



Immunisation Statistics 2015

Public Health Statistics Unit

States 
of Jersey

PHSU INFORMATION READER

Document purpose	To report on immunisation statistics for Jersey in 2015
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Description	Uptake rates of childhood immunisations, teenage boosters and primary immunisations. Uptake rates for adult immunisations and seasonal influenza vaccinations are also provided.
Data Sources	Child Health Information System (CHIS) and the GP Central Server (EMIS) and information provided by the Immunisation Nurse
Date that data are acquired	December 2016 and January 2017
Frequency	Annual
Relevance and key uses of the statistics	Making information publically available for planning, epidemiology, provision of services and to provide comparative information. To respond to information requests for a variety of customers e.g. researchers, charities, public companies, Freedom of Information requests. To provide information to support answers to Ministerial Questions.
Accuracy	As the data are recorded on CHIS for the primary purpose of facilitating the invitation of children for immunisations, a high degree of accuracy is required. The Public Health Statistics Unit has access to pseudo-anonymised data held on the GP central server but cannot interrogate the data for duplicates and inconsistencies; as a result data from this source should be treated with caution. Figures are compared to previous years' figures and expected trends by the Public Health Statistics Unit.
Completeness	Data on childhood immunisations cover the entire child population in Jersey and are not a sample. GP data cover only those individuals registered with a GP surgery in Jersey (the GP population).
Value Type	Numbers and uptake rates (percentages) – see definitions
Amendment history	
Officer	Amendment date and detail
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Introduction

Children and adults in Jersey are protected through immunisation against many serious infectious diseases. Vaccination programmes aim both to protect the individual and to prevent the spread of these diseases within the wider population. As a public health measure, immunisations are effective in reducing the burden of disease.

Immunisation uptake (sometimes referred to as coverage) refers to the proportion of the eligible population who have received the recommended doses of the relevant vaccines. Monitoring the proportion of the eligible population vaccinated is a key measure of the immunisation programme performance. It is of public health concern should immunisation rates decrease, as this make the possibility of transmission more likely.

This report is designed to provide a yearly update of immunisation uptake rates for children and adults in Jersey. This first release includes data to 31 December 2015 for childhood immunisations for children up to five years of age. For teenagers, data is presented for the academic year running from September 2015 to August 2016. This report also includes data for seasonal flu vaccinations and covers the winter period 2015-2016. The relevant time period is noted in each section.

Jersey follows recommendations from the Joint Committee on Vaccinations and Immunisations (JCVI), making advised changes to the immunisation schedule based on the latest scientific evidence to ensure residents are protected from any current or emerging infectious diseases.

The European Region of the World Health Organization (WHO) recommends that on a national basis at least 95 per cent of children are immunised against diseases preventable by immunisation and targeted for elimination or control.¹ Such diseases specifically include diphtheria, tetanus, pertussis, polio, Hib, measles, mumps and rubella.

Also presented in this report are figures for adult immunisations given in GP surgeries in Jersey, including pertussis for pregnant women, shingles for those aged 70 (plus a catch-up for those aged 71-79) and protection against pneumococcal infections for adults aged 65 or over. The data for adult immunisations is extracted from the GP central server that was introduced in 2013; due to data quality issues this data is presented as experimental statistics only.

¹ World Health Organisation Regional Office for Europe, *Health21: the health for all policy framework for the WHO European Region*, European Health for All Series No. 6, Denmark 1999, available from http://www.euro.who.int/__data/assets/pdf_file/0010/98398/wa540ga199heeng.pdf

Jersey Childhood Immunisation Schedule

Routine Childhood Immunisation Schedule (as at year-end 2016)

Age to immunise	What vaccine is given
2 months	Diphtheria, tetanus, pertussis (whooping cough), polio, and <i>Haemophilus influenzae</i> type b (Hib)
	Pneumococcal
	Meningitis B*
	Rotavirus
3 months	Diphtheria, tetanus, pertussis (whooping cough), polio, and <i>Haemophilus influenzae</i> type b (Hib)
	Rotavirus
	Meningitis C (MenC)**
4 months	Diphtheria, tetanus, pertussis (whooping cough), polio, and <i>Haemophilus influenzae</i> type b (Hib)
	Pneumococcal
	Meningitis B*
12 months	Measles, mumps and rubella (1st dose)
	Meningitis B*
13 months	<i>Haemophilus influenzae</i> type b (Hib) and Meningitis C
	Pneumococcal
2 years to 4 years	Influenza (flu)
3 years 4 months	Diphtheria, tetanus, pertussis (whooping cough) and polio (booster)
	Measles, mumps and rubella (2nd dose)
4 to 8 years at school	Influenza (flu)
Girls 12 to 13 years	Cervical cancer caused by human papillomavirus (HPV) types 16 and 18 (two separate injections given six months apart)
13 to 14 years	Tetanus, diphtheria, and polio
	Meningitis ACWY

* Introduced in 2015

** Removed from the schedule in July 2016

Non-routine immunisations for at-risk babies

Age to immunise	What vaccine is given
At birth	BCG (against Tuberculosis)
At birth, 1, 2 and 12 months of age	Hepatitis B

Jersey Adult Immunisation Schedule

Routine Adult Immunisation Schedule

When to immunise	What vaccine is given
Pregnant women of any gestation	Influenza (flu)
Pregnant women, 20 weeks gestation or more	Pertussis containing vaccine
65 years or over - annually	Influenza (flu)
65 years or over	Pneumococcal polysaccharide vaccine (PPV)
70 years	Shingles
71-79 years of age	Shingles (catch up programme)

Definitions for childhood immunisation statistics

Immunisation: the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the immune system to protect a person against subsequent infection or disease.

Immunised: To be fully immunised against a particular disease an individual must have received all required doses of the relevant vaccine. Detailed information about the current immunisation programmes in Jersey, the vaccines available, and the diseases they protect against, can be found via the States of Jersey website (www.gov.je).

Uptake rates: Uptake rates, sometimes referred to as coverage, relate to the number of people immunised against a particular disease as a proportion of the people in the population eligible to have received the appropriate vaccine.

Uptake is calculated as follows:

$$\frac{\text{Total number of eligible people immunised}}{\text{Total number of eligible people in the population}} \times 100$$

Definitions for adult immunisation statistics

Standard definitions used for adult immunisation statistics differ slightly from those used for childhood immunisations, specifically using a different definition for coverage and uptake:

- **Vaccine coverage** – the proportion of those eligible who have ever received the vaccine
- **Vaccine uptake** – the proportion of those eligible who received their vaccine during the specified period (for instance in calendar year 2015).

Main Points

Immunisations of children, calendar year 2015:

- uptake rates by 12 months of age for complete primary courses of immunisations against diphtheria, tetanus, pertussis (whooping cough), polio and *Haemophilus influenzae* type b (Hib) (the five-in-one vaccine), MenC and PCV remained high, with rates of 96 per cent or above
- by 12 months of age uptake of the vaccine against rotavirus, a common cause of severe diarrhoea in infants, was 95 per cent. This vaccine was introduced to the routine schedule in January 2014
- overall uptake rates by 24 months of age remained high but only the uptake rate for the five-in-one vaccine exceeded 95 per cent
- uptake rates of one dose of MMR by five years of age was 97 per cent. There was a decrease in uptake rates in 2015 for the Hib/MenC booster, DTaP/IPV booster and the second dose of MMR vaccine by five years of age compared to the previous year, 2014.

Immunisations of teenagers, academic year 2015/2016:

- 87 per cent of females in school Year 8 received two doses of the HPV vaccine, thereby completing the course. This latest figure was a slight decrease on the rate for the previous academic year 2014-2015
- the uptake rate for the Td/IPV booster was 91 per cent for pupils in school Year 9
- uptake of the newly introduced MenACWY vaccine was 94 per cent

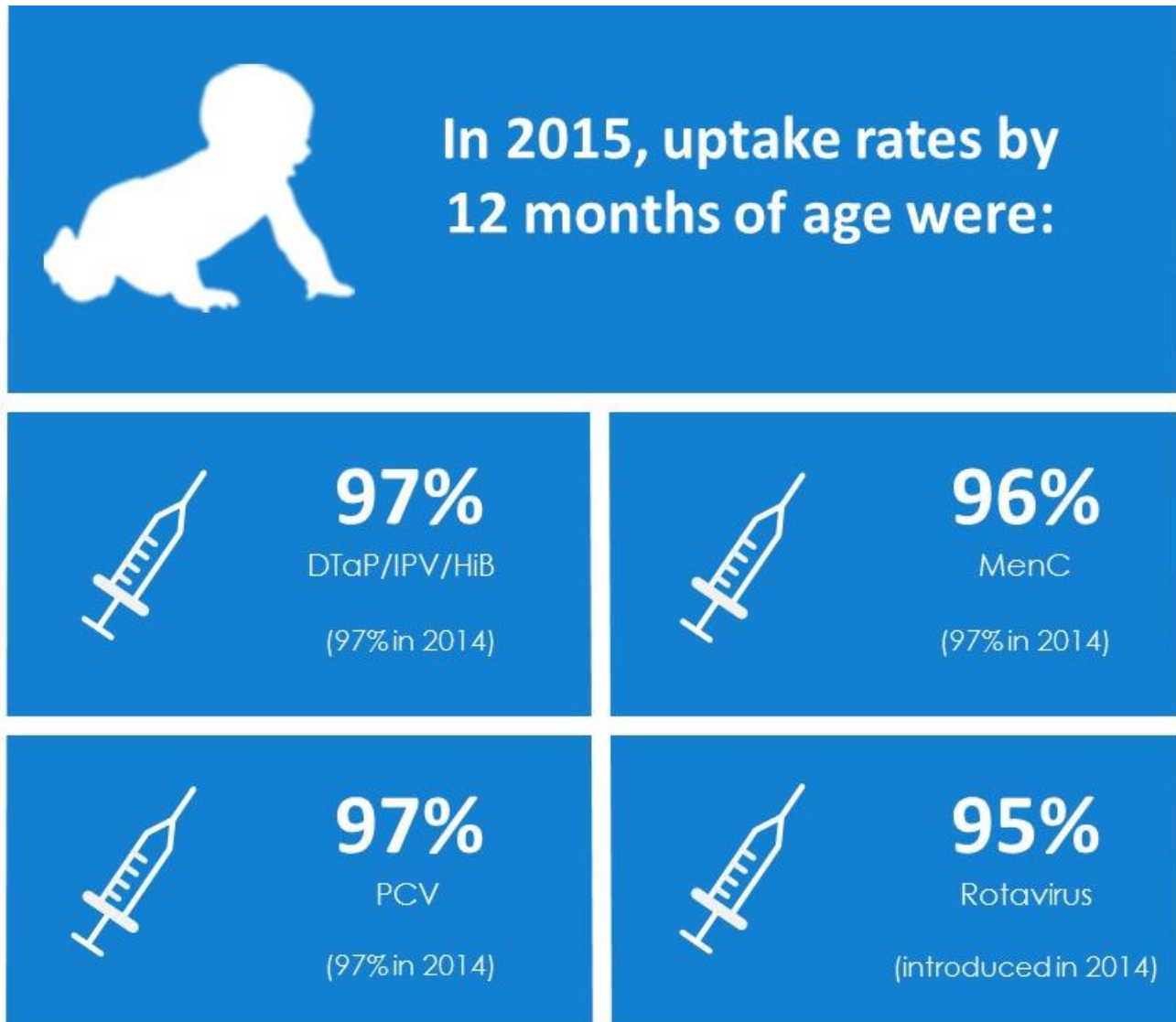
Seasonal influenza immunisations, winter 2015/2016

- 57 per cent of school children in Reception, Year 1 and Year 2 were vaccinated against seasonal flu
- half of patients aged 65 or over who were registered with a GP received a seasonal flu vaccination
- around 1 in 4 pre-school children aged 2 to 4 years (25 per cent), pregnant women (28 per cent) and those deemed at clinical risk aged 16 to 64 (26 per cent) also received a flu vaccination.

Immunisations of adults, calendar year 2015 (immunised up to 31 December 2015):

- pneumococcal vaccine (PPV) coverage was 47 per cent amongst patients aged 65 years or over and was 59 per cent for those aged 75 or over

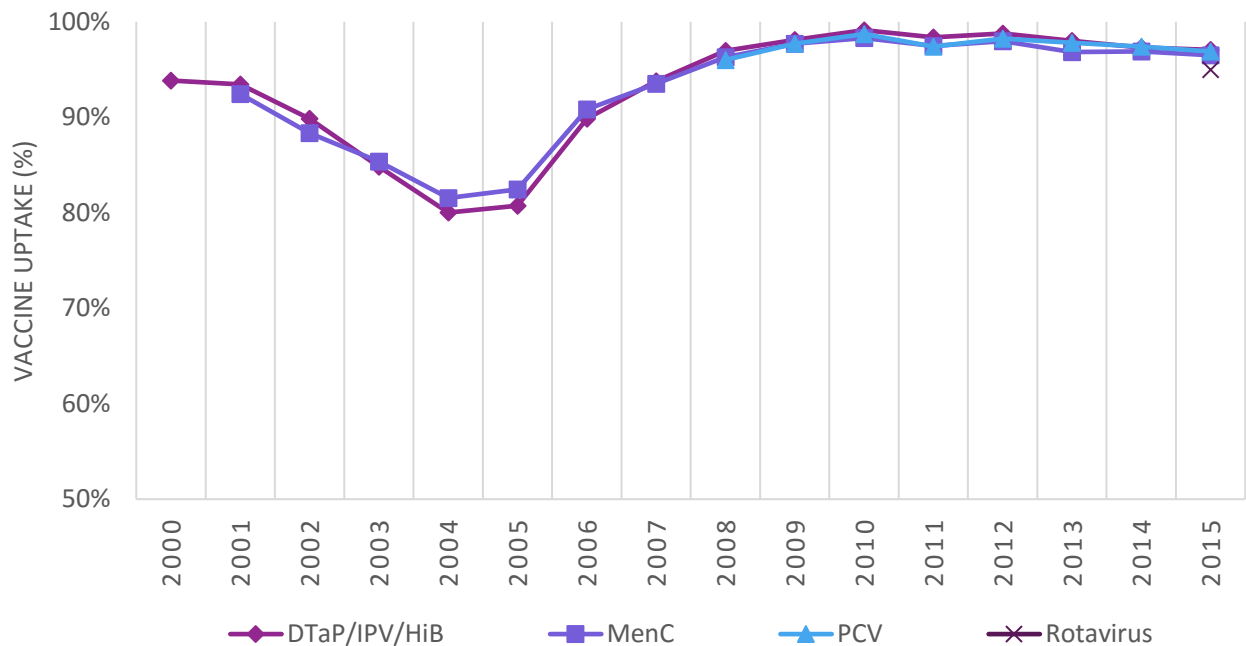
Annual uptake rates by 12 months of age



In Jersey, in 2015, uptake rates by 12 months of age for complete primary courses of immunisations against diphtheria, tetanus, pertussis, polio and *Haemophilus influenzae* type b (Hib) (the five-in-one vaccine), MenC and PCV remained high, with rates of 96 per cent or above.

A vaccine to protect babies against rotavirus was introduced to the childhood immunisation schedule in Jersey in January 2014. The rotavirus vaccine is offered routinely to all babies at 8 weeks and again at 12 weeks when they attend for their first and second routine childhood immunisations. Opportunities for children to catch up missed doses are limited as the first and second doses of rotavirus vaccine cannot be given beyond 15 weeks of age and six months of age, respectively. This is the first year uptake figures for rotavirus are published, since the first cohort reaching one year of age following the introduction of the vaccine was during calendar year 2015.

Figure 1: Primary immunisation uptake rates by 12 months of age, by calendar year



Source: Jersey CHIS

Note: the dip in uptake rates in the early 2000's was due to a dip in confidence associated with a similar dip in MMR uptake by 24 months of age, as well as operational factors impacting on recording of immunisations. A single system was introduced in 2007/2008 alongside efforts to improve confidence in immunisations.

Table 1 shows uptake rates for Jersey in 2015 compared with England, Wales and Scotland.

Table 1: Primary immunisation uptake rates by 12 months of age, by jurisdiction, percentage completed

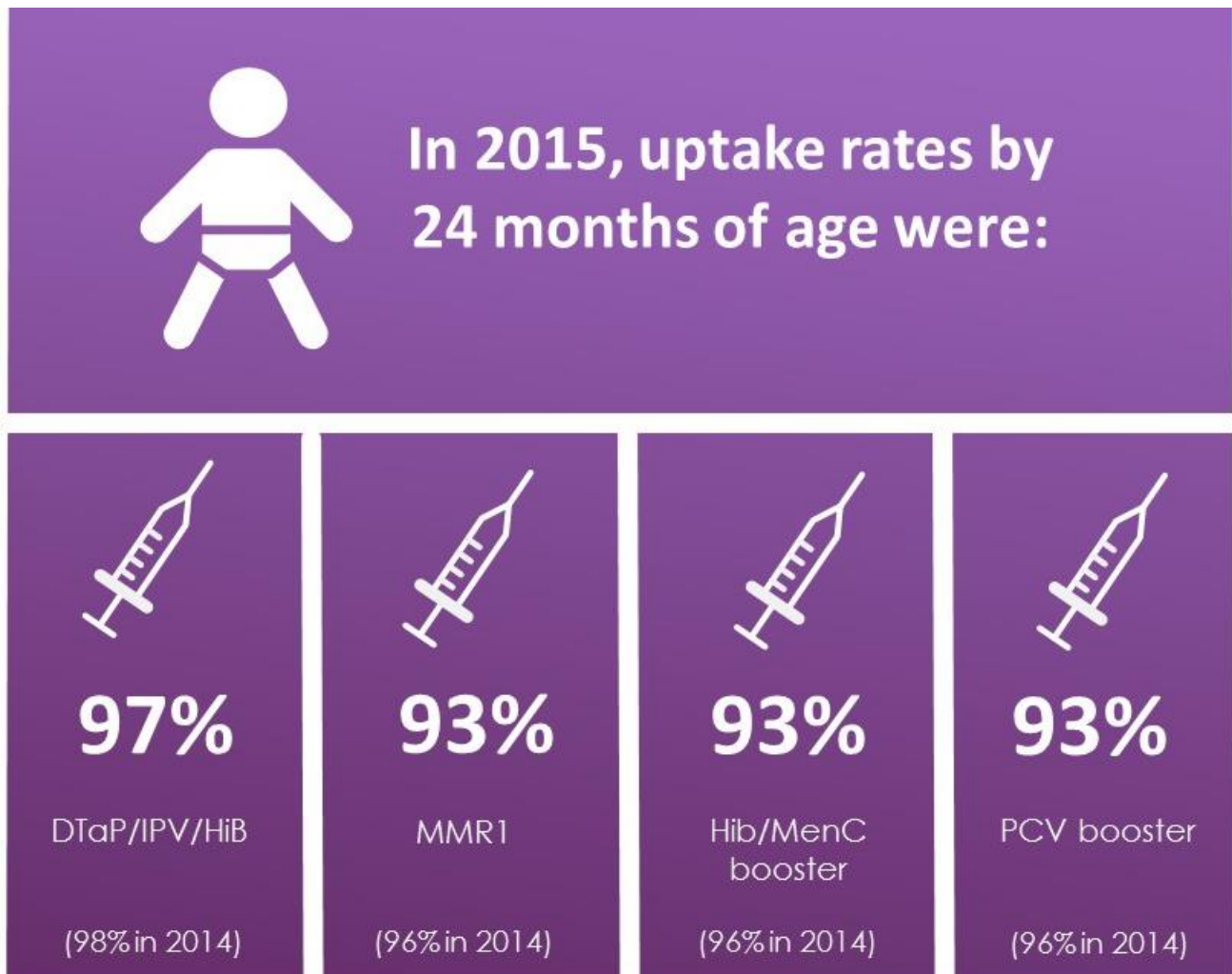
	DTP/IPV/Hib	MenC	PCV	Rotavirus
Jersey (2015)	97	96	97	95
England (2015/16)	94	-	94	-
Wales (2015/16)	97	97	96	93
Scotland (2015)	97	98	97	93

Source: Jersey PHSU, Public Health England (PHE), Public Health Wales, ISD Scotland
 - data for England not published at national level in 2015/16

Key

- DTaP/IPV/Hib The 5 in 1 vaccine (3 doses) which protects children against diphtheria, tetanus, pertussis, polio and Haemophilus influenza type B (Hib)
- MenC Meningococcal serogroup C conjugate vaccine (1 dose)
- PCV Pneumococcal conjugate vaccine (2 doses)
- Rotavirus Rotavirus vaccine (2 doses under 24 weeks)

Annual uptake rates by 24 months of age



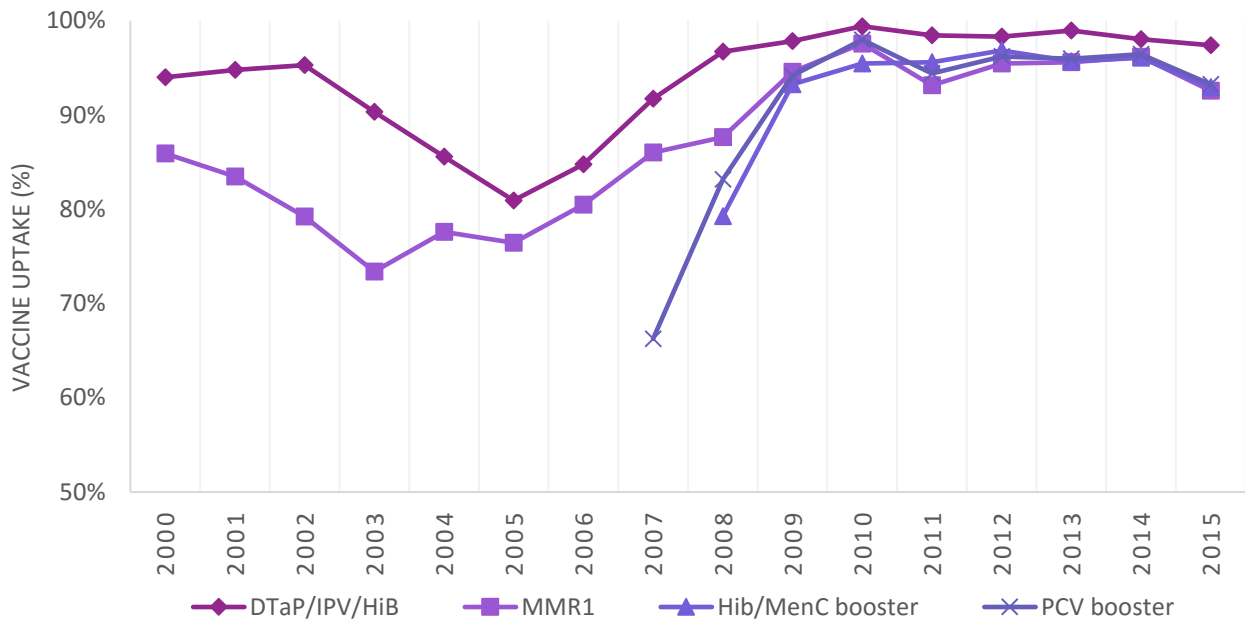
Overall uptake rates by 24 months of age remained high but only the uptake rate for the five-in-one vaccine exceeded 95 per cent in 2015.

Figure 2 shows in immunisation uptake rates by 24 months of age in Jersey since 2000.

As in England and Scotland, uptake rates of the first dose of MMR fell in the late 1990s and early 2000s to a low of 73 per cent in 2003, the result of controversy and associated publicity around a since discredited Lancet publication. Uptake rates have since been increasing and have exceeded 90 per cent since 2009.

The Hib/MenC booster and PCV booster vaccines were introduced to the routine childhood immunisation schedule in 2006. Figure 2 shows that the uptake rates for Hib/MenC and PCV booster vaccines were lower when first introduced to the schedule and have since increased to over 90 per cent. A similar pattern was noted in England, Wales and Scotland when these vaccines were first introduced.

Figure 2: Primary and booster immunisation uptake rates by 24 months of age, by calendar year



Source: Jersey CHIS

Table 2: Primary immunisation uptake rates by 24 months of age, by jurisdiction, percentage completed

	DTaP/IPV/Hib	MMR1	Hib/MenC	PCVB
Jersey (2015)	97	93	93	93
England (2015/16)	95	92	92	92
Wales (2015/2016)	97	95	95	96
Scotland (2015)	98	95	95	95

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland

Key

- DTaP/IPV/Hib The 5 in 1 vaccine (3 doses) which protects children against diphtheria, tetanus, pertussis, polio and Hib
- MMR1 Measles, mumps and rubella vaccine (1 dose over 12 months)
- Hib/MenC Hib/MenC booster (1 dose over 12 months)
- PCVB Pneumococcal conjugate vaccine booster (1 dose over 12 months)

Annual uptake rates by five years of age

In 2015, uptake rates by 5 years of age for vaccines normally given around three years four months of age were:



89%

DTaP/IPV booster

(93% in 2014)



91%

MMR2

(92% in 2014)

Uptake rates by 5 years of age for vaccines normally given around 12 to 13 months of age were:



97%

MMR1

(97% in 2014)



84%*

Hib/MenC booster

(95% in 2014)

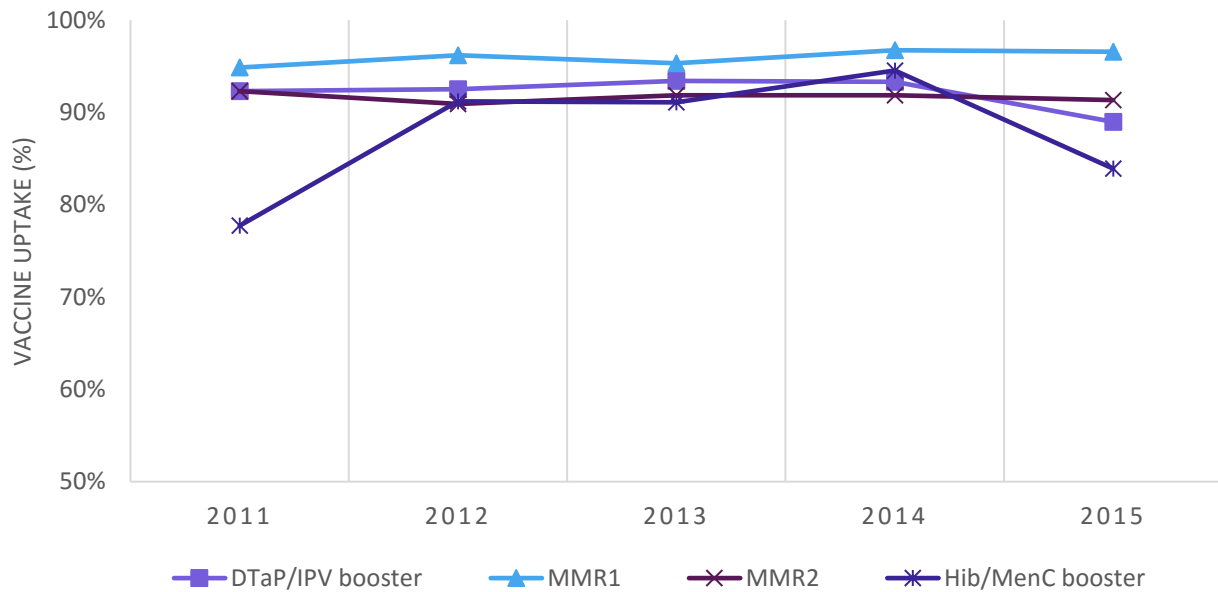
**A change to the CHIS following removal of the first dose of MenC from the immunisation schedule meant that children immunised with the Hib/MenC booster who hadn't received the first dose were coded as receiving the first dose at 13 months rather than the booster so were not included in this uptake rate.*

From the age of 3 years four months, children are invited to receive booster doses of diphtheria, tetanus, pertussis and polio (given as one injection and sometimes referred to as the four-in-one booster) and a second dose of the MMR vaccine.

The uptake rate of one dose of MMR by five years of age was 97 per cent and was above the target of 95 per cent. There was a decrease in uptake rates in 2015 for the Hib/MenC booster, DTP/IPV booster and the second dose of MMR vaccine compared to the previous year, 2014.

Figure 3 shows the uptake rates by five years of age in Jersey since 2011. Prior to this, those children whose parents had declined a vaccination had been excluded from the statistics, affecting the comparability of data.

Figure 3: MMR1 and booster immunisation uptake rates by 5 years of age, by calendar year



Source: Jersey CHIS

Table 3: MMR1 and booster immunisation uptake rates by 5 years of age, by jurisdiction, percentage completed

	MMR1	Hib/MenC	DTaP/IPV	MMR2
Jersey (2015)	97	84*	89	91
England (2015/16)	95	93	86	88
Wales (2015/16)	97	94	92	92
Scotland (2015)	97	96	94	93

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland

*A change to the CHIS following removal of the first dose of MenC from the immunisation schedule meant that children immunised with the Hib/MenC booster who hadn't received the first dose were coded as receiving the first dose at 13 months rather than the booster so were not included in this uptake rate.

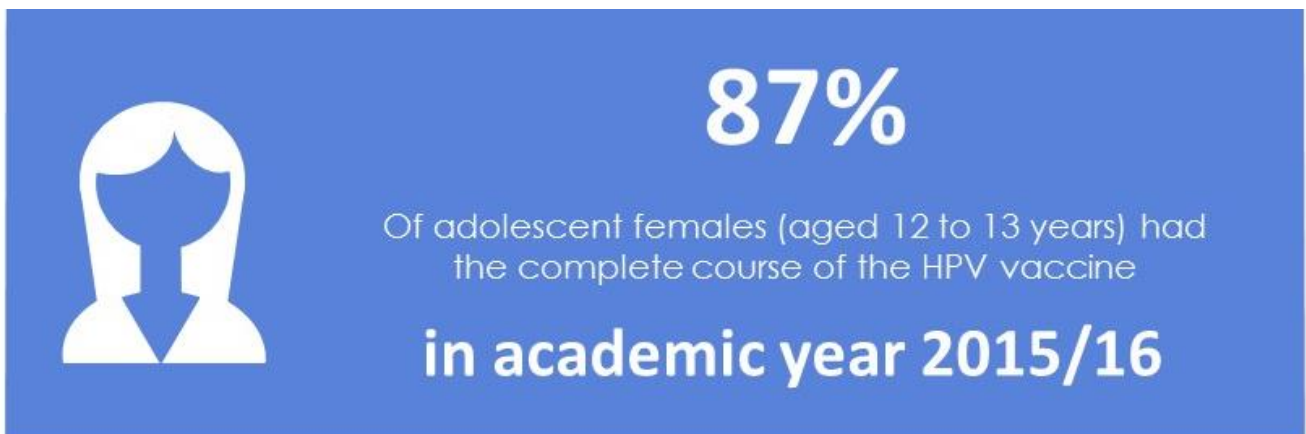
Key

- MMR1 Measles, mumps and rubella vaccine (1 dose over 12 months)
- DTaP/IPV Diphtheria, tetanus, acellular pertussis, polio containing vaccine (4th dose). In the UK this is given as a single injection (the 4-in-1 vaccine)
- Hib/MenC Hib/MenC booster (1 dose over 12 months of age)
- MMR2 Measles, mumps and rubella vaccine (2nd dose)

Teenage immunisations

Immunisations to teenagers are delivered in schools by school nurses. For this reason, data provided is for academic school years (1st September to 31st August).

Human Papillomavirus (HPV) vaccination for adolescent females

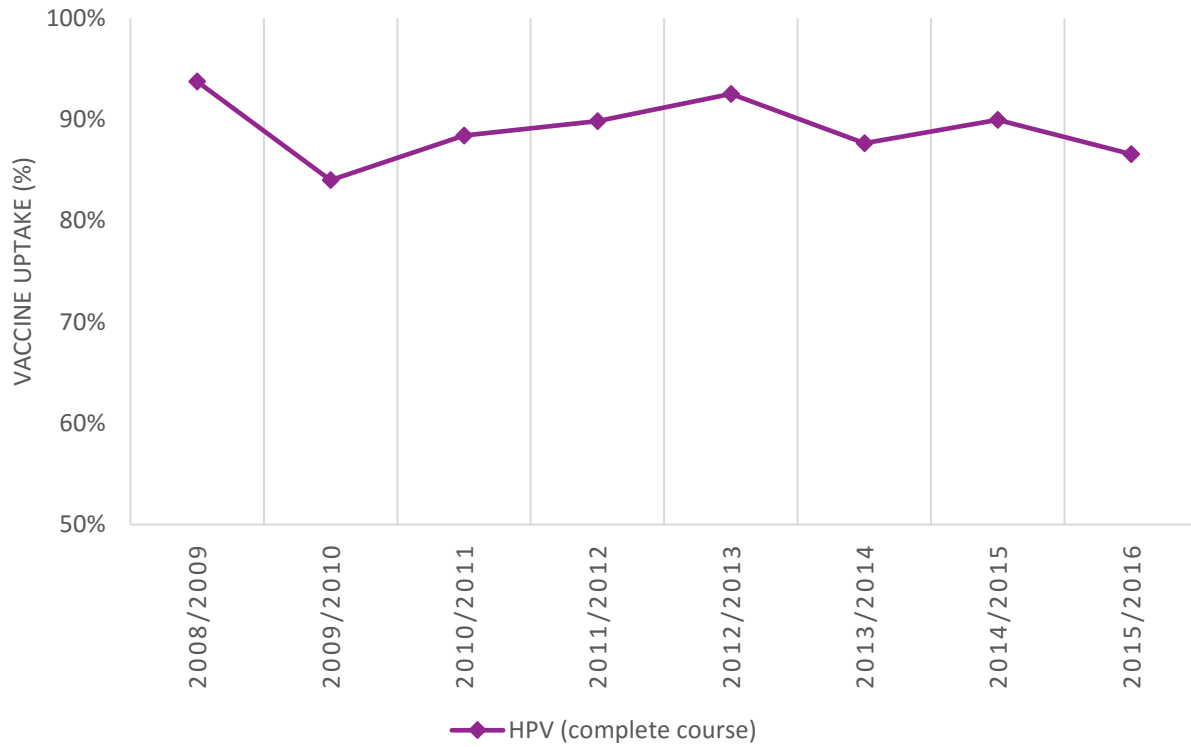


The national human papillomavirus (HPV) immunisation programme was introduced in September 2008 as a school-delivered programme targeting school Year 8 females (aged 12 to 13 years) using a three-dose schedule. In March 2014, the JCVI advised changing the routine programme from a three to two-dose schedule, this was implemented in September 2014. In Jersey, Year 8 girls receive both doses in the same academic year.

In the academic year 2015-2016, 87 per cent of females in Year 8 received two doses of the HPV vaccine, completing the course. This latest figure was a slight decrease on the rate for the previous academic year 2014-2015, when 90 per cent of females in Year 8 completed the vaccination course.

Figure 4 shows uptake rates for the complete course of the HPV vaccination, since the vaccine was introduced into the Jersey immunisation schedule in 2008.

Figure 4: Annual HPV vaccine uptake rates, percentage completing course by academic year



Source: Jersey CHIS

Table 4: Annual HPV vaccine coverage, by jurisdiction, percentage completed

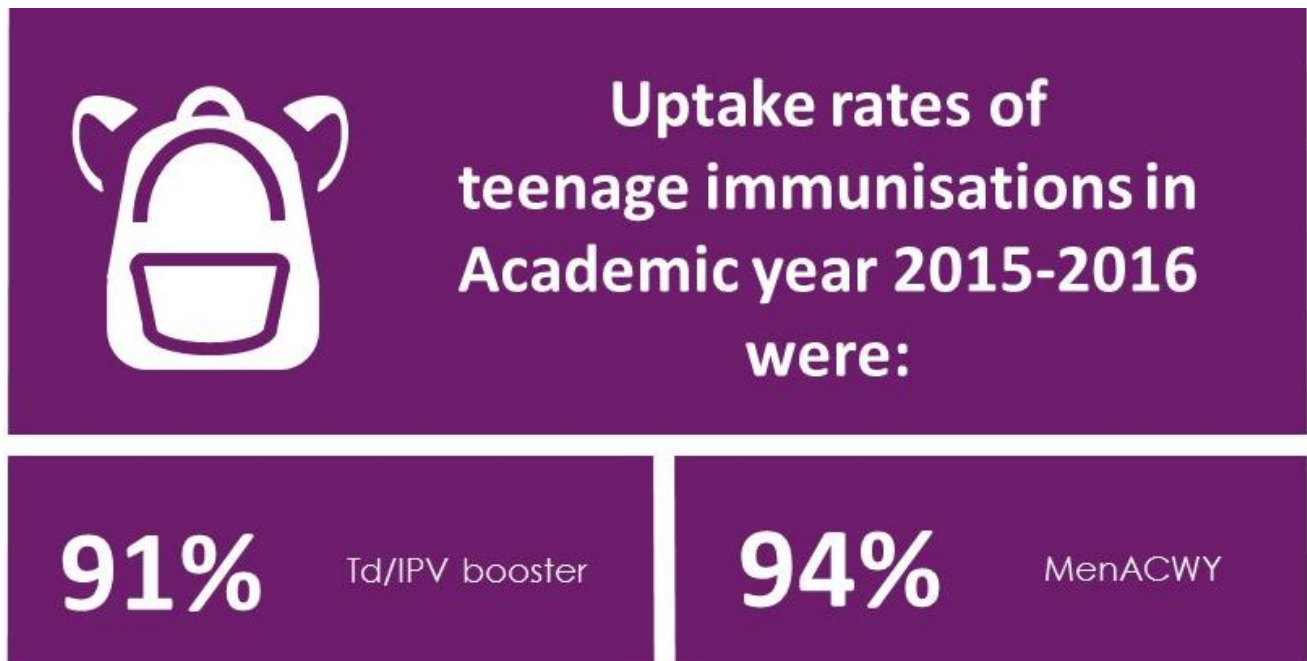
	HPV1	HPV2
Jersey (2015/16)	89	87
England (2015/16)	87	85
Wales (2015/16)	90	67**
Scotland (2015/16)*	93	83

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland

*Scotland rates are for those delivered in S2 (12 to 13 years of age) however, some areas administer vaccines in S1 or S3, so this rate does not cover all areas of Scotland

**Vaccination sessions for the second dose of HPV in Wales may not have been completed across all areas and are expected to continue to increase until the end of the following school year

Teenage boosters



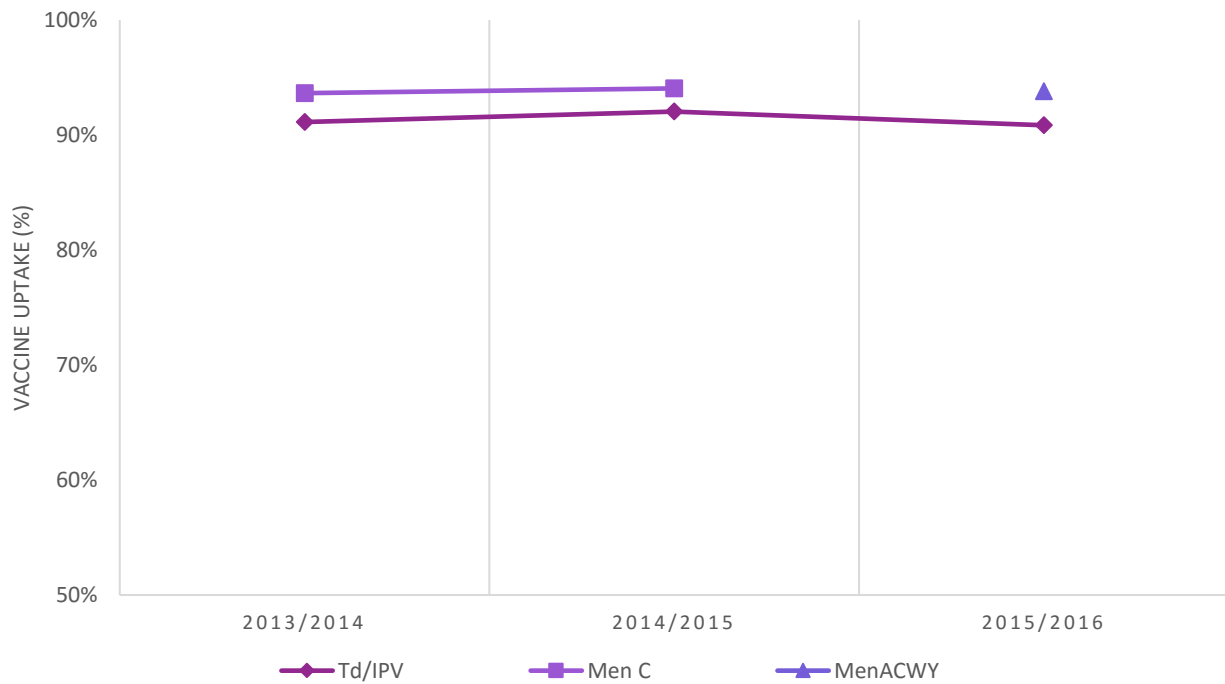
The Td/IPV booster immunisation completes the course of childhood vaccines providing protection against tetanus, diphtheria and polio. In academic year 2015-2016, uptake rates for this vaccination were 91 per cent, this rate was higher than that published for Scotland and Wales (Table 5). In England, coverage of the teenage booster immunisations is not routinely measured. However, Public Health England estimated that coverage of the Td/IPV booster is around 70 per cent.

The teenage Men ACWY vaccine boosts protections against meningitis and septicaemia (blood poisoning) cause by four strains of meningococcal bacteria – meningococcal (Men) groups A, C, W and Y. The MenACWY vaccine replaced the MenC vaccine in the routine teenage booster immunisation programme from August 2015. For those children in school Year 9 in 2015-16, uptake of the MenACWY vaccine was 94 per cent, as shown in Table 5.²

All 14 to 18 year olds in Jersey were offered a MenACWY vaccine as part of a catch up programme offered in 2015, details of this can be found in the Unscheduled Childhood Immunisations section of this report.

² The Td/IPV booster is administered at the same time as the MenACWY vaccination, and the number of individuals being vaccinated with each vaccine is usually the same. However, those individuals who missed having their pre-school booster dose of MenACWY are not included in the final numbers for the teenage booster. This is because this first dose is counted as their pre-school booster dose and these individuals will then need to have the equivalent of the teenage booster dose five years later (when they have left school) in order to be fully immunised.

Figure 5: Td/IPV, MenC and MenACWY uptake rates in year 9 pupils, by academic year



Source: Jersey CHIS

Table 5: Td/IPV and MenACWY vaccine uptake rates by the end of the school year 2015/2016, by jurisdiction, percentage completed

	Teenage Td/IPV booster	MenACWY
Jersey (2015/16)	91	94
England (2015/16)	~70	84
Wales (2015/16)	83	82*
Scotland (2015/16)	82	82

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland

*NHS Wales report for MenC vaccine given in 2015-2016, given in school year 10

~ PHE estimate that coverage for England is around 70 per cent

Key

Td/IPV booster Tetanus, diphtheria and polio vaccine

MenACWY Meningococcal group A, C, W and Y vaccine. This replaced the MenC vaccine from August 2015

Unscheduled childhood immunisations

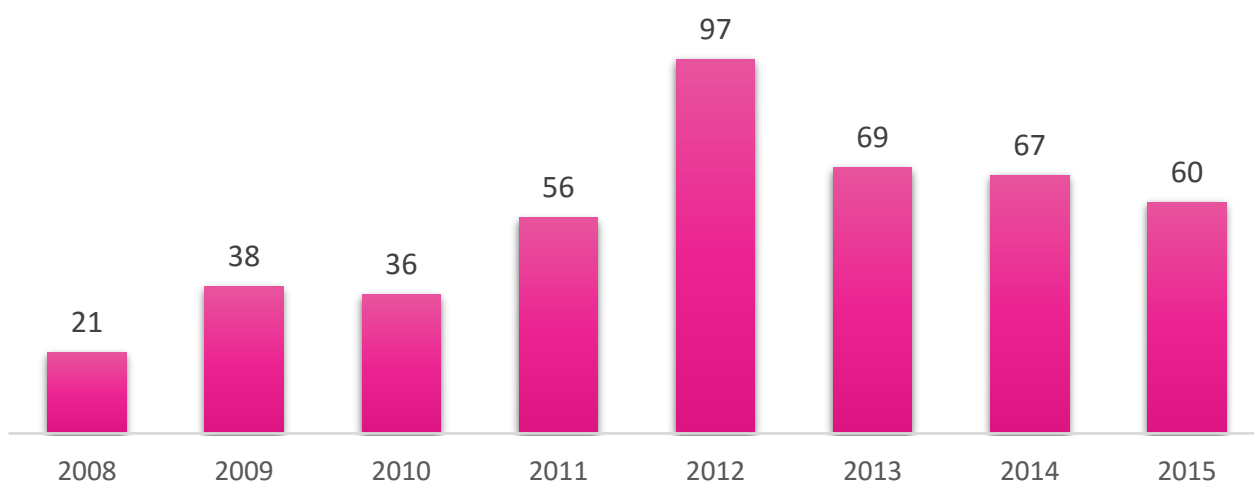
In addition to the routine immunisations shown in the immunisation schedule, there are two selective vaccination programmes which run in Jersey for those aged 5 or under, as shown in Table 6.

Table 6: Non-routine immunisations as of 2016

When to immunise	What vaccine is given
Shortly after birth	BCG (against tuberculosis)
At birth, 1, 2 and 12 months of age	Hepatitis B

The aim of the neonatal Bacillus Calmette-Guerin (BCG) vaccination programme is to protect babies who are deemed most at risk of exposure to Tuberculosis (TB) and help prevent the more serious childhood forms of the disease. Figure 6 shows the number of vaccines administered each year by the Immunisation Nurse Specialist.

Figure 6: Annual number of BCG vaccinations administered to at risk babies, 2008-2015



Source: HSSD Immunisation Nurse

Data on infants born to hepatitis B positive mothers who required vaccination is not reported here due to small numbers which may be disclosive.

MenACWY Catch Up Programme

In March 2015, the Joint Committee on Vaccination and Immunisation (JCVI) recommended adolescents aged 14 to 18 years be offered the MenACWY vaccine as soon as possible through a catch up programme, in response to an escalating outbreak of meningococcal group W disease in the UK. Presented here are details of the MenACWY catch up programme in Jersey which began in August 2015 for those aged 18 and, in particular, those young people heading off to university for the first time. The programme was expanded in November 2015 across Jersey secondary schools and Highlands College to vaccinate pupils in schools Years 10, 11, 12 and 13.

Table 7 shows the uptake of the MenACWY vaccine in school, while Table 8 shows the uptake for those aged 18 in 2015/2016 and first time university entrants.

Table 7: Uptake rate of MenACWY vaccine in school age catch up cohorts, by school year, academic year 2015/16

School year	Date of Birth Range	Uptake rate
10	1 September 2000 - 31 August 2001	89%
11	1 September 1999 - 31 August 2000	87%
12	1 September 1998 - 31 August 1999	78%
13	1 September 1997 - 31 August 1998	91%
Total in catch up programme	1 September 1997 - 31 August 2001	86%

Source: Jersey CHIS

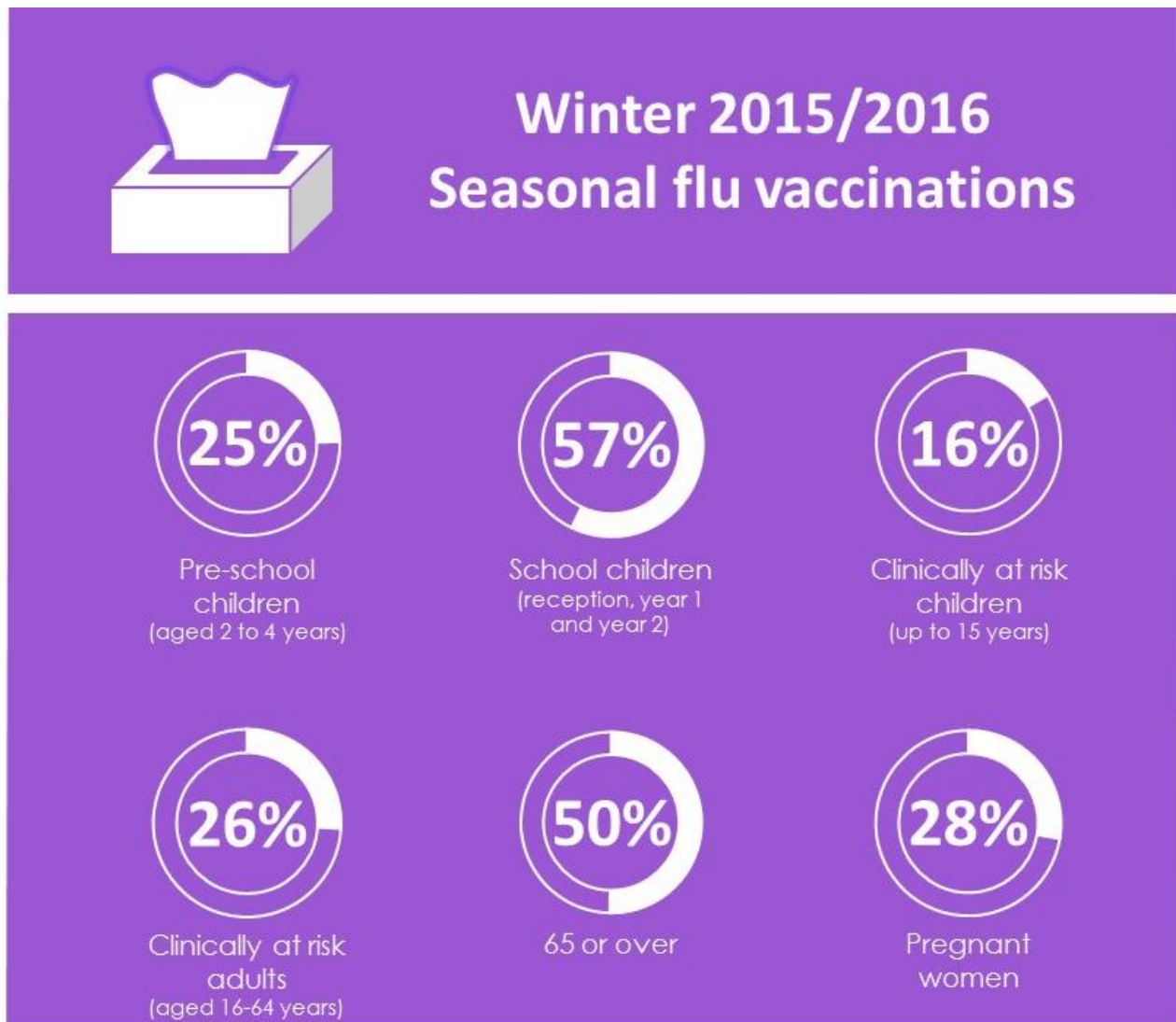
Table 8: Uptake rate of MenACWY vaccine in first time university entrants, August 2015

Cohort	Date of Birth Range	Uptake rate
First time university entrants	1 September 1996 - 31 August 1997	*62%

Source: Jersey CHIS

* estimated rate

Seasonal influenza vaccinations



During the 2015-16 winter season, all GP practices in Jersey were asked to offer the influenza (seasonal flu) vaccine to all registered patients who fell into the following categories:

- children aged 2, 3 and 4 years, irrespective of whether they were in a clinical risk group or not
- at risk school children not immunised at school, up to and including 15 years
- at risk 16 to 64 year olds
- patients aged 65 or over, irrespective of whether they were in a clinical risk group or not
- all pregnant women

Coverage rates for the 2015/2016 winter period are shown in Table 9 with comparison to the previous winter period, 2014/2015. Half of patients aged 65 or over registered with a GP received a seasonal flu vaccination, while around 1 in 4 pre-school children aged 2 to 4 years (25 per cent), pregnant women (28 per cent) and those deemed at clinical risk aged 16 to 64 (26 per cent) also received a vaccination.

Table 9: Percentage of GP practice patients immunised against influenza, 2014/2015 and 2015/2016 winter periods

	2014/2015 Winter	2015/2016 Winter
<i>Children aged 2-4 years</i>	25	25
<i>At risk school children (up to & including 15 years)</i>	22	16
<i>At risk working age (16-64 years)</i>	26	26
<i>Adults aged 65 or over</i>	51	50
<i>Pregnant women</i>	25	28

Source: Jersey PHSU

Additionally, in 2015 a nasal flu vaccine programme in schools offered protection to all children in reception, Year 1 and Year 2, as part of a rolling programme aiming to gradually extend the offer of flu vaccination to all primary school children. In the previous winter season, 2014-2015, only those children in reception were offered the nasal flu vaccine (Table 10).

Table 10: Percentage of school children immunised against influenza, 2014/2015 and 2015/2016 winter periods

<i>School year group</i>	<i>2014/2015 Winter</i>	<i>2015/2016 Winter</i>
<i>Reception</i>	70	61
<i>Year 1</i>	-	57
<i>Year 2</i>	-	53
<i>Total</i>	70	57

Source: HSSD

- Seasonal flu vaccines not offered to these cohorts in 2014/2015, the programme was expanded the following year

Pertussis vaccinations for pregnant women (2016)



The prenatal pertussis vaccination programme aims to minimise disease, hospitalisation and deaths in young infants who are susceptible to pertussis (whooping cough) in the weeks and months before they have completed their own vaccinations (see Jersey Childhood Immunisation Schedule at the front of this report). The prenatal programme enables the intra-uterine transfer of protective antibodies from mothers-to-be to baby.

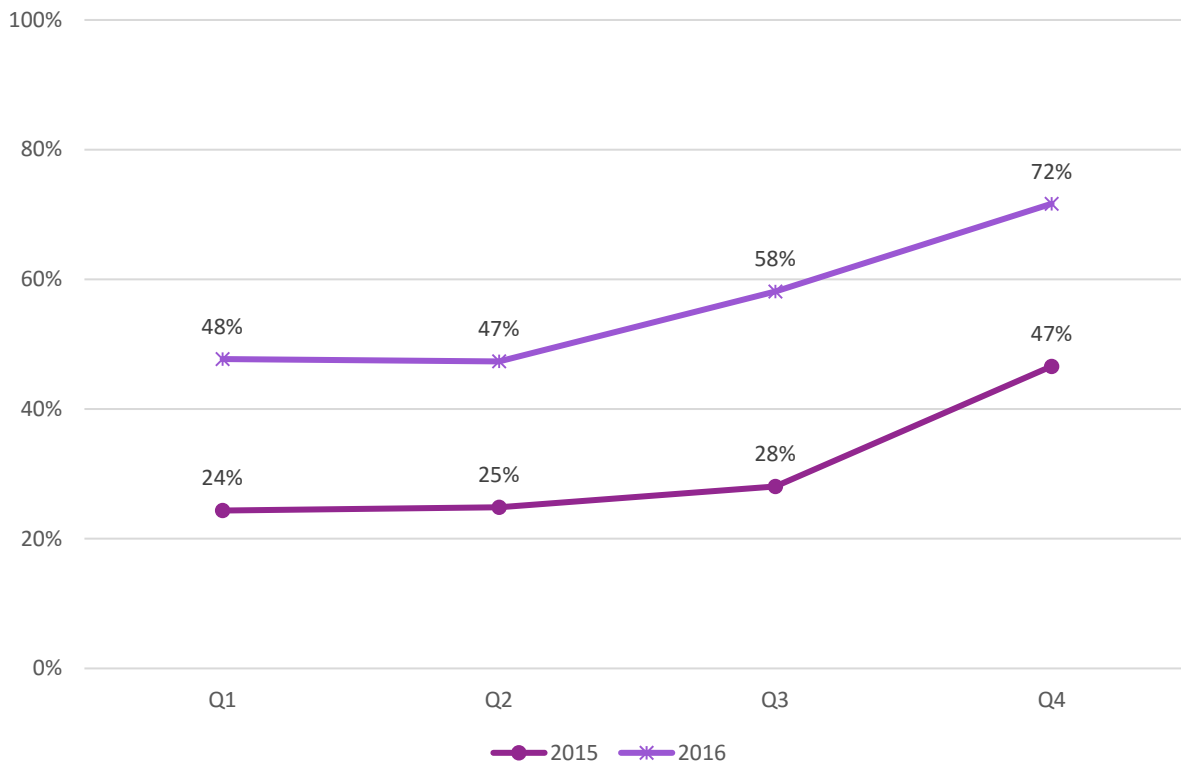
The maternal programme was introduced in Jersey in 2015 and was offered to all pregnant women from 28 weeks of gestation in GP surgeries and in the Maternity Unit of the Hospital. The programme's eligibility criteria were further extended in April 2016 to include women from 16 weeks of gestation, following a recommendation by the JCVI in February 2016. The JCVI advised that vaccination could be offered from gestational week 16. For operational reasons the vaccination is offered from around 20 weeks, usually at or after the foetal anomaly scan.

Further information on methods and data quality can be found in the background section of this report.

Since the implementation of the new recommendations, there has been an increase in vaccination coverage of pregnant women in Jersey, rising from an average of 48 per cent in the first three months of 2016 (January to March) to 72 per cent in the last quarter of the year (October to December). All four quarters in 2016 saw an increase on the corresponding period of 2015 when eligibility criteria were narrower (see Figure 7).

Table 11 compares figures from Jersey to those for England for comparable quarters. Annual coverage estimates for England (for financial year 2015-16) are similar to those for Jersey (calendar year 2016), at around three-fifths of pregnant women.

Figure 7: Quarterly pertussis vaccination coverage (percentage) in pregnant women in Jersey, 2015-2016



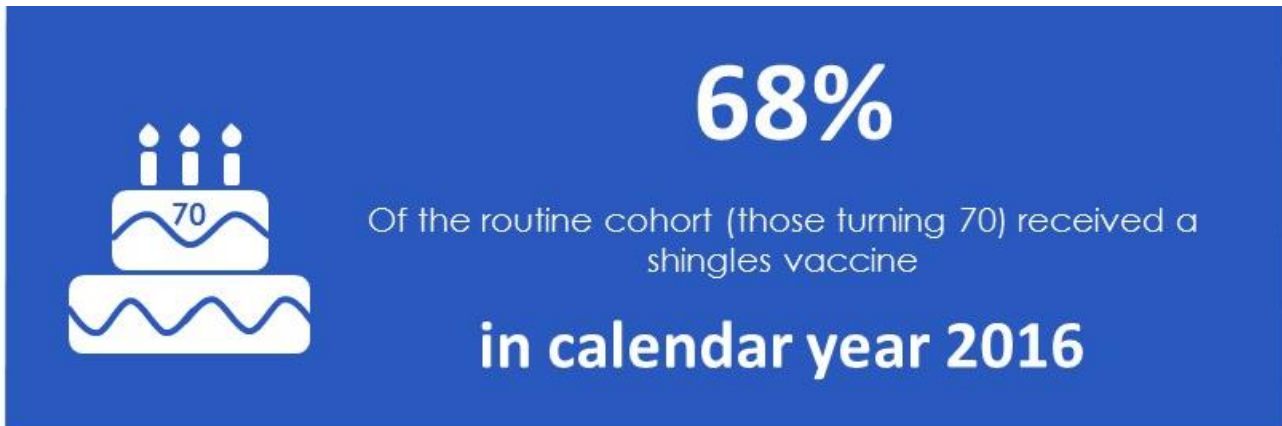
Source: PHSU using data from GPCS

Table 11: Quarterly pertussis vaccination coverage (percentage) in pregnant women 2016, by jurisdiction

	Q1 2016 January to March	Q2 2016 April to June	Q3 2016 July to September	Q4 2016 October to December	Annual coverage estimate
Jersey (2016)	48	47	58	72 ^(p)	56
England (2015/16)	60	68	71	-	58

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland
 - not available at time of publication, (p) provisional

Shingles vaccination (2016)



Shingles is caused by the reactivation of latent varicella zoster virus (VZV) infection, following a decline in cell mediated immunity; incidence is known to increase with age. In 2010, the JCVI recommended that a herpes zoster (shingles) vaccination programme be introduced for adults aged 70 years and a catch up programme for those aged 71 to 79 years. The programme was introduced in Jersey in 2016, with adults born in 1946 invited as part of the routine programme and those adults born in 1937 (turning 79 in 2016) were invited from September 2016 as part of the catch up programme.

Shingles vaccination can be measured in two ways:

- **Vaccine coverage** – the proportion of those eligible who have ever received the vaccine
- **Vaccine uptake** – the proportion of those eligible who received their vaccine during the specified period (in this case calendar year 2016).

For further details on methods and data quality, see the background notes section of this report.

In the first year of the programme, 2016, almost 700 people born in 1946 received the shingles vaccine, representing 68 per cent of this cohort, as shown in Table 12.

England introduced a shingles vaccine programme in September 2013 and have now vaccinated 3 routine cohorts and 3 catch up cohorts. Their experience of the programme so far shows that coverage in specific cohorts increases in the years following the year the cohort becomes eligible for vaccine. It is therefore expected that, like England, coverage in those who turned 70 in calendar year 2016 will increase in subsequent years in Jersey.

Table 12: Shingles vaccine coverage, by jurisdiction and age cohort

	Routine 70 years	Catch-up cohort
Jersey (2016)	68 ^(p)	61 ^(p)
England (2015/16)	55	56
Scotland (2015/16)	54	51

Note: catch up cohorts are for different age groups in each jurisdiction (1937 cohort in Jersey and 1938 in England and Scotland)

(p) provisional

Source: Jersey PHSU, PHE, Public Health Wales, ISD Scotland

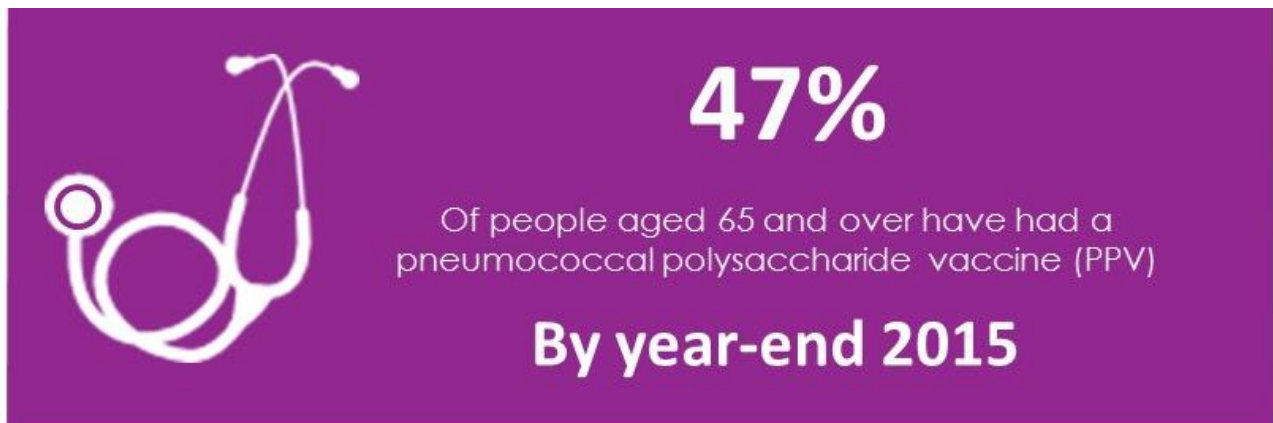
In 2016, an estimated 3 per cent of the routine and 4 per cent of the catch-up cohort fell into clinical risk groups in whom shingles vaccine may be contraindicated³. Vaccine uptake in these clinical at risk groups in Jersey was 62 per cent for the routine group and 62 per cent also for the catch up cohort. These proportions were found to be much higher than those reported by Public Health England for those clinically at risk (33 per cent for the routine cohort and 36 per cent for the catch up cohort in England).

Among those eligible for the vaccine, 7 per cent of 70 year olds and 7 per cent of 79 year olds were recorded as having refused or declined the vaccine, a rate similar to that for England (6 per cent of the routine cohort and 7 per cent of the catch up cohort).

Uptake and coverage in Jersey were found to be similar for males and females for both the routine cohort and catch up cohort in 2016.

³ Contraindicated to receiving shingles vaccine – a patient undergoing medical treatment/taking medication which weakens their immune system to a degree that prohibits them receiving the shingles vaccination; this may be either temporary or permanent

Pneumococcal vaccination



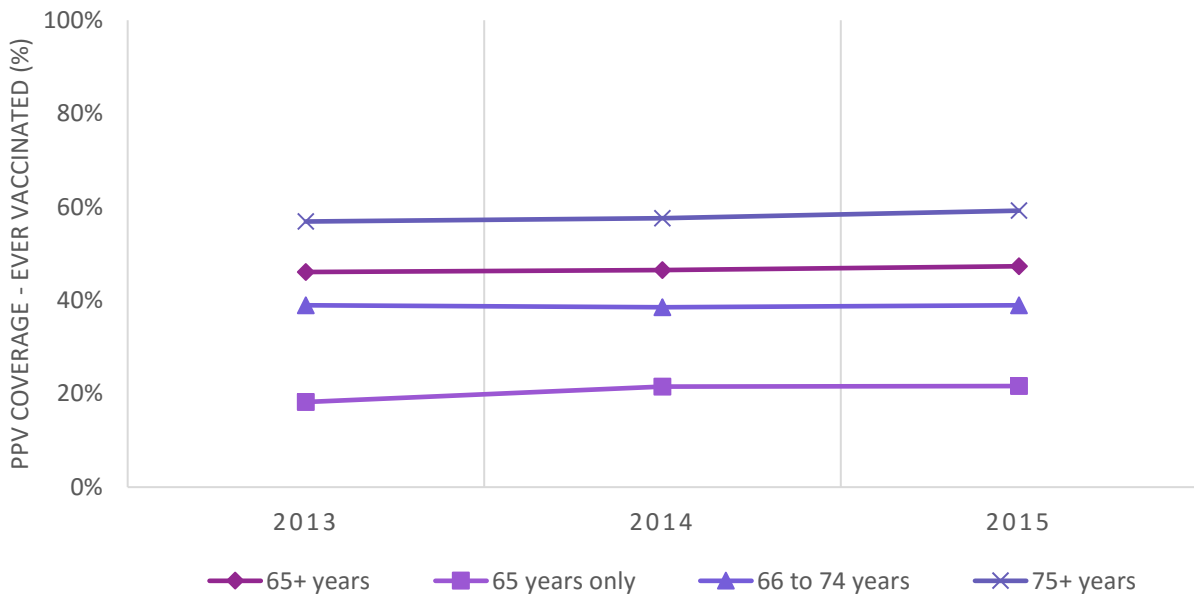
The pneumococcal polysaccharide vaccine (PPV) protects for life against serious and potentially fatal pneumococcal infections. People aged 65 or over are offered the single pneumococcal vaccination by GP practices in Jersey.

The following definition is used in this report:

- **Vaccine coverage** – the proportion of those eligible who have ever received the vaccine
- **Vaccine uptake** – the proportion of those eligible who received their vaccine during the specified period (in this case calendar year 2015).

PPV coverage was 47 per cent in all patients aged 65 or over, immunised at any time up to 31 December 2015, and was 59 per cent for those aged 75 or over. A GP central server was introduced in 2013, since when information on PPV has been available; since then coverage in the 65 or over age group has remained essentially stable (Figure 8).

Figure 8: Percentage PPV coverage – ever vaccinated, by age group, calendar year 2013 to 2015



Source: Jersey PHSU

Table 13 shows the comparison of Jersey coverage figures for those published by Public Health England for patients registered with GPs in England.

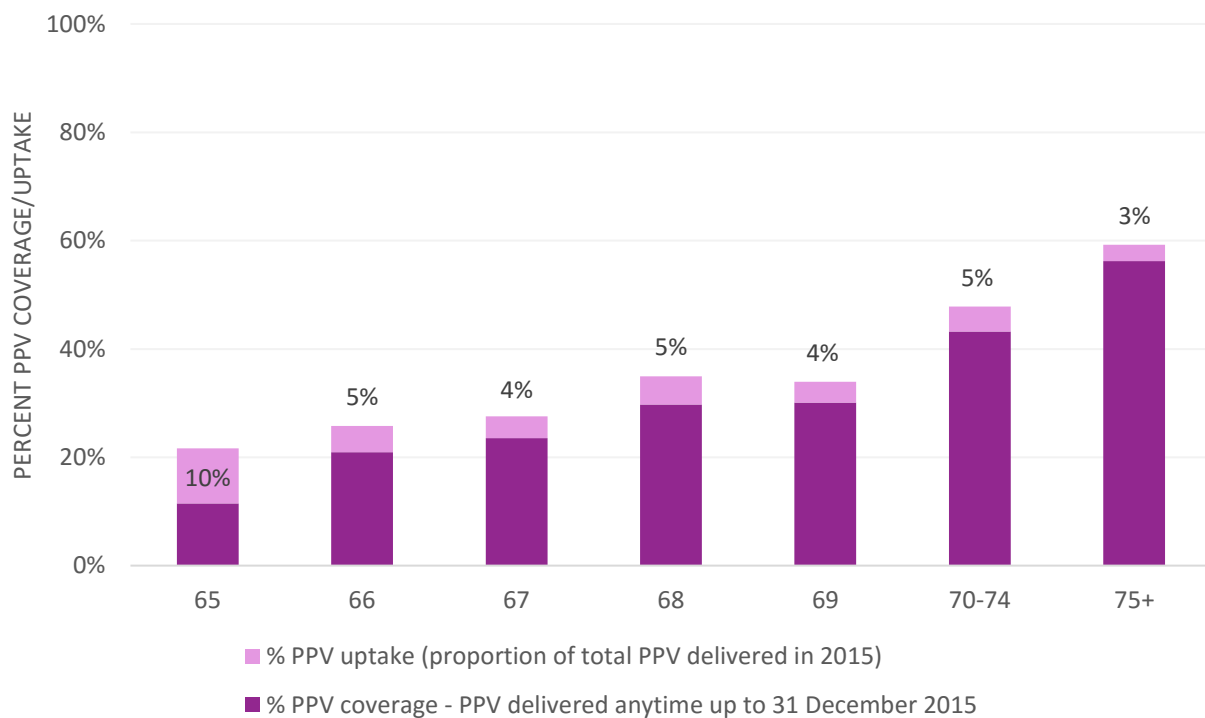
Table 13: Vaccination coverage for patients who received PPV anytime up to 31 December 2016 for Jersey patients and by 31 March 2016 for English patients, by age group

Age	Jersey (coverage to 31 Dec 2015)	England (coverage to 31 Mar 2016)
65	22	35
66	26	46
67	28	53
68	35	58
69	34	62
70-74	48	72
75 or over	59	82
<i>Overall (Aged 65 or over)</i>	<i>47</i>	<i>70</i>

Note: Jersey data presented for calendar year, English data presented for financial year
Source: Jersey PHSU, PHE

In calendar year 2015, 4 per cent of those aged 65 or over received PPV, the same proportion as the previous year. In the 65 years only age group, uptake was 10 per cent in 2015, a similar level to the previous year (11 per cent). In addition, 12 per cent of patients in the 65 years only group had already received the vaccine any time up to and including the 31 December 2015 as they were eligible prior to reaching 65 years of age due to inclusion in specific clinical risk groups. Data collected in 2015 shows that older age groups are still being vaccinated (Figure 9).

Figure 9: Percent patients receiving PPV (ever or in calendar year 2015), by age group



Source: Jersey PHSU

Glossary

BCG	The BCG vaccine (Bacillus Calmette-Guérin vaccine) protects against tuberculosis (TB). TB is a serious infection which affects the lungs and sometimes other parts of the body, such as bones, joints and kidneys. It can also cause meningitis. The BCG vaccine is recommended for all babies up to one year-old who are born in areas where TB rates are high or have a parent or grandparents who was born in a country where there is a high rate.
CHIS	Jersey Child Health Information System
DIPHTHERIA	<p>Diphtheria is an acute infectious disease cause by the toxin-producing bacteria <i>Corynebacterium diphtheriae</i> or <i>Corynebacterium ulcerans</i> affecting the upper respiratory tract or skin. Diphtheria is spread by droplets and through contact with objects or materials contaminated by infected persons.</p> <p>An effective vaccine was introduced in 1940. A combined diphtheria, tetanus and pertussis vaccine has been in use in the UK since the 1950s. Since October 2005, diphtheria has been part of the combined ‘5-in-1’ vaccine, consisting of diphtheria, tetanus, pertussis, polio and Hib. A booster dose is also given to children at around three years four months of age. Teenage Td/IPV booster vaccine, the reinforcing dose of diphtheria, tetanus and polio, is given around 14 years of age (in school Year 9).</p>
GPCS	General Practice Central Server
HIB (HAEMOPHILUS INFLUENZA TYPE B)	Hib (<i>Haemophilus influenzae</i> type b) is a bacterial infection that can cause a number of serious illnesses such as pneumonia, blood poisoning and meningitis, especially in young children.
HPV	Human papilloma virus (HPV) is the name of a family of viruses that affect the skin and the moist membranes that line the body, such as those in the cervix, anus, mouth and throat. Infection with some types of HPV can cause warts as well as abnormal tissue growth and other changes to cells, which can lead to cervical and other cancers.
IMMUNISATION	The process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the immune system to protect a person against subsequent infection or disease.
INFLUENZA (FLU)	Seasonal flu (also known as influenza) is a highly infectious illness caused by a flu virus. The virus infects the lungs and upper airways, causing a sudden high temperature and pains.
MEASLES, MUMPS AND RUBELLA (MMR)	<p>Measles is an acute viral illness spread by infected respiratory droplets. Symptoms, after a ten-day incubation, can include corzya, conjunctivitis, bronchitis, Koplik spots, rash and fever.</p> <p>Mumps is an acute viral illness characterised by swelling of the parotid glands, which may be unilateral or bilateral. It can cause permanent unilateral deafness at any age. Before vaccination, mumps was a common cause of viral meningitis.</p> <p>Rubella, or German measles, is a mild infectious disease. Maternal rubella infection in the first eight to ten weeks of pregnancy results in foetal damage in up to 90 per cent of infants.</p>

	<p>A vaccine against measles, mumps and rubella exists and since 1988 has been administered as the combined MMR vaccine.</p>
<p>MENINGOCOCCAL GROUPS A, B, C, W AND Y (MENB, MENC AND MENACWY)</p>	<p>The MenB, MenC and MenACWY vaccine protects against meningitis and septicaemia (blood poisoning) caused by specific strains of meningococcal bacteria – meningococcal (Men) group A, B, C, W and Y. These vaccines do not protect against meningitis caused by other bacteria or by viruses.</p> <p>The MenACWY vaccine replaced the MenC vaccine in the teenage booster immunisation programme from August 2015. The MenB vaccine was introduced into the routine childhood immunisation schedule in 2015.</p>
<p>PERTUSSIS</p>	<p>Pertussis, also known as whooping cough, is a highly contagious respiratory disease. It is caused by the bacterium <i>Bordetella pertussis</i>. Pertussis is known for uncontrollable, violent coughing which often makes it hard to breathe. After fits of many coughs, someone with pertussis often needs to take deep breaths which result in a "whooping" sound. Pertussis can affect people of all ages, but can be very serious, even deadly, for babies less than a year old.</p>
<p>PNEUMOCOCCAL CONJUGATE VACCINE (PCV)</p>	<p>Invasive pneumococcal disease (pneumonia, bacteraemia and meningitis), caused by infection with <i>Streptococcus pneumoniae</i> is a major cause of morbidity and mortality, especially amongst the very young, the elderly and those with impaired immunity. There are about 90 different types of pneumococci about a quarter of which cause serious illness. PCV (pneumococcal conjugate vaccine) provides some protection against one of the commonest causes of meningitis and also against other conditions such as severe ear infections (otitis media), and pneumonia caused by pneumococcal bacteria.</p>
<p>PNEUMOCOCCAL POLYSACCHARIDE VACCINE (PPV)</p>	<p>Pneumococcal disease can present as non-invasive or invasive infections caused by the bacterium <i>Streptococcus pneumoniae</i> (also called pneumococcus). Non-invasive disease includes middle ear infections (otitis media), sinusitis and bronchitis, whilst invasive pneumococcal disease includes septicaemia, pneumonia and meningitis. The PPV vaccine contains purified polysaccharide from 23 capsular pneumococcal types (PPV23). A pneumococcal immunisation programme for older adults was introduced in the UK in 2003.</p>
<p>POLIO</p>	<p>Polio, or poliomyelitis, is an acute illness caused by infection with any of the three types of poliovirus. Poliovirus invades the gastrointestinal tract and has an affinity for nervous tissue. Infection can lead to paralysis if the virus reaches the central nervous system. Routine immunisation was introduced in 1956. Since October 2005, polio is now part of the combined 'five-in-one' vaccine, consisting of diphtheria, tetanus, pertussis, polio and Hib. A booster dose is also given to children at around three years four months of age. Teenage Td/IPV booster vaccine, the reinforcing dose of diphtheria (low dose), tetanus and polio, is given around 14 years of age (in school Year 9).</p>
<p>ROTAVIRUS</p>	<p>Rotavirus is a highly infectious virus that typically affects babies and young children, causing diarrhoea sometimes with vomiting, abdominal pain and fever.</p>
<p>SHINGLES</p>	<p>Shingles is caused by the reactivation of a latent varicella zoster virus (VZV) infection and is typically characterised by a unilateral rash. The incidence and severity of shingles increase with age and an important complication is persistent pain extending beyond the rash, known as post herpetic neuralgia.</p>
<p>Td/IPV BOOSTER VACCINE</p>	<p>The Td/IPV booster vaccine completes the five-dose course that provides protection against tetanus, diphtheria, and polio (with Inactivated Polio Vaccine (IPV)). The vaccine is given around 14 years of age.</p>

<p>TETANUS</p>	<p>A toxin released from a bacterium called <i>Clostridium tetani</i> causes tetanus. Spores from these bacteria are present in soil and manure. The spores can be picked up quite easily through minor scratches, puncture wounds, burns or more serious injury.</p> <p>An effective vaccine against the disease was introduced in 1961. Since October 2005, diphtheria has been part of the combined '5-in-1' vaccine, consisting of diphtheria, tetanus, pertussis, polio and Hib. A booster dose is also given to children at around three years four months of age. Teenage Td/IPV booster vaccine, the reinforcing dose of diphtheria, tetanus and polio, is given around 14 years of age (in school Year 9).</p>
<p>TUBERCULOSIS (TB)</p>	<p>Tuberculosis is a bacterial infection. It is spread by inhaling tiny droplets of saliva from the coughs or sneezes of an infected person.</p>

Background notes

Data Sources

The data for this report is derived from two computer systems accessed by the Public Health Statistics Unit:

- The Jersey Child Health Information System (CHIS)
- The GP Central Server (EMIS web)

Information about seasonal flu vaccinations given in school as well as any unscheduled immunisations are supplied by the Preventive Health team including the Immunisation Nurse Specialist.

Comparisons

Comparisons to other jurisdictions are presented in this report to enable benchmarking and to explore where similar trends are being seen elsewhere. Data is extracted from published reports from Public Health England, NHS Digital, Public Health Wales and the Information Services Division Scotland. All data is referenced and the time periods are noted in the report sections.

Timeliness

This is the first time this report has been published by the Public Health Statistics Unit, as such there has been a delay between the data becoming available for the 2015 calendar year and the reporting of the data. This has been because the format of the report and process surrounding its release have needed to be finalised. In future editions the report is expected to be released 6-9 months after the end of the reporting period.

Due to the delay in reporting for the main immunisations, there has been an opportunity to include more recent but provisional data for 2016 where it has been available.

Methods

For children, the uptake rates are based on all children reaching a specified age who were alive and registered on the CHIS at the end of the reporting period.

For adults, the uptake and coverage rates are based on all adults of a specified age or who meet specific criteria who were alive and registered with a GP in Jersey at the end of the reporting period.

Details of the equations used to calculate uptake and coverage rates can be found in the Definitions section of this report.

Accuracy and reliability

The data is not a sample and it covers residents living in Jersey. The rates reported reflect immunisation uptake at particular points in time, based on the data recorded. Information for previous years and quarters remain unchanged in subsequent publications.

Data are recorded on CHIS for the primary purpose of facilitating the invitation of children for immunisation, therefore a high degree of accuracy of data recording is required. Data is monitored by the Child Health Team on a quarterly basis to ensure that uptake rates remain high and any additional chase up can occur while children are still of the correct age to receive any vaccinations they may have missed.

Data recorded on the GP central server is reliant on GPs and practice staff to accurately record activity happening in their individual practices. The PHSU has access to the central server to allow statistical information to be monitored. This information is anonymised and as a result the data cannot be interrogated to look for errors or duplicates, therefore figures presented here should be treated with caution. The accuracy and reliability of this data is expected to improve as data is further shared and interrogated and as coding of the data improves.

Public Health, Head of Preventive Programmes, the Immunisation Nurse Specialist and the Child Health Team who administer the data have the opportunity to review the figures prior to publication, so that any issues affecting the reported rates can be highlighted to users as appropriate.

All figures have been independently rounded to the nearest integer, this is because small numbers are more susceptible to natural variation.

Data quality and completeness

Information on childhood immunisation coverage at ages one, two and five are collected through the Cover of Vaccination Evaluated Rapidly (COVER) data produced from the Child Health Information System. The system follows the same standards as that used nationally.

A quality assurance process includes checks on data completeness, comparison to previous year data, comparisons to previous data for the same cohorts and investigation of any large changes.

The data quality and completeness of data extracted from the GP central server cannot be assured, however where variation between GP practices is identified, this is fed back to individual surgeries for further checks. Figures pulled are also compared to previous year figures to see where large changes have occurred, these can then be further investigated.

There are limitations to the data reported for Pertussis vaccinations of pregnant women in this report. Data completeness is reliant on the recording of delivery status in the mother's medical records and comparison of this data with that of birth registrations and the CHIS shows that in 2015, data represented around 66 per cent of the population of pregnant women, the same proportion as that recorded by PHE for England in 2015. In 2016, it was estimated that data presented here represents around 75 per cent of the population of pregnant women in 2016.

Those women receiving specialist care through the Maternity Unit in the Jersey General Hospital could potentially have their pertussis vaccine delivered in this setting, this may not, therefore, be captured by the GP reporting system.

The uptake of seasonal flu vaccinations for adults is likely to be an underestimate, this is because individuals who receive a seasonal flu vaccination provided at their place of work may not inform their GP practice that this has occurred and this may not be captured by the GP central server.

Changes to the Jersey Immunisation Schedule

2016: On 1 July 2016, the infant dose of the MenC vaccine given at 12 weeks was removed from the routine schedule.

2015: MenB vaccine was added to the programme in September 2015. In addition, the MenACWY vaccine replaced the MenC vaccine at around 14 years of age.

2014: The HPV schedule for 12-13-year-old girls (school Year 8) changed from three to two doses.

2013: Rotavirus and the phased introduction of the childhood flu vaccine were added to the programme in 2013 and the schedule for administering the MenC vaccine changed from two to one primary dose at 3 months.

Further details of the Jersey Immunisation Schedule can be found on the States of Jersey website www.gov.je

Contact details

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