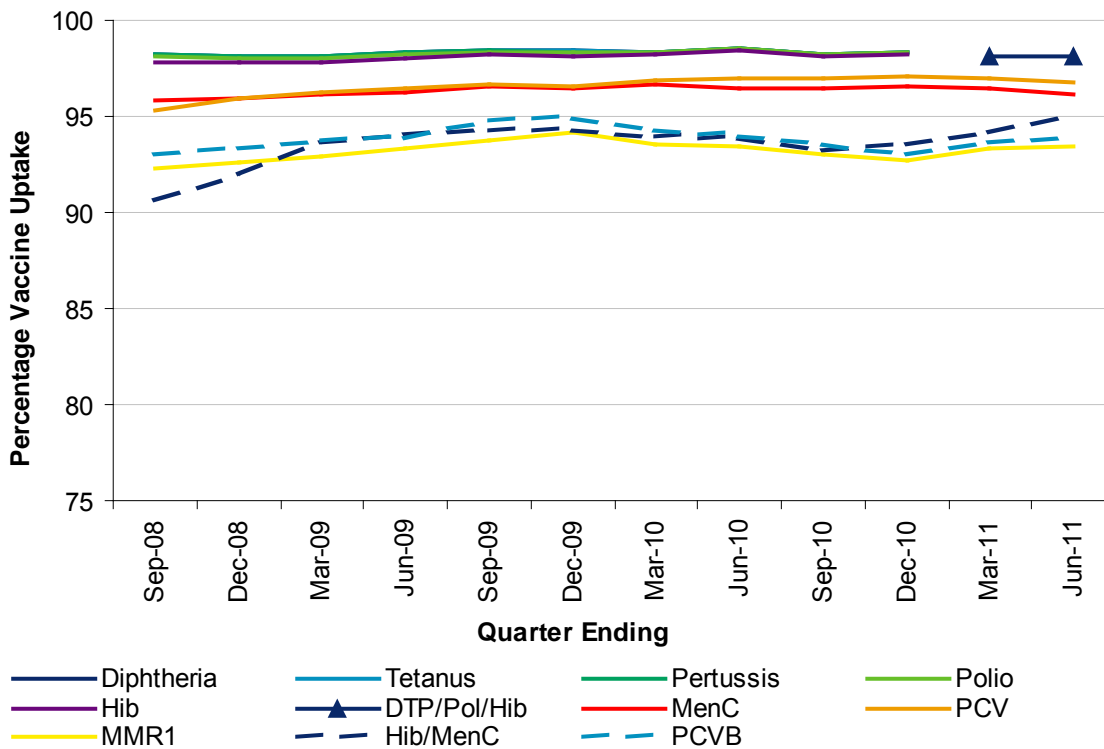
PCV = Pneumococcal conjugate vaccine (2 doses).

Quarterly uptake rates by 24 months of age

(born 1 April to 30 June 2009)

- At Scotland level, coverage by 24 months of age for primary courses of immunisation against diphtheria, tetanus, pertussis, polio & Hib (DTP/Pol/Hib), MenC and PCV remains high and stable at around 96% to 98%.
- The combined Hib/MenC booster was introduced in September 2006. Uptake of this vaccine by 24 months of age is 95.0% (the previous quarterly figure was 94.2%).
- A booster dose of PCV was also introduced in September 2006. Uptake of this vaccine by 24 months of age is 93.9% (the previous quarterly figure was 93.6%).
- Uptake of one dose of MMR vaccine (MMR1) by 24 months is 93.5% (the previous quarterly figure was 93.3%). MMR1 uptake rates by 24 months have continued to be above 90% since autumn 2005.

Primary and Booster Immunisation Uptake Rates, by 24 months of age, by quarter, Scotland



Source: SIRS, Aug 2011

Primary and Booster Immunisation Uptake Rates by 24 months of age, by NHS Board, quarter ending 30 June 2011

NHS Board	Number in Cohort ¹	% completed primary course by 24 months				% completed booster course by 24 months	
		DTP/Pol/Hib ³	MenC	PCV	MMR1	Hib/MenC	PCVB
Ayrshire & Arran	990	99.1	97.9	98.4	93.9	96.2	94.5
Borders	302	98.7	97.7	97.7	92.4	96.0	93.4
Dumfries & Galloway	361	99.4	98.6	98.3	97.2	97.8	97.0
Fife	1073	98.0	95.8	96.1	91.1	94.3	92.0
Forth Valley	907	97.8	95.9	96.4	94.0	95.8	94.8
Grampian	1624	97.9	95.9	96.3	94.6	95.6	95.0
Greater Glasgow & Clyde	3357	97.5	95.5	96.2	92.4	94.2	92.9
Highland	836	98.1	95.3	96.1	92.8	94.3	92.8
Lanarkshire	1692	99.0	98.0	98.6	94.7	96.7	96.4
Lothian	2463	98.2	95.6	97.0	94.1	94.3	93.4
Orkney	47	100.0	95.7	91.5	93.6	95.7	93.6
Shetland	75	100.0	94.7	97.3	86.7	88.0	90.7
Tayside	1090	97.7	95.4	95.6	92.8	94.2	92.8
Western Isles	62	100.0	98.4	98.4	96.8	96.8	95.2
NHS Board unknown ²	4	..	..	..	..	..	..
Scotland	14883	98.1	96.2	96.8	93.5	95.0	93.9

Source: SIRS, Aug 2011

1. Children reaching 24 months of age during the evaluation quarter 1 April to 30 June 2011 (i.e. born 1 April to 30 June 2009).
 2. For records from the former NHS Argyll & Clyde (which was dissolved on 30 March 2006), NHS board is derived from postcode. There are a small number of records which do not have a postcode recorded and therefore the health board is unknown.
 3. For this cohort of children the vaccination was recorded as one injection on the SIRS system. For children who received primary immunisations outwith Scotland it includes only those who received 3 doses of each: Diphtheria, Tetanus, Pertussis, Polio and Hib.
- .. Not Applicable.

Key:

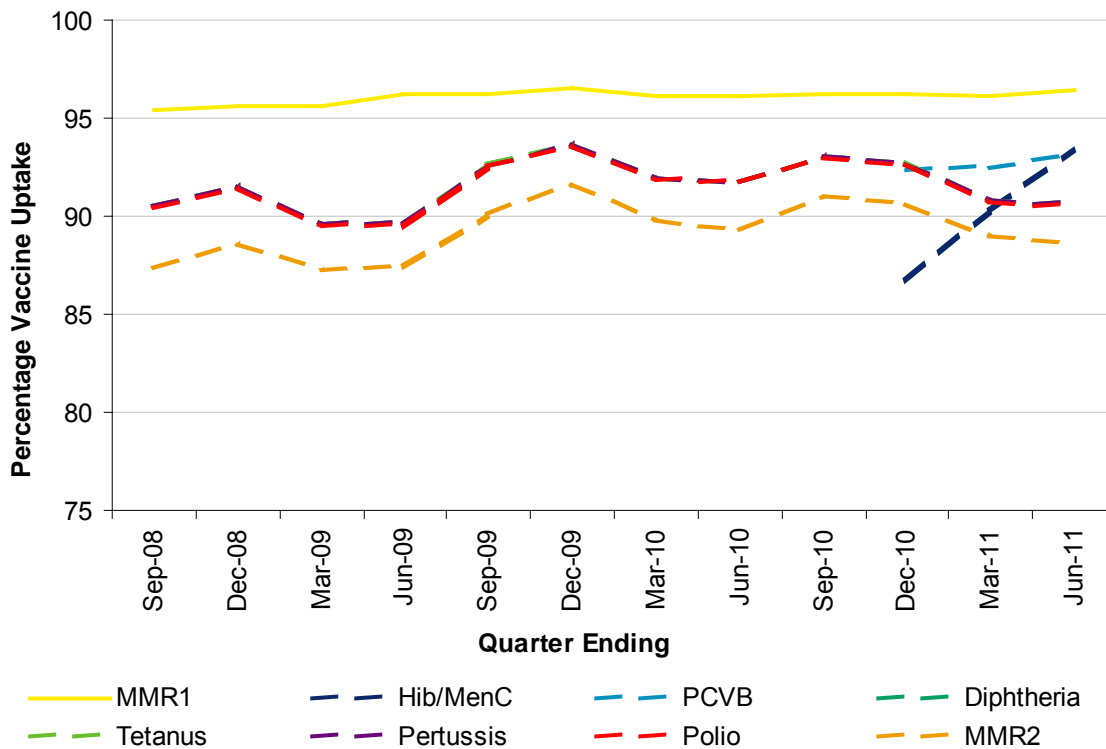
- DTP/Pol/Hib = Diphtheria, Tetanus, Pertussis, Polio and Hib (3 doses).
 MenC = Meningococcal serogroup C conjugate vaccine (2 doses under 12 months).
 PCV = Pneumococcal conjugate vaccine (2 doses under 12 months).
 MMR1 = Measles, mumps, and rubella vaccine (1 dose).
 Hib/MenC = Hib/MenC Booster (1 dose over 11 months).
 PCVB = Pneumococcal conjugate vaccine booster (1 dose over 12 months).

Quarterly uptake rates by 5 years of age

(born 1 April to 30 June 2006)

- Uptake of one dose of MMR vaccine (MMR1) by 5 years is 96.4% (the previous quarterly figure was 96.2%). Uptake rates have remained above the 95% target since September 2008. By 24 months the reported uptake for this cohort of children was 91.7%, showing that a significant number of children are immunised beyond the standard age.
- Uptake of the second dose of MMR vaccine (MMR2) by 5 years old is 88.6% (the previous quarter figure was 89.0%). Uptake of the other pre-school booster vaccines is 90.5% (the previous quarterly figure was 90.8%).

MMR1 and Booster Immunisation Uptake Rates, by 5 years of age, by quarter, Scotland



Source: SIRS, Aug 2011

MMR1 and Booster Immunisation Uptake Rates by 5 years of age, by NHS Board, quarter ending 30 June 2011

NHS Board	Number in Cohort ¹	% completed MMR1/booster course by 5 years							
		MMR1	Hib/MenC	PCVB	D	T	P	Pol	MMR2
Ayrshire & Arran	958	96.5	92.0	93.4	92.5	92.5	92.5	92.3	90.8
Borders	319	97.2	95.9	94.4	93.4	93.4	93.4	93.4	91.2
Dumfries & Galloway	375	96.0	96.0	93.9	93.3	93.3	93.3	93.1	92.3
Fife	1030	96.2	94.0	92.7	87.1	87.1	87.1	87.1	84.9
Forth Valley	827	96.7	94.8	94.3	89.4	89.4	89.4	89.4	88.1
Grampian	1552	96.9	90.1	89.2	94.9	94.9	94.9	94.9	93.1
Greater Glasgow & Clyde	3206	96.4	93.6	94.0	89.2	89.2	89.2	89.2	87.5
Highland	820	96.0	91.1	90.9	89.3	89.3	89.3	89.1	87.4
Lanarkshire	1679	96.7	94.1	96.0	91.1	91.1	91.1	91.0	88.6
Lothian	2221	96.4	95.5	93.5	89.7	89.7	89.7	89.7	87.6
Orkney	73	93.2	79.5	75.3	90.4	90.4	90.4	89.0	86.3
Shetland	85	90.6	88.2	84.7	84.7	84.7	84.7	84.7	76.5
Tayside	1008	96.9	94.1	94.2	90.1	90.1	90.1	90.1	88.8
Western Isles	67	95.5	85.1	85.1	92.5	92.5	92.5	92.5	91.0
NHS Board unknown ²	12	..	..	..	..	..	..	..	..
Scotland	14232	96.4	93.4	93.2	90.5	90.5	90.5	90.4	88.6

Source: SIRS, Aug 2011

- Children reaching 5 years of age during the evaluation quarter 1 April to 30 June 2011 (i.e. born 1 April to 30 June 2006).
 - For records from the former NHS Argyll & Clyde (which was dissolved on 31 March 2006), NHS board is derived from postcode. There are a small number of records which do not have a postcode recorded and therefore the health board is unknown.
- .. Not Applicable.

Key:

MMR1 = Measles, mumps, and rubella vaccine (1 dose)

Hib/MenC = Hib/MenC Booster (1 dose over 11 months)

PCVB = Pneumococcal Conjugate Vaccine Booster (1 dose over 12 months)

D = Diphtheria vaccine (4th dose).

T = Tetanus vaccine (4th dose).

P = Pertussis vaccine (4th dose)

Pol = Polio vaccine (4th dose).

MMR2 = Measles, mumps, and rubella vaccine (2nd dose).

Quarterly uptake rates by 6 years of age

(born 1 April to 30 June 2005)

In Scotland uptake rates for the childhood booster vaccines (diphtheria, tetanus, pertussis and polio, and the second dose of MMR (MMR2)), have historically been reported by 6 years of age. In line with figures for the rest of the UK, from quarter ending December 2006, uptake rates for these vaccines are now reported by 5 years of age. For trend purposes, [uptake rates by 6 years of age](#) are also available.

Further Information

For more information on the latest quarterly uptake rates by 12 and 24 months, and 5 and 6 years, see:

[Uptake rates by NHS Board and quarter](#)

[Uptake rates by CHP and quarter](#)

For trend information at Scotland and NHS Board level please see List of Tables within this report.

Uptake rates in groups of children as they age, by quarterly birth cohort

In addition to tracking snapshots of immunisation uptake rates in children by 12 months and 24 months it is also possible to follow immunisation uptake in groups of children as they age.

Data shows that a significant number of children are immunised beyond these standard reporting ages, which may increase overall uptake as time progresses. For example by 24 months of age, uptake of one dose of MMR for children born April to June 2008 was 93.4%. Now, at age 36 months, the rate for these children has increased to 96.1%.

For more information see:

[Tracking MMR1 immunisation uptake rates in cohorts of children as they age](#)

Uptake rates by calendar and financial year

Annual uptake rates for NHS Boards and CHPs, by calendar year, are published in March each year. The latest [March publication](#), for year ending December 2010, also includes calendar year information on uptake rates by deprivation.

Uptake rates by financial year are published in June each year; the latest [June publication](#) includes information for year ending March 2011.

Glossary

MMR	Measles, Mumps, Rubella
Pertussis	Whooping cough
Hib	Haemophilus influenzae type b
MenC	Meningitis C
PCV	Pneumococcal Conjugate Vaccine

List of Tables

Table No.	Name	Time period	File & size
1	Uptake rates by NHS Board and quarter	Quarter ending 30/06/11	Excel [117kb]
2	Uptake rates by CHP and quarter	Quarter ending 30/06/11	Excel [143kb]
3	Tracking MMR immunisation uptake rates in cohorts of children as they age	Quarter ending 30/06/11	Excel [3,859kb]
4	Trends in immunisation uptake by quarter, calendar and financial year - Scotland For trend data for individual NHS Boards see table below.	From 1995 to quarter ending 30/06/11	Excel [304kb]

Table No.	Trends in immunisation uptake by quarter, calendar and financial year by individual NHS Board:	From 1995 to quarter ending 30/06/11	File & size
4a	NHS Ayrshire & Arran	1995 to 2011	Excel [113kb]
4b	NHS Borders	1995 to 2011	Excel [122kb]
4c	NHS Dumfries & Galloway	1995 to 2011	Excel [122kb]
4d	NHS Fife	1995 to 2011	Excel [121kb]
4e	NHS Forth Valley	1995 to 2011	Excel [119kb]
4f	NHS Grampian	1995 to 2011	Excel [129kb]
4g	NHS Greater Glasgow & Clyde	1995 to 2011	Excel [187kb]
4h	NHS Highland	1995 to 2011	Excel [192kb]
4i	NHS Lanarkshire	1995 to 2011	Excel [121kb]
4j	NHS Lothian	1995 to 2011	Excel [123kb]
4k	NHS Orkney	1995 to 2011	Excel [120kb]
4l	NHS Shetland	1995 to 2011	Excel [125kb]
4m	NHS Tayside	1995 to 2011	Excel [122kb]
4n	NHS Western Isles	1995 to 2011	Excel [125kb]

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Further Information

Further information can be found on the [Childhood Immunisation](#) area of the ISD website.

Further information on other ISD publications and datasets can be found on the [ISD website](#).

Appendix

A1 – Background Information

How the data is collected

Information on primary immunisation is recorded in the Scottish Immunisation and Recall System (SIRS), which covers all NHS boards in Scotland. Childhood immunisation uptake rates, at 12 and 24 months and 5 and 6 years, by NHS board are calculated quarterly, for quarters ending March, June, September and December, and annually for calendar and financial years.

Cohorts used in the calculation of uptake rates are based on all children reaching a specified age who were alive and registered on SIRS at the end of the reporting period. Direct comparison between an annual rate and rates for the corresponding quarters within the year is not possible due to movements of children in and out of NHS board areas, or any deaths that may have occurred during the year. In addition, annual rates may include vaccinations that were only recorded on the systems after the time when each of the quarterly rates were calculated and reported.

Cohorts presented in immunisation uptake trend analysis are only updated for the latest cohort of children and is based on the most recent information available. Information presented for previous evaluation periods remains unchanged and reflects immunisation uptake at those particular points, based on information available at that time.

Immunisation uptake statistics for other parts of the UK are published by the [Health Protection Agency](#).

Revisions History

MenC Primary Immunisation Uptake Rates June 2008 to March 2010

From quarter ending June 2010 there has been a small change to the methodology used to calculate uptake rates for the primary course of MenC. This is a result of a system change to the Scottish Immunisation and Recall System (SIRS) which ISD were unaware had impacted on the calculation of primary MenC uptake rates for the period June 2008 to March 2010. Figures for this time period were not revised as the impact on the reported rates was marginal (0.1 to 0.4 percentage points) and the resource required to revise the figures was considerable.

A2 – Publication Metadata (including revisions details)

Metadata Indicator	Description
Publication title	Childhood Immunisation Statistics
Description	Uptake rates of the routine childhood immunisations, by 12 months, 24 months, 5 years and 6 years. The data are presented at NHS Board and CHP level.
Theme	Health and Social Care
Topic	Child Health
Format	Excel workbooks, PDF
Data source(s)	Scottish Immunisation and Recall System (SIRS)
Date that data are acquired	15 August 2011
Release date	22 September 2011
Frequency	Quarterly
Timeframe of data and timeliness	Data up to 30 June 2011
Continuity of data	None
Revisions statement	These data are not subject to planned revisions.
Revisions relevant to this publication	No revisions were applied to this release. See Appendix A1 for revisions history.
Concepts and definitions	Further information about the current immunisation programmes in Scotland, the vaccines available, and the diseases they protect against, can be found via the NHS Health Scotland Immunisation website .
Relevance and key uses of the statistics	Making information publicly available for planning, epidemiology, provision of services and providing comparative information.
Accuracy	Quality checks are conducted at data entry by NHS Boards. Figures are compared to previous years' figures and expected trends.
Completeness	Considered complete.
Comparability	Data are comparable with data for the rest of the UK which are published by the Health Protection Agency
Accessibility	It is the policy of ISD Scotland to make its web sites and products accessible according to published guidelines .
Coherence and clarity	Data are available as a PDF and tables on the Childhood Immunisation area of the ISD website.
Value type and unit of measurement	Numbers and percentages.
Disclosure	The ISD protocol on Statistical Disclosure Protocol is followed. Low risk of disclosure; no disclosure methods were employed.
Official Statistics designation	National Statistics
UK Statistics Authority Assessment	Awaiting assessment by UK Statistics Authority
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A3 – Early Access details (including Pre-Release Access)

Pre-Release Access

Under terms of the "Pre-Release Access to Official Statistics (Scotland) Order 2008", ISD are obliged to publish information on those receiving Pre-Release Access ("Pre-Release Access" refers to statistics in their final form prior to publication). The standard maximum Pre-Release Access is five working days. Shown below are details of those receiving standard Pre-Release Access and, separately, those receiving extended Pre-Release Access.

Standard Pre-Release Access:

Scottish Government Health Department
NHS Board Chief Executives
NHS Board Communication leads

Extended Pre-Release Access

Extended Pre-Release Access of 8 working days is given to a small number of named individuals in the Scottish Government Health Department (Analytical Services Division). This Pre-Release Access is for the sole purpose of enabling that department to gain an understanding of the statistics prior to briefing others in Scottish Government (during the period of standard Pre-Release Access).

Scottish Government Health Department (Analytical Services Division)

Early Access for Management Information

These statistics will also have been made available to those who needed access to 'management information', ie as part of the delivery of health and care:

NHS Board Immunisation Co-ordinators

Early Access for Quality Assurance

These statistics will also have been made available to those who needed access to help quality assure the publication:

Health Protection Scotland
Chair of National Immunisation Co-ordinators Group
Chair of Scottish Immunisation and Recall System National User Group