

## NHS Immunisation Quality Report

### What are these statistics?

Statistics on the coverage of NHS immunisations in the population are published by Public Health Wales as part of their surveillance role. The aim of the statistics published by the Welsh Government is to provide a wider audience with an overview of immunisation coverage for both children and adults.

### Source of the data

Public Health Wales publishes coverage statistics for routine childhood immunisations, referred to as “COVER” reports (“Coverage of Vaccination Evaluated Rapidly”), at:

<http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=54144>

and for uptake of flu immunisations at:

<http://www.wales.nhs.uk/sites3/page.cfm?orgid=457&pid=25480>

Public Health Wales use the National Community Child Health Database (NCCHD) as the source for childhood coverage data and for Welsh Government published statistics additional data is extracted from this source to provide further details on the age at which children receive various immunisations in a set of web StatsWales tables. Some historical information is included in the statistics dating from a period before the NCCHD had been established. Until 2004 (data for 2002-03), the data was derived from data submissions from the then NHS Trusts, including up to 1998-99 from the “KC51” statistical return.

The NCCHD is held and maintained by the NHS Wales Informatics Service (NWIS). It is a national database established in 2004 and created by pulling together selected information from the locally managed community child health databases. NCCHD is an anonymised national database which is used to produce maternal and child statistics for the whole of Wales. More information about NCCHD can be found on the [NWIS Information and Statistics website](#)<sup>1</sup> and details of the source database at: [Community Child Health System](#).

The source of the flu immunisation data is the GP practice data quality system, Audit+. Flu immunisation data for the last four years has been captured directly by Public Health Wales from General Practice using the Audit+ Data Quality System. Audit+ interrogates GP systems using specified Read-codes and automatically relays the relevant anonymous aggregate data to a central database. This provides the information required to monitor uptake of influenza immunisation in Wales without adding to practice workloads. Nearly all practices use Audit + but manual submissions of data are received from the others that were unable to submit data through Audit+.

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<sup>1</sup> NCCHD website in process of being updated.

## Coverage

Statistics for childhood immunisations relate to cohorts of children becoming age 1, 2 and so on during the financial year for which the statistics are presented. The children are those resident in Wales at the time the data is extracted.

Flu immunisation statistics relate to patients included on GP systems in Wales. Figures for flu immunisations are based on patients recorded as being immunised in General Practice databases. Immunisations given privately at non-GP surgery locations are less likely to be recorded in GP databases and less likely to be included in these figures.

## Users and uses:

The aim of these statistics is to provide a summary of immunisation trends over time and patterns across Wales. The main source of data for immunisation managers is likely to be the coverage reports published on the Public Health Wales website although the tables associated with the release provide more detail of the ages at which children are immunised. It is anticipated that this statistical release will be of more interest to a wider audience interested in an overview of the statistics. Key immunisation coverage statistics such as the coverage of specific immunisations such as MMR and flu are widely used by local and central policy developers.

In summary our users of these statistics are drawn from the following groups:

- Ministers and the Members Research Service in the National Assembly for Wales;
- Local Health Boards;
- Local Authorities;
- The Department for Health and Social Services in the Welsh Government;
- Other areas of the Welsh Government;
- National Health Service and Public Health Wales;
- Professional organisations;
- The research community;
- Students, academics and universities;
- Individual citizens and private companies.

The statistics are used in a variety of ways. Some examples of the uses include:

- Advice to Ministers;
- To inform debate in the National Assembly for Wales and beyond.

If you are a user and do not feel the above list adequately covers you, or if you would like to be added to our circulation list, please let us know by e-mailing [stats.healthinfo@wales.gsi.gov.uk](mailto:stats.healthinfo@wales.gsi.gov.uk)

## Strengths and Limitations of the data

### Strengths

- Although much of the data included in this release has already been published by Public Health Wales, one of the strengths of the release is that it brings together a variety of immunisation datasets and summarises the key annual statistics in a way that will be accessible to a wide range of users.
- The statistics include information on the ages at which immunisations are actually given (childhood immunisation courses).
- The output has a clear focus on Wales and has been developed to meet the internal and external user need in Wales.
- The information is processed and published regularly and in an ordered manner to enable users to see the statistics when they are current and of greatest interest.
- Efficient use has been made of administrative data sources to produce outputs.
- Detailed statistics are provided via our StatsWales website

## Limitations

- For audiences interested in regular surveillance, the coverage reports produced by Public Health Wales are likely to be the main source of information being more detailed and published quarterly. The Welsh Government statistics are not intended as a replacement for them.
- The StatsWales information is intended for a more informed audience, with little explanation to enable other users to interpret the data appropriately.
- There is little availability of mapped data although maps are available on Public Health Wales' website and in NWIS's [Health Maps Wales](#) tool.

## Definitions

### Children's immunisations

The current schedule of childhood immunisations is provided in the table below:

Age:	Diseases protected against:
Two months	Diphtheria, tetanus, pertussis (whooping cough), polio, <i>Haemophilus influenzae</i> type b (Hib) (5-in-1); and pneumococcal infection (PCV)
Three months	Diphtheria, tetanus, pertussis (whooping cough), polio, <i>Haemophilus influenzae</i> type b (Hib) (5-in-1); and meningitis C
Four months	Diphtheria, tetanus, pertussis (whooping cough), polio, <i>Haemophilus influenzae</i> type b (Hib) (5-in-1); pneumococcal infection (PCV) and meningitis C
Around 12-13 months	<i>Haemophilus influenzae</i> type b (Hib), meningitis C, Measles, mumps and rubella (MMR) and pneumococcal infection
Around 3 years and 4 months to 5 years	Diphtheria, tetanus, pertussis (whooping cough) and polio (4-in-1 pre-school booster); and measles, mumps and rubella (MMR)
Aged 12-13 years (girls only)	Human Papilloma Virus (HPV)
Around 13-15 years (varies across Wales)	Diphtheria, tetanus and polio (3-in-1 teenage booster)

Further information on routine childhood immunisations is available at [Public Health Wales: UK immunisation schedule](#).

### Flu immunisation

Information on the flu vaccine is available from the Public Health Wales [flu immunisation website](#)

The statistics present data for patients aged 65 or over and for those under 65 years old who fall into a clinical risk group as follows:

Patients with:

- chronic (long-term) respiratory disease, such as severe asthma, COPD or bronchitis
- chronic heart disease, such as heart failure
- chronic kidney disease
- chronic liver disease
- chronic neurological disease, such as stroke, TIA, polio syndrome
- diabetes
- a weakened immune system due to conditions, such as HIV or AIDs, or treatments that suppress the immune system, such as chemotherapy
- are living in a long-stay residential care home or other long-stay care facility (not including prisons, young offender institutions or university halls of residence)
- are the main carer for an elderly or disabled person whose welfare may be at risk if you fall ill and
- healthy pregnant women

The statistics aim to make the subject accessible and signposts users to the Public Health Wales website for further information on immunisation terminology and processes.

## Data processing cycle

**Data collection** – Data relating to children resident in Wales from the local child health databases is extracted by NWIS every quarter. A grouping process is then applied to the dataset by utilising valid anonymised NHS numbers so that records relating to the same child can be identified. From this the NCCHD database is built with the aim of obtaining maximum record completeness.

Public Health Wales assemble their childhood immunisation statistics from an anonymised individual record level dataset extracted by NWIS from the NCCHD. The release uses published data from the Public Health Wales website but Public Health Wales colleagues also provide spreadsheets to enable easier manipulation of the data.

In order to produce the additional StatsWales tables which present the numbers of courses given by individual age the Health Statistics and Analysis Unit of the Welsh Government receives an extract of aggregated NCCHD data from NWIS annually in May. NWIS update the national database quarterly (end January, April, July and October). The tables for these statistics are provided from NWIS from the April refresh.

The flu immunisation data is derived from published data on the Public Health Wales website.

**Validation and verification** – Data is submitted on EXCEL spreadsheets via Afon, the Welsh Government secure web data transfer system. Following routine consistency checks any queries are discussed with the NCCHD and Community Child Health teams in NWIS, Welsh Government colleagues and clinicians.

**Publication** - The statistics published by the Health Statistics and Analysis Unit are produced from published Public Health Wales data and from the aggregated NCCHD data provided by NWIS. The release is produced by updating the information from the previous edition. The information on the releases is checked against the data supplied independently. Summary data associated with the release is also updated on StatsWales, our interactive web based tool. Immunisation data from NCCHD is also published on [Health Maps Wales](#).

**Disclosure and confidentiality** - These data are aggregated and therefore there is little risk of disclosing information about any individual but we would seek advice from Public Health Wales over any low cell counts. We adhere to our [statement on confidentiality and data access](#), issued in conformance with the requirements set out in Principle 5: Confidentiality of the Code of Practice for Official Statistics.

The source of this data NCCHD is a database containing information about individual children in Wales and it is paramount that their confidentiality be protected. Users are directed to published data initially but may request additional tabulated data from the NCCHD team in NHS Wales Informatics Service (NWIS). In order to ensure the correct data is supplied users will be asked to refine the request and describe the use they intend to make of the data. They also may be asked to collapse groups if the team fear that the resulting table may be disclosive e.g. aggregated age groups rather than single years of age. Any requests for data that the team feels may be potentially disclosive are referred to the database Caldicott Guardian<sup>2</sup>. Extracts of micro-data (individual record level data) are available in a limited way and only when sufficient reassurance has been received that access, confidentiality and disclosure issues have been fully addressed by the potential user. All such requests will initially be referred to the Caldicott Guardian and will all require the user to complete a Data Access Agreement.

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<sup>2</sup> See <http://www.wales.nhs.uk/nwis/page/52658>

## Key Quality Information

National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

## Quality

Health Statistics and Analysis Unit adhere to a [quality strategy](#) and this is in line with Principle 4 of the [Code of Practice for Official Statistics](#). Specifically, the list below provides information according to the European Statistical System's six dimensions of quality.

## Relevance

*The degree to which the statistical product meets user needs for both coverage and content.*

The aim of these statistics is to provide a summary of immunisation trends over time and patterns across Wales. The main source of data for health professionals and managers is likely to be the coverage reports published on the Public Health Wales website.

On our [Health and Social Care theme page](#) we provide background to our statistics and information for users. We encourage users of the statistics to contact us to let us know how they use the data.

We consult with key users prior to making changes, and where possible publicise changes on the internet, at committees and other networks to consult with users more widely. We aim to respond quickly to policy changes to ensure our statistics remain relevant.

We actively review all our outputs and welcome feedback; if you would like to make any comments, please e-mail [stats.healthinfo@wales.gsi.gov.uk](mailto:stats.healthinfo@wales.gsi.gov.uk)

## Accuracy

*The closeness between an estimated result and an (unknown) true value.*

Following each quarterly refresh of the database which NWIS does completeness tables for key variables are posted on the NHS Wales Intranet for LHBs to review.

Public Health Wales, working with the NHS Wales Informatics Service and Health Board Child Health Managers have produced a set of national standards making recommendations on good practice for administrative procedures and data entry associated with routine childhood immunisation in Wales. Public Health Wales and NWIS are now supporting implementation of these standards through provision of national training and ongoing routine audit. In addition to encouraging good practice in Child Health Office administrative procedures, Public Health Wales also liaise directly with Child Health Managers and Immunisation Coordinators to assess accuracy of the data. Public Health Wales also produce regular reports containing uptake of childhood immunisation at local practice level which are used by Immunisation Coordinators to identify where potential problems in flow of data occur.

When the NCCHD is refreshed LHB is derived from the child's postcode of residence. There are a small number of children each year for whom the postcode is incomplete and LHB is unknown; in 2010-11 there were 213 2 year olds who had received an MMR immunisation but whose LHB was not known. The figures for Wales include these children with unknown LHB of residence.

All our outputs include key quality information on coverage, timing and geography.

NCCHD is a live database and is refreshed quarterly. If reports are run from subsequent versions of the database counts will differ from published figures. Historical data is not revised unless errors are discovered. In the unlikely event of incorrect data being published, revisions would be made and

users informed in conjunction with the Welsh Government's [Revisions, Errors and Postponements](#) arrangements.

### **Timeliness and punctuality**

*Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the time lag between the actual and planned dates of publication.*

All outputs adhere to the Code of Practice by pre-announcing the date of publication through the [Due Out Soon](#) web pages. Furthermore, should the need arise to postpone an output this would follow the Welsh Government's [Revisions, Errors and Postponements](#) arrangements.

We publish releases as soon as practical after the relevant time period and when all the published information from Public Health Wales is available. Public Health Wales' annual childhood immunisation (COVER) statistics are published in summer each year. NHS Immunisation Statistics is published annually in September.

### **Accessibility and clarity**

*Accessibility is the ease with which users are able to access the data, also reflecting the format(s) in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.*

The statistics are published in an accessible, orderly, pre-announced manner on the Welsh Government website at 9:30am on the day of publication. An RSS feed alerts registered users to this publication. Simultaneously the releases are also published on the National Statistics Publication Hub. We also publicise our outputs on [Twitter](#). All releases are available to download for free.

More detailed data is available at the same time on the StatsWales website and this can be manipulated online or downloaded into spreadsheets for use offline.

We aim to use Plain English in our outputs and all outputs adhere to the Welsh Government's [accessibility policy](#). Furthermore, all our headlines are published in Welsh and English.

Further information regarding the statistics can be obtained by contacting the relevant staff detailed on the release or via [stats.healthinfo@wales.gsi.gov.uk](mailto:stats.healthinfo@wales.gsi.gov.uk)

NWIS run a request service from the National Community Child Health Database:

Contact details:

e-mail: [Louise.Richards7@wales.nhs.uk](mailto:Louise.Richards7@wales.nhs.uk)

### **Comparability**

*The degree to which data can be agreed over both time and domain.*

Where there are changes to the data provided, this is shown clearly in the outputs. Where advance warning is known of future changes these will be pre-announced in accordance with Welsh Government arrangements.

Data for other UK countries –

All UK countries provide the minimum data required to produce UK level stats on routine immunisations in one year olds, two year olds and five year olds, although data collection is carried out in different ways. Up to now, Wales is the only country reporting on uptake of the teenage booster and MMR coverage in older teens.

England data is available from the [Information Centre](#) for health and social care website. Data for Scotland and Northern Ireland are available at:

[Scottish data](#).

[Northern Ireland data.](#)

Key immunisation statistics are compared for the four countries over time in the ONS publication [UK Health Statistics](#).

## **Coherence**

*The degree to which data that are derived from different sources or methods, but which refer to the same phenomenon, are similar.*

Every year the data are all collected from the same source and adhere to the national standard; they will also be coherent within and across health organisations. However work continues to improve consistency of standards and definition guided by a steering group for the database of Welsh Government, NHS and academic colleagues.

## **Dissemination**

All the data is of sufficient quality following the processes outlined above to justify publication. The high level messages are published on the first page of the relevant release and high level charts are included in the release. All the actual data provided is published on our interactive website [StatsWales](#).

## **Evaluation**

We always welcome feedback on any of our statistics. If you would like to make any comments, please e-mail us at [stats.healthinfo@wales.gsi.gov.uk](mailto:stats.healthinfo@wales.gsi.gov.uk)

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