



# Seasonal influenza in Wales 2023/24

## Annual Report

## Summary

### The season

The 2023/24 influenza season was markedly milder and later than the previous season, with the influenza-like illness (ILI) consultation rate observed above baseline activity for only 2 weeks (weeks 4 and 5 of 2024). The consultation rate did not reach medium activity levels, peaking at 15.7 per 100,000. There were fewer patients (just over 3,500) confirmed with influenza in hospitals compared to the last season (over 5000). No excess mortality was seen during the 2023/24 influenza season. The number of outbreaks of influenza, ILI or acute respiratory illness were also considerably lower than the previous season (204 compared with 708 in 2022/23), with the majority of outbreaks recorded in care homes. The dominant circulating influenza type for the 2023/24 season was A(H1N1)pdm09.

### Vaccination uptake

The 2023/24 season saw a decline in percentage uptake compared to previous season, across all eligibility groups, as per data gathered from GP records.

A total of 922,842 people were recorded as having an influenza vaccine in their GP record, representing 29% of the population of Wales (compared to 1,063,495 (34%) last season). In those aged 65 years and older, 72.5% were vaccinated (509,224 individuals), a considerable drop from last season (76.3%) and below the 75% target for the first time in four years. Uptake for clinical risk groups also decreased to 39.1% (182,773 individuals) this season.

Uptake in two and three year olds was 42.8%; was 61.9% in primary school children and 49.7% in secondary school children. Coverage of influenza vaccination in pregnant women was 60.9% (95% CI 55.7%- 65.9%), estimated in an annual point of delivery (post-natal) survey. In front-line NHS staff uptake continued to decreased to 40.8% (compared to 46.7% in the previous season).

There is a considerable gap between uptake for patients registered with GPs located in the most and least deprived areas with uptake higher in the least deprived areas. This gap is higher in children aged 2 and 3 years.

Uptake as recorded in GP systems is likely to be an underestimate of the true coverage as not all vaccinations were successfully recorded.

### Vaccine effectiveness

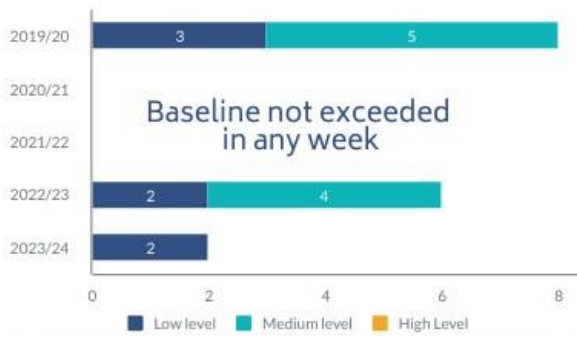
Estimated overall adjusted vaccine effectiveness against laboratory confirmed influenza for the 2023/24 season was 46% (95% CI 29% to 59%) in those aged 65 years and above, 49% (95% CI 42% to 56%) in those aged 18 to 64 years and 54% (95% CI 45% to 61%) in two to 17 year olds.

The effectiveness of vaccination in the 18 to 64 year age group against hospitalisation in England was 31% (95% CI 21% to 40%). In those aged two to 17 years of age effectiveness was 54% (95% CI 42% to 63%). The overall effectiveness in the 65 years and over age group was 30% (95%CI 22% to 37%).

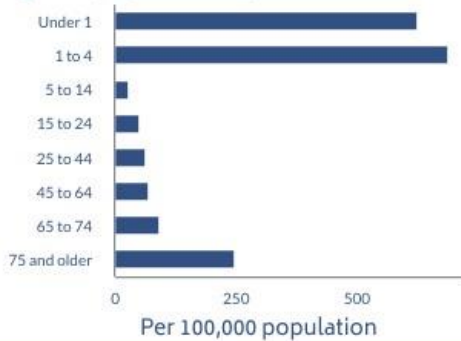
# INFLUENZA SEASON IN WALES 2023/24

Dominant type of influenza  
**A(H1N1)pdm09**

**204** Outbreaks of Influenza, ILI or ARI  
 173 SARS-CoV2    24 Influenza A  
 2 Influenza B    2 RSV    1 Influenza A & SARS-CoV2  
 1 Parainfluenza  
 1 Human metapneumovirus  
**95% in care homes**



Age of people in hospital with influenza



**5,370**  
patients diagnosed with influenza-like illness by GPs



**1,562**  
patients confirmed with influenza in A&E



**1,917**  
patients confirmed with influenza in hospital wards



**50**  
patients confirmed with influenza in intensive care units

## Influenza vaccine uptake

**73%**

65 and over

**39%**

Under 65 at risk

**61%**

Pregnant women

**43%**

Children aged 2-3

**62%**

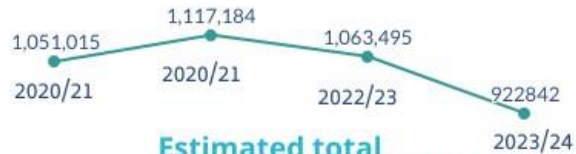
Children aged 4-10

**50%**

Children aged 11-15

**41%**

NHS Staff with patient contact



Estimated total number of individuals recorded by their general practice as immunised against influenza.



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## Key Findings

- 2023/24 saw a mild level of influenza activity compared to the previous season. The sentinel GP ILI consultation rate was above baseline levels for only 2 weeks, much shorter than average (13.5 weeks) and did not reach medium activity levels.
  - From week 40 2023 to week 15 2024, 3,529 patients were confirmed to have influenza in hospitals, 1,562 of whom were tested in accident and emergency departments and 50 of whom were in intensive care units.
  - A total of 204 outbreaks of ILI or acute respiratory illness (ARI) were reported between week 40 2023 and week 15 2024, with 95% of the outbreaks in residential homes, 2.5% in prisons, 1% in school/nursery settings and 0.5% in other settings.
  - No excess mortality was seen during the 2023/24 influenza season.
- Overall, influenza A(H1N1)pdm09 was the dominant influenza virus.
- As at April 2024, 261 influenza A viruses had undergone genetic characterisation by whole genome sequencing (WGS), most A(H1N1)pdm09 viruses sequenced in Wales fell into the 5a.2a. clade. The 5a.2a. viruses also maintained their genetic variability. Northern hemisphere influenza vaccines for 2023/24 were recommended to contain an A/Victoria/4897/2022 (H1N1)pdm09-like virus and A/Darwin/9/2021 (H3N2)-like virus.
- The end of season vaccine effectiveness estimate against laboratory confirmed influenza, was 46% (95% CI 29% to 59%) in those aged 65 years and above, 49% (95% CI 42% to 56%) in those aged 18 to 64 years and 54% (95% CI 45% to 61%) in two to 17 year olds.
- The antiviral prescribing rate peaked at 6.9 prescriptions per 100,000 practice population during week 6 2024. During the 2023/24 season in the UK, most viruses were fully susceptible and only small numbers of viruses were detected with reduced sensitivity to oseltamivir or zanamivir.
- During 2023/24 uptake of influenza vaccine in the eligible population decreased in all groups compared to last season.
  - Influenza vaccine uptake in those aged 65 years and older in Wales was 72.5% (n=509,224), a decrease compared to 76.3% (n=525,902) last season.
  - Uptake of influenza vaccine in people aged six months to 64 years in a clinical risk group was 39.1% (n=182,773), which is a decrease compared to 44.2% (n=200,211) last season. Uptake among clinical risk groups was highest in patients with diabetes (51.4%) and lowest in the morbidly obese (34.6%).
  - Uptake of influenza vaccine in pregnant women was 60.9% (95% CI 55.7%-65.9%), (measured in an annual survey of women in major maternity units who gave birth during January 2024), similar to 60.0% (95% CI 54.6%-65.2%) last year.
  - Uptake of influenza vaccine in people younger than 65 years and recorded as being a carer (including carers who are also in a clinical risk group) was 43.8% (n=48,509).
  - Uptake of influenza vaccine in children aged two and three years, mainly immunised in general practices, was 42.8% (n=26,140), a decrease of 1,293 compared to 2022/23.

- Uptake of influenza vaccine in children aged four to 10 years, immunised in schools, was 61.9% (n=148,567), which is a decrease compared to 63.8% (n=148,979) in 2022/23.
  - Uptake of influenza vaccine in children aged 11 to 15 years, immunised in schools, was 49.7% (n=87,925), which is a decrease compared to 54.4% (n=93,936) in 2022/23.
  - Uptake in NHS Wales staff with direct patient contact was 40.5% (n=26,947), compared to 46.7% (n=29,146), last season. Uptake in all NHS staff was 40.8% (n=41,737) during 2023/24, a decrease compared to 46.0% (n=44,430) during 2022/23.
- The total number of individuals in Wales who were immunised against influenza was 922,842 for 2023/24, compared to an estimated 1,063,495 last season, based on Read codes in their general practice record. This represents 29% of the estimated total population of Wales.
  - Community pharmacies across Wales administered 107,875 influenza vaccinations through the NHS community pharmacy influenza service in 2023/24, a considerable decrease from 160,792 in 2022/23.
  - Those aged 50-64 years not in a clinical risk group were not eligible for free influenza vaccination this year which will account for some decreases in the number of immunisations given over all.

# 1. Background

## 1.1 Influenza and influenza-like illness surveillance indicators

Public Health Wales monitors and reports on influenza activity in Wales throughout the year using a number of indicators. Historically, the main indicator of influenza activity in Wales and in other UK countries has been the weekly rate of consultations in general practices for influenza-like illness (ILI), per 100,000 practice population. The general practice (GP) consultation rate for ILI in Wales is calculated using data provided from a network of sentinel practices, through Audit+ GP software. The sentinel GP network in Wales has provided data used for monitoring influenza activity since 1986, firstly using a paper based system and since 2009 using Audit+, an automated computer based data collection tool. The threshold at which the sentinel GP ILI consultation rate suggests that the influenza season has started is calculated using the Moving Epidemic Method (MEM). This method also produces thresholds to indicate medium, high and very high intensities of activity. In Wales, all influenza seasons from 2010/11 onwards are used to provide a historical comparison for MEM analysis. Due to unusual activity during the COVID-19 pandemic, 2020/21 and 2021/22 season data was not included in the calculation for 2023/24 MEM thresholds.

A range of indicators from both primary and secondary care are used in order to provide a wider picture of the burden of influenza and other seasonal respiratory illnesses. During 2023/24, the following influenza surveillance indicators were monitored each week in Wales:

### *Primary care and community indicators*

- GP consultations for ILI and ARI
- Sentinel GP and pharmacy virological surveillance to confirm influenza virus infection
- Influenza related calls to NHS Direct Wales

### *Secondary care indicators*

- Respiratory diagnostic test data for all hospital and non-sentinel GP patients
- Respiratory diagnostic data for patients attending an A&E, medical assessment, or urgent care unit
- Respiratory diagnostic test data for patients in intensive care units
- Rapid respiratory diagnostic test data for influenza, RSV and COVID-19 across hospital settings

### *Indicators from other settings*

- Outbreaks of ILI and other ARI in institutional settings e.g. hospitals, care homes, schools and nurseries, reported to Public Health Wales Health Protection Teams.

In addition, genetic characterisation of influenza viruses from sentinel GP samples and a proportion of hospital patients is carried out throughout the season using Whole Genome Sequencing (WGS).

**The COVID-19 pandemic and control measures that were implemented throughout the previous three years may have impacted on the way individuals engaged with health care services and also on**

**circulation patterns of causes of acute respiratory infection. Therefore data may not be comparable to previous seasons.**

## 1.2 Influenza immunisation

The aim of annual immunisation against influenza is to protect individuals at increased risk, prevent spread within family, care and community settings and minimise the health impact of influenza on the population of Wales, and contribute to the reduction of antimicrobial resistance by preventing secondary bacterial infections [1].

In Wales in 2023/24, influenza immunisation was offered free of charge to all people aged 65 years and older, people aged between six months and 64 years in clinical risk groups (chronic respiratory disease, chronic heart disease, chronic renal disease, chronic liver disease, chronic neurological conditions, diabetes mellitus, immunosuppression, asplenia/ dysfunction of the spleen, and adults who are category III obese (have a BMI of 40 or greater)), all pregnant women, people with a learning disability, and residents of long-stay care homes. Vaccination was also offered to those who were a main carer for an elderly or disabled person whose welfare may be at risk if the carer fell ill, third sector carers, staff working in all adult residential care homes and nursing care homes, domiciliary carers, members of voluntary organisations providing planned emergency first aid and community first responder scheme members. Again, household contacts of immunosuppressed individuals, individuals with severe mental illness, those experiencing homelessness and adults in prisons were eligible for vaccination this year [1].

Influenza immunisation was also recommended for all other health and social care workers who are in direct contact with patients or service users. Care home staff with regular client contact and domiciliary carers may access free NHS flu vaccination via a community pharmacy but employing organisations are responsible for arranging immunisation of frontline health and social care workers in other settings.

Those aged 50-64 years not in any other eligibility group were not eligible for free influenza vaccination as they were in the previous two years [1].

The childhood influenza vaccination programme using live attenuated influenza vaccine (LAIV) nasal spray (Fluenz Tetra®) once again included children aged two to 15 years old (age on 31 August 2023) [1].

In most health boards influenza immunisations were delivered to the two and three year old age groups through general practices. Since the 2016/17 influenza season, three year olds in nursery classes attached to primary schools in Cwm Taf Morgannwg University Health Board (UHB) have been offered LAIV immunisation through school nursing services, in addition to being able to receive the vaccine through general practice. Vaccination for the primary (four to 10 year olds) and secondary (11 to 15 year olds) school year groups was delivered by the school nursing services across Wales.

Public Health Wales monitor influenza immunisation uptake rates in general practices and report them weekly to GPs and health boards throughout the seasonal campaign and produce end of season influenza immunisation coverage statistics at a national, health board and local authority level. Immunisation statistics contained in this report record coverage in Welsh residents who are registered with a GP in Wales as at 21<sup>st</sup> April 2024 and therefore are not a measure of all those who have been immunised during the course of the immunisation campaign, excluding those no longer registered.

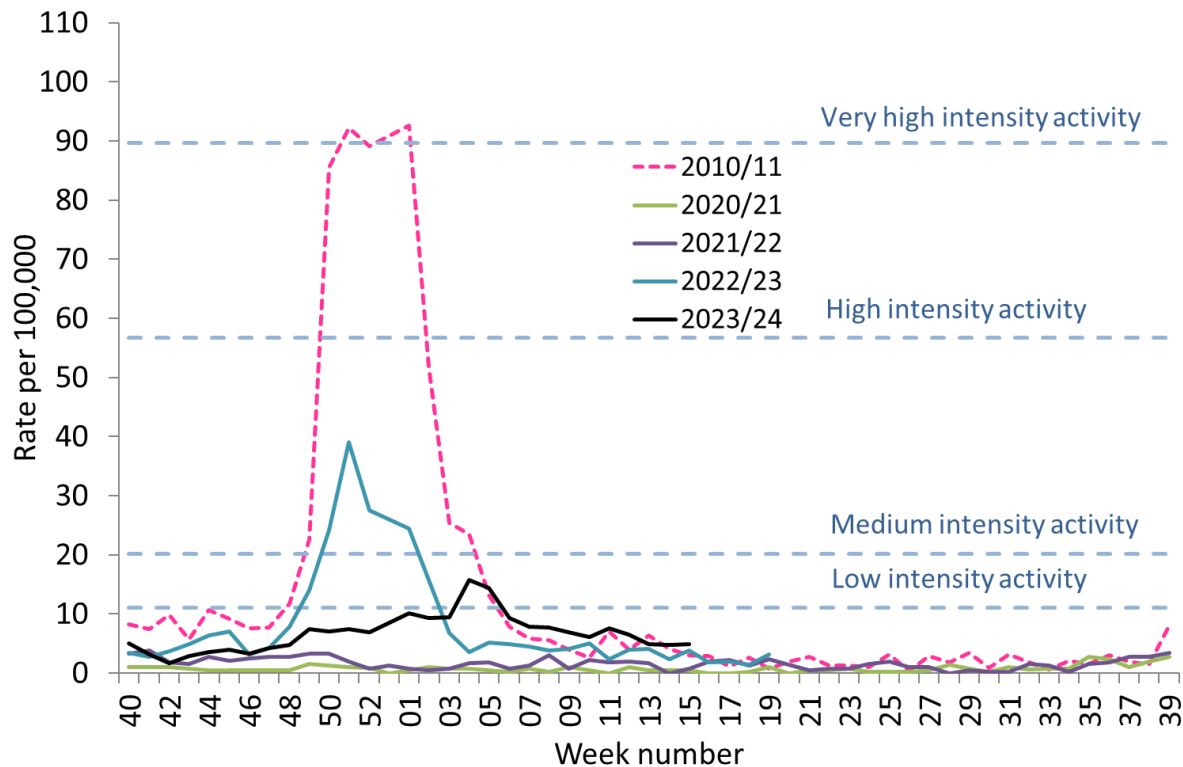
## 2. Influenza Surveillance in 2023/24

### 2.1 Community indicators - GP consultations for influenza-like illness (ILI)

A low intensity (or baseline) threshold level of 11.0 ILI consultations per 100,000 population was used as one of the indicators that influenza may be circulating in the community at low levels, calculated using the Moving Epidemic Method (MEM) [2]. The sentinel GP ILI thresholds, for medium, high and very high intensity activity in the community were 20.2, 56.7 and 89.6 per 100,000 consultations respectively.

The peak sentinel GP ILI consultation rate was 15.7, during week 4 of 2024. Consultation rates above baseline activity were observed in weeks 4 and 5 of 2024 (Figure 2.1.1). The cumulative consultation rate for ILI was highest in patients aged 25 to 44 years (329 per 100,000 for the period 2023 week 40 to 2024 week 20) (Figure 2.1.4).

**Figure 2.1.1.** Public Health Wales sentinel GP weekly consultation rate for influenza-like illness 2023/24

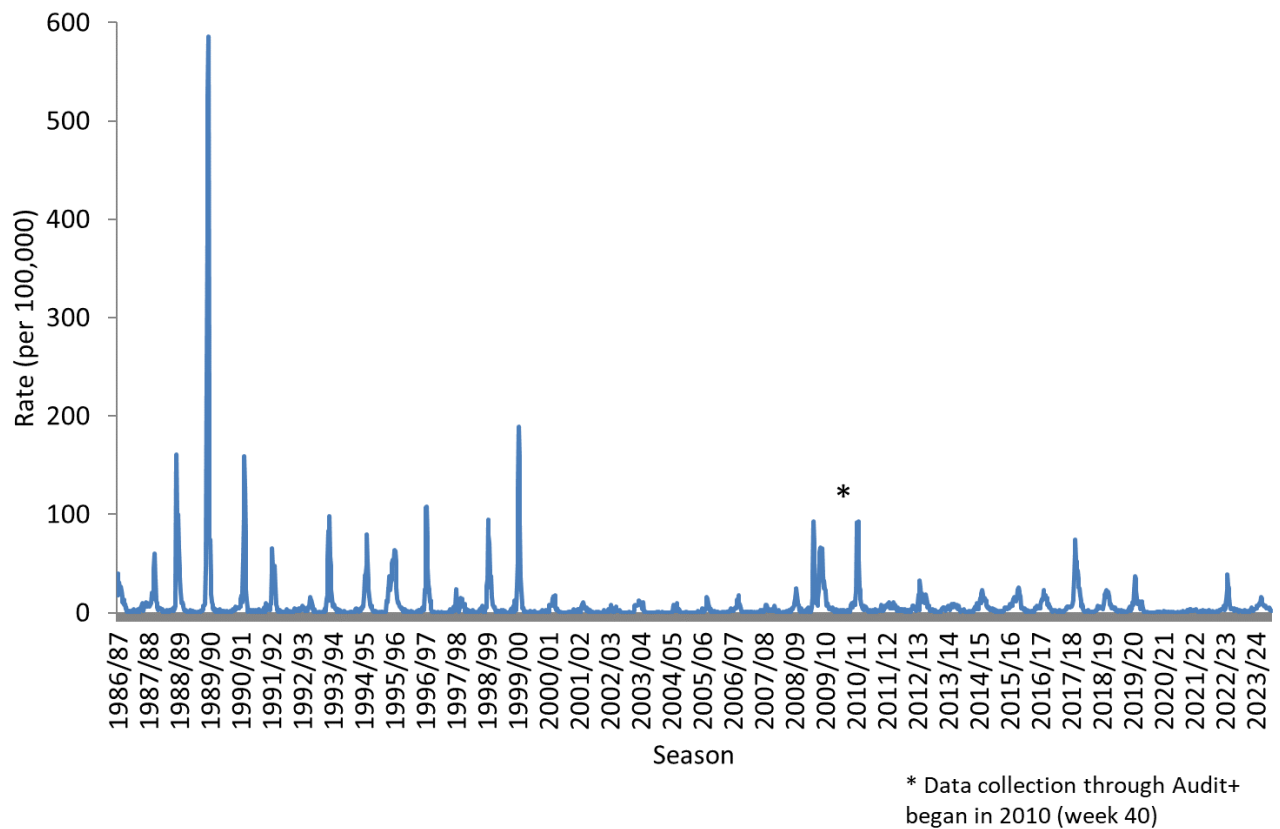


The sentinel GP consultation rate for ILI was above the threshold for low (baseline) intensity activity for a total of two weeks in 2023/24, compared to six weeks in 2022/23 (Table 2.1.1).

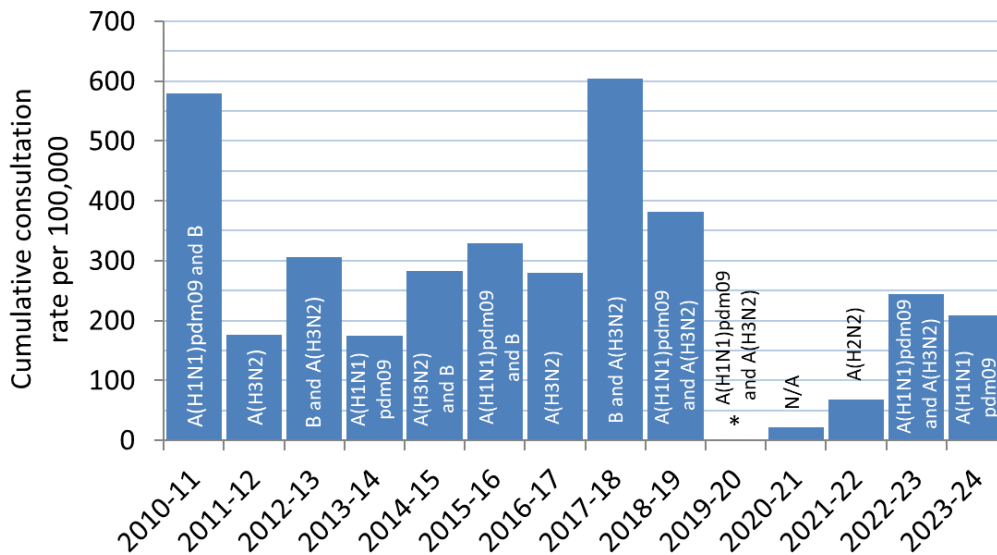
**Table 2.1.1.** Comparison of sentinel GP consultation rates from 2016/17 to 2023/24

	Influenza Season							
	2016/17	2017/18	2018/19	2019/20	2020/21	2021/2022	2022/2023	2023/24
Start of season (week of year)	49	51	52	50	Threshold to indicate low level activity not exceeded	Threshold to indicate low level activity not exceeded	49	4
Weeks sentinel GP ILI consultation rate above baseline threshold (n)	11	14	9	8	0	0	6	2
Weeks sentinel GP ILI consultation rate above medium activity levels (n)	4	12	4	5	0	0	4	0
Weeks sentinel GP ILI consultation rate above high activity levels (n)	0	4	0	0	0	0	0	0
Peak sentinel GP ILI consultation rate	22.8	74.5	22.9	37.1	1.5	3.8	39.1	15.7

**Figure 2.1.2.** Public Health Wales sentinel GP weekly consultation rate for influenza-like illness 1986 to 2024

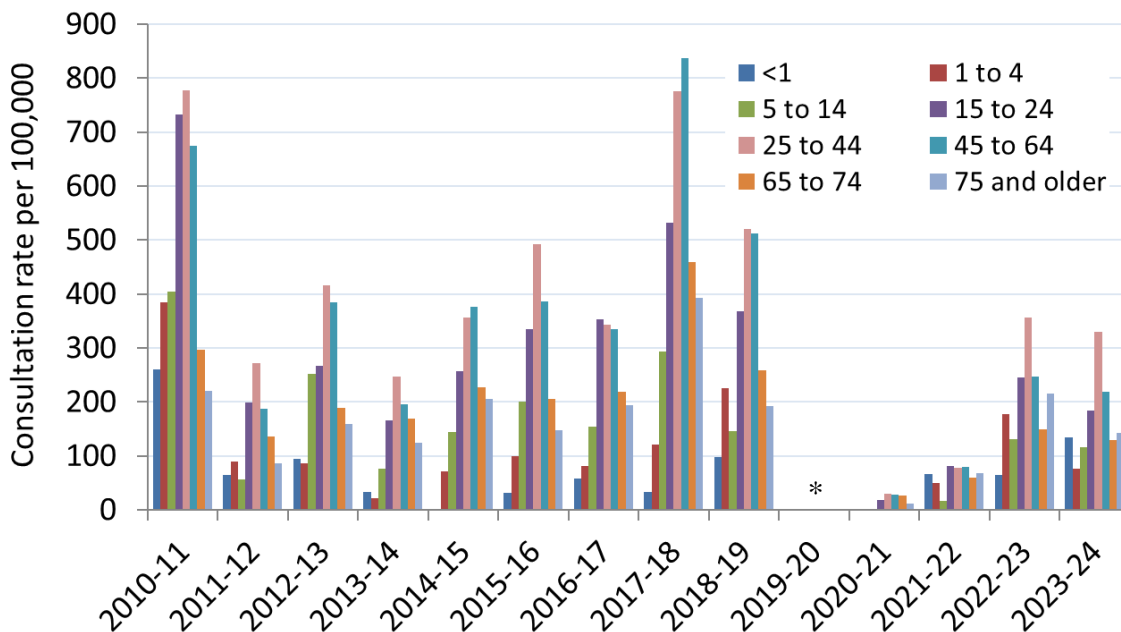


**Figure 2.1.3.** Cumulative consultation rates for influenza-like illness, per season (from week 40 to week 20), in sentinel GP patients 2010/11 to 2023/24. Dominant circulating types of influenza are indicated for each season.



\*Due to a technical issue it was not possible to calculate the cumulative sentinel GP ILI rate by age group for the whole 2019/20 season

**Figure 2.1.4.** Age-group specific cumulative consultation rates for influenza-like illness, per season (from week 40 to week 20), in sentinel GP patients 2010/11 to 2023/24



\*Due to a technical issue it was not possible to calculate the cumulative sentinel GP ILI rate by age group for the whole 2019/20 season

### 2.2 Community indicators - Virological surveillance in the community

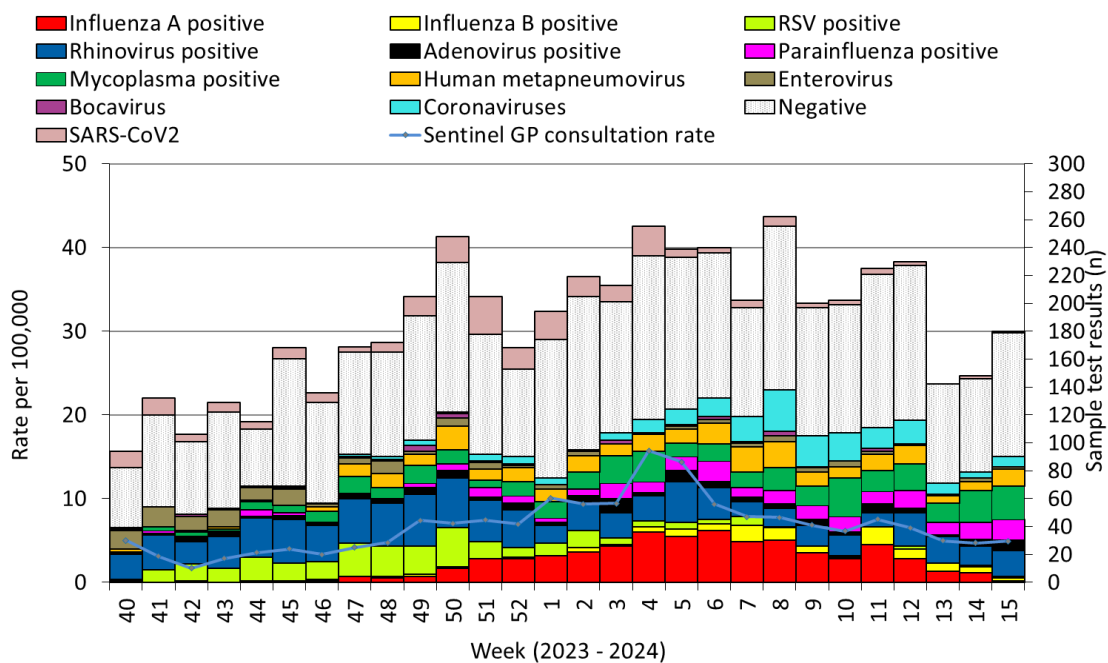
Between 2023 week 40 and 2024 week 15 (2<sup>nd</sup> October 2023 to 15<sup>th</sup> April 2024), there were 7,002 samples collected for virological testing by general practices in Wales. From this total, 4,935 samples were submitted by 50 sentinel GPs, with a mean of 99 samples per participating practice. All sentinel GPs were asked to collect surveillance samples for ARI (as well as SARS-CoV2), acute bronchitis, and bronchiolitis, in addition to ILI. Of the samples collected, 1,937 were clinically diagnosed with ILI (39.2%), 1,516 with ARI (30.7%), 53 with bronchiolitis (1.1%) and 826 with acute bronchitis (16.7%). Information was missing for 603 samples (12.2%).

Of the 4,935 patient samples submitted, all 4,935 were tested. Of these, 466 were positive for influenza (41% A(H1N1), 27% A(H3N2) and 18% B).

Surveillance samples are routinely tested for: influenza, SARS-CoV2, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, parainfluenza, human metapneumovirus, human bocavirus, seasonal coronaviruses, enterovirus D-68 and other enteroviruses. One or more other causes of seasonal respiratory infection were detected in 43.1% (n=2,125) of samples, and 48.4% (n=2,387) were negative for all routinely tested pathogens. The season was notable due to higher numbers of *Mycoplasma pneumoniae* detections that in previous years.

Sample submissions by sentinel GPs peaked in week 04 of 2024 (week ending 28<sup>th</sup> December, 248 patient samples) (Figure 2.2.1).

**Figure 2.2.1.** Results from Public Health Wales GP sentinel virological surveillance for influenza and other seasonal causes of respiratory illness by Week, 2023/24. The sentinel GP ILI consultation rate per 100,000 is also included.



**Table 2.2.1.** Samples from sentinel GP patients with influenza-like symptoms testing positive for influenza and other respiratory pathogens between 2023 week 40 and 2024 week 15 by age group<sup>1,2</sup>

Age Group	Samples Tested		All Influenza		Other		Negative	
	n	%	n	%	n	%	n	n
Under 1	60	1.2%	3	0.6%	45	2.1%	13	0.5%
1 to 4	243	4.9%	18	3.9%	174	8.2%	61	2.6%
5 to 9	316	6.4%	25	5.4%	159	7.5%	134	5.6%
10 to 14	324	6.6%	27	5.8%	169	8.0%	129	5.4%
15 to 24	522	10.6%	60	12.9%	217	10.2%	249	10.4%
25 to 34	588	11.9%	81	17.4%	211	9.9%	299	12.5%
35 to 44	618	12.5%	76	16.3%	235	11.1%	315	13.2%
45 to 64	1275	25.8%	124	26.6%	514	24.2%	649	27.2%
65 to 74	517	10.5%	36	7.7%	198	9.3%	284	11.9%
75 and older	472	9.6%	16	3.4%	203	9.6%	254	10.6%
<b>Total</b>	<b>4935</b>	<b>100%</b>	<b>466</b>	<b>100%</b>	<b>2125</b>	<b>100%</b>	<b>2387</b>	<b>100%</b>

<sup>1</sup> There were 2,297 samples from sentinel GP patients which tested positive for one respiratory pathogen, 229 samples which tested positive for two respiratory pathogens, 20 samples which tested positive for three respiratory pathogens, and two samples which tested positive for four respiratory pathogens.

<sup>2</sup> Surveillance samples are routinely tested for: influenza, SARS-CoV2, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, parainfluenza, human metapneumovirus, human bocavirus, seasonal coronaviruses, enterovirus D-68 and other enteroviruses.

Of all symptomatic patients who visited a sentinel practice and were tested for seasonal respiratory pathogens between week 40 2023 and week 15 2024, 25.8% were aged 45 to 64 years (Table 2.2.1), the median age of patients tested was 41 years.

### 2.3 Hospital indicators - Virological surveillance

From 2023 week 40 to 2024 week 15, there were 53,842 samples collected and tested by Public Health Wales Microbiology services out of which 45,262 samples were from hospital patients presenting with symptoms of respiratory infection (Table 2.3.1). During the 2023/24 season the majority of samples collected were tested using one of three systems, differing in their abilities to provide influenza sub-type information and to detect non-influenza pathogens.

Two of the systems used are PCR screens for influenza, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, enterovirus, parainfluenza, human metapneumovirus (HMPV), seasonal coronavirus, SARS-CoV2 and where possible, influenza A results are subtyped. The third system in use only screens for influenza A, influenza B, RSV and SARS-CoV2; and influenza A results are not subtyped. A small number of samples (n=30) were tested using a fourth platform which screens for SARS-CoV2, influenza A, influenza B, RSV, adenovirus, rhinovirus, parainfluenza and HMPV.

Patients may have more than one sample collected for an episode of respiratory illness and these samples could be tested using different test systems; patients who only had one sample collected and tested only using the third platform are not included in the denominator for the number of patients screened for other pathogens included in respiratory surveillance. Likewise, those tested only using the fourth platform, or only the fourth and third platform, are not included in the denominator for the number of patients screened for *Mycoplasma pneumoniae*, enterovirus and seasonal coronavirus.

Of the 45,262 testing episodes in patients that had a sample collected from a hospital setting, 69.1% (31,293/45,262) were tested for all respiratory pathogens, 30.8% (n=13,941/45,262) were tested for influenza, RSV and SARS-CoV2 only and a small number (n=28) were tested for SARS-CoV-2, Flu A, Flu B, RSV, adenovirus, parainfluenza, rhinovirus and HMPV only.

The weekly number of hospital patients tested for seasonal respiratory illness peaked during week 01 of 2024 (week ending 7<sup>th</sup> January 2024, n=1,929). Of the samples from patients in hospital, 40.0% (n=18,107) were collected from patients attending A&E or urgent care wards, 49.7% (n=22,504) and 6.0% (n=2,734) were collected from general inpatients wards and outpatient departments respectively, 3.7% (n=1,658) were collected from patients admitted to intensive care and 0.6% (n=259) of samples were from unknown hospital locations.

Of the hospital patients tested, 7.8% (n=3,529) were confirmed with influenza, of whom 89.9% (n=3,174) had influenza A only, 347 patients had influenza B only and eight had dual infections of both influenza A and influenza B (Table 2.3.1). Of the samples testing positive for influenza A, 9.4% (n=300) were influenza A(H3N2), 22.7% (n=722) were influenza A(H1N1) and 67.9% (n=2,160) were untyped.

The most commonly detected non-influenza respiratory pathogens were SARS-CoV2 (10.2%, 4,627/45,262) and rhinovirus (13.3%, 4,177/ 31,321).

Other detected causes of respiratory infection included: adenovirus (4.5%, 1,421/31,321), enterovirus (2.8%, 871/31,293), seasonal coronavirus (2.2%, 687/31,293), human metapneumovirus (4.3%, 1,333/31,321), parainfluenza (3.6%, 1,129/31,321), RSV (6.5%, 2,946/45,262), and *Mycoplasma pneumoniae* (2.9%, 892/31,293). Fifty-three percent (16,620/31,293) of patients tested for all nine routinely screened pathogens were negative, and from the patients that were only tested for influenza, RSV and SARS-CoV2, 70.4% (9,814/13,941) were negative for all three pathogens. Eight of the 28 samples tested for SARS-CoV-2, Flu A, Flu B, RSV, adenovirus, parainfluenza, rhinovirus and HMPV were negative.

**Table 2.3.1. Results from patients tested for influenza and RSV in Wales between 2023 week 40 and 2024 week 15, by sample location<sup>2,3</sup>**

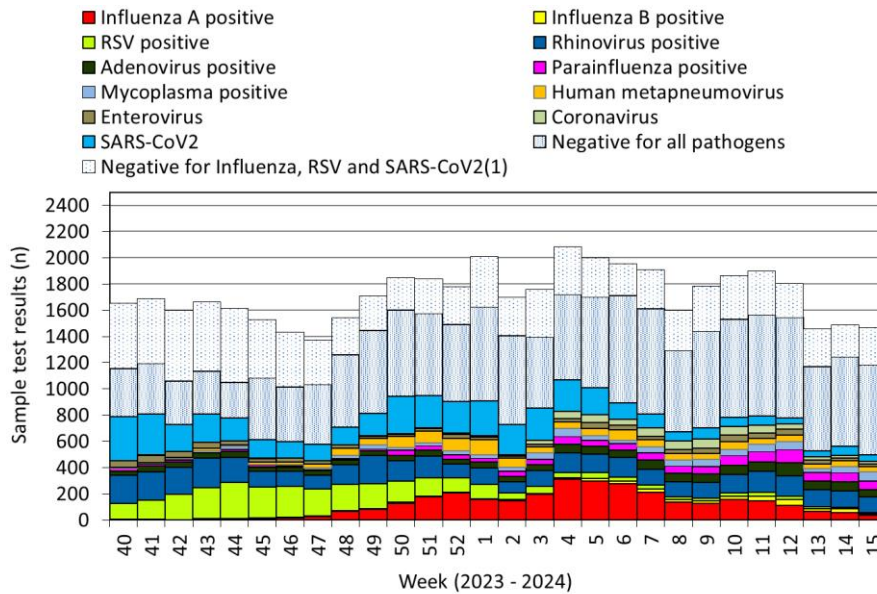
Sample Location	Samples tested		Influenza A		Influenza B		RSV		Negative <sup>1</sup>	
	n	%	n	%	n	%	n	%	n	%
Sentinel Practice	4935	9.2%	389	10.2%	84	17.2%	238	7.2%	2387	7.7%
Non-sentinel Practice	2067	3.8%	139	3.6%	34	7.0%	61	1.8%	1267	4.1%
<b>Total Community Samples</b>	<b>7002</b>	<b>13.0%</b>	<b>528</b>	<b>13.8%</b>	<b>118</b>	<b>24.1%</b>	<b>299</b>	<b>9.1%</b>	<b>3654</b>	<b>11.8%</b>
Hospital - General	25497	47.4%	1745	45.6%	179	36.6%	1907	57.8%	13538	43.7%
Hospital - A&E	18107	33.6%	1389	36.3%	174	35.6%	996	30.2%	11677	37.7%
Hospital - ITU	1658	3.1%	48	1.3%	2	0.4%	43	1.3%	1227	4.0%
<b>Total Hospital Samples</b>	<b>45262</b>	<b>84.1%</b>	<b>3182</b>	<b>83.2%</b>	<b>355</b>	<b>72.6%</b>	<b>2946</b>	<b>89.2%</b>	<b>26442</b>	<b>85.3%</b>
Other / Unknown locations	1578	2.9%	113	3.0%	16	3.3%	57	1.7%	908	2.9%
<b>Total</b>	<b>53842</b>	<b>100%</b>	<b>3823</b>	<b>100%</b>	<b>489</b>	<b>100%</b>	<b>3302</b>	<b>100%</b>	<b>31004</b>	<b>100%</b>

<sup>1</sup>This measure represents the number of samples negative for all pathogens routinely tested for. A proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

<sup>2</sup>Samples positive and negative will not add up to total screens as some individuals tested positive for more than one pathogen.

<sup>3</sup>Surveillance samples tested using a full PCR test are routinely tested for: influenza, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, enterovirus, parainfluenza, human metapneumovirus and SARS-CoV2.

**Figure 2.3.1.** Results from respiratory tests carried out on samples from patients in hospitals in Wales by Week, 2023/24



<sup>1</sup>A small proportion of samples have only been tested for influenza, RSV and SARS-CoV2.

There were 3,529 hospital samples testing positive for influenza between week 40 2023 to week 15 2024 (Figure 2.3.1). Influenza positivity in hospital samples exceeded the threshold suggestive of seasonal circulation. The proportion of samples testing positive for influenza peaked in week 05, 2024 (n=317/1,870, 17.0% positivity). The peak week for sample test positivity for RSV was week 44 of 2023 (n=276/1,497, 18.4%).

**Table 2.3.2.** Patient samples from all hospital locations testing positive for influenza and RSV between 2023 week 40 and 2024 week 15 by age group<sup>2,3</sup>

Age Group	Samples tested		All Influenza		RSV		Negative <sup>1</sup>	
	n	%	n	%	n	%	n	%
Under 1	3982	8.8%	174	4.9%	1010	34.3%	1138	4.3%
1 to 4	5060	11.2%	570	16.2%	851	28.9%	1264	4.8%
5 to 9	2301	5.1%	276	7.8%	93	3.2%	950	3.6%
10 to 14	1186	2.6%	105	3.0%	26	0.9%	624	2.4%
15 to 24	1433	3.2%	189	5.4%	29	1.0%	944	3.6%
25 to 34	1888	4.2%	239	6.8%	29	1.0%	1302	4.9%
35 to 44	2224	4.9%	254	7.2%	37	1.3%	1544	5.8%
45 to 64	7287	16.1%	572	16.2%	175	5.9%	5249	19.9%
65 to 74	6213	13.7%	326	9.2%	209	7.1%	4489	17.0%
75 and older	13688	30.2%	824	23.3%	487	16.5%	8938	33.8%
<b>Total</b>	<b>45262</b>	<b>100%</b>	<b>3529</b>	<b>100%</b>	<b>2946</b>	<b>100%</b>	<b>26442</b>	<b>100%</b>

<sup>1</sup>This measure represents the number of samples negative for all pathogens routinely tested for. A proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

<sup>2</sup>Samples positive and negative will not add up to total screens as some individuals tested positive for more than one pathogen. There are no samples from patients with unknown age.

<sup>3</sup>Samples are routinely tested for: influenza, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, enterovirus, parainfluenza, human metapneumovirus and SARS-CoV2.

**Table 2.3.3a.** Patients testing positive for influenza in Wales, between 2023 week 40 and 2024 week 15, by hospital location and age group

Age Group	General In & Out		Urgent Care &		ICU Wards	
	Patient Wards		A/E Wards			
	n	%	n	%	n	%
Under 1	123	6.4%	47	3.0%	4	8.0%
1 to 4	389	20.3%	178	11.4%	3	6.0%
5 to 9	194	10.1%	81	5.2%	1	2.0%
10 to 14	68	3.5%	37	2.4%	0	0.0%
15 to 24	67	3.5%	120	7.7%	2	4.0%
25 to 34	80	4.2%	157	10.1%	2	4.0%
35 to 44	83	4.3%	165	10.6%	6	12.0%
45 to 64	243	12.7%	314	20.1%	15	30.0%
65 to 74	168	8.8%	148	9.5%	10	20.0%
75 and older	502	26.2%	315	20.2%	7	14.0%
<b>Total</b>	<b>1917</b>	<b>100%</b>	<b>1562</b>	<b>100%</b>	<b>50</b>	<b>100%</b>

**Table 2.3.3b.** Patients testing positive for RSV in Wales, between 2023 week 40 and 2024 week 15, by hospital location and age group

Age Group	General In & Out		Urgent Care &		ICU Wards	
	Patient Wards		A/E Wards			
	n	%	n	%	n	%
Under 1	738	38.7%	256	25.7%	16	37.2%
1 to 4	627	32.9%	223	22.4%	1	2.3%
5 to 9	70	3.7%	22	2.2%	1	2.3%
10 to 14	17	0.9%	8	0.8%	1	2.3%
15 to 24	7	0.4%	21	2.1%	1	2.3%
25 to 34	7	0.4%	17	1.7%	5	11.6%
35 to 44	12	0.6%	23	2.3%	2	4.7%
45 to 64	65	3.4%	103	10.3%	7	16.3%
65 to 74	94	4.9%	110	11.0%	5	11.6%
75 and older	270	14.2%	213	21.4%	4	9.3%
<b>Total</b>	<b>1907</b>	<b>100%</b>	<b>996</b>	<b>100%</b>	<b>43</b>	<b>100%</b>

Of all the symptomatic patients in hospitals who were tested for seasonal respiratory pathogens between 2023 week 40 and 2024 week 15, 30.2% were aged 75 or older and 16.1% were 45 to 64 years (Table 2.3.2), the median age of patients tested was 59 years.

For those testing positive for influenza (n=3,529), 23.3% were aged 75 years and older, 16.2% were aged 45 to 64 years and 16.2% were 1 to 4 years of age; the median patient age was 43 years. The median age of patients testing positive for RSV (n=2,946) was 2 years, 34.3% of all these patients were under 1 year

old, 28.9% of patients were 1 to 4 years old, 16.5% were 75 years and older and 7.1% were 65 to 74 years old (Table 2.3.2).

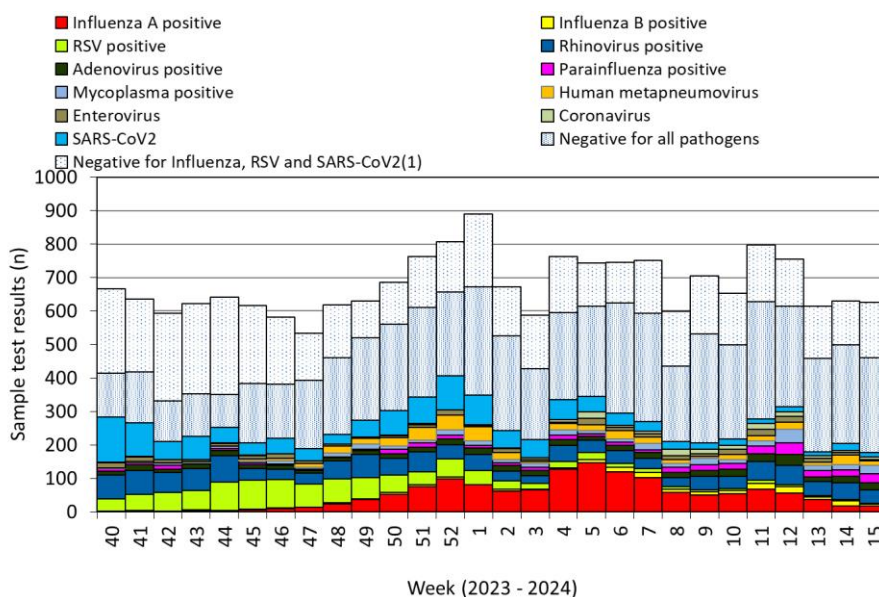
Patients who were aged 75 years and older accounted for the highest proportion of confirmed influenza cases in general inpatient and outpatient hospital wards (502/1,917, 26.2%) and the highest proportion of confirmed influenza cases in accident & emergency or urgent care ward (315/1,562, 20.2%). Patients aged 45 to 64 years accounted for the highest proportion of confirmed influenza cases in those who were tested while in an intensive care ward (15/50, 30.0%) (Table 2.3.3a).

Children aged under one year old accounted for the highest proportion of confirmed cases of RSV in general hospital wards (738/1,907, 38.7%). Patients aged under one year old accounted for the highest proportion of confirmed RSV cases in accident & emergency or urgent care ward (256/996, 25.7%). Patients under one year old also accounted for the highest proportion of confirmed RSV cases in intensive care units (16/43, 37.2%) (Table 2.3.3b).

### 2.4 Hospital indicators - patients in accident and emergency departments

During the period 2023 week 40 to 2024 week 15, 18,107 patients attending an accident & emergency or urgent care ward (A&E ward) with symptoms of an acute respiratory infection had samples collected and were tested. These samples may include screening tests for non-symptomatic individuals. Of the 18,107 patients attending an A&E ward that had a sample collected, all were tested for influenza, RSV and SARS-CoV2, 63.7% (n= 11,535/18,107) were tested for all respiratory pathogens included for surveillance purposes, 36.2% (n=6,557/18,107) were only tested for influenza, RSV and SARS-CoV2 and a small number (n=15) were tested for SARS-CoV-2, Flu A, Flu B, RSV, adenovirus, parainfluenza, rhinovirus and HMPV only.

**Figure 2.4.1.** Results from respiratory tests carried out on samples from patients in A&E or urgent care units in Wales by Week, 2023/24



<sup>1</sup> A small proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

From the A&E patients tested, 1,562 were confirmed with influenza, of whom, 1,388 were positive for influenza A only, 173 for influenza B, and one for both influenza A and B. Typing data was available for 378 influenza A samples, 267 samples were influenza A(H1N1), 111 were influenza A(H3N2).

The most commonly detected non-influenza respiratory pathogens from the A&E patients tested were SARS-CoV2 (7.5%, n= 1,362/18,107), rhinovirus (11.5%, n=1,324/11,550) and RSV (5.5%, n= 996/18,107). Other detected causes of respiratory infection included: enterovirus (2.4%, n=282/11,535), seasonal coronaviruses (1.4%, n=156/11,535), adenovirus (3.8%, n=440/11,550), parainfluenza (2.9%, n=331/11,550), human metapneumovirus (4.0%, n=458/11,550) and *Mycoplasma pneumoniae* (2.9%, n=334/11,535). Fifty nine percent (n=6,761) of the 11,535 A&E patient samples receiving a full PCR screen tested negative for all pathogens, and of those that were only tested for influenza, RSV and SARS-CoV2, 74.9% (4,913/6,557) were negative for all three pathogens. Additionally, three of the 15 samples tested for SARS-CoV-2, Flu A, Flu B, RSV, adenovirus, parainfluenza, rhinovirus and HMPV only were negative.

**Table 2.4.1.** Samples from patients in A&E testing positive for influenza and RSV between 2023 week 40 and 2024 week 15 by age group<sup>2,3</sup>

Age Group	Samples Tested		Influenza A		Influenza B		RSV		Negative <sup>1</sup>	
	n	%	n	%	n	%	n	%	n	%
Under 1	991	5.5%	35	2.5%	12	6.9%	256	25.7%	245	2.1%
1 to 4	1379	7.6%	152	10.9%	26	14.9%	223	22.4%	332	2.8%
5 to 9	705	3.9%	72	5.2%	9	5.2%	22	2.2%	322	2.8%
10 to 14	351	1.9%	32	2.3%	5	2.9%	8	0.8%	183	1.6%
15 to 24	775	4.3%	87	6.3%	33	19.0%	21	2.1%	511	4.4%
25 to 34	1105	6.1%	118	8.5%	40	23.0%	17	1.7%	768	6.6%
35 to 44	1169	6.5%	138	9.9%	27	15.5%	23	2.3%	803	6.9%
45 to 64	3306	18.3%	302	21.7%	12	6.9%	103	10.3%	2389	20.5%
65 to 74	2675	14.8%	145	10.4%	3	1.7%	110	11.0%	2009	17.2%
75 and older	5651	31.2%	308	22.2%	7	4.0%	213	21.4%	4115	35.2%
<b>Total</b>	<b>18107</b>	<b>100%</b>	<b>1389</b>	<b>100%</b>	<b>174</b>	<b>100%</b>	<b>996</b>	<b>100%</b>	<b>11677</b>	<b>100%</b>

<sup>1</sup> This measure represents the number of samples negative for all pathogens routinely tested for. A small proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

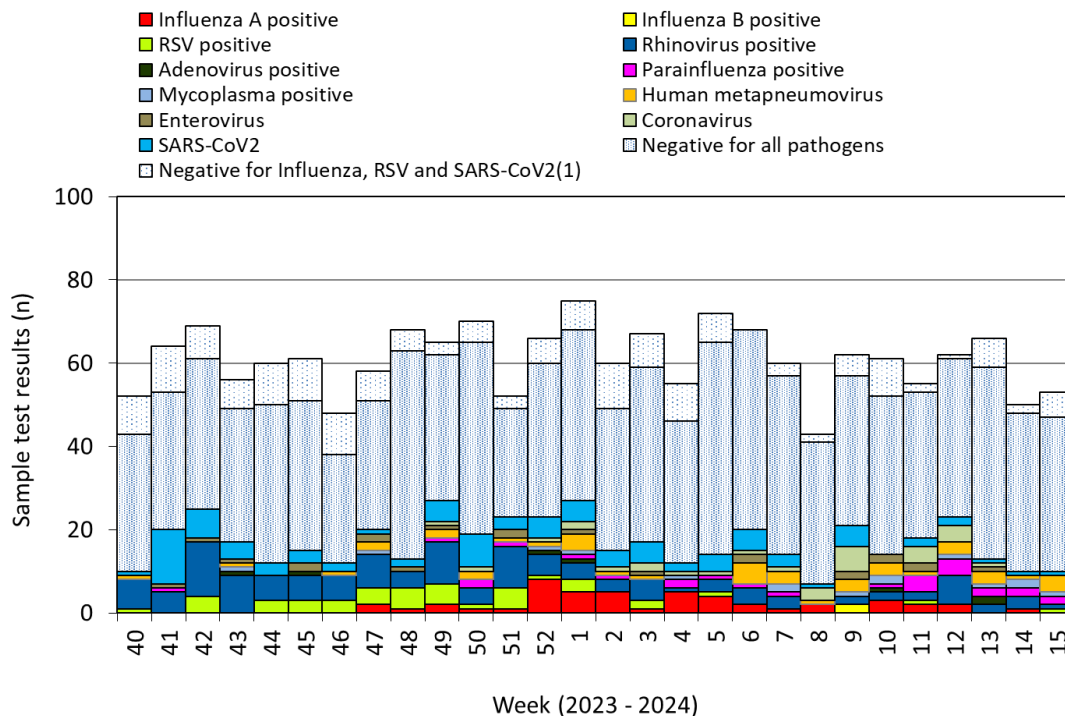
<sup>2</sup> Samples positive and negative will not add up to total screens as some individuals tested positive for more than one pathogen.

<sup>3</sup> Samples are routinely tested for: influenza, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, enterovirus, parainfluenza and human metapneumovirus and SARS-CoV2.

### 2.5 Hospital indicators - patients in intensive care units

During the period 2023 week 40 to 2024 week 15, 1,658 samples were collected from patients in an intensive care setting with symptoms of an acute respiratory infection. Of these, all were tested for influenza, RSV and SARS-CoV2, with 87.3% (n=1,447/1,658) tested for all respiratory pathogens included for surveillance purposes and 12.7% (n=211/1,658) tested for influenza, RSV and SARS-CoV2 only.

**Figure 2.5.1.** Results from respiratory tests carried out on samples from patients in intensive care units in Wales by Week, 2023/24



<sup>1</sup> A small proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

There were 50 cases of influenza detected in ICU settings throughout the whole season. Of the 50 influenza cases detected, 15 were A(H1N1), four A(H3N2) and 29 A(not subtyped). There were 2 cases of influenza B. Influenza in ICU settings peaked in week 52 2023, with 8 samples testing positive for influenza A.

The most commonly detected non-influenza respiratory pathogens, from the ICU patients tested, were rhinovirus (9.3%, n=135/1,447) and human metapneumovirus (3.0%, n= 44/1,447). Other detected causes of respiratory infection included: RSV (2.6% n=43/1,658), enterovirus (1.5%, n=22/1,447), seasonal coronaviruses (2.1%, n=30/1,447), adenovirus (0.5%, n=7/1,447) mycoplasma (1.0%, n=15/1,447) and parainfluenza (1.9%, n=27/1,447). Seventy-three percent (n=1,054/1,447) of ICU patient samples screened for all nine pathogens tested negative, and from the ICU patients that were only tested for influenza, RSV and SARS-CoV2, 82.0% (n=173/211) were negative (Table 2.5.1).

**Table 2.5.1.** Samples from patients in ICU/HDU testing positive for influenza and RSV between 2023 week 40 and 2024 week 15 by age group<sup>2</sup>

Age Group	Samples Tested		Influenza A		Influenza B		RSV		Negative <sup>1</sup>	
	n	%	n	%	n	%	n	%	n	%
Under 1	239	14.4%	4	8.3%	0	0.0%	16	37.2%	166	13.5%
1 to 4	19	1.1%	1	2.1%	2	100.0%	1	2.3%	4	0.3%
5 to 9	12	0.7%	1	2.1%	0	0.0%	1	2.3%	5	0.4%
10 to 14	20	1.2%	0	0.0%	0	0.0%	1	2.3%	12	1.0%
15 to 24	61	3.7%	2	4.2%	0	0.0%	1	2.3%	47	3.8%
25 to 34	99	6.0%	2	4.2%	0	0.0%	5	11.6%	71	5.8%
35 to 44	165	10.0%	6	12.5%	0	0.0%	2	4.7%	124	10.1%
45 to 64	505	30.5%	15	31.3%	0	0.0%	7	16.3%	385	31.4%
65 to 74	290	17.5%	10	20.8%	0	0.0%	5	11.6%	223	18.2%
75 and older	248	15.0%	7	14.6%	0	0.0%	4	9.3%	190	15.5%
<b>Total</b>	<b>1658</b>	<b>100%</b>	<b>48</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>43</b>	<b>100%</b>	<b>1227</b>	<b>100%</b>

<sup>1</sup> This measure represents the number of samples negative for all pathogens routinely tested for. A small proportion of samples included have only been tested for influenza, RSV and SARS-CoV2.

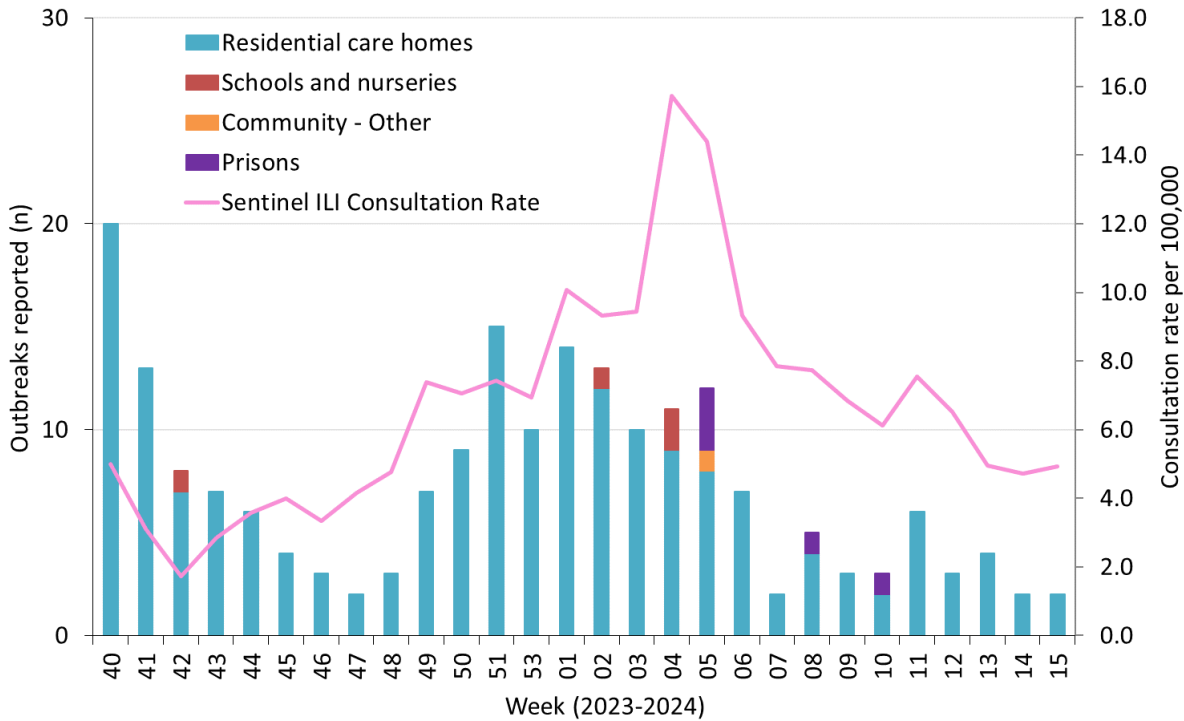
<sup>2</sup> Samples are routinely tested for: influenza, RSV, adenovirus, *Mycoplasma pneumoniae*, rhinovirus, enterovirus, parainfluenza and human metapneumovirus and SARS-CoV2.

## 2.6 Outbreaks of influenza, ILI or acute respiratory illness

During the 2023/24 influenza season in Wales there were 204 outbreaks of influenza, ILI or acute respiratory illness (ARI) reported to Public Health Wales Health Protection Teams (Figure 2.6.1), compared to 708 reported outbreaks during the 2022/23 season. Outbreaks were reported from 2023 week 40 to 2024 week 15. Of the 204 outbreaks, 173 outbreaks were SARS-CoV2, of which 172 were confirmed, and one was suspected. Of the other outbreaks, 24 were influenza A, two influenza B, two RSV, one parainfluenza and one human metapneumovirus. There was one outbreak where both SARS-CoV2 and influenza A were detected. Of the influenza A outbreaks, two were influenza A(H1N1), one was influenza A(H3N2) and 22 were influenza A(untyped).

Ninety-five percent (n=194) of the outbreaks were reported from residential homes, 2.5% (n=5) were reported from prisons, 1.0% (n=4) were reported from school or nurse settings and 0.5% (n=1) were reported from other settings. Forty-six percent (n=94) of outbreaks occurred in South East Wales (covering Aneurin Bevan UHB, Cardiff and Vale UHB and Cwm Taf Morgannwg UHB areas), 34.8% (n=71) in Mid and West Wales (covering Swansea Bay UHB, Hywel Dda UHB and Powys THB), and 19.1% (n=39) were reported from North Wales (covering Betsi Cadwaladr UHB).

**Figure 2.6.1.** Outbreaks of acute respiratory illness reported to Public Health Wales Health Protection Team during the 2023/24 season, and sentinel GP ILI consultation rate per 100,000



**2.7 Excess mortality during the influenza season**

Surveillance of weekly all-cause mortality in Wales was carried out using the EuroMoMo method [3]. In Wales, no excess mortality was seen during the 2023/24 influenza season.

**Figure 2.7.1.** Excess winter mortality, Wales; 2018-2024



### 3. Influenza virus characterisation, vaccine effectiveness and antivirals

#### 3.1 Laboratory characterisation of influenza viruses

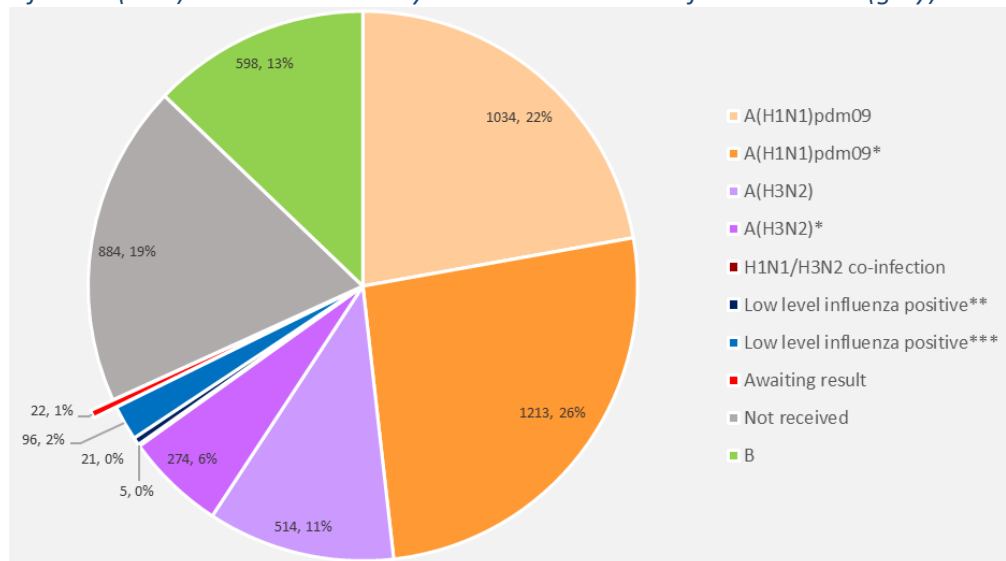
During the 2023/24 influenza season in Wales, there were 4,661 laboratory-confirmed cases of influenza. Influenza A(H1N1)pdm09 dominated with co-circulation of influenza A(H3N2) and influenza B. Due to a reduced number of front-line diagnostic testing platforms with influenza A subtyping capabilities in use across the laboratory network, there were a larger proportion of samples that required subtyping by PCR this season.

Of the 3,179 influenza A positive samples referred to the National Influenza Centre at the Wales Specialist Virology Centre (WSVC) for further characterisation, 1,631 were unsubtyped. Of the influenza A samples referred for further sub typing and characterisation, 91% (n=1,492) were successfully sub-typed at the WSVC.

Across all data sources, 75% (3,040/4,063) of all influenza A samples detected during the 2023/24 influenza season were successfully subtyped. Of those not subtyped, this was due to samples not being referred, or low viral loads.

The combined subtyping data confirmed the dominance of influenza A(H1N1)pdm09, which accounted for 55% (n = 2,247) of influenza A positive cases. Furthermore, five cases of co-infection with influenza A(H1N1)pdm09 and influenza A(H3N2) were detected (Figure. 3.1.1).

**Figure 3.3.1** The proportion of influenza positive samples grouped into influenza B (green), A(H1N1)pdm09 (orange), A(H3N2) (purple), H1N1/H3N2 co-infection (not visible), awaiting result (red), untyped due to low level infection (blue) and not received by the Welsh National Influenza Centre (grey).



\* As determined by subtyping in-house PCR testing conducted by Welsh National Influenza Centre.

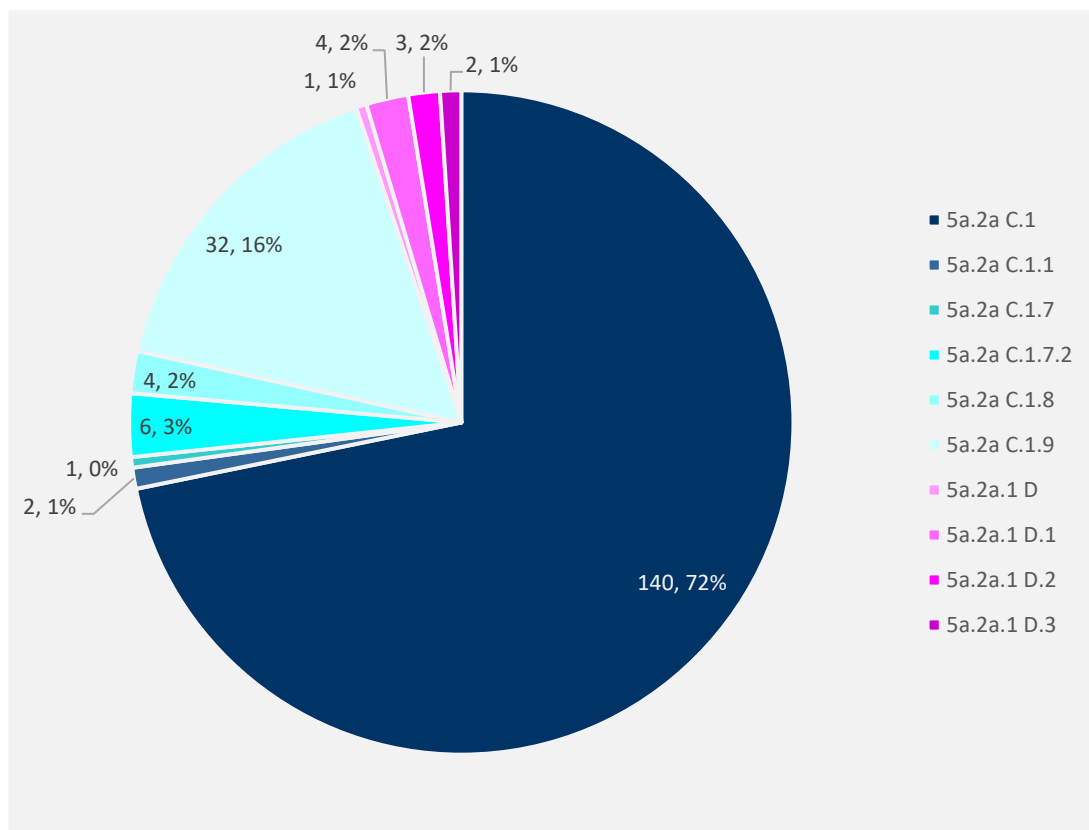
\*\* Low level influenza A positive beyond lower limit of detection for in-house subtyping PCR.

\*\*\* Low level influenza A positive beyond lower limit of detection for confirmatory in-house influenza PCR.

Influenza B was confirmed in just 598 cases, with lineage-typing successfully performed on 71% of samples (n = 423). All samples belonged to Victoria lineage, with a continued absence of Yamagata lineage as seen worldwide since the COVID-19 pandemic.

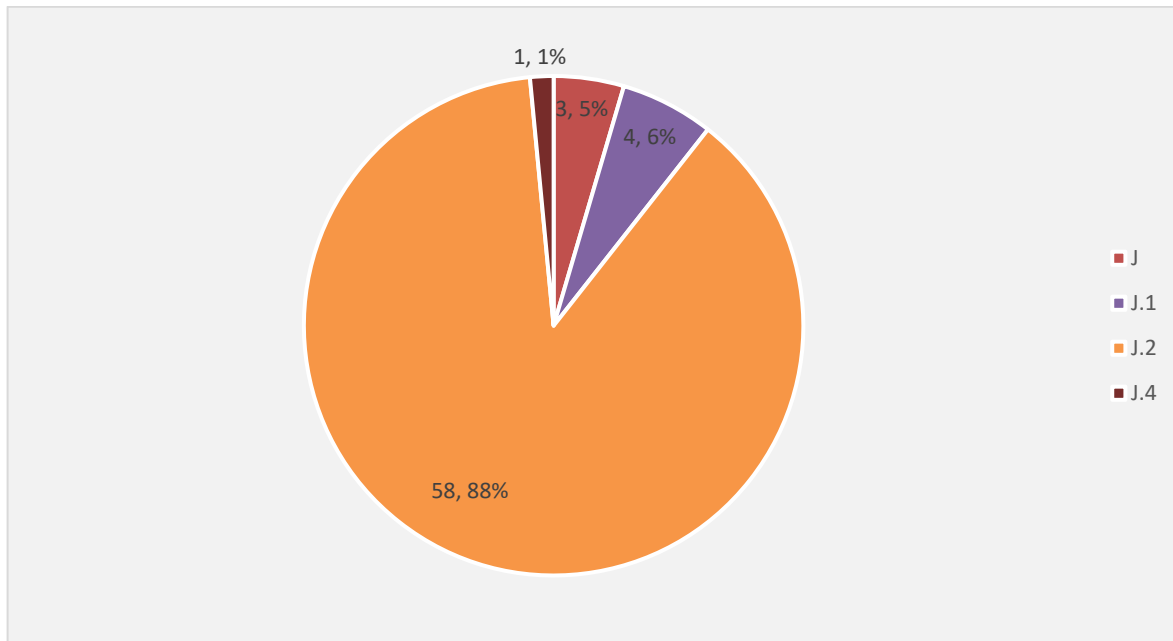
Genetic characterisation by whole genome sequencing conducted by the Pathogen Genomics Unit was completed for 330 viruses; 261 (79%) were influenza A and 69 (21%) were influenza B viruses. Characterisation of influenza A(H1N1)pdm09 viruses (n = 194) revealed co-circulation of clades 5a.2a and 5a.2a.1, with 176 (91%) characterised A(H1N1)pdm09 viruses belonging to clade 5a.2a. Isolates belonging to clade 5a.2a diverged into multiple subclades including C.1, C.1.1, C.1.7, C.1.7.2, C.1.8 and C.1.9. Of these circulating subclades, C.1 dominated at 80% of 5a.2a isolates (140/176). Meanwhile, isolates belonging to clade 5a.2a.1 diverged into subclades D, D.1, D.2 and D.3 (Figure. 3.1.2).

**Figure 3.1.1** The proportion of influenza A(H1N1)pdm09 subclades circulating as determined by haemagglutinin characterisation using NextClade. Clockwise: 5a.2a C.1; 5a.2a C.1.1; 5a.2a C.1.7; 5a.2a C.1.7.2; 5a.2a C.1.8; 5a.2a C.1.9; 5a.2a.1 D; 5a.2a.1 D.2; 5a.2a.1 D.3.



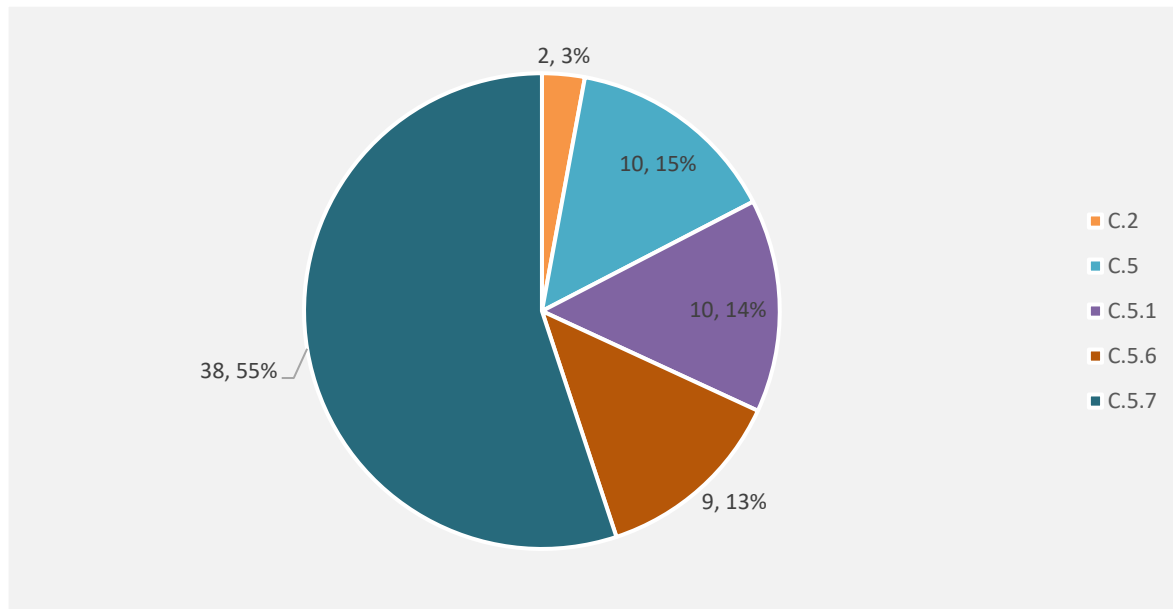
Characterisation of influenza A(H3N2) viruses (n = 67) revealed circulation of clade 3a.2a.1 only, however these isolates diverged into subclades J, J.1, J.2 and J.4, with subclade J.2 dominating (n = 59) (Figure. 3.1.3).

**Figure 2.1.3** The proportion of influenza A(H3N2) subclades circulating as determined by haemagglutinin characterisation using NextClade. Clockwise: J; J.1; J.2; J.4.



Characterisation of influenza B viruses (n=69) revealed circulation of clade V1A.3a.2 only, however these isolates diverged into multiple subclades including C.2, C.5, C.5.1, C.5.6 and C.5.7. Of these, C.5.7 was the dominant subclade comprising 55% (n = 38) of characterised influenza B isolates (Figure. 3.1.4)..

**Figure 3.1.4:** The proportion of influenza B Victoria-lineage subclades circulating as determined by haemagglutinin characterisation using NextClade. Clockwise: C.2; C.5; C.5.1; C.5.6; C.5.7.



### 3.2 Effectiveness of the 2023/24 seasonal influenza vaccine in the UK

During 2023/24 an adjuvanted quadrivalent vaccine (aQIV) and high-dose quadrivalent vaccine (QIV-HD) was available for use in those aged 65 years and over. A quadrivalent cell culture vaccine (QIVc) was available for those eligible aged over 2 years with quadrivalent live attenuated influenza vaccine (LAIV) the primary vaccine for those aged 2 to 17 years. A quadrivalent recombinant influenza vaccine (QIVr) was also available for those aged over 18 years.

End of season estimates of influenza vaccine effectiveness against laboratory confirmed influenza were estimated using a test-negative design in those presenting to GP practices across England, Scotland and Wales [4]. Estimated overall adjusted vaccine effectiveness for the 2023/24 season was 46% (95% CI 29% to 59%) in those aged 65 years and above, 49% (95% CI 42% to 56%) in those aged 18 to 64 years and 54% (95% CI 45% to 61%) in two to 17 year olds.

The effectiveness of vaccination in the 18 to 64 year age group against hospitalisation in England was 31% (95% CI 21% to 40%). In those aged two to 17 years of age effectiveness was 54% (95% CI 42% to 63%). The overall effectiveness in the 65 years and over age group was 30% (95%CI 22% to 37%) [4].

### 3.3 Antiviral prescribing rates and virus sensitivity

The GP prescribing rate of oseltamivir in Wales was measured using data collected through Audit+ on coded prescriptions in general practice. Prescribing of influenza antivirals in general practice was authorised under the Selected List Scheme (SLS) in the period 18<sup>th</sup> December 2023 to 23<sup>rd</sup> April 2024. Prescribing rates followed a similar trend to the sentinel GP consultation rate for ILI. The rate peaked at 6.9 prescriptions per 100,000 practice population during week 6 2024 (week ending 30<sup>th</sup> December, Figure 3.3.1), which was two weeks after the peak for ILI consultations in sentinel practices. Comparisons between seasons should be made with caution as prescribing patterns may differ between practices. During the 2023/24 season in the UK, most viruses were fully susceptible and only small numbers of viruses were detected with reduced sensitivity to oseltamivir or zanamivir [4].

Antiviral susceptibility of viruses was performed by genetic characterisation of the neuraminidase (NA), matrix-2 protein (M2) and polymerase acidic protein (PA) genes. This is based on analysis of the provided consensus sequence, no minor variation analysis was performed.

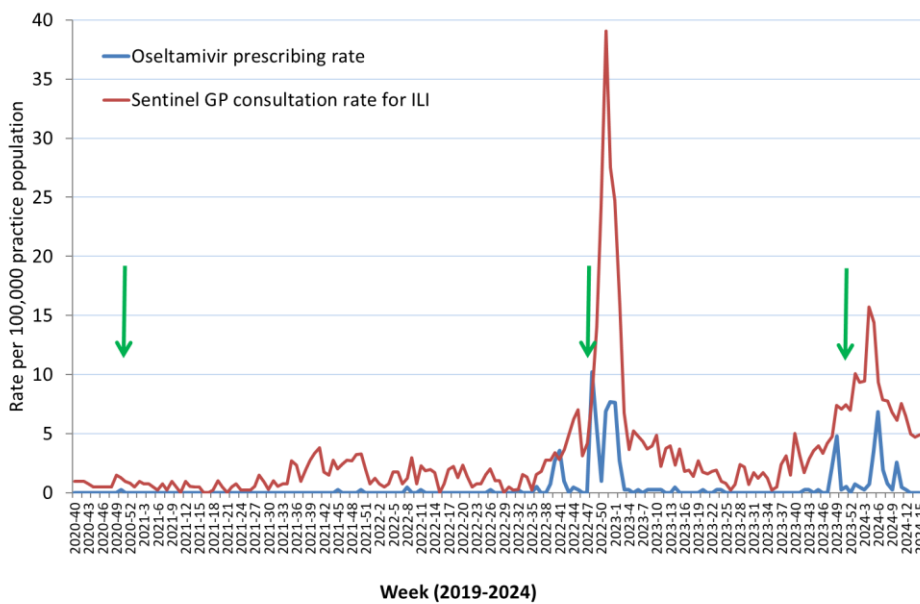
Susceptibility to neuraminidase inhibitors oseltamivir and zanamivir was performed by analysis of the NA gene for all 330 sequenced viruses. Two influenza A(H1N1)pdm09 viruses were identified as being highly resistant to oseltamivir due to the presence of the H275Y mutation in NA. Epidemiological and genomic clustering of the two cases suggested transmission had occurred. No other samples were identified in the same time period, or from the same region as having the same mutation profile, suggesting no evidence of wider spread. Follow-up of both cases confirmed full recovery.

No genotypic susceptibility to oseltamivir or zanamivir was identified in any genetically characterised influenza A(H3N2) or influenza B viruses.

Susceptibility to Baloxavir marboxil was performed by analysis of the PA gene for 101 viruses (H1N1pdm09 n = 64; H3N2 n = 14; influenza B n = 23). No viruses with resistance conferring mutations were identified.

Analysis of the M2 gene of all characterised influenza A viruses (n = 261) revealed these viruses remain resistant to adamantanes due to the S31N resistance conferring mutation. Furthermore, three viruses had gained additional resistance conferring mutations V27A (n = 1) and V27I (n = 2).

**Figure 3.3.1.** Prescribing rate for oseltamivir per 100,000 practice population in Wales from 2020 week 40 to 2024 week 15 (arrows indicate when antiviral licensing triggers were issued, in line with NICE guidance)



**Table 3.3.1.** Peak sentinel GP consultation rates for ILI per 100,000 practice population and peak all Wales prescribing rates per 100,000 for influenza seasons from 2010/11 to 2023/24

Influenza Season	Peak sentinel GP ILI consultation rate	Peak all Wales GP oseltamivir prescribing rate
2010/11	92.2	12.4
2011/12	10.4	1.0
2012/13	33.0	0.8
2013/14	8.8	0.2
2014/15	23.2	3.0
2015/16	25.8	1.1
2016/17	22.8	3.4
2017/18	74.5	9.5
2018/19	22.9	5.5
2019/20	37.1	3.2
2020/21	1.5	0.3
2021/22	3.8	0.5
2022/23	39.1	10.2
2023/24	15.7	6.9

## 4. Influenza immunisation in Wales 2023/24

### 4.1 Data collection

#### 4.1.1 Primary Care data

Data on influenza immunisation for the 2023/24 campaign were collected directly from GP IT systems 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 on a weekly basis. This provides the information required to monitor uptake of influenza immunisation in Wales, whilst minimising impact on GPs. Data were collected on immunisations given and recorded on GP systems between 9<sup>th</sup> October 2023 and 21<sup>st</sup> April 2024.

If data from individual General Practices were not received for a particular week, the most recent submission of data from the relevant practice was identified and used. This report is based on data submitted from all 375 practices in Wales.

Data were collected on immunisations given to those aged 65 years and older, those aged between six months and 64 years recorded as belonging to one or more clinical risk group (in total and by specific risk group) and children aged two to three years (age on 31<sup>st</sup> August 2023). Immunisation uptake figures for pregnant women calculated from practice data represent the proportion of women whose practice records contained Read codes associated with pregnancy at any point during September 2023 to January 2024 who had received an influenza vaccine since 1<sup>st</sup> September 2023. Risk categories were based on the Read and SNOMED code groups defined in the [PRIMIS Seasonal Influenza Vaccine Uptake Reporting Specification for 2023/24](#) [5].

#### 4.1.2 Point of delivery survey data of coverage in pregnant women

During January 2024 a survey was conducted with Heads of Midwifery and midwifery colleagues in all Welsh health boards on how many women delivering in the major maternity units recalled being offered influenza immunisation, and how many recalled receiving it [6]. During the five-day period, information was collected from 363 women giving birth.

#### 4.1.3 Nursery, Reception class to School Year 6 classes (children aged four to 10 years) data

Data on uptake of Live Attenuated Influenza Vaccine (LAIV) in schoolchildren in reception class and in school years 1 to 11 (children aged four to 15 years of age as at 31<sup>st</sup> August 2023) were manually submitted by health board Immunisation Coordinators on a fortnightly basis throughout the campaign through an online data reporting survey hosted on SmartSurvey. Uptake figures represent the proportion of children that received LAIV at a school immunisation sessions. Data on uptake of LAIV in three year old children in nursery classes in Cwm Taf Morgannwg UHB were also manually submitted by the health board throughout the campaign as part of a nursery school based influenza immunisation programme. Children not attending school and children who were vaccinated in primary care are not included in the data used to calculate uptake in these age groups to avoid double counting of children recorded as vaccinated in both school and general practice datasets.

#### **4.1.4 NHS staff data**

Immunisation uptake data for NHS staff employed by health boards and trusts were provided on a monthly basis from October 2023 to March 2024 by health board and trust occupational health departments. Denominator data were sourced at the start of the campaign from health boards and trusts using Electronic Staff Record (ESR) staff groupings. In Wales all NHS staff are offered influenza immunisation, however the approach to offering influenza immunisation to staff not normally considered to have direct patient contact may vary between health boards and trusts. Data provided relates to immunisations given to all staff and staff with direct patient contact which are calculated by aggregating data for ESR staff-groups which would normally have direct contact with patients.

#### **4.1.5 Pharmacy data**

Immunisations given in community pharmacies are recorded in the Choose Pharmacy data system. This is an anonymised dataset that provides information on location and health board of the pharmacy; eligibility of the patient and date of vaccination. This data provides a detailed breakdown of carers, however accurate equivalent denominators are not currently available, so it is not possible to calculate uptake. A number of pharmacy vaccinations may also be recorded in general practice systems, so it is not possible to add the number of pharmacy vaccinations to the number of general practice vaccinations as some patients may be double-counted.

## 4.2 Influenza immunisation uptake

### 4.2.1 Uptake in children

Of a total 61,120 children aged two and three years old (as at 31 August 2023), 42.8% (n=26,140) were immunised against influenza in general practice between 1<sup>st</sup> September 2023 and 24<sup>th</sup> April 2024. The number of immunisations given to children aged two and three years old in general practice decreased by 1,215 in 2023/24 compared to 2022/23. Uptake in two and three year olds varied by health board, ranging from 35.8% (Hywel Dda UHB) to 55.2% (Powys Teaching HB). Uptake in three year olds (44.1%) was higher compared to uptake in two year olds (41.3%) (Table 4.2.1).

**Table 4.2.1.** Uptake of influenza immunisation in general practice in children aged two and three years by health board, Wales, 2023/24<sup>1</sup>

Health Board	Children aged 2 years			Children aged 3 years			Combined Uptake (%)
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)	
Aneurin Bevan UHB	3027	6056	50.0	3182	6478	49.1	49.5
Betsi Cadwaladr UHB	2612	6188	42.2	2757	6419	43.0	42.6
Cardiff and Vale UHB	1885	5230	36.0	1991	5419	36.7	36.4
Cwm Taf UHB	1785	4425	40.3	2506	4722	53.1	46.9
Hywel Dda UHB	1086	3304	32.9	1321	3415	38.7	35.8
Powys Teaching HB	602	1128	53.4	654	1146	57.1	55.2
Swansea Bay UHB	1341	3525	38.0	1391	3665	38.0	38.0
<b>Wales</b>	<b>12338</b>	<b>29856</b>	<b>41.3</b>	<b>13802</b>	<b>31264</b>	<b>44.1</b>	<b>42.8</b>

<sup>1</sup>Children aged three years from Cwm Taf Morgannwg UHB were offered influenza immunisation in nurseries attached to primary schools. Data presented in Table 4.2.1 are provided by general practices and it is likely information for a small proportion of children immunised in nursery sessions in Cwm Taf Morgannwg UHB was not entered into GP records. As a result, uptake presented here for three year olds in Cwm Taf Morgannwg UHB is likely to underestimate true uptake (see Table 4.2.2 for further information).

In Cwm Taf Morgannwg UHB, LAIV was offered to children aged three years old in nursery classes attached to primary schools. Uptake in this group of children was 54.5% (Table 4.2.2), an increase from 50.6% in 2022/23 in this same age group. Of a total of 4,722 three year old children registered with a GP in Cwm Taf Morgannwg UHB, 2,958 (62.6%) were recorded in the nursery school data.

**Table 4.2.2.** Uptake of influenza immunisation in children aged three years in nursery classes in Cwm Taf Morgannwg UHB, 2023/24

Health Board	Schools targeted (n)	Children aged 3 years (Nursery classes)		
		Immunised (n)	Denominator (n)	Uptake (%)
Cwm Taf Morgannwg UHB	117	1613	2958	54.5

LAIV was offered in 1,338 primary schools in Wales to children in reception class, and School Years 1 to 6. Of the 240,098 eligible children who were aged four to 10 years on 31<sup>st</sup> August 2023, 61.9% (148,567) were immunised against influenza. This decreased compared to 63.8% in 2022/23 in eligible children immunised in schools. Uptake ranged by HB from 53.6% (Betsi Cadwaladr UHB) to 74.8% (Powys Teaching HB) (Table 4.2.3).

Uptake in school reception classes (children four to five years of age) decreased to 60.8% (19,224/31,596) from 62.7% in the same age group last year. Uptake varied by HB, ranging from 51.9% (Betsi Cadwaladr UHB) to 75.3% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 1 (children five to six years of age) decreased to 62.7% (20,853/33,258) from 65.0% in the same age group last year. Uptake varied by HB, ranging from 54.9% (Betsi Cadwaladr UHB) to 77.8% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 2 (children six to seven years of age) decreased to 62.3% (21,060/33,831) from 65.1% in the same age group last year. Uptake varied by HB, ranging from 53.6% (Betsi Cadwaladr UHB) to 74.8% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 3 (children seven to eight years of age) decreased to 63.2% (22,023/34,838) from 64.2% in the same age group last year. Uptake varied by HB, ranging from 54.8% (Betsi Cadwaladr UHB) to 75.9% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 4 (children eight to nine years of age) decreased to 61.9% (21,909/35,376) from 64.5% in the same age group last year. Uptake varied by HB, ranging from 53.6% (Betsi Cadwaladr UHB) to 74.1% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 5 (children nine to 10 years of age) decreased to 60.9% (21,588/35,441) from 63.9% in the same age group last year. Uptake varied by HB, ranging from 52.7% (Betsi Cadwaladr UHB) to 72.4% (Powys Teaching HB) (Table 4.2.4).

Uptake in School Year 6 (children 10 to 11 years of age) decreased to 61.3% (21,910/35,758) from 62.7% in the same age group last year. Uptake varied by HB, ranging from 53.6% (Betsi Cadwaladr UHB) to 73.6% (Powys Teaching HB) (Table 4.2.4).

**Table 4.2.3.** Uptake of influenza immunisation in primary school children by health board, Wales, 2023/24

Health Board	Schools Targeted (n)	All children aged 4 to 10 years		
		Immunised (n)	Denominator (n)	Uptake (%)
Aneurin Bevan UHB	210	29714	47392	62.7
Betsi Cadwaladr UHB	363	28646	53473	53.6
Cardiff and Vale UHB	167	22438	39733	56.5
Cwm Taf Morgannwg UHB	176	22458	33915	66.2
Hywel Dda UHB	201	19477	27221	71.6
Powys Teaching HB	77	6575	8791	74.8
Swansea Bay UHB	144	19259	29573	65.1
<b>Wales</b>	<b>1338</b>	<b>148567</b>	<b>240098</b>	<b>61.9</b>

**Table 4.2.4.** Uptake of influenza immunisation in school children aged four to ten years by health board, Wales, 2023/24

Health Board	Schools targeted (n)	School children aged:						
		4 years Uptake (%)	5 years Uptake (%)	6 years Uptake (%)	7 years Uptake (%)	8 years Uptake (%)	9 years Uptake (%)	10 years Uptake (%)
Aneurin Bevan UHB	210	61.1	63.2	63.9	64.2	63.0	61.7	61.7
Betsi Cadwaladr UHB	363	51.9	54.9	53.6	54.8	53.6	52.7	53.6
Cardiff and Vale UHB	167	55.5	57.5	57.4	59.6	55.3	54.4	55.5
Cwm Taf Morgannwg UHB	176	65.9	66.9	67.2	67.4	66.2	65.8	64.0
Hywel Dda UHB	201	71.4	71.6	71.3	72.4	71.9	72.0	70.2
Powys Teaching HB	77	75.3	77.8	74.8	75.9	74.1	72.4	73.6
Swansea Bay UHB	144	63.5	65.6	64.1	64.6	66.2	63.9	67.8
<b>Wales</b>	<b>1338</b>	<b>60.8</b>	<b>62.7</b>	<b>62.3</b>	<b>63.2</b>	<b>61.9</b>	<b>60.9</b>	<b>61.3</b>

This influenza season LAIV was offered in 263 secondary schools in Wales to children in School Years 7 to 11. Of the 176,996 eligible children who were aged 11 to 15 years on 31<sup>st</sup> August 2023, 49.7% (87,925) were immunised against influenza. This decreased compared to 54.4% in 2022/23 in eligible children immunised in schools. Uptake ranged by HB from 41.1% (Cardiff and Vale UHB) to 63.8% (Powys Teaching HB) (Table 4.2.5).

Uptake in School Year 7 (children 11 to 12 years of age) decreased to 55.5% (20,004/36,070) from 62.3% in the same age group last year. Uptake varied by HB, ranging from 46.6% (Cardiff and Vale UHB) to 68.2% (Hywel Dda UHB) (Table 4.2.6).

Uptake in School Year 8 (children 12 to 13 years of age) decreased to 51.3% (18,632/36,336) from 55.3% in the same age group last year. Uptake varied by HB, ranging from 43.0% (Cardiff and Vale UHB) to 63.9% (Hywel Dda UHB) (Table 4.2.6).

Uptake in School Year 9 (children 13 to 14 years of age) decreased to 49.5% (17,432/35,236) from 52.9% in the same age group last year. Uptake varied by HB, ranging from 41.2% (Cardiff and Vale UHB) to 68.0% (Powys Teaching HB) (Table 4.2.6).

Uptake in School Year 10 (children 14 to 15 years of age) decreased to 47.8% (16,490/34,483) from 51.4% in the same age group last year. Uptake varied by HB, ranging from 38.7% (Cardiff and Vale UHB) to 61.6% (Powys Teaching HB) (Table 4.2.6).

Uptake in School Year 11 (children 15 to 16 years of age) decreased to 44.1% (15,367/34,871) from 49.8% in the same age group last year. Uptake varied by HB, ranging from 35.8% (Cardiff and Vale UHB) to 62.0% (Powys Teaching HB) (Table 4.2.6).

**Table 4.2.5.** Uptake of influenza immunisation in secondary school children by health board, Wales, 2023/24

Health Board	Schools Targeted (n)	All children aged 11 to 15 years		
		Immunised (n)	Denominator (n)	Uptake (%)
Aneurin Bevan UHB	45	18023	34834	51.7
Betsi Cadwaladr UHB	66	16543	38217	43.3
Cardiff and Vale UHB	42	12433	30256	41.1
Cwm Taf Morgannwg UHB	35	12517	25556	49.0
Hywel Dda UHB	40	13156	21283	61.8
Powys Teaching HB	13	3990	6257	63.8
Swansea Bay UHB	22	11263	20593	54.7
<b>Wales</b>	<b>263</b>	<b>87925</b>	<b>176996</b>	<b>49.7</b>

**Table 4.2.6.** Uptake of influenza immunisation in school children aged 11 to 15 years by health board, Wales, 2023/24

Health Board	Schools targeted (n)	School children aged:				
		11 years Uptake (%)	12 years Uptake (%)	14 years Uptake (%)	14 years Uptake (%)	15 years Uptake (%)
Aneurin Bevan UHB	45	58.3	52.5	52.3	48.8	46.7
Betsi Cadwaladr UHB	66	48.2	46.0	42.1	41.8	37.8
Cardiff and Vale UHB	42	46.6	43.0	41.2	38.7	35.8
Cwm Taf Morgannwg UHB	35	54.5	50.0	48.5	49.8	41.9
Hywel Dda UHB	40	68.2	63.9	61.2	59.6	55.7
Powys Teaching HB	13	66.5	60.9	68.0	61.6	62.0
Swansea Bay UHB	22	61.6	56.3	54.0	52.7	48.1
<b>Wales</b>	<b>263</b>	<b>55.5</b>	<b>51.3</b>	<b>49.5</b>	<b>47.8</b>	<b>44.1</b>

Uptake in children at risk aged two to three years was 46.2% and ranged by health board from 33.7% (Swansea Bay UHB) to 57.7% (Powys Teaching HB). Uptake in children at risk aged four to 10 years was 39.2% and ranged by health board from 10.7% (Cardiff and Vale UHB) to 73.9% (Powys Teaching HB). Uptake in children at risk aged 11 to 17 years was 31.2% and ranged by health board from 14.9% (Cardiff and Vale UHB) to 41.5% (Hywel Dda UHB) (Table 4.2.5). The proportion of children in a risk group vaccinated aged four to 10 years and 11 to 17 years may be higher as some vaccinations given in school sessions will not be recorded on the child's General Practice record.

**Table 4.2.7. Uptake of influenza immunisation in children aged two to seventeen with a risk condition by health board, Wales, 2023/24<sup>1,2,3</sup>**

Health Board	Children aged 2-3 years			Children aged 4-10 years			Children aged 11-17 years		
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)
Aneurin Bevan UHB	228	437	52.2	524	3594	14.6	1161	4201	27.6
Betsi Cadwaladr UHB	203	433	46.9	1796	3551	50.6	1666	4640	35.9
Cardiff and Vale UHB	123	313	39.3	311	2898	10.7	564	3789	14.9
Cwm Taf Morgannwg UHB	176	339	51.9	1688	2805	60.2	1159	3386	34.2
Hywel Dda UHB	69	179	38.5	1019	1813	56.2	1081	2604	41.5
Powys Teaching HB	41	71	57.7	466	631	73.9	341	838	40.7
Swansea Bay UHB	59	175	33.7	783	1525	51.3	730	2033	35.9
<b>Wales</b>	<b>899</b>	<b>1947</b>	<b>46.2</b>	<b>6587</b>	<b>16817</b>	<b>39.2</b>	<b>6702</b>	<b>21491</b>	<b>31.2</b>

<sup>1</sup>Age as at 31/08/2023.

<sup>2</sup>Data from Audit+

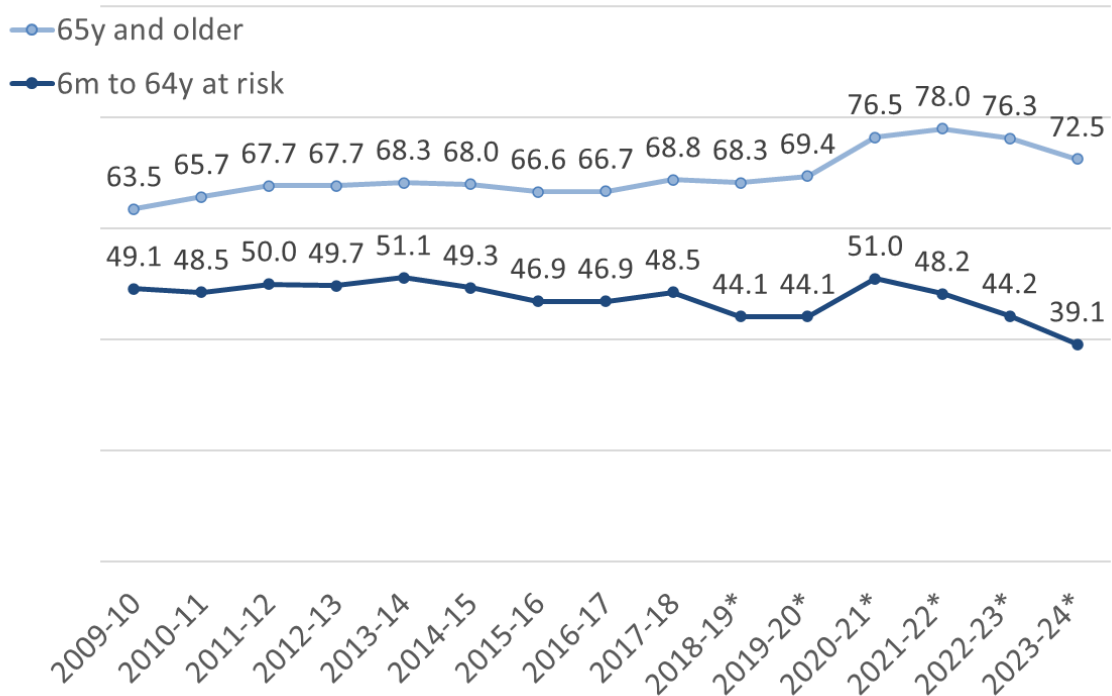
<sup>3</sup>All children aged four to 15 years are eligible for immunisation through school vaccination sessions. Data presented here for four to 10 year olds and 11 to 17 year olds in clinical risk groups show the numbers of patients at clinical risk, whose GP record contains appropriate influenza vaccination Read codes; and is likely to underestimate true uptake in the group.

#### 4.2.2 Uptake in those aged 65 years and older and aged six months to 64 years in clinical risk groups

Uptake of influenza vaccine in those aged 65 years and older was 72.5%, a decrease compared to 76.3% in the 2022/23 season (Figure 4.2.1). Of all influenza immunisations given to those aged 65 years and over, 90% were delivered by the week ending 26<sup>th</sup> November 2023 (Figure 4.2.2). Uptake varied by HB from 69.2% (Hywel Dda UHB) to 75.6% (Aneurin Bevan UHB), (Table 4.2.6, Figure 4.2.3) and ranged by Local Authority (LA) area from 65.5% (Ceredigion) to 81.9% (Monmouthshire) (Appendix Table A1). For patients aged 65 years or older, 8.1% were recorded as having declined immunisation, compared to 10.3% in the 2022/23 season. One HB and six LA areas achieved the 75% ambition.

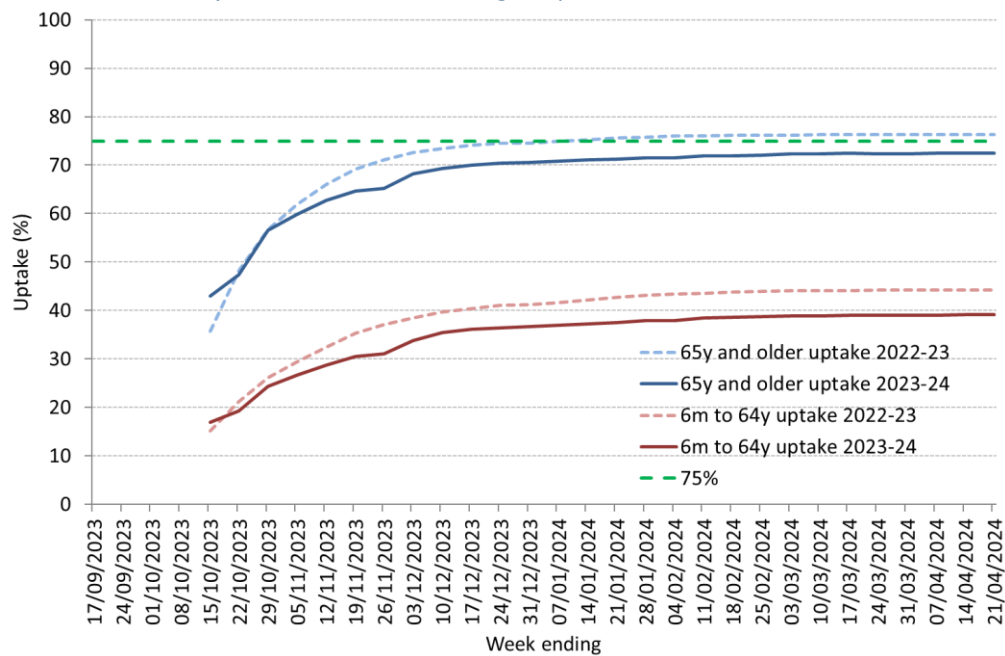
Uptake in those aged six months to 64 years in a clinical risk group was 39.1%, a decrease compared to 44.2% in the 2022/23 season (Figure 4.2.1). Of all immunisations given to those aged six months to 64 years in clinical risk groups, 90% were delivered by the week ending 10<sup>th</sup> December 2023 (Figure 4.2.2). Uptake ranged by HB from 35.6% (Swansea Bay UHB) to 42.5% (Aneurin Bevan UHB) (Table 4.2.6, Figure 4.2.4) and by LA area from 35.3% (Neath Port Talbot) to 51.2% (Monmouthshire) (Appendix Table A1). The proportion of all people aged six months to 64 years recorded in one or more clinical risk categories was 18.0% (an increase from 17.5% in 2022/23). Of those aged six months to 64 years in a clinical risk group, 12.2% were recorded as having declined immunisation, compared to 10.2% in 2022/23.

**Figure 4.2.1.** Annual trends in influenza immunisation uptake (%) in those aged 65 years and over and in those aged six months to 64 years in clinical risk groups, Wales, 2009/10 – 2023/24



\*Data for those aged six months to 64 years at risk includes those morbidly obese not otherwise at risk. Prior to 2018/19 this group were not included in the overall uptake figures for this category.

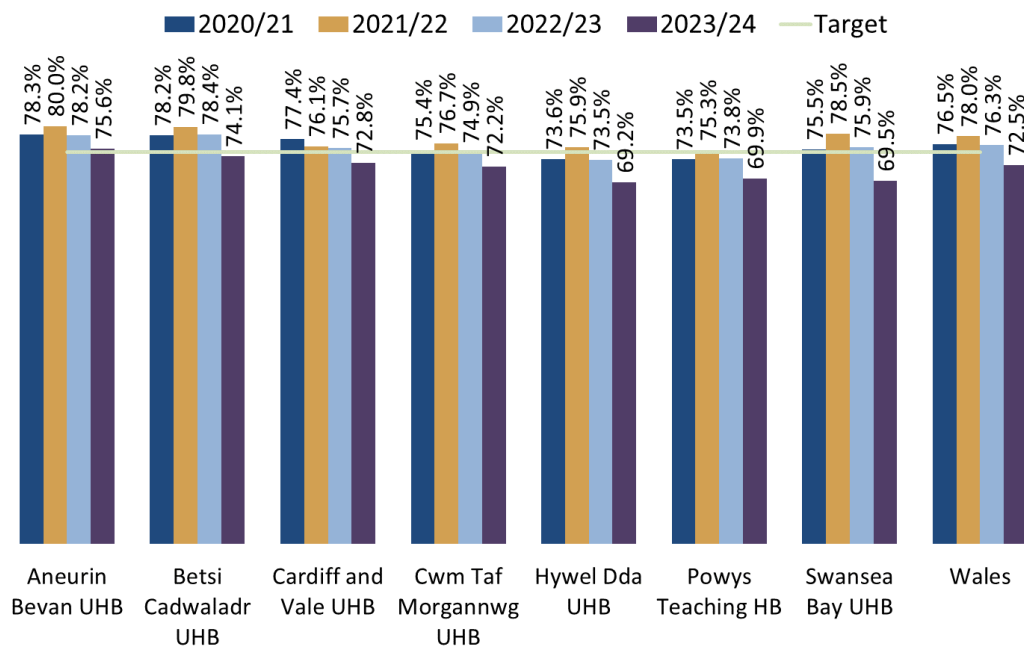
**Figure 4.2.2.** Weekly trend in uptake of influenza vaccine in patients aged 65 years and over and in those aged six months to 64 years in clinical risk groups, Wales, 2022/23 and 2023/24



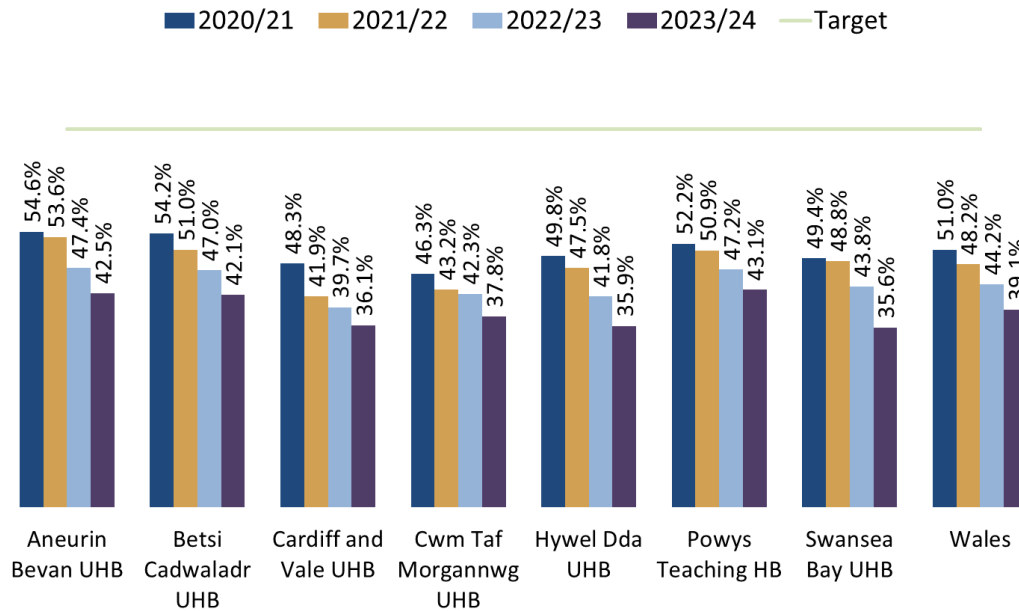
**Table 4.2.8.** Trends in uptake (%) of influenza immunisation in health boards, Wales, 2020/21 – 2023/24

Health Board	Uptake in patients aged 65y and older				Uptake in patients younger than 65y at risk			
	2020/21	2021/22	2022/23	2023/24	2020/21	2021/22	2022/23	2023/24
Aneurin Bevan UHB	78.3	80.0	78.2	75.6	54.6	53.6	47.4	42.5
Betsi Cadwaladr UHB	78.2	79.8	78.4	74.1	54.2	51.0	47.0	42.1
Cardiff and Vale UHB	77.4	76.1	75.7	72.8	48.3	41.9	39.7	36.1
Cwm Taf Morgannwg UHB	75.4	76.7	74.9	72.2	46.3	43.2	42.3	37.8
Hywel Dda UHB	73.6	75.9	73.5	69.2	49.8	47.5	41.8	35.9
Powys Teaching UHB	73.5	75.3	73.8	69.9	52.2	50.9	47.2	43.1
Swansea Bay UHB	75.5	78.5	75.9	69.5	49.4	48.8	43.8	35.6
<b>Wales</b>	<b>76.5</b>	<b>78.0</b>	<b>76.3</b>	<b>72.5</b>	<b>51.0</b>	<b>48.2</b>	<b>44.2</b>	<b>39.1</b>

**Figure 4.2.3.** Uptake of influenza immunisation in health boards in Wales in patients aged 65 years and over, 2020/21 – 2023/24



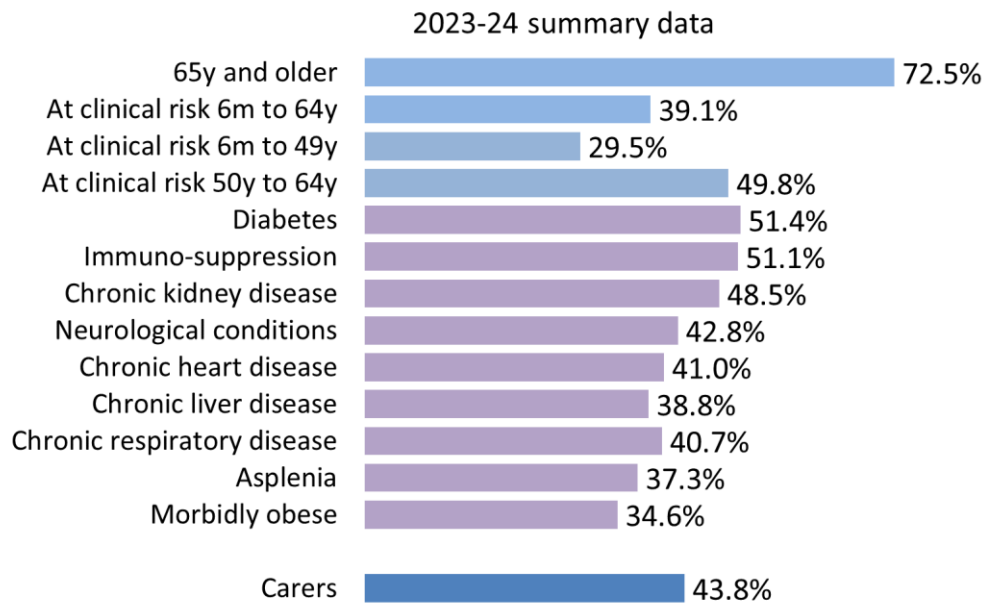
**Figure 4.2.4.** Uptake of influenza immunisation in health boards in Wales in patients aged six months to 64 years in clinical risk groups, 2020/21 – 2023/24



**4.2.3 Immunisation uptake by risk group**

Vaccine uptake in those aged six months to 64 years in a clinical risk group was 39.1%. Many people will have more than one clinical risk, for example, a patient may suffer from both diabetes and chronic heart disease, therefore the same patient may be represented in the uptake figures for more than one risk group. However, a patient will only be counted once in the overall total uptake figure of 39.1% for those aged six months to 64 years in a clinical risk group, irrespective of how many clinical risk conditions they suffer from. Numbers of individuals coded as being in each clinical risk group can be found in appendix Table A2.

**Figure 4.2.5. Influenza immunisation uptake rates in patients aged 65 years and over and six months to 64 years at risk, by individual risk group, Wales, 2023/24**



- Chronic heart disease was recorded in 2.9% of patients aged six months to 64 years, of whom 41.0% were immunised against influenza (Figure 4.2.5, Appendix Table A2). Uptake by HB ranged from 36.0% (Cardiff and Vale UHB) to 44.7% (Aneurin Bevan UHB).
- Chronic respiratory disease was recorded in 7.7% of patients aged six months to 64 years, of whom 40.7% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 37.3% (Cardiff and Vale UHB) to 46.2% (Powys Teaching HB). At Wales level, 50.9% of those with COPD were immunised against influenza, whilst 40.1% of those with asthma and 43.9% of those with non-asthma non-COPD respiratory were immunised against influenza.
- Chronic kidney disease was recorded in 0.6% of patients aged six months to 64 years, of whom 48.5% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 42.2% (Hywel Dda UHB) to 55.0% (Aneurin Bevan UHB).
- Diabetes was recorded in 3.8% of patients aged six months to 64 years, of whom 51.4% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 46.3% (Hywel Dda UHB) to 54.9% (Aneurin Bevan UHB).
- Immunosuppression due to disease or treatment was recorded in 1.0% of patients aged six months to 64 years, of whom 51.1% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 43.2% (Swansea Bay UHB) to 57.4% (Aneurin Bevan UHB).
- Chronic liver disease was recorded in 0.5% of patients aged six months to 64 years, of whom 38.8% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 35.3% (Swansea Bay UHB) to 46.2% (Aneurin Bevan UHB).
- Chronic neurological conditions (including stroke and TIA) were recorded in 1.5% of patients aged six months to 64 years, of whom 42.8% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 38.4% (Cardiff and Vale UHB) to 47.8% (Aneurin Bevan UHB).

- Morbidly obese was recorded in 3.8% of patients aged 18 to 64 years (eligible age group for this clinical risk group), of whom 34.6% were immunised against influenza (Figure 4.2.5, Appendix Table A2). Uptake ranged by HB from 30.4% (Swansea Bay UHB) to 39.6% (Aneurin Bevan UHB).
- Being asplenic (or having a dysfunctional spleen) was recorded in 0.5% of patients aged six months to 64 years, of whom 37.3% were immunised against influenza (Figure 4.2.5, Appendix Table A2), ranging by HB from 33.3% (Cardiff and Vale UHB) to 41.3% (Betsi Cadwaladr UHB).
- A total of 48,509 people aged six months to 64 years were recorded as being a carer (including carers who are also in a clinical risk group), of whom 43.8% were immunised against influenza (Figure 4.2.5, Appendix Table A4). These figures only include those who have identified themselves as a carer to their GP, and have been coded appropriately in the GP records; the true denominator for carers is likely to be higher. Uptake ranged by HB from 39.3% (Swansea Bay UHB) to 49.3% (Powys Teaching HB).

#### 4.2.4 Uptake in pregnant women

Coverage of influenza vaccination in pregnant women was measured using two methods:

1. A five-day survey carried out with health board midwifery services in major maternity units across Wales, ascertaining self-reported vaccination status for the women delivering during the survey period. Ascertainment of pregnancy status is more robust using this method. However, the survey does not capture information on women whose pregnancies ended with outcomes other than a birth in a major maternity unit.
2. Weekly collections of data from GPs using Audit+. This method provides timely data on immunisations given to pregnant women, however ascertaining pregnancy status using Read codes in GP data systems can be problematic and results in underestimation of uptake in this group.

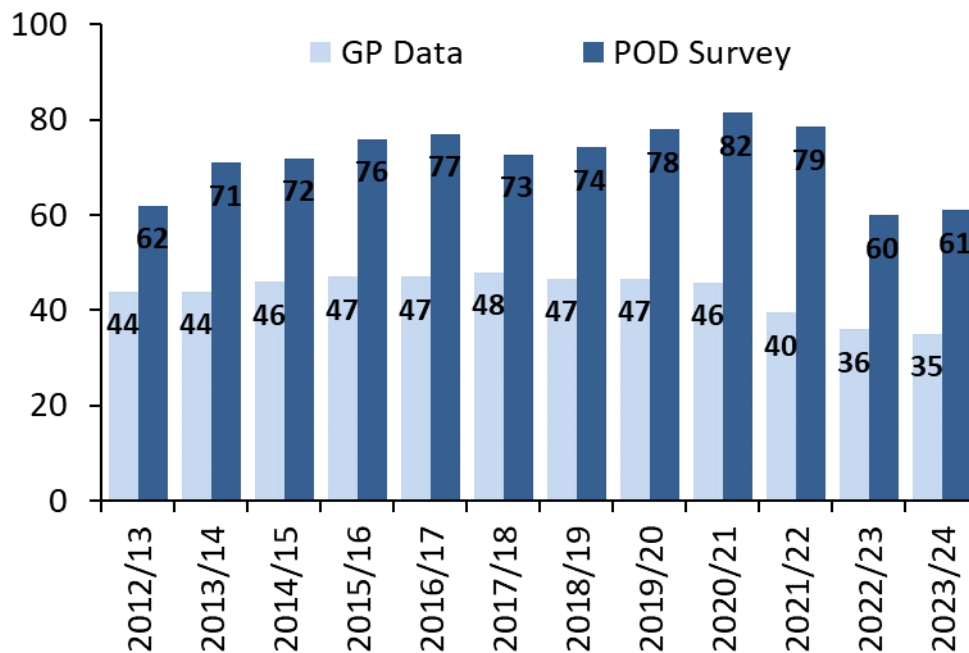
From 1<sup>st</sup> September 2023 to 31<sup>st</sup> January 2024, 18,600 women were coded in General Practice with Read codes associated with pregnancy. Out of these women, 2,367 (12.7%) had an existing risk (as defined by the CMO letter [1]), the remainder (16,233) did not have another identified clinical risk (Appendix Table A3). Uptake of influenza vaccination in all pregnant women, measured using GP data was 35.4% and ranged by HB from 31.0% (Hywel Dda UHB) to 40.4% (Cardiff and Vale UHB). Uptake in pregnant women with another existing risk condition was 47.0% and ranged by HB from 39.6% (Swansea Bay UHB) to 52.4% (Cardiff and Vale UHB). Uptake in pregnant women without another existing risk condition was 33.7% and ranged by HB from 29.4% (Hywel Dda UHB) to 38.8% (Cardiff and Vale UHB).

The point of delivery (POD) survey included 363 women giving birth during a five-day period in January 2024 [6]. Data were submitted by all health boards in Wales. Uptake of influenza immunisation recalled in this group was 60.9% (95% CI 55.7-65.9), stable compared to 60.0% (95% CI 54.6-65.2) last year. The survey also found that 86.5% of the women could recall being offered influenza immunisation, a decrease from 93.3% from last year (Table 4.2.7 and Figure 4.2.8). The estimates using GP data are uniformly lower than those estimated using the survey at the point of delivery (Figure 4.2.6).

**Table 4.2.9.** Number of women offered influenza vaccine during pregnancy, Wales, 2023/24 (Data source: 2023/24 point of delivery survey)

Offered influenza vaccination while pregnant	Number of women (n)	Percentage (%)
Yes	314	86.5%
No	10	2.8%
Not sure/missing	39	10.7%
<b>Total</b>	<b>363</b>	<b>100%</b>

**Figure 4.2.6.** Uptake (%) of influenza vaccination in pregnant women by data source, Wales, 2012/13-2023/24



Although there may be problems with ascertainment of the percentage uptake, data provided by GPs on uptake in pregnancy are still useful in estimating and monitoring the number of pregnant women in Wales who have received influenza vaccination each season. During the 2023/24 winter, 6,587 women whose GP record contained Read codes relating to pregnancy were recorded as having received influenza vaccination. This is a decrease from the 2022/23 total of 6,941 women vaccinated.

**4.2.5 Estimated numbers of individuals immunised in Wales in 2023/24**

The estimated total number of individuals recorded by their general practice as immunised against influenza was 922,842 as at 23<sup>rd</sup> April 2024, based on Read coded data reported from all practices in Wales for 2023/24. This represents an estimated 29% of the population of Wales.

This includes 509,224 individuals aged 65 years and over, 182,773 aged six months to 65 years in a clinical risk group, 5,474 pregnant women without clinical risk, 26,140 children aged two and three years and 21,227 carers. Vaccinated individuals are ascertained using Read codes which correspond to eligibility criteria [6].

The remaining 178,004 immunisations were likely received by:

- Patients aged younger than 65 years who did not have Read codes attached to their GP records which are recommended for use in surveillance of influenza immunisation uptake in risk groups who were regarded as at risk by GPs based on clinical judgement.
- Those in long-stay residential homes who are not aged 65 years or older, and not in a clinical risk group.
- Patients immunised by other service providers, for example occupational health departments and school nursing services, whose GPs were notified and whose records were updated with appropriate vaccination Read codes.

The estimated total of 922,842 individuals immunised in 2023/24 is a decrease on the estimated 1,063,495 individuals immunised during the 2022/23 influenza immunisation campaign. Those aged 50-64 years not in a clinical risk group were not eligible for free influenza vaccination this year which will account for some decreases in the number of immunisations given over all. These estimates are based on data recorded by general practices, the actual number of individuals immunised against influenza in Wales will be higher as not all immunisations given by other service providers will be recorded in general practice databases. In addition, the extent to which immunisations given in community pharmacies are recorded using Read codes in GP patient databases is unknown; these vaccinations may be under-reported in uptake figures calculated using GP data.

#### **4.2.6 Uptake in NHS staff in Wales**

All health boards and NHS trusts in Wales provided NHS staff immunisation uptake data. Uptake in staff groups expected to have direct patient contact was 40.5% (n=26,947) (Table 4.2.10). Uptake in staff with direct patient contact ranged by organisation from 33.3% (Betsi Cadwaladr UHB) to 52.7% (Swansea Bay UHB). Uptake in staff groups ranged from 33.5% (Additional Clinical Services) to 55.3% (Medical and Dental) (Table 4.2.11).

There were a total of 102,328 NHS health board or trust staff reported under the care of NHS Occupational Health departments in Wales and offered influenza vaccination, of whom 40.8% (n=41,737) were immunised during 2023/24, a decrease of 5.2 from 46.0% in 2022/23. Uptake has increased in ten of the fourteen years since 2009/10 (11.6%). Uptake in all staff ranged by organisation from 33.6% (Betsi Cadwaladr UHB) to 54.0% (Swansea Bay UHB). Only Swansea Bay UHB showed an increase in uptake compared to the previous season (Figure 4.2.7).

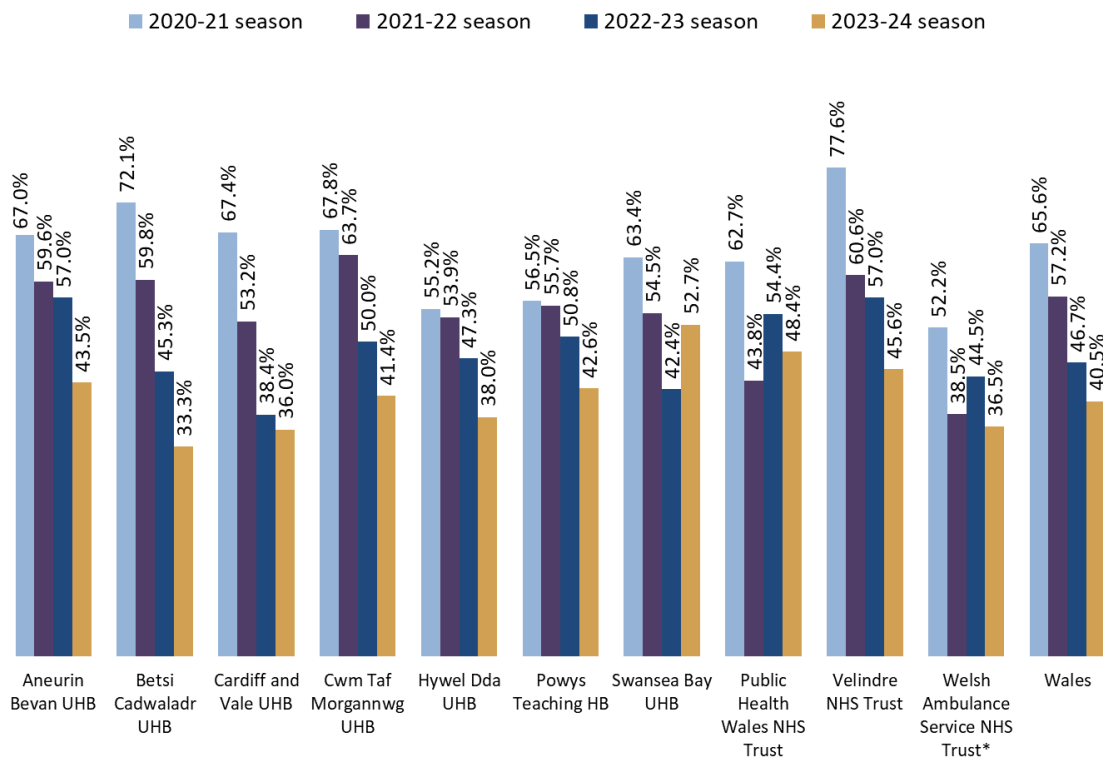
Uptake of influenza vaccination in staff with direct patient contact did not exceed the Welsh Government ambition of 80% in any Health Board or NHS Trust (Table 4.2.10).

**Table 4.2.10. Uptake of influenza immunisation in NHS staff in Wales, 2023/24**

Health Board/Trust	Total Staff			Staff with direct patient contact <sup>1</sup>		
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)
Aneurin Bevan UHB	6712	15625	43.0	4604	10578	43.5
Betsi Cadwaladr UHB	6908	20551	33.6	4750	14249	33.3
Cardiff and Vale UHB	6090	17020	35.8	4326	12028	36.0
Cwm Taf Morgannwg UHB	5485	12574	43.6	3474	8397	41.4
Hywel Dda UHB	4415	11724	37.7	3032	7979	38.0
Powys Teaching HB	982	2160	45.5	582	1366	42.6
Swansea Bay UHB	7681	14229	54.0	5194	9854	52.7
Velindre NHS Trust	719	1629	44.1	377	826	45.6
Welsh Ambulance Service NHS Trust	1582	4339	36.5	-	-	-
Public Health Wales NHS Trust	1163	2477	47.0	608	1257	48.4
<b>Wales</b>	<b>41737</b>	<b>102328</b>	<b>40.8</b>	<b>26947</b>	<b>66534</b>	<b>40.5</b>

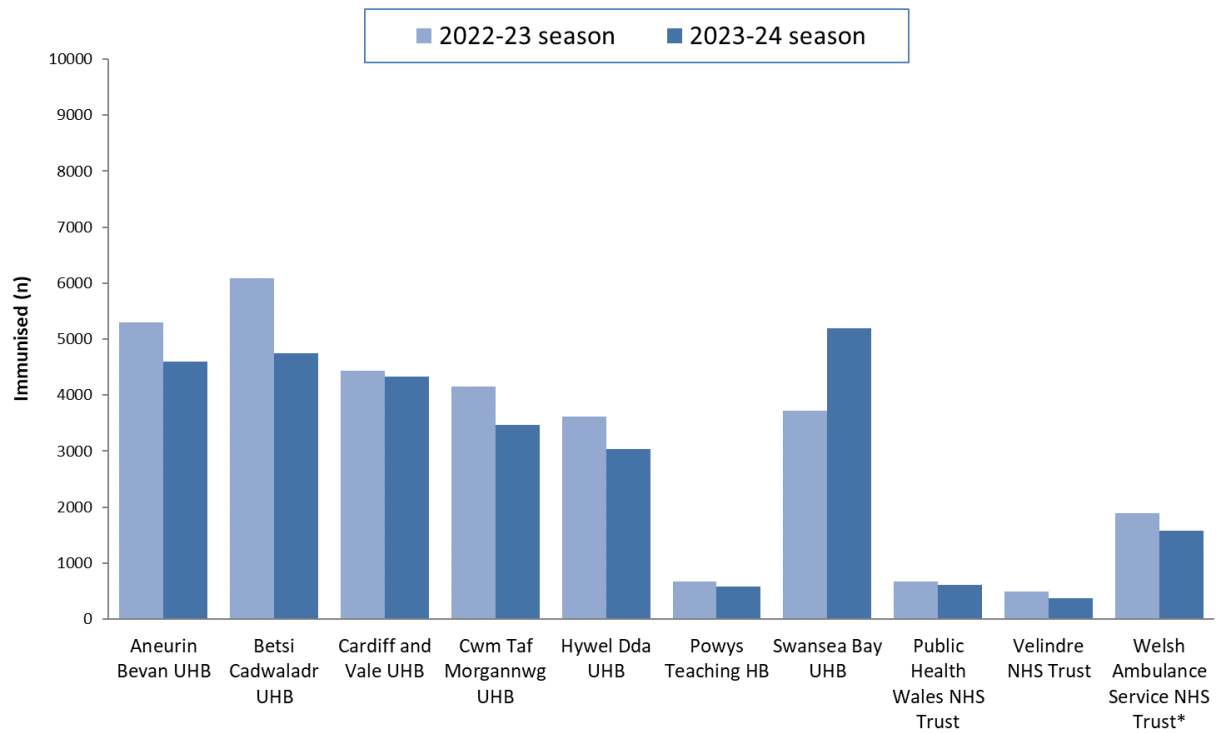
<sup>1</sup> Combined figures for: Additional Prof Scientific and Technical, Additional Clinical Services, Allied Health Professions, Medical and Dental, Nursing & Midwifery Registered staff groups.

**Figure 4.2.7. Uptake of influenza immunisation in NHS staff with direct patient contact in Wales, 2020/21 – 2023/24**



\*All staff data used for Welsh Ambulance Service NHS Trust for 2021/22 to 2023/24

**Figure 4.2.8.** Number of influenza immunisations in Welsh Health Board & NHS Trust staff with direct patient contact – seasonal comparison 2022/23 and 2023/24.



\*All staff data used for Welsh Ambulance Service NHS Trust

**Table 4.2.11.** Uptake of influenza immunisation in NHS staff groups, Wales, 2023/24

ESR staff group	Staff		
	Immunised (n)	Denominator (n)	Uptake (%)
Additional Clinical Services	6814	20357	33.5
Additional Prof Scientific and Technical	1524	3338	45.7
Administrative and Clerical	8292	19508	42.5
Allied Health Professionals	3223	6894	46.8
Estates and Ancillary	3034	8537	35.5
Healthcare Scientists	1016	2190	46.4
Medical and Dental	3220	5827	55.3
Nursing & Midwifery Registered	11558	28861	40.0

### 4.2.7 Immunisations given in community pharmacies

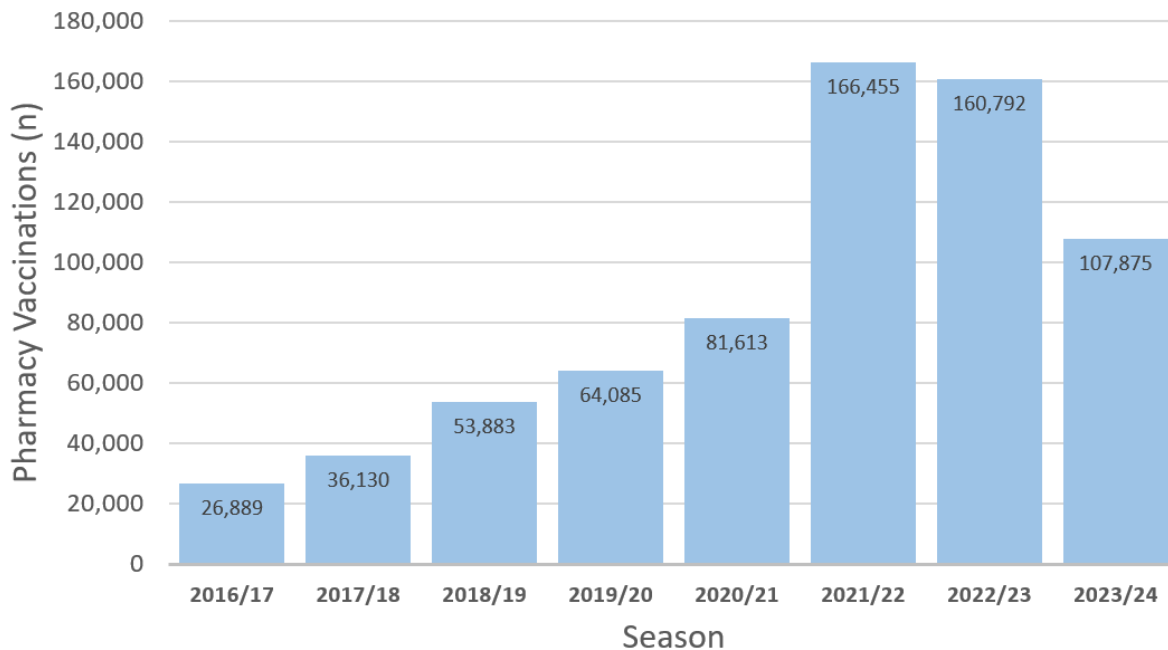
A total of 107,875 people were immunised against influenza in community pharmacies in Wales, as of 26<sup>th</sup> March 2024. This is a decrease compared to 160,792 immunisations given in 2022/23, as recorded in the NECAF system (Figure 4.2.11). **The number of people over 65 years old immunised in community pharmacies have also decreased (just over 66,000 compared to over 72,000 last season).**

This large decrease can be attributed to the change in eligibility, where 50-64 year olds were no longer part of the eligible cohort for 2023/24. The highest number of influenza immunisations given in this setting was in Betsi Cadwaladr UHB (26.1%) whilst the lowest was in Powys Teaching HB (4.1%) (Table 4.2.10).

The majority of influenza immunisations given in community pharmacies were given to individuals aged 65 or over (60.5%), whilst 22.2% of immunisations were given to those in one or more clinical risk groups aged under 65 (Table 4.2.11). Of the influenza immunisations given to those in a risk group, the majority were given to individuals with chronic respiratory disease (45.4%) and individuals with diabetes (18.8%) (Table 4.2.12).

A total of 10,349 influenza immunisations were given to carers; 9.6% of all pharmacy immunisations; with 2,464 immunisations given to care home workers; 1,226 to domiciliary carers and 6,659 to unpaid carers (Table 4.2.14).

**Figure 4.2.11.** *Influenza immunisations given in community pharmacies in Wales, 2016/17-2023/24\**



\*Data for 2016/17-2019-20 was taken from the NECAF (National Electronic Claim and Audit Forms) data system, whilst from 2020/21 onwards, data was taken from the Choose Pharmacy system.

**Table 4.2.10.** Number of influenza immunisations given in community pharmacies in Wales, by health board of residence, 2023/24

Health Board	Immunised	
	(n)	(%)
Aneurin Bevan UHB	14,093	13.1
Betsi CadwaladrUHB	28,209	26.1
Cardiff and Vale UHB	15,634	14.5
Cwm Taf Morgannwg UHB	14,434	13.4
Hywel Dda UHB	14,790	13.7
Powys Teaching HB	4,432	4.1
Swansea Bay UHB	16,283	15.1
<b>Wales</b>	<b>107,875</b>	<b>100.0</b>

**Table 4.2.11.** Number of influenza immunisations given in community pharmacies, by eligibility group, 2023/24

Eligibility	Immunised in pharmacies		Total recorded as vaccinated in general practice databases (n) <sup>1</sup>	% of total vaccinations given through pharmacies <sup>1</sup>
	n	% of total pharmacy influenza vaccinations		
Aged 65 or over	66,005	60.5	505,638	13.1
Risk group aged under 65	24,202	22.2	179,819	13.5
Pregnancy	784	0.7	6,441	12.2
Learning Disability	527	0.5	-	-
Carer <sup>2</sup>	6,659	6.1	21,054	31.6
Domiciliary Carer	1,226	1.1	-	-
Care Home Staff	2,464	2.3	-	-
Other <sup>3</sup>	7,319	6.7	-	-
<b>Total</b>	<b>109186</b>	<b>100.0</b>		

<sup>1</sup> Completeness of reporting of pharmacy vaccinations to general practices and consistency of coding for pharmacy vaccinations in general practice databases are unknown. Due to this, the total number of individuals vaccinated may be an underestimate.

<sup>2</sup> Includes informal unpaid and voluntary sector unpaid carers.

<sup>3</sup> Includes individuals who are categorised as: Community First Responder; Designated First Aider; Household contact of immunocompromised; Household contacts of people on the NHS Shielded List; Not in a risk group; People living in long-stay residential care homes or other long-stay care facilities; Third Sector Carer; Other (as specified in PGD).

**Table 4.2.12.** Number of influenza immunisations given in community pharmacies, by risk group, 2023/24

Risk Group	n	Immunised in pharmacies		Total recorded as vaccinated in general practice databases (n) <sup>1</sup>	% of total vaccinations given through pharmacies <sup>1</sup>
		% of total risk group pharmacy influenza vaccinations	% of total pharmacy influenza vaccinations		
Asplenia or splenic dysfunction	99	0.4	0.1	5,148	1.9
Chronic Heart Disease	2,771	11.4	2.6	29,998	9.2
Chronic Kidney Disease	261	1.1	0.2	7,139	3.7
Chronic Liver Disease	151	0.6	0.1	4,898	3.1
Chronic Neurological Disease	1,038	4.3	1.0	16,233	6.4
Chronic Respiratory Disease	10,981	45.4	10.2	80,074	13.7
Diabetes	4,541	18.8	4.2	50,548	9.0
Epilepsy	431	1.8	0.4		
Immuno-suppressed	3,233	13.4	3.0	13,384	24.2
Morbidly obese adults	696	2.9	0.6	33,656	2.1
<b>Total</b>	<b>24,202</b>	<b>100.0</b>	<b>22.4</b>	<b>241,078</b>	<b>10.0</b>

<sup>1</sup>Completeness of reporting of pharmacy vaccinations to general practices and consistency of coding for pharmacy vaccinations in general practice databases are unknown. Due to this the total number of individuals vaccinated may be an underestimate.

**Table 4.2.13.** Number of influenza immunisations given to patients aged 65y and older and those aged 6m to 64y at clinical risk in community pharmacies, by health board of residence 2023/24

Health Board	Patients aged 65y and older	Eligible patients aged <65y at clinical risk	Other Eligible patients aged <65y of age
	Immunised(n)	Immunised(n)	Immunised(n)
Aneurin Bevan UHB	7,937	3,627	1,090
Betsi Cadwaladr UHB	17,156	6,098	1,773
Cardiff and Vale UHB	9,076	3,773	1,338
Cwm Taf Morgannwg UHB	8,282	3,613	1,147
Hywel Dda UHB	9,704	3,097	834
Powys Teaching HB	3,006	813	222
Swansea Bay UHB	10,844	3,181	915
<b>Wales</b>	<b>66,005</b>	<b>24,202</b>	<b>7,319</b>

**Table 4.2.14.** Number of influenza immunisations given to social care sector staff (Domiciliary and Carers in a care home) and unpaid (voluntary or informal) carers in community pharmacies, by health board, 2023/24

Health Board	Social Care Staff		
	Domiciliary Carers	Carers in a Care Home	Unpaid Carers
Aneurin Bevan UHB	187	309	943
Betsi Cadwaladr UHB	333	1,146	1,703
Cardiff and Vale UHB	116	329	1,002
Cwm Taf Morgannwg UHB	277	179	936
Hywel Dda UHB	91	182	882
Powys Teaching HB	84	91	216
Swansea Bay UHB	138	228	977
<b>Wales</b>	<b>1,226</b>	<b>2,464</b>	<b>6,659</b>

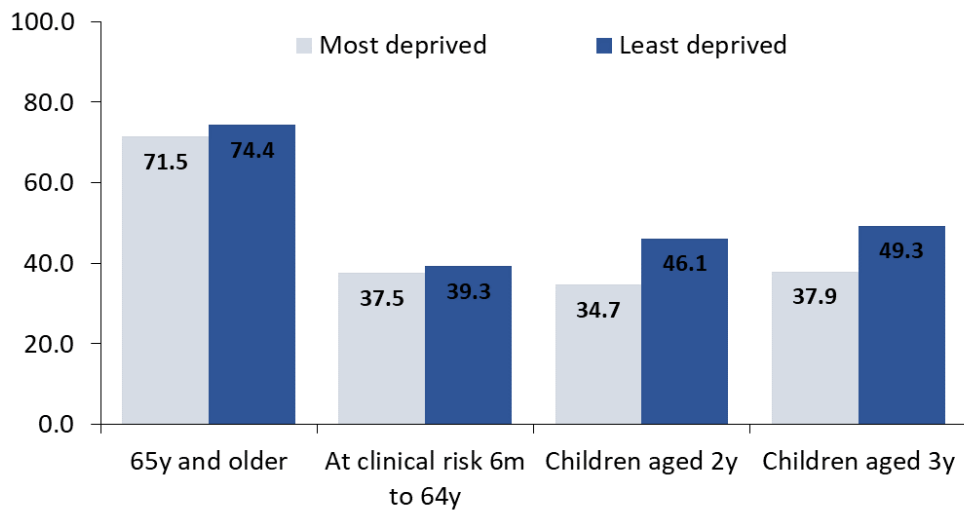
### 4.3 Equity in influenza immunisation uptake

Analysis of coverage by level of socioeconomic deprivation is at ecological level, based on the Welsh Index of Multiple Deprivation (WIMD) ranking of the Lower Super Output Area (LSOA) of the GP that the patient is registered with. The WIMD provides a composite ranking of deprivation for each LSOA in Wales, weighted across eight domains: income, employment, health, education, access to services, community safety, physical environment and housing. For this report, LSOAs were allocated into quintiles based on overall WIMD deprivation ranking, to provide an indication of the deprivation status of the LSOA in which a person lives. In this report, most deprived refers to those registered with a GP located in the most deprived fifth of LSOAs in Wales and least deprived refers to those those registered with a GP located in the least deprived fifth of LSOAs in Wales. All analyses of socioeconomic inequalities in this report use 2019 WIMD national quintiles of deprivation.

**Table 4.3.1** Uptake of influenza immunisation in Wales for the 2023-2024 season, comparing patients registered with GP practices in most deprived and least deprived areas

Eligibility Group	Denominator (n)	Numerator (n)	Uptake (%)	Uptake in most deprived areas (%)	Uptake in least deprived areas (%)	% Gap
65+	702,643	509,224	72.5	71.5	74.4	2.9
6m-64y	467,149	182,773	39.1	37.5	39.3	1.8
2years	29,856	12,338	41.3	34.7	46.1	11.5
3years	31,264	13,802	44.1	37.9	49.3	11.4

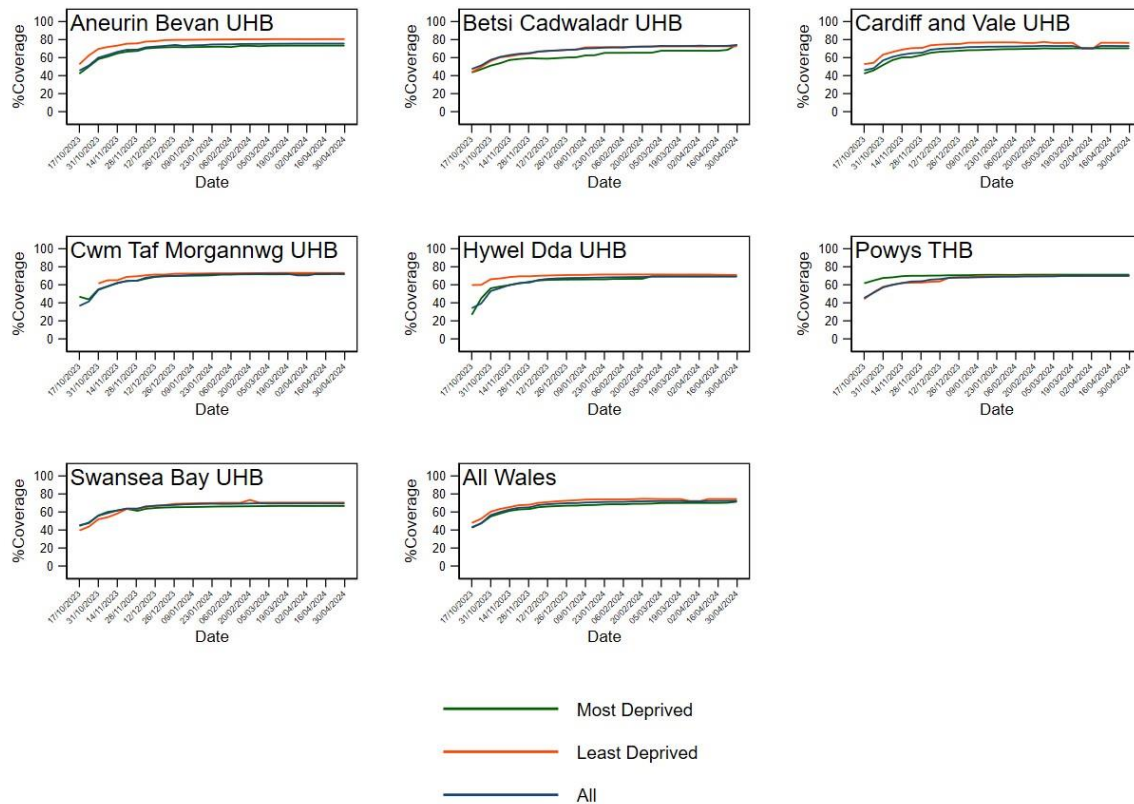
**Figure 4.3.1** Uptake of influenza immunisation in Wales for the 2023-2024 season, comparing patients registered with GP practices in most deprived and least deprived areas



**Table 4.3.2** Uptake of influenza immunisation in Wales for the 2023-2024 season in older patients (aged 65 plus) by local health board, comparing patients registered with GP practices in most deprived and least deprived areas

Local Health Board	Denominator (n)	Numerator (n)	Uptake (%)	Uptake in most deprived areas (%)	Uptake in least deprived areas (%)	% Gap
Aneurin Bevan UHB	127,955	96,735	75.6	73.3	80.5	7.2
Betsi Cadwaladr UHB	165,026	122,314	74.1	74.5	72.6	-1.9
Cardiff and Vale UHB	89,745	65,379	72.8	70.4	76.3	5.9
Cwm Taf Morgannwg UHB	96,106	69,417	72.2	71.8	73.2	1.4
Hywel Dda UHB	101,461	70,178	69.2	69.5	71.0	1.5
Powys THB	39,475	27,605	69.9	71.2	70.0	-1.2
Swansea Bay UHB	82,875	57,596	69.5	66.7	70.4	3.7
All Wales	702,643	509,224	72.5	71.5	74.4	2.9

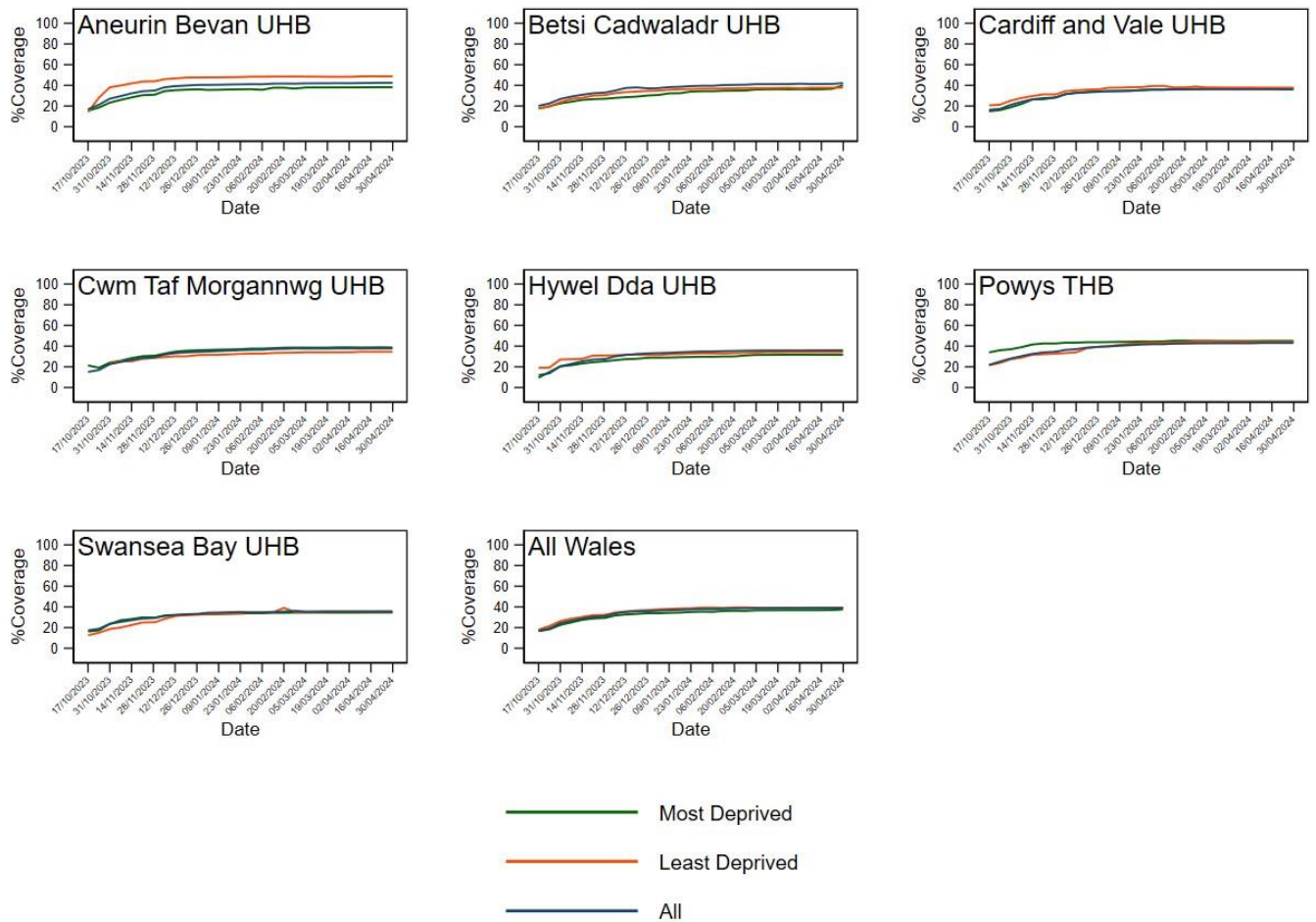
**Figure 4.3.2** Trends in uptake of influenza immunisation in Wales for the 2023-2024 season, in older patients (aged 65 plus) by local health board, comparing patients registered with GP practices in most deprived and least deprived areas



**Table 4.3.3** Uptake of influenza immunisation in Wales for the 2023-2024 season in patients aged 6m to 64y at clinical risks, by local health board, comparing patients registered with GP practices in most deprived and least deprived areas

Local Health Board	Denominator (n)	Numerator (n)	Uptake (%)	Uptake in most deprived areas (%)	Uptake in least deprived areas (%)	% Gap
Aneurin Bevan UHB	94,039	39,930	42.5	38.2	48.8	10.5
Betsi Cadwaladr UHB	98,932	41,695	42.1	40.1	37.7	-2.4
Cardiff and Vale UHB	71,681	25,849	36.1	37.0	37.8	0.7
Cwm Taf Morgannwg UHB	74,251	28,059	37.8	38.7	34.5	-4.2
Hywel Dda UHB	56,067	20,152	35.9	31.7	34.3	2.7
Powys THB	18,531	7,983	43.1	45.1	44.1	-1.0
Swansea Bay UHB	53,648	19,105	35.6	34.5	35.5	1.0
All Wales	467,149	182,773	39.1	37.5	39.3	1.8

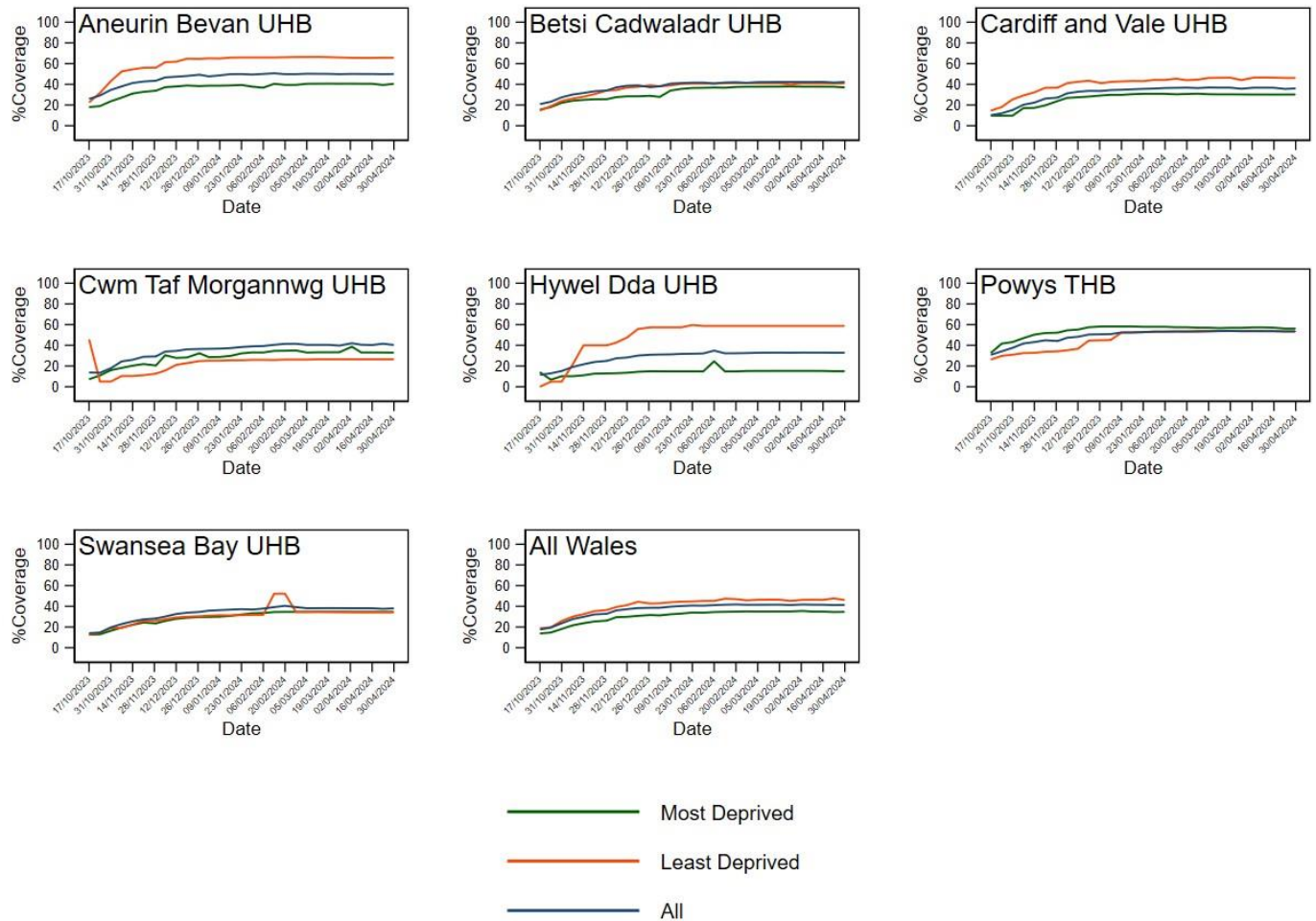
**Figure 4.3.3** Trends in uptake of influenza immunisation in Wales for the 2023-2024 season, in patients aged 6m to 64y at clinical risks, by local health board, comparing patients registered with GP practices in most deprived and least deprived areas



**Table 4.3.4** Uptake of influenza immunisation in Wales for the 2023-2024 season in children aged 2 years, by local health board, comparing patients registered with GP practices in most deprived and least deprived areas

Local Health Board	Denominator (n)	Numerator (n)	Uptake (%)	Uptake in most deprived areas (%)	Uptake in least deprived areas (%)	% Gap
Aneurin Bevan UHB	6,056	3,027	50.0	40.5	65.7	25.2
Betsi Cadwaladr UHB	6,188	2,612	42.2	37.0	40.9	3.9
Cardiff and Vale UHB	5,230	1,885	36.0	30.1	46.1	16.0
Cwm Taf Morgannwg UHB	4,425	1,785	40.3	32.9	26.5	-6.4
Hywel Dda UHB	3,304	1,086	32.9	15.0	58.7	43.7
Powys THB	1,128	602	53.4	56.2	53.6	-2.6
Swansea Bay UHB	3,525	1,341	38.0	34.6	34.2	-0.4
All Wales	29,856	12,338	41.3	34.7	46.1	11.5

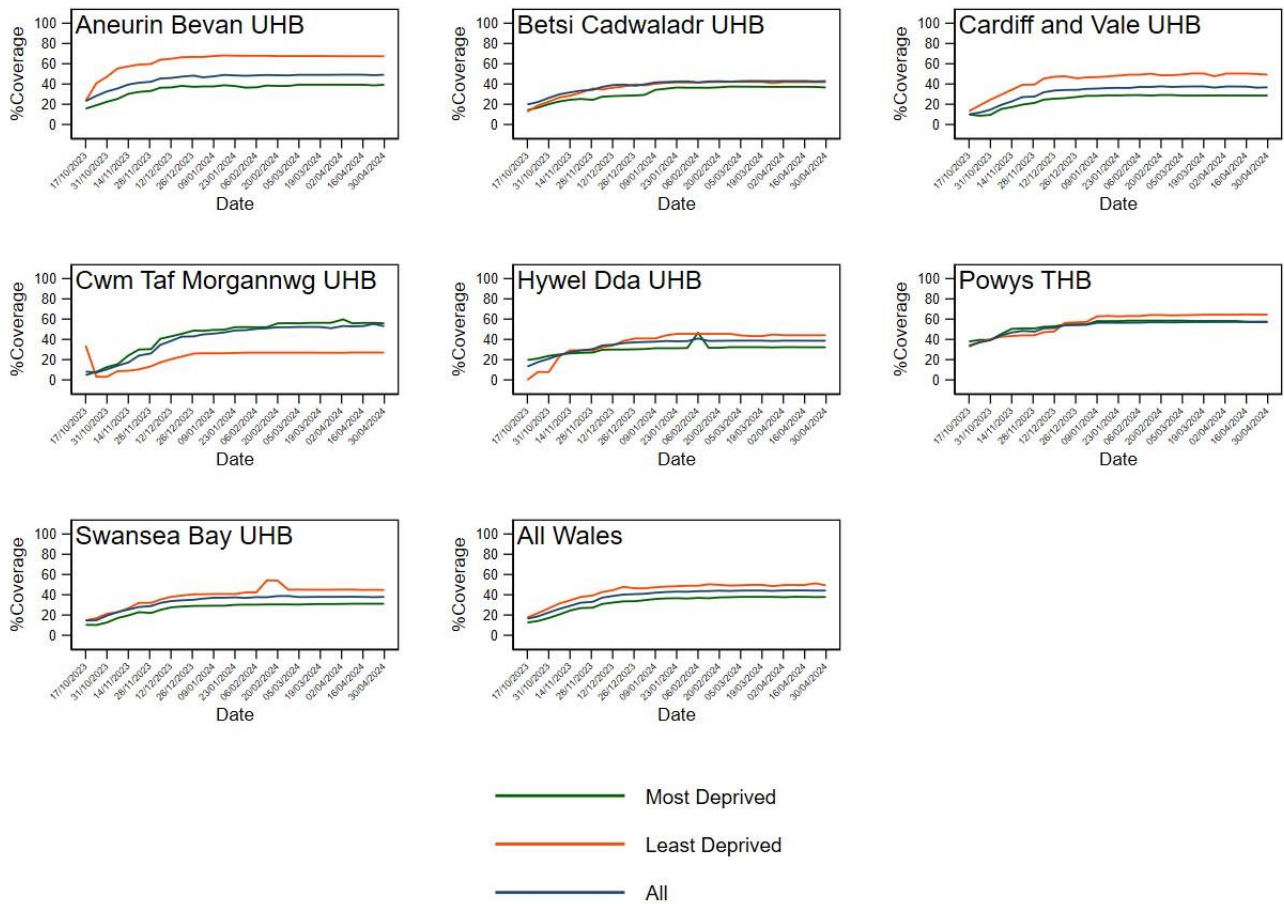
**Figure 4.3.4** Trends in uptake of influenza immunisation in Wales for the 2023-2024 season, in children aged 2 years, by local health board, comparing patients registered with GP practices in most deprived and least deprived areas



**Table 4.3.5** Uptake of influenza immunisation in Wales for the 2023-2024 season in children aged 3 years, by local health board, comparing patients registered with GP practices in most deprived and least deprived areas

Local Health Board	Denominator (n)	Numerator (n)	Uptake (%)	Uptake in most deprived areas (%)	Uptake in least deprived areas (%)	% Gap
Aneurin Bevan UHB	6,478	3,182	49.1	39.2	67.5	28.2
Betsi Cadwaladr UHB	6,419	2,757	43.0	36.6	41.8	5.2
Cardiff and Vale UHB	5,419	1,991	36.7	28.6	49.3	20.7
Cwm Taf Morgannwg UHB	4,722	2,506	53.1	55.9	27.1	-28.9
Hywel Dda UHB	3,415	1,321	38.7	32.3	44.1	11.9
Powys THB	1,146	654	57.1	57.5	64.5	7.0
Swansea Bay UHB	3,665	1,391	38.0	31.1	44.8	13.6
All Wales	31,264	13,802	44.1	37.9	49.3	11.4

**Figure 4.3.5** Trends in uptake of influenza immunisation in Wales for the 2023-2024 season, in children aged 3 years, by local health board, comparing patients living in most deprived to least deprived areas



## 5. Conclusions

The 2023-24 season saw lower levels of cases and season intensity compared to the previous season, and was shorter. There were a lower number of cases confirmed in all settings and a lower number of outbreaks. The season saw a considerable increase in community testing, in large part due to the expansion of the Public Health Wales Sentinel GP and Sentinel Community Pharmacy Surveillance Networks compared to the previous season. Although the influenza season was not a severe one, other causes of acute respiratory infection were seen in higher numbers than previous recent years, most notably *Mycoplasma pneumoniae* and *Bordetella pertussis*.

Influenza vaccination uptake decreased again this season, continuing a three-year declining trend. Uptake in all eligibility groups were lower than last year and the 75% uptake ambition was not met for the 65 plus group for the first time in four years. There is a gap between uptake in the most and least deprived areas with uptake higher in the least deprived areas. This gap is higher in children aged 2 and 3 years. This is the first annual report which reports on differences in uptake by level of socioeconomic deprivation and provides a baseline for future monitoring.

The seasonal influenza vaccines used in the UK during 2023-24 were significantly effective in preventing primary care and secondary attendances for virologically confirmed illness due to influenza. This confirms the public health benefit of influenza vaccination in preventing severe illness during winter months in Wales.

## 6. References

1. Chief Medical Officer for Wales. *The national influenza immunisation programme 2023-2024*. WHC(2023)023. Welsh Government. 2023. Available from: <https://www.gov.wales/sites/default/files/publications/2023-06/the-national-influenza-immunisation-programme-2023-24.pdf> [Accessed 16<sup>th</sup> July 2024].
2. Vega T, Lozano J E, Meerhoff T *et al*. *Influenza surveillance in Europe: establishing epidemic thresholds by the Moving Epidemic Method*. *Influenza and Other Respiratory Viruses*. 2013;7(4):346-558 Available from: <http://onlinelibrary.wiley.com/doi/10.1111/j.1750-2659.2012.00422.x/full> [Accessed 30<sup>th</sup> July 2024].
3. EuroMOMO <https://euromomo.eu/graphs-and-maps/> [Accessed 9th July 2024].
4. UK Health Security Agency. Surveillance of influenza and other seasonal respiratory viruses in the UK, winter 2023 to 2024 Available from: <https://www.gov.uk/government/statistics/surveillance-of-influenza-and-other-seasonal-respiratory-viruses-in-the-uk-winter-2023-to-2024/> [Accessed 9th July 2024].
5. PRIMIS. *Seasonal Influenza Vaccine Uptake Reporting Specification Collection 2023/2024* University of Nottingham. 2023 Available from: [https://nww2.nphs.wales.nhs.uk/CommunitySurveillanceDocs.nsf/3dc04669c9e1eaa880257062003b246b/a8076ade106eccbe80258ab7004f538f/\\$FILE/UKHSA\\_FLU\\_Vaccination%20Uptake%20Reporting%20Specification\\_2324%20v15.2.pdf](https://nww2.nphs.wales.nhs.uk/CommunitySurveillanceDocs.nsf/3dc04669c9e1eaa880257062003b246b/a8076ade106eccbe80258ab7004f538f/$FILE/UKHSA_FLU_Vaccination%20Uptake%20Reporting%20Specification_2324%20v15.2.pdf) [Accessed 22<sup>nd</sup> May 2024].
6. Public Health Wales Vaccine Preventable Disease Programme. *Coverage of pertussis and influenza vaccination in pregnant women in Wales 2022/23*. Public Health Wales Health Protection Division. 2024. Available from: [https://nhs.wales365.sharepoint.com/sites/PHW\\_VPDComms/SitePages/Immunisation-uptake-in-pregnancy.aspx](https://nhs.wales365.sharepoint.com/sites/PHW_VPDComms/SitePages/Immunisation-uptake-in-pregnancy.aspx) [Accessed 5<sup>th</sup> August 2024].

**Further information on influenza and influenza immunisation can be found using the links below:**

Information for Health and Social Care Professionals on influenza immunisation:

<https://phw.nhs.wales/topics/immunisation-and-vaccines/flu vaccine/resourcesforprofessionals/>

General information on influenza immunisation in Wales:

<https://phw.nhs.wales/topics/immunisation-and-vaccines/flu vaccine/>

Influenza surveillance in Wales:

<https://phw.nhs.wales/topics/immunisation-and-vaccines/flu vaccine/weekly-influenza-and-acute-respiratory-infection-report/>

## 7. Information about this report

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## 8. Appendix A: Influenza immunisation data tables

**Table A1.** Uptake of influenza immunisation in Wales 2023/24.

Local Authority	Patients aged 65y and older			Patients aged 6m to 64y at risk		
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)
<b>Aneurin Bevan UHB</b>						
Blaenau Gwent LA	10,458	14,766	70.8	5,091	12,141	41.9
Caerphilly LA	28,384	38,002	74.7	11,883	28,305	42.0
Monmouthshire LA	21,979	26,829	81.9	7,293	14,248	51.2
Newport LA	20,406	27,933	73.1	9,030	23,821	37.9
Torfaen LA	15,508	20,425	75.9	6,633	15,524	42.7
<b>Health Board Total</b>	<b>96,735</b>	<b>127,955</b>	<b>75.6</b>	<b>39,930</b>	<b>94,039</b>	<b>42.5</b>
<b>Betsi Cadwaladr UHB</b>						
Anglesey LA	13,702	17,770	77.1	4,599	9,792	47.0
Conwy LA	23,506	31,864	73.8	6,393	15,870	40.3
Denbighshire LA	18,430	25,307	72.8	6,105	15,288	39.9
Flintshire LA	25,752	33,335	77.3	10,017	22,065	45.4
Gwynedd LA	20,065	28,726	69.8	6,406	16,560	38.7
Wrexham LA	20,859	28,024	74.4	8,175	19,357	42.2
<b>Health Board Total</b>	<b>122,314</b>	<b>165,026</b>	<b>74.1</b>	<b>41,695</b>	<b>98,932</b>	<b>42.1</b>
<b>Cardiff and Vale UHB</b>						
Cardiff LA	42,589	58,729	72.5	19,053	52,553	36.3
Vale of Glamorgan LA	22,790	31,016	73.5	6,796	19,128	35.5
<b>Health Board Total</b>	<b>65,379</b>	<b>89,745</b>	<b>72.8</b>	<b>25,849</b>	<b>71,681</b>	<b>36.1</b>
<b>Cwm Taf Morgannwg UHB</b>						
Bridgend LA	25,890	34,428	75.2	9,831	25,032	39.3
Merthyr Tydfil LA	7,849	11,674	67.2	3,640	10,045	36.2
Rhondda Cynon Taff LA	35,678	50,004	71.4	14,588	39,174	37.2
<b>Health Board Total</b>	<b>69,417</b>	<b>96,106</b>	<b>72.2</b>	<b>28,059</b>	<b>74,251</b>	<b>37.8</b>
<b>Hywel Dda UHB</b>						
Carmarthenshire LA	31,234	44,695	69.9	9,444	26,618	35.5
Ceredigion LA	15,990	24,422	65.5	4,382	11,671	37.5
Pembrokeshire LA	22,954	32,344	71.0	6,326	17,778	35.6
<b>Health Board Total</b>	<b>70,178</b>	<b>101,461</b>	<b>69.2</b>	<b>20,152</b>	<b>56,067</b>	<b>35.9</b>
<b>Powys Teaching HB</b>						
	<b>27,605</b>	<b>39,475</b>	<b>69.9</b>	<b>7,983</b>	<b>18,531</b>	<b>43.1</b>
<b>Swansea Bay UHB</b>						
Neath Port Talbot LA	20,798	30,640	67.9	7,189	20,352	35.3
Swansea LA	36,798	52,235	70.4	11,916	33,296	35.8
<b>Health Board Total</b>	<b>57,596</b>	<b>82,875</b>	<b>69.5</b>	<b>19,105</b>	<b>53,648</b>	<b>35.6</b>
<b>Wales Total</b>	<b>509,224</b>	<b>702,643</b>	<b>72.5</b>	<b>182,773</b>	<b>467,149</b>	<b>39.1</b>

**Table A2.** Uptake of influenza immunisation in those aged six months to 64 years with one or more clinical risk (by risk category) in Wales 2023/24.

Local Authority	Total patients aged 6m to 64y	Chronic heart disease				Chronic respiratory disease				Chronic kidney disease				Diabetes			
		With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)
<b>Aneurin Bevan UHB</b>																	
Blaenau Gwent LA	57,820	1,910	3.3	811	42.5	4,860	8.4	2,180	44.9	444	0.8	239	53.8	2,851	4.9	1,542	54.1
Caerphilly LA	148,743	4,299	2.9	1,931	44.9	11,272	7.6	4,781	42.4	731	0.5	399	54.6	6,623	4.5	3,784	57.1
Monmouthshire LA	77,882	2,529	3.2	1,363	53.9	6,030	7.7	2,901	48.1	471	0.6	314	66.7	2,743	3.5	1,763	64.3
Newport LA	139,955	3,459	2.5	1,379	39.9	9,786	7.0	3,718	38.0	702	0.5	328	46.7	5,913	4.2	2,866	48.5
Torfaen LA	77,760	2,558	3.3	1,117	43.7	6,565	8.4	2,830	43.1	405	0.5	234	57.8	3,355	4.3	1,835	54.7
<b>Health Board Total</b>	<b>502,160</b>	<b>14,755</b>	<b>2.9</b>	<b>6,601</b>	<b>44.7</b>	<b>38,513</b>	<b>7.7</b>	<b>16,410</b>	<b>42.6</b>	<b>2,753</b>	<b>0.5</b>	<b>1,514</b>	<b>55.0</b>	<b>21,485</b>	<b>4.3</b>	<b>11,790</b>	<b>54.9</b>
<b>Betsi Cadwaladr UHB</b>																	
Anglesey LA	48,343	1,311	2.7	657	50.1	4,687	9.7	2,196	46.9	278	0.6	147	52.9	1,925	4.0	1,197	62.2
Conwy LA	85,005	2,516	3.0	1,072	42.6	7,095	8.3	2,946	41.5	550	0.6	272	49.5	3,228	3.8	1,674	51.9
Denbighshire LA	79,155	2,460	3.1	1,018	41.4	7,080	8.9	2,898	40.9	457	0.6	248	54.3	3,030	3.8	1,491	49.2
Flintshire LA	122,248	3,468	2.8	1,652	47.6	9,840	8.0	4,540	46.1	734	0.6	412	56.1	4,474	3.7	2,493	55.7
Gwynedd LA	96,061	2,276	2.4	924	40.6	7,867	8.2	3,120	39.7	562	0.6	268	47.7	3,045	3.2	1,541	50.6
Wrexham LA	104,282	3,004	2.9	1,358	45.2	8,598	8.2	3,830	44.5	707	0.7	362	51.2	3,797	3.6	2,039	53.7
<b>Health Board Total</b>	<b>535,094</b>	<b>15,035</b>	<b>2.8</b>	<b>6,681</b>	<b>44.4</b>	<b>45,167</b>	<b>8.4</b>	<b>19,530</b>	<b>43.2</b>	<b>3,288</b>	<b>0.6</b>	<b>1,709</b>	<b>52.0</b>	<b>19,499</b>	<b>3.6</b>	<b>10,435</b>	<b>53.5</b>
<b>Cardiff and Vale UHB</b>																	
Cardiff LA	347,648	7,624	2.2	2,745	36.0	23,576	6.8	8,840	37.5	1,381	0.4	629	45.5	11,625	3.3	5,897	50.7
Vale of Glamorgan LA	111,976	2,958	2.6	1,064	36.0	8,623	7.7	3,186	36.9	563	0.5	236	41.9	3,750	3.3	1,788	47.7
<b>Health Board Total</b>	<b>459,624</b>	<b>10,582</b>	<b>2.3</b>	<b>3,809</b>	<b>36.0</b>	<b>32,199</b>	<b>7.0</b>	<b>12,026</b>	<b>37.3</b>	<b>1,944</b>	<b>0.4</b>	<b>865</b>	<b>44.5</b>	<b>15,375</b>	<b>3.3</b>	<b>7,685</b>	<b>50.0</b>
<b>Cwm Taf Morgannwg UHB</b>																	
Bridgend LA	128,114	4,426	3.5	1,825	41.2	10,556	8.2	4,352	41.2	1,052	0.8	512	48.7	5,343	4.2	2,761	51.7
Merthyr Tydfil LA	50,129	1,617	3.2	574	35.5	4,332	8.6	1,758	40.6	292	0.6	139	47.6	2,179	4.3	1,093	50.2
Rhondda Cynon Taff LA	202,051	5,772	2.9	2,365	41.0	16,841	8.3	6,761	40.1	1,346	0.7	634	47.1	8,495	4.2	4,373	51.5
<b>Health Board Total</b>	<b>380,294</b>	<b>11,815</b>	<b>3.1</b>	<b>4,764</b>	<b>40.3</b>	<b>31,729</b>	<b>8.3</b>	<b>12,871</b>	<b>40.6</b>	<b>2,690</b>	<b>0.7</b>	<b>1,285</b>	<b>47.8</b>	<b>16,017</b>	<b>4.2</b>	<b>8,227</b>	<b>51.4</b>
<b>Hywel Dda UHB</b>																	
Carmarthenshire LA	138,980	4,597	3.3	1,771	38.5	11,686	8.4	4,392	37.6	783	0.6	332	42.4	5,577	4.0	2,518	45.1
Ceredigion LA	70,084	2,053	2.9	820	39.9	5,117	7.3	2,046	40.0	358	0.5	157	43.9	2,350	3.4	1,154	49.1
Pembrokeshire LA	91,413	2,967	3.2	1,114	37.5	8,088	8.8	2,978	36.8	654	0.7	268	41.0	3,822	4.2	1,770	46.3
<b>Health Board Total</b>	<b>300,477</b>	<b>9,617</b>	<b>3.2</b>	<b>3,705</b>	<b>38.5</b>	<b>24,891</b>	<b>8.3</b>	<b>9,416</b>	<b>37.8</b>	<b>1,795</b>	<b>0.6</b>	<b>757</b>	<b>42.2</b>	<b>11,749</b>	<b>3.9</b>	<b>5,442</b>	<b>46.3</b>
<b>Powys Teaching HB</b>																	
<b>Health Board Total</b>	<b>102,441</b>	<b>3,344</b>	<b>3.3</b>	<b>1,472</b>	<b>44.0</b>	<b>7,934</b>	<b>7.7</b>	<b>3,667</b>	<b>46.2</b>	<b>686</b>	<b>0.7</b>	<b>351</b>	<b>51.2</b>	<b>3,585</b>	<b>3.5</b>	<b>1,960</b>	<b>54.7</b>
<b>Swansea Bay UHB</b>																	
Neath Port Talbot LA	109,325	3,643	3.3	1,374	37.7	7,317	6.7	2,653	36.3	769	0.7	355	46.2	4,665	4.3	2,182	46.8
Swansea LA	210,321	5,627	2.7	2,072	36.8	13,053	6.2	5,093	39.0	1,000	0.5	403	40.3	7,502	3.6	3,629	48.4
<b>Health Board Total</b>	<b>319,646</b>	<b>9,270</b>	<b>2.9</b>	<b>3,446</b>	<b>37.2</b>	<b>20,370</b>	<b>6.4</b>	<b>7,746</b>	<b>38.0</b>	<b>1,769</b>	<b>0.6</b>	<b>758</b>	<b>42.8</b>	<b>12,167</b>	<b>3.8</b>	<b>5,811</b>	<b>47.8</b>
<b>Wales Total</b>	<b>2,599,736</b>	<b>74,418</b>	<b>2.9</b>	<b>30,478</b>	<b>41.0</b>	<b>200,803</b>	<b>7.7</b>	<b>81,666</b>	<b>40.7</b>	<b>14,925</b>	<b>0.6</b>	<b>7,239</b>	<b>48.5</b>	<b>99,877</b>	<b>3.8</b>	<b>51,350</b>	<b>51.4</b>

**Table A2 (cont).** Uptake of influenza immunisation in those aged six months to 64 years with one or more clinical risk (by risk category) in Wales 2023/24.

Local Authority	Total patients aged 6m to 64y	Immuno-suppression				Chronic liver disease				Neurological conditions				Morbidly obese				Asplenia/ splenic dysfunction			
		With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)	With condition (n)	(%)	Immunised (n)	Uptake (%)
<b>Aneurin Bevan UHB</b>																					
Blaenau Gwent LA	57,820	744	1.3	432	58.1	351	0.6	154	43.9	908	1.6	416	45.8	3,120	5.4	1,169	37.5	319	0.6	139	43.6
Caerphilly LA	148,743	1,506	1.0	851	56.5	705	0.5	347	49.2	2,231	1.5	1,050	47.1	7,230	4.9	2,698	37.3	809	0.5	316	39.1
Monmouthshire LA	77,882	913	1.2	607	66.5	365	0.5	196	53.7	1,171	1.5	677	57.8	2,733	3.5	1,436	52.5	567	0.7	261	46.0
Newport LA	139,955	1,479	1.1	766	51.8	606	0.4	252	41.6	1,712	1.2	748	43.7	5,236	3.7	1,854	35.4	696	0.5	233	33.5
Torfaen LA	77,760	1,085	1.4	629	58.0	425	0.5	185	43.5	1,234	1.6	579	46.9	3,479	4.5	1,466	42.1	515	0.7	208	40.4
<b>Health Board Total</b>	<b>502,160</b>	<b>5,727</b>	<b>1.1</b>	<b>3,285</b>	<b>57.4</b>	<b>2,452</b>	<b>0.5</b>	<b>1,134</b>	<b>46.2</b>	<b>7,256</b>	<b>1.4</b>	<b>3,470</b>	<b>47.8</b>	<b>21,798</b>	<b>4.3</b>	<b>8,623</b>	<b>39.6</b>	<b>2,906</b>	<b>0.6</b>	<b>1,157</b>	<b>39.8</b>
<b>Betsi Cadwaladr UHB</b>																					
Anglesey LA	48,343	628	1.3	373	59.4	232	0.5	105	45.3	797	1.6	401	50.3	2,064	4.3	872	42.2	268	0.6	125	46.6
Conwy LA	85,005	996	1.2	485	48.7	453	0.5	180	39.7	1,308	1.5	574	43.9	3,016	3.5	1,075	35.6	527	0.6	225	42.7
Denbighshire LA	79,155	974	1.2	523	53.7	484	0.6	175	36.2	1,309	1.7	577	44.1	3,008	3.8	1,106	36.8	463	0.6	157	33.9
Flintshire LA	122,248	1,393	1.1	804	57.7	647	0.5	258	39.9	1,623	1.3	818	50.4	4,417	3.6	1,845	41.8	658	0.5	304	46.2
Gwynedd LA	96,061	1,038	1.1	528	50.9	396	0.4	141	35.6	1,265	1.3	522	41.3	3,021	3.1	1,052	34.8	528	0.5	185	35.0
Wrexham LA	104,282	1,120	1.1	608	54.3	560	0.5	210	37.5	1,445	1.4	661	45.7	4,304	4.1	1,571	36.5	555	0.5	242	43.6
<b>Health Board Total</b>	<b>535,094</b>	<b>6,149</b>	<b>1.1</b>	<b>3,321</b>	<b>54.0</b>	<b>2,772</b>	<b>0.5</b>	<b>1,069</b>	<b>38.6</b>	<b>7,747</b>	<b>1.4</b>	<b>3,553</b>	<b>45.9</b>	<b>19,830</b>	<b>3.7</b>	<b>7,521</b>	<b>37.9</b>	<b>2,999</b>	<b>0.6</b>	<b>1,238</b>	<b>41.3</b>
<b>Cardiff and Vale UHB</b>																					
Cardiff LA	347,648	3,118	0.9	1,506	48.3	1,261	0.4	448	35.5	3,958	1.1	1,491	37.7	9,433	2.7	3,030	32.1	1,809	0.5	608	33.6
Vale of Glamorgan LA	111,976	1,117	1.0	582	52.1	430	0.4	169	39.3	1,613	1.4	649	40.2	3,440	3.1	1,053	30.6	662	0.6	215	32.5
<b>Health Board Total</b>	<b>459,624</b>	<b>4,235</b>	<b>0.9</b>	<b>2,088</b>	<b>49.3</b>	<b>1,691</b>	<b>0.4</b>	<b>617</b>	<b>36.5</b>	<b>5,571</b>	<b>1.2</b>	<b>2,140</b>	<b>38.4</b>	<b>12,873</b>	<b>2.8</b>	<b>4,083</b>	<b>31.7</b>	<b>2,471</b>	<b>0.5</b>	<b>823</b>	<b>33.3</b>
<b>Cwm Taf Morgannwg UHB</b>																					
Bridgend LA	128,114	1,068	0.8	488	45.7	589	0.5	216	36.7	2,181	1.7	951	43.6	5,466	4.3	1,916	35.1	721	0.6	278	38.6
Merthyr Tydfil LA	50,129	481	1.0	210	43.7	305	0.6	93	30.5	842	1.7	346	41.1	2,421	4.8	732	30.2	216	0.4	73	33.8
Rhondda Cynon Taff LA	202,051	1,986	1.0	915	46.1	1,147	0.6	433	37.8	3,110	1.5	1,237	39.8	9,494	4.7	2,836	29.9	981	0.5	376	38.3
<b>Health Board Total</b>	<b>380,294</b>	<b>3,535</b>	<b>0.9</b>	<b>1,613</b>	<b>45.6</b>	<b>2,041</b>	<b>0.5</b>	<b>742</b>	<b>36.4</b>	<b>6,133</b>	<b>1.6</b>	<b>2,534</b>	<b>41.3</b>	<b>17,381</b>	<b>4.6</b>	<b>5,484</b>	<b>31.6</b>	<b>1,918</b>	<b>0.5</b>	<b>727</b>	<b>37.9</b>
<b>Hywel Dda UHB</b>																					
Carmarthenshire LA	138,980	1,436	1.0	658	45.8	614	0.4	212	34.5	2,473	1.8	1,004	40.6	5,500	4.0	1,680	30.5	642	0.5	215	33.5
Ceredigion LA	70,084	657	0.9	323	49.2	318	0.5	113	35.5	989	1.4	378	38.2	2,109	3.0	651	30.9	413	0.6	134	32.4
Pembrokeshire LA	91,413	1,056	1.2	520	49.2	527	0.6	201	38.1	1,519	1.7	591	38.9	3,358	3.7	1,039	30.9	526	0.6	172	32.7
<b>Health Board Total</b>	<b>300,477</b>	<b>3,149</b>	<b>1.0</b>	<b>1,501</b>	<b>47.7</b>	<b>1,459</b>	<b>0.5</b>	<b>526</b>	<b>36.1</b>	<b>4,981</b>	<b>1.7</b>	<b>1,973</b>	<b>39.6</b>	<b>10,967</b>	<b>3.6</b>	<b>3,370</b>	<b>30.7</b>	<b>1,581</b>	<b>0.5</b>	<b>521</b>	<b>33.0</b>
<b>Powys Teaching HB</b>																					
<b>Health Board Total</b>	<b>102,441</b>	<b>1,108</b>	<b>1.1</b>	<b>607</b>	<b>54.8</b>	<b>474</b>	<b>0.5</b>	<b>207</b>	<b>43.7</b>	<b>1,727</b>	<b>1.7</b>	<b>760</b>	<b>44.0</b>	<b>3,425</b>	<b>3.3</b>	<b>1,266</b>	<b>37.0</b>	<b>673</b>	<b>0.7</b>	<b>270</b>	<b>40.1</b>
<b>Swansea Bay UHB</b>																					
Neath Port Talbot LA	109,325	1,047	1.0	472	45.1	629	0.6	226	35.9	1,827	1.7	718	39.3	5,297	4.8	1,664	31.4	504	0.5	177	35.1
Swansea LA	210,321	1,653	0.8	695	42.0	1,262	0.6	441	34.9	3,133	1.5	1,292	41.2	6,897	3.3	2,043	29.6	984	0.5	328	33.3
<b>Health Board Total</b>	<b>319,646</b>	<b>2,700</b>	<b>0.8</b>	<b>1,167</b>	<b>43.2</b>	<b>1,891</b>	<b>0.6</b>	<b>667</b>	<b>35.3</b>	<b>4,960</b>	<b>1.6</b>	<b>2,010</b>	<b>40.5</b>	<b>12,194</b>	<b>3.8</b>	<b>3,707</b>	<b>30.4</b>	<b>1,488</b>	<b>0.5</b>	<b>505</b>	<b>33.9</b>
<b>Wales Total</b>	<b>2,599,736</b>	<b>26,603</b>	<b>1.0</b>	<b>13,582</b>	<b>51.1</b>	<b>12,780</b>	<b>0.5</b>	<b>4,962</b>	<b>38.8</b>	<b>38,375</b>	<b>1.5</b>	<b>16,440</b>	<b>42.8</b>	<b>98,468</b>	<b>3.8</b>	<b>34,054</b>	<b>34.6</b>	<b>14,036</b>	<b>0.5</b>	<b>5,241</b>	<b>37.3</b>

**Table A3.** Uptake of influenza immunisation in pregnant women, with breakdown for those who have another clinical risk condition in Wales 2023/24.

Local Authority	Pregnant women with clinical risk			Pregnant women without clinical risk			Total pregnant women		
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)
<b><u>Aneurin Bevan UHB</u></b>									
Blaenau Gwent LA	33	66	50.0	102	382	26.7	135	448	30.1
Caerphilly LA	73	129	56.6	277	752	36.8	350	881	39.7
Monmouthshire LA	41	90	45.6	263	687	38.3	304	777	39.1
Newport LA	56	157	35.7	336	1,242	27.1	392	1,399	28.0
Torfaen LA	39	86	45.3	181	507	35.7	220	593	37.1
<b>Health Board Total</b>	<b>242</b>	<b>528</b>	<b>45.8</b>	<b>1,159</b>	<b>3,570</b>	<b>32.5</b>	<b>1,401</b>	<b>4,098</b>	<b>34.2</b>
<b><u>Betsi Cadwaladr UHB</u></b>									
Anglesey LA	34	61	55.7	165	410	40.2	199	471	42.3
Conwy LA	56	104	53.8	244	690	35.4	300	794	37.8
Denbighshire LA	48	109	44.0	297	766	38.8	345	875	39.4
Flintshire LA	93	177	52.5	380	1,052	36.1	473	1,229	38.5
Gwynedd LA	57	106	53.8	248	760	32.6	305	866	35.2
Wrexham LA	65	153	42.5	280	940	29.8	345	1,093	31.6
<b>Health Board Total</b>	<b>353</b>	<b>710</b>	<b>49.7</b>	<b>1,614</b>	<b>4,618</b>	<b>35.0</b>	<b>1,967</b>	<b>5,328</b>	<b>36.9</b>
<b><u>Cardiff and Vale UHB</u></b>									
Cardiff LA	113	230	49.1	611	1,700	35.9	724	1,930	37.5
Vale of Glamorgan LA	39	60	65.0	230	466	49.4	269	526	51.1
<b>Health Board Total</b>	<b>152</b>	<b>290</b>	<b>52.4</b>	<b>841</b>	<b>2,166</b>	<b>38.8</b>	<b>993</b>	<b>2,456</b>	<b>40.4</b>
<b><u>Cwm Taf Morgannwg UHB</u></b>									
Bridgend LA	69	154	44.8	281	893	31.5	350	1,047	33.4
Merthyr Tydfil LA	23	44	52.3	71	231	30.7	94	275	34.2
Rhondda Cynon Taff LA	54	116	46.6	272	770	35.3	326	886	36.8
<b>Health Board Total</b>	<b>146</b>	<b>314</b>	<b>46.5</b>	<b>624</b>	<b>1,894</b>	<b>32.9</b>	<b>770</b>	<b>2,208</b>	<b>34.9</b>
<b><u>Hywel Dda UHB</u></b>									
Carmarthenshire LA	55	108	50.9	214	676	31.7	269	784	34.3
Ceredigion LA	20	49	40.8	107	401	26.7	127	450	28.2
Pembrokeshire LA	35	104	33.7	214	742	28.8	249	846	29.4
<b>Health Board Total</b>	<b>110</b>	<b>261</b>	<b>42.1</b>	<b>535</b>	<b>1,819</b>	<b>29.4</b>	<b>645</b>	<b>2,080</b>	<b>31.0</b>
<b>Powys Teaching HB</b>	<b>47</b>	<b>105</b>	<b>44.8</b>	<b>271</b>	<b>761</b>	<b>35.6</b>	<b>318</b>	<b>866</b>	<b>36.7</b>
<b><u>Swansea Bay UHB</u></b>									
Neath Port Talbot LA	13	43	30.2	103	354	29.1	116	397	29.2
Swansea LA	50	116	43.1	327	1,051	31.1	377	1,167	32.3
<b>Health Board Total</b>	<b>63</b>	<b>159</b>	<b>39.6</b>	<b>430</b>	<b>1,405</b>	<b>30.6</b>	<b>493</b>	<b>1,564</b>	<b>31.5</b>
<b>Wales Total</b>	<b>1,113</b>	<b>2,367</b>	<b>47.0</b>	<b>5,474</b>	<b>16,233</b>	<b>33.7</b>	<b>6,587</b>	<b>18,600</b>	<b>35.4</b>

**Table A4.** Uptake of influenza immunisation in those aged six months to 64 years and recorded as being a carer in Wales 2023/24.

Local Authority	Total carers		
	Immunised (n)	Denominator (n)	Uptake (%)
<b><u>Aneurin Bevan UHB</u></b>			
Blaenau Gwent LA	329	690	47.7
Caerphilly LA	1,109	2,344	47.3
Monmouthshire LA	1,062	1,905	55.7
Newport LA	778	1,991	39.1
Torfaen LA	899	1,718	52.3
<b>Health Board Total</b>	<b>4,177</b>	<b>8,648</b>	<b>48.3</b>
<b><u>Betsi Cadwaladr UHB</u></b>			
Anglesey LA	637	1,290	49.4
Conwy LA	831	1,894	43.9
Denbighshire LA	868	2,063	42.1
Flintshire LA	1,221	2,640	46.3
Gwynedd LA	863	2,102	41.1
Wrexham LA	1,204	2,385	50.5
<b>Health Board Total</b>	<b>5,624</b>	<b>12,374</b>	<b>45.5</b>
<b><u>Cardiff and Vale UHB</u></b>			
Cardiff LA	1,427	3,529	40.4
Vale of Glamorgan LA	870	2,146	40.5
<b>Health Board Total</b>	<b>2,297</b>	<b>5,675</b>	<b>40.5</b>
<b><u>Cwm Taf Morgannwg UHB</u></b>			
Bridgend LA	1,021	2,130	47.9
Merthyr Tydfil LA	378	701	53.9
Rhondda Cynon Taff LA	1,297	2,962	43.8
<b>Health Board Total</b>	<b>2,696</b>	<b>5,793</b>	<b>46.5</b>
<b><u>Hywel Dda UHB</u></b>			
Carmarthenshire LA	1,537	3,858	39.8
Ceredigion LA	713	1,723	41.4
Pembrokeshire LA	978	2,777	35.2
<b>Health Board Total</b>	<b>3,228</b>	<b>8,358</b>	<b>38.6</b>
<b><u>Powys Teaching HB</u></b>			
	<b>964</b>	<b>1,955</b>	<b>49.3</b>
<b><u>Swansea Bay UHB</u></b>			
Neath Port Talbot LA	916	2,118	43.2
Swansea LA	1,325	3,588	36.9
<b>Health Board Total</b>	<b>2,241</b>	<b>5,706</b>	<b>39.3</b>
<b>Wales Total</b>	<b>21,227</b>	<b>48,509</b>	<b>43.8</b>

**Table A5.** Uptake of influenza immunisation, through general practice, in children aged two and three years in Wales 2023/24.

Local Authority	Two year olds			Three year olds		
	Immunised (n)	Denominator (n)	Uptake (%)	Immunised (n)	Denominator (n)	Uptake (%)
<b><u>Aneurin Bevan UHB</u></b>						
Blaenau Gwent LA	354	682	51.9	420	726	57.9
Caerphilly LA	847	1,627	52.1	890	1,832	48.6
Monmouthshire LA	608	896	67.9	604	914	66.1
Newport LA	824	1,922	42.9	839	1,991	42.1
Torfaen LA	394	929	42.4	429	1,015	42.3
<b>Health Board Total</b>	<b>3,027</b>	<b>6,056</b>	<b>50.0</b>	<b>3,182</b>	<b>6,478</b>	<b>49.1</b>
<b><u>Betsi Cadwaladr UHB</u></b>						
Anglesey LA	322	550	58.5	330	571	57.8
Conwy LA	338	935	36.1	359	990	36.3
Denbighshire LA	426	983	43.3	451	1,002	45.0
Flintshire LA	646	1,473	43.9	632	1,440	43.9
Gwynedd LA	440	1,035	42.5	479	1,120	42.8
Wrexham LA	440	1,212	36.3	506	1,296	39.0
<b>Health Board Total</b>	<b>2,612</b>	<b>6,188</b>	<b>42.2</b>	<b>2,757</b>	<b>6,419</b>	<b>43.0</b>
<b><u>Cardiff and Vale UHB</u></b>						
Cardiff LA	1,393	3,936	35.4	1,365	3,994	34.2
Vale of Glamorgan LA	492	1,294	38.0	626	1,425	43.9
<b>Health Board Total</b>	<b>1,885</b>	<b>5,230</b>	<b>36.0</b>	<b>1,991</b>	<b>5,419</b>	<b>36.7</b>
<b><u>Cwm Taf Morgannwg UHB</u></b>						
Bridgend LA	605	1,488	40.7	697	1,576	44.2
Merthyr Tydfil LA	183	618	29.6	335	642	52.2
Rhondda Cynon Taff LA	997	2,319	43.0	1,474	2,504	58.9
<b>Health Board Total</b>	<b>1,785</b>	<b>4,425</b>	<b>40.3</b>	<b>2,506</b>	<b>4,722</b>	<b>53.1</b>
<b><u>Hywel Dda UHB</u></b>						
Carmarthenshire LA	539	1,557	34.6	729	1,672	43.6
Ceredigion LA	234	681	34.4	263	691	38.1
Pembrokeshire LA	313	1,066	29.4	329	1,052	31.3
<b>Health Board Total</b>	<b>1,086</b>	<b>3,304</b>	<b>32.9</b>	<b>1,321</b>	<b>3,415</b>	<b>38.7</b>
<b><u>Powys Teaching HB</u></b>	<b>602</b>	<b>1,128</b>	<b>53.4</b>	<b>654</b>	<b>1,146</b>	<b>57.1</b>
<b><u>Swansea Bay UHB</u></b>						
Neath Port Talbot LA	428	1,246	34.3	456	1,295	35.2
Swansea LA	913	2,279	40.1	935	2,370	39.5
<b>Health Board Total</b>	<b>1,341</b>	<b>3,525</b>	<b>38.0</b>	<b>1,391</b>	<b>3,665</b>	<b>38.0</b>
<b>Wales Total</b>	<b>12,338</b>	<b>29,856</b>	<b>41.3</b>	<b>13,802</b>	<b>31,264</b>	<b>44.1</b>