



UK Health  
Security  
Agency

# Seasonal influenza vaccine uptake in GP patients

## Winter season 2021 to 2022

Final data for 1 September 2021 to 28 February 2022

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# Notes on the report

## Document history

30 June 2022: First published.

10 January 2023: Table 13: a misprint of extrapolated number of people by vaccine type was corrected (percentages and overall extrapolated number of people vaccinated are unchanged). Table 14: new data included on vaccine type (addition of QIVc/QIVe) and updated extrapolated count.

## Intended audience

This report is aimed at health professionals directly involved in the delivery of the influenza vaccine or those with an interest in the influenza vaccination programme in England.

## Aim of the report

This report provides an evaluation of the national influenza programme using end-of-season data on influenza vaccination uptake in General Practice (GP) registered patients in England. Data is stratified by clinical risk groups and age to identify groups where vaccine uptake can be improved in future seasons.

## Executive summary

The UK Health Security Agency (UKHSA) Influenza Surveillance team has responsibility to co-ordinate and facilitate the national collection and reporting of influenza vaccine uptake data. This report describes the final data for GP registered patients in England from 1 September 2021 to 28 February 2022.

## Survey response

The response rate from GP practices in England for the main GP survey was 97.1% compared to 97.6% last season.

The response rate from GP practices in England for the child GP survey was 97.1% compared to 97.2% last season.

Due to a high response rate this season, only automated responses were requested for the end of February 2022 survey.

## National vaccine uptake

Cumulative influenza vaccine uptake in GP registered patients from 1 September 2021 to 28 February 2022 in England:

- vaccine uptake in patients aged 65 and over was 82.3% compared to 80.9% in 2020 to 2021; this is the highest vaccine uptake ever achieved for this group and exceeds the World Health Organization (WHO) vaccine uptake target of 75%
- vaccine uptake in patients aged 6 months to under 65 years old in one or more clinical risk groups was 52.9% compared to 53.0% in 2020 to 2021
- vaccine uptake in all pregnant women was 37.9% compared to 43.6% in 2020 to 2021
- vaccine uptake in patients aged 2 and 3 years was 50.1% compared to 56.7% in 2020 to 2021
- vaccine uptake in patients aged 50 to 64 years and not in a clinical risk group was 45.7% compared to 35.2% in 2020 to 2021; during the 2020 to 2021 those age 50 to 64 years became eligible from 1 December 2020 whereas this year, they were eligible alongside other cohorts from the 1 September 2021

The 2021 to 2022 annual flu letter outlines the national vaccine uptake ambitions, which should be regarded as a minimum level to achieve. These were set as follows:

- at least 85% in those aged 65 and over
- at least 75% in those aged 50 to 64 years

- at least 75% in those aged under 65 years and in a clinical risk group including pregnant women
- 70% in children aged 2 to 16 years old

Although no target group achieved the national vaccine uptake ambitions, vaccine uptake in patients aged 65 years and over was the highest on record. In those aged 65 years and over, 94.3% (100 out of 106) clinical commissioning groups (CCGs) achieved the WHO target vaccine uptake of at least 75% compared to 87.4% (118 out of 135) CCGs last year. The number of CCGs achieving the national vaccine uptake ambition of at least 85% was 27.4% (29 out of 106) of CCGs compared to 8.1% (11 out of 135) of CCG's last year.<sup>1</sup>

Vaccine uptake increased in patients aged 65 years and over and in patients aged 50 to 64 years not in a clinical risk group. This is likely due to the effect of the coronavirus (COVID-19) pandemic and the flu vaccination campaign coinciding with the national COVID-19 booster vaccination programme in those aged 50 and over<sup>2</sup>. Vaccine uptake decreased in patients aged 6 months to 65 years at risk, all pregnant women and patients aged 2 and 3 years compared to the 2020 to 2021 season.

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<sup>1</sup> For CCG variation on influenza vaccine uptake, please see the additional tables at [Seasonal influenza vaccine uptake in GP patients: winter season 2021 to 2022](#).

<sup>2</sup> [JCVI statement regarding a COVID-19 booster vaccine programme for winter 2021 to 2022](#) (14 September 2021).

# Glossary

Term	Meaning
aTIV	Adjuvanted trivalent influenza vaccine
aQIV	Adjuvanted quadrivalent influenza vaccine
At-risk	Patients with clinical risk groups as listed in the Green Book
CCG	NHS clinical commissioning group
Child GP survey	The flu vaccination uptake survey that collects all the child cohort data
CHIS	Child Health Information Systems
dm+d	Dictionary of medicines and devices
GP practice	General practice
GPSS	GP (information technology) system suppliers
Green Book	The Green Book is an UKHSA publication on vaccines, vaccine-preventable infectious diseases and vaccination procedures. Chapter 19 refers to influenza.
ImmForm	ImmForm is a website that provides a secure online platform for vaccine uptake data collection for several immunisation surveys, including the seasonal influenza vaccine uptake collection.
JCVI	The Joint Committee on Vaccination and Immunisation
LA	Local authority
LAIV	Live attenuated influenza vaccine (nasal spray suspension)
Main GP survey	The flu vaccine uptake survey that collects data on all adult cohorts and children in clinical risk groups.
NHS	National Health Service
OHS	Other healthcare settings
QIVc	Quadrivalent influenza vaccine, cell-grown
QIVe	Quadrivalent influenza vaccine, egg-grown
QIVr	Quadrivalent influenza vaccine, recombinant
Read codes	Read codes are a coded thesaurus of clinical terms. This is used by clinicians in primary and secondary care to record patient findings and procedures
School age year	The school age year is determined by a child's age on 31 August 2021. This will be correct for the majority of children.
SAIS	School aged immunisation services

Term	Meaning
SNOMED CT codes	Systematized Nomenclature of Medicine Clinical Terminology. This is a structured clinical vocabulary for use in electronic health records.
STP	Sustainability and Transformation Partnership
UKHSA	UK Health Security Agency
WHO	World Health Organization

## Background

The purpose of the seasonal influenza immunisation programme in England is to offer protection to those who are most at risk of serious illness or death should they develop influenza.

In 2012, the Joint Committee on Vaccination and Immunisation (JCVI) recommended the roll-out of a universal childhood influenza vaccine programme with live attenuated influenza vaccine (LAIV).<sup>3,4</sup> The childhood LAIV programme, was introduced in 2013 to 2014 and progressively expanded across year groups in a phased roll-out. In the 2021 to 2022 season LAIV was offered to all 2 and 3 year olds through primary care and to all children of primary and secondary school age (reception to year 11, those aged 4 rising to 16 years old) through a largely school-based programme. Year 8 to year 11 (aged 12 rising to 16 years old) were included for the first time during the 2021 to 2022 season in England. The aim of the childhood programme is to both directly protect children and reduce influenza transmission, providing indirect protection to the rest of the population, including those at increased risk of the severe consequences of influenza infection.

NHS England, through CCGs and regional public health commissioning teams, has responsibility for commissioning the influenza programme with general practices, midwives, and other healthcare professionals. Immunisation managers and co-ordinators in NHS teams play a significant role in delivery within their CCG and Sustainability and Transformation Partnership (STP) boundaries.

GP practices provide monthly coverage data between September and February, with most practices providing this through automated uploads from their electronic clinical systems. This year was the first time we collected and published data to the end of September which is a month earlier than previous years. Automated extraction provides near-complete data, with many practices also contributing data weekly, and gives consistent data for comparisons over time. The UKHSA Influenza Surveillance team has responsibility for collating the data and reporting on the progress in the uptake of the seasonal influenza vaccine. We use the [ImmForm website](#) to enable us to monitor, track and report on provisional vaccine uptake on a weekly and monthly basis during the influenza season.

The seasonal influenza vaccine uptake survey in GP registered patients was first split into the 'Main GP Survey' and the 'Child GP survey' in the 2017 to 2018 season. Data presented in this report and accompanying tables is for the end-of-season data, up to the end of February in England.

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<sup>3</sup> [JCVI statement on the annual influenza vaccination programme: extension of the programme to school-aged children \(25 July 2012\)](#)

<sup>4</sup> [Joint Committee on Vaccination and Immunisation. Meeting minutes, 5 October 2011](#). London



The data counts the cumulative number of GP registered patients<sup>5</sup> who have had at least one dose of influenza vaccine from 1 September 2021 to 28 February 2022. This end-of-season report provides the final influenza vaccine uptake figures in GP registered patients. This data is collated for public health surveillance purposes only and this system is not designed to support GP practice payments.

The programme for 2021 to 2022 was announced in the annual flu letter jointly issued to the NHS by PHE (Public Health England), now UKHSA, the Department of Health and Social Care (DHSC) and NHS England and NHS Improvement (NHSEI) on 17 July 2021<sup>6</sup> (and updated on 28 July 2021) outlining the expansion of the programme due to the COVID-19 pandemic. It was recommended that influenza vaccine be offered to the following eligible groups:

- all patients aged 2 and 3 years
- all patients of school age in years reception to year 11 (aged 4 rising to 16 years old)
- all patients aged 50 to 64
- all patients aged 65 years and over
- those aged 6 months to under 50 years in clinical risk groups
- pregnant women
- those in long-stay residential care homes
- carers<sup>7</sup>
- close contacts of immunocompromised individuals
- frontline health and social care staff

The national vaccine uptake ambition for 2021 to 2022 was to vaccinate at least 85% of those aged 65 years and over. National vaccine uptake ambitions were also set to reach or exceed 75% uptake for:

1. Those aged 6 months to under 65 years and in one or more clinical risk groups.
2. All pregnant women
3. All aged 50 to 64 years old.

The national ambition for the children's programme (aged 2 to 16 years) was to reach at least 70% vaccine uptake.

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<sup>5</sup> People who are currently registered at the GP practice on the day of data extraction. Therefore, the survey will not include vaccinations given to patients who have since moved practice or who have died, but will include those vaccinated by another healthcare provider (provided the GP patient electronic record is updated).

<sup>6</sup> [The annual flu letter 17 July 2021 \(updated 28 July 2021\)](#)

<sup>7</sup> The definition of a carer can be found in [the influenza chapter of the Green Book](#)

## Methods

Prior to the start of the seasonal data collection, the Influenza Surveillance team produce a data set for the collection. The team commission [PRIMIS](#) to write an accompanying coding specification for GP system suppliers (GPSS) to extract the data from GP practices. The PRIMIS specification provides rules for the extraction of the data from GP systems using the following clinical code terminologies, Systematized Nomenclature of Medicine Clinical Terminology (SNOMED CT<sup>8</sup>) (clinical codes).

Cumulative data on seasonal influenza vaccine uptake were collected for all GP practices in England between 1 September 2021 to 28 February 2022 using the ImmForm website. ImmForm provides a secure online platform for vaccine uptake data collection for several immunisation surveys, including the seasonal influenza vaccine uptake collection.

The data collections consist of:

- a weekly sentinel survey using an automated extraction only (XML bulk upload or a web service)
- 6-monthly surveys starting with a collection covering the 1 September 2021 up to end of September which is then refreshed each month up until the end of February 2022<sup>9</sup>

GP practice-level data was submitted to the ImmForm website either via an automated extraction provided by GPSS (who extract data directly from GP practice systems<sup>10</sup>) or via manual upload, across England. Automated data extraction results in an almost zero burden on GP practices providing the data. The weekly data allows near 'real-time' monitoring of the programme at a national level from calendar week 36 (week ending 12 September 2021) to calendar week 4 (week ending 30 January 2022).<sup>11</sup> The user guide for the survey can be found at [Seasonal influenza vaccine uptake \(GP patient survey\) data collection](#).

The vaccine uptake figures reported here are based on the practices which have supplied data. This report includes extrapolated estimates of the total eligible population and the total number vaccinated in each cohort if there was a 100% response rate to the survey.

The extrapolated number of vaccinations is derived by multiplying the mean number of vaccinations per practice by the total number of practices. This calculation assumes that the GP

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<sup>8</sup> [Section 11. Read codes and SNOMED CT codes, Seasonal influenza vaccine uptake \(GP patient survey\) data collection: user guide](#)

<sup>9</sup> All monthly vaccine uptake data is published at [Seasonal flu vaccine uptake in GP patients: monthly data, 2021 to 2022](#)

<sup>10</sup> The source of data is from GP practice systems only. It is assumed that vaccinations given in other settings by other healthcare providers (eg pharmacies, schools, special clinics) will be recorded onto GP systems in a timely manner. However, some vaccinations may be missed by the survey when recording onto a GP system, which may be more challenging or slow (eg vaccinations of travelling communities or homeless) or where patients are not registered.

<sup>11</sup> Weekly vaccine uptake data is published as part of the weekly [national flu and COVID-19 report](#).

practice population is the same across all practices and that the uptake rate is the same as that seen nationally.

Median calculations are based on CCG-level data. Thirty-eight of the CCGs in the 2020 NHS hierarchy were reconfigured and merged into 9 CCGs in 2021. These were manually reconfigured into the 2021 NHS CCGs in the accompanying data tables, the reconfigurations can be found in [the Appendix](#).

February surveys were introduced as an experimental collection in 2017 to 2018, extending the data collection period by a month to allow for better inclusion of data returning from outside the practice and later in-practice vaccinations. Following evaluation, the February collection was adopted for our end of season figures. During the 2018 to 2019 season only automated extractions were expected. However, manual upload was added to the end-of-February data return from the 2019 to 2020 season.

The seasonal influenza vaccine uptake surveys in GP patients (Main and Child survey) have received full approval from the Data Coordination Board for the 2021 to 2022 influenza season.<sup>12</sup>

## ImmForm

Influenza vaccine uptake data is submitted via the [ImmForm website](#). Data is submitted at GP practice level and can then be aggregated as required to the different hierarchies such as STP or local authority. During the season, specific functions were available weekly and monthly on ImmForm to enable local management of the vaccination programme. These functions include the ability to:

- view and evaluate influenza vaccine uptake rates by cohort and age band for their area down to GP practice level
- compare GP practice-level data within the CCG and to previous years
- validate data at point of data entry
- download 'non-responder' reports to aid local areas following up GP practices that have yet to respond to the survey

## Data validation

Data validations are built into the ImmForm website to validate at point of entry. Data is then further validated by the UKHSA Influenza Surveillance team on a weekly and monthly basis. PRIMIS are commissioned by UKHSA to write the clinical code specification for the surveys and commissioned to conduct 2 data validation reports to check alignment with the clinical code specification.

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<sup>12</sup> [DCB approval for these surveys](#) can be found online.

## Data limitations

Denominator data for some localities and at-risk groups should be interpreted with caution due to data validation and data quality issues. A summary of these limitations is provided below. Further information on definitions and data limitations can be found in [the user guide](#).

## Snapshot of influenza vaccine uptake data

Influenza vaccine uptake data presented in this report is a snapshot of GP-registered patients vaccinated at the time of data extraction. The annual report includes data up until the end of February to allow time for data to flow from other services to the GP record when vaccines are delivered in other settings. Patients who are vaccinated but have not had their electronic patient record updated by the time of data extraction, will be included within the denominator, but will not be included in the count of 'number vaccinated'.

This data will, therefore, not include in the numerator or denominator patients:

- who have received the vaccine but have subsequently died
- who changed clinical status (for example, 'joining' or 'leaving' a clinical risk group)
- patients changing carer status
- 'temporary' patients who may have received the vaccine but were not registered on the date of data extraction

The extract will also exclude the prison population unless the individuals were registered with a GP practice at the time of data extraction and their vaccination details were recorded on their primary care electronic record. Healthcare workers and social care workers will only be counted in the number vaccinated if they were vaccinated at the GP practice or their vaccination details were entered on their GP practice's electronic record.

## Transition to SNOMED CT

In the 2019 to 2020 season all GP System Suppliers (GPSS) in England moved over to (SNOMED CT<sup>7</sup>). However, some GPSS are still working off older versions of SNOMED. Due to the transition, mapping errors between SNOMED CT and previous clinical terminologies are being identified and corrected across GPSS but small numbers of mapping issues may remain.

Despite these data limitations, the granular data is considered valid with a degree of caution, especially when drawing comparisons to historical data where they may be affected by the SNOMED transition.

## Clinical coding changes

It is important to note that clinical coding frequency can increase or decrease depending on the coding behaviour of GP practices and other NHS organisations, and the definitions used to extract the data. These changes in coding frequency can be driven by policies such as changes to the Quality Outcomes Framework (QOF) or the introduction of new initiatives to drive better quality of data through better coding of data. Changes to the coding can greatly affect smaller groups such as the data we collect on individual at risk groups. We monitor this each year by looking at the prevalence of each risk group within the general population and the at-risk population whilst considering any wider changes to the health system that may impact the data.

## Pregnant women: denominator variance

Determining an accurate denominator for eligible pregnant women is challenging because of the complexities in the way pregnancy is recorded and coded on local clinical systems in primary care. In addition, in recent years flu vaccine for pregnant women has increasingly been delivered through midwifery services and pharmacy and so vaccination data needs to flow back to the GP record in the appropriate format to allow capture in the ImmForm collection.

Reported influenza vaccine coverage in pregnant women is likely to be an underestimate for the following reasons:

- the dynamic nature of the denominator with women continually entering and leaving the cohort throughout the season through conception, miscarriage, abortion or delivery
- there are multiple ways to record 'pregnancy' in the GP record with a range of Read codes available that are not applied consistently
- the delay in updating the individual's electronic GP clinical record following birth or loss of pregnancy
- delay or gaps in data flows that allow capture of vaccines delivered outside the GP practice

The scale of the underestimation is not clear and could vary between GP practices and regions.<sup>13</sup>

## Vaccination in other healthcare settings

The number of patients vaccinated in a school, pharmacy and other healthcare setting was captured by the survey. It is important to note that the evaluation of vaccines delivered outside of GP practice does not come under an existing information standard therefore the quality of

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<sup>13</sup> For further details of pregnancy data limitations, see [the GP survey user guide](#).

location recording may vary between GP practices and GP system suppliers. In 2021 to 2022 pharmacies were commissioned to administer influenza vaccinations to:

- those aged 50 and over
- any patient aged 18 to under 65 years in a clinical risk group
- pregnant women
- carers
- people living in long-stay residential care homes or other long stay care facilities
- close contacts of immunocompromised individuals
- frontline health and social care staff employed by:
  - a registered residential care or nursing home
  - registered domiciliary care provider
  - a voluntary managed hospice provider
  - direct payment (personal budgets) and/or personal health budgets, such as personal assistants

Whilst the number of vaccinations reported as given in pharmacies can be taken as correct because there is a specific clinical code associated with this, there is likely to be a lag in data being fed back into the GP record.

As expected, vaccination delivered in other healthcare settings is much higher for the pregnant cohort due to increasing administration by midwifery services. The vast majority of school-aged children are vaccinated in school and therefore in the survey vaccines recorded in these age groups are assumed to be school-delivered in the survey unless specifically coded as 'vaccinated in a pharmacy'. As data flows from school aged immunisation services (SAIS) and the Child Health Information Systems (CHIS) to the GP record are not yet well established, flu vaccination data for the school-aged cohorts in the GP survey remain experimental.<sup>14</sup> Improved data flows from other healthcare settings to the GP record are important to both reduce the administrative burden on GP practices and ensure timely and accurate vaccine coverage can be reported for all eligible cohorts.

## Vaccine type

Vaccine type can be coded using Dictionary of medicines and devices (dm+d) codes and SNOMED CT codes. All GP system suppliers (GPSS) in England have now moved over to SNOMED CT clinical terminology. Vaccine type was introduced to the GP survey in the 2018 to 2019 season and the experimental data collected thus far shows that this information is not routinely recorded in the required coded format to allow extraction. The information is likely to

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<sup>14</sup> Results for the LAIV programme in primary school aged children will be available in a separate report based on manual returns from Local NHS Teams. The [National Childhood Influenza Vaccination programme report](#) is available online.

be recorded in the GP record as free text and therefore not extractable using a clinical code specification. We expect this variable to become better recorded in the future.

## Social care workers

Vaccine uptake in social care workers was included for the first time in the 2019 to 2020 data collection. The SNOMED CT codes for this workforce were introduced on the 1 April 2018 but appear to be a poorly applied in the GP record therefore the denominator estimate in the survey is not currently reliable.

There are a range of options for employers offering the vaccine to social care workers,<sup>15</sup> which makes this cohort particularly difficult to evaluate. Only a minority will get vaccinated through their GP practice. Data flows for vaccinations delivered to social care workers outside of the GP setting are not well established, therefore caution should be used when interpreting the data.

## Learning disability

Vaccine uptake in those with wider learning disabilities including severe learning disability as a subset of this cohort was included for the first time in the 2020 to 2021 season as an experimental cohort and continues to be included in the 2021 to 2022 season. The clinical coding specification is defined within the PRIMIS specification.

The wider learning disability cohort includes all those on the [QOF learning disability register](#) and a small number of additional patients with other learning disability coding. The clinical codes related to severe learning disability are also still included within the chronic neurological disease clinical risk group and therefore comparable to previous years. Please note that those who have a wider learning disability with no other clinical risk group are not included in the overall at-risk category data.

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<sup>15</sup> [Promotional material flu immunisation social care staff](#) (leaflets and guidance, updated September 2021).

## Results

[Data tables](#) showing final influenza vaccine uptake for each of the eligible groups accompany the publication of this report and are available at NHS Region, sustainability and transformation partnership (STP) and clinical commissioning group (CCG) level, as well as local authority.

### GP practice response rate

GP response rate for the main GP survey was 97.1% (6,355 out of 6,542). The GP response rate for the Child GP survey was 97.1% (6,347 out of 6,538). Data represents both automated and manual uploads.

The extrapolated number of GP registered patients that were recorded as vaccinated in 2021 to 2022 season was over 22.5 million ([Table 1](#)).

### Weekly versus monthly vaccine uptake comparison (provisional data)

Weekly and monthly data was overall in good agreement, with the provisional national results from the 6 monthly returns closely matching their weekly equivalent, confirming that the weekly sentinel collection is an excellent indicator of uptake at a national level.

The weekly sentinel survey only used automated extracts, the response rate ranged between 91.7% in week 43 to 97.1% in week 52 for the GP Main survey, and from 95.6% in week 43 to 97.7% in week 52 for the GP Child survey.



**Table 1. Observed and extrapolated estimate of number of patients registered with GP practices and numbers who received influenza vaccine**

<b>Target groups for vaccination in one or more clinical risk groups</b>	<b>2021 to 2022 Number of patients registered</b>	<b>2021 to 2022 Number of patients vaccinated</b>	<b>2021 to 2022 Percentage vaccine uptake</b>	<b>2020 to 2021 Number of patients registered</b>	<b>2020 to 2021 Number of patients vaccinated</b>	<b>2020 to 2021 Percentage vaccine uptake</b>
Aged 65 and over	10,653,768	8,773,058	82.3	10,448,410	8,449,159	80.9
Aged 65 and over extrapolated	10,967,262	9,031,211		10,704,833	8,656,516	
All patients aged 6 months to under 65 years*	49,264,539	13,091,982	26.6	48,594,875	10,709,742	22.0
All patients aged 6 months to under 65 years extrapolated	50,714,180	13,477,222		49,787,480	10,972,578	
Total observed (65 and over and all patients under 65 years)*	59,918,307	21,865,040	36.5	59,043,285	19,158,901	32.4
Total extrapolated (65 and over and all patients under 65 years)	61,681,442	22,508,433		60,492,312	19,629,095	

\* Note that these denominators include patients not eligible as part of the NHS funded flu vaccination programme.

## Patients aged 65 years and over

Vaccine uptake in patients 65 years and over was 82.3% in the 2021 to 2022 season, a 1.4 percentage point increase compared to 80.9% last season ([Table 1](#)). The extrapolated estimate of the number of patients aged 65 years and over registered at a GP practice who would have been vaccinated by end of February 2022 was 9,031,211 which is 374,695 patients more than the previous season. The end of season uptake for this cohort did not reach the national vaccine uptake ambition of at least 85% however it did reach the WHO target of at least 75% for the second time since the 2005 to 2006 season ([Figure 1](#)).

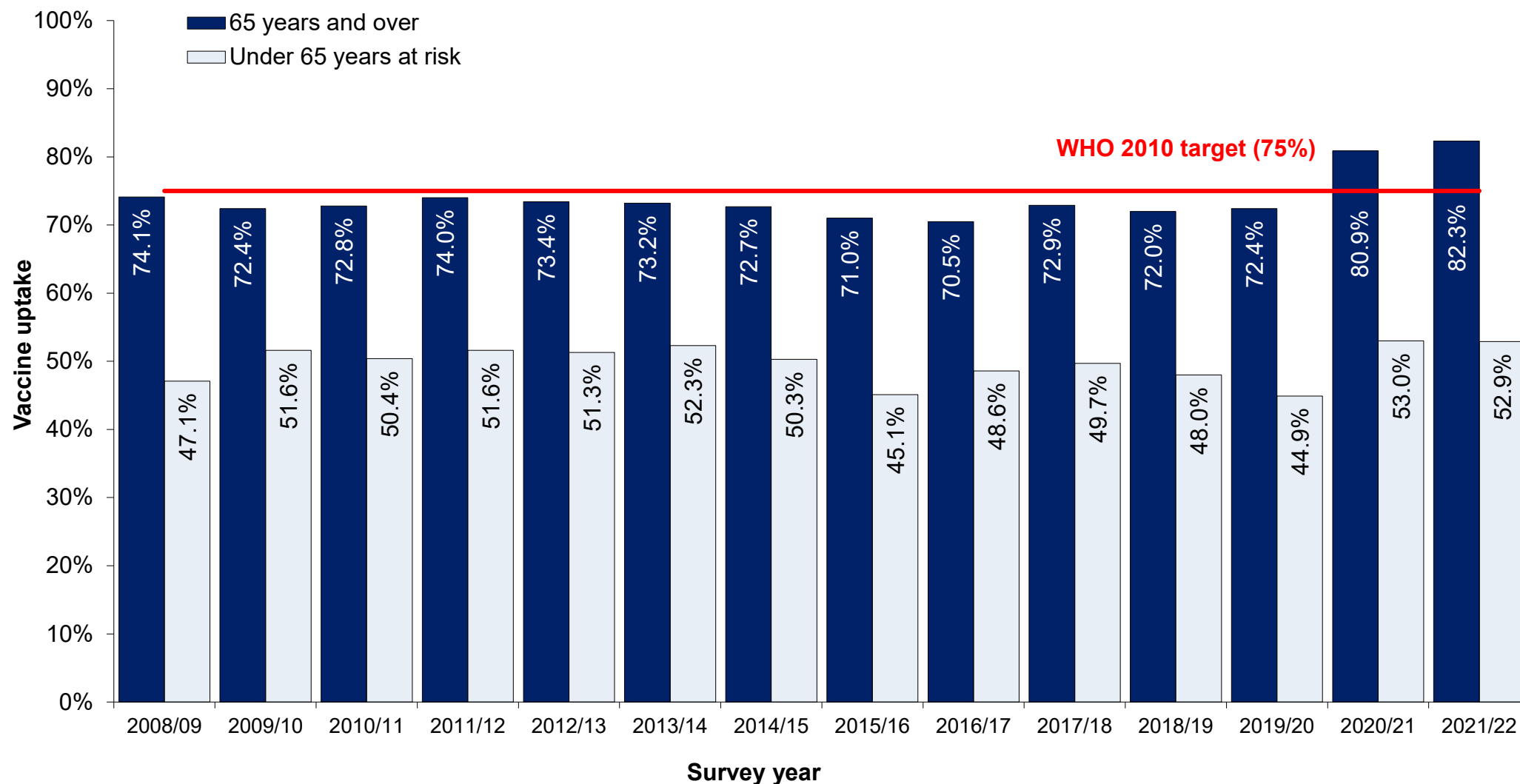
## ‘At-risk patients’ aged 6 months to under 65 years

Vaccine uptake in patients aged 6 months to under 65 years in one or more clinical risk group(s) was 52.9% compared to 50.3% in 2020 to 2021 ([Table 2, Figure 1](#)). The extrapolated estimate of the total number of patients aged 6 months to under 65 years in a clinical at-risk group who would have been vaccinated was over 4.4 million (n=4,432,353) ([Table 2, Figure 2](#)). This is similar to the total vaccinated in 2020 to 2021.

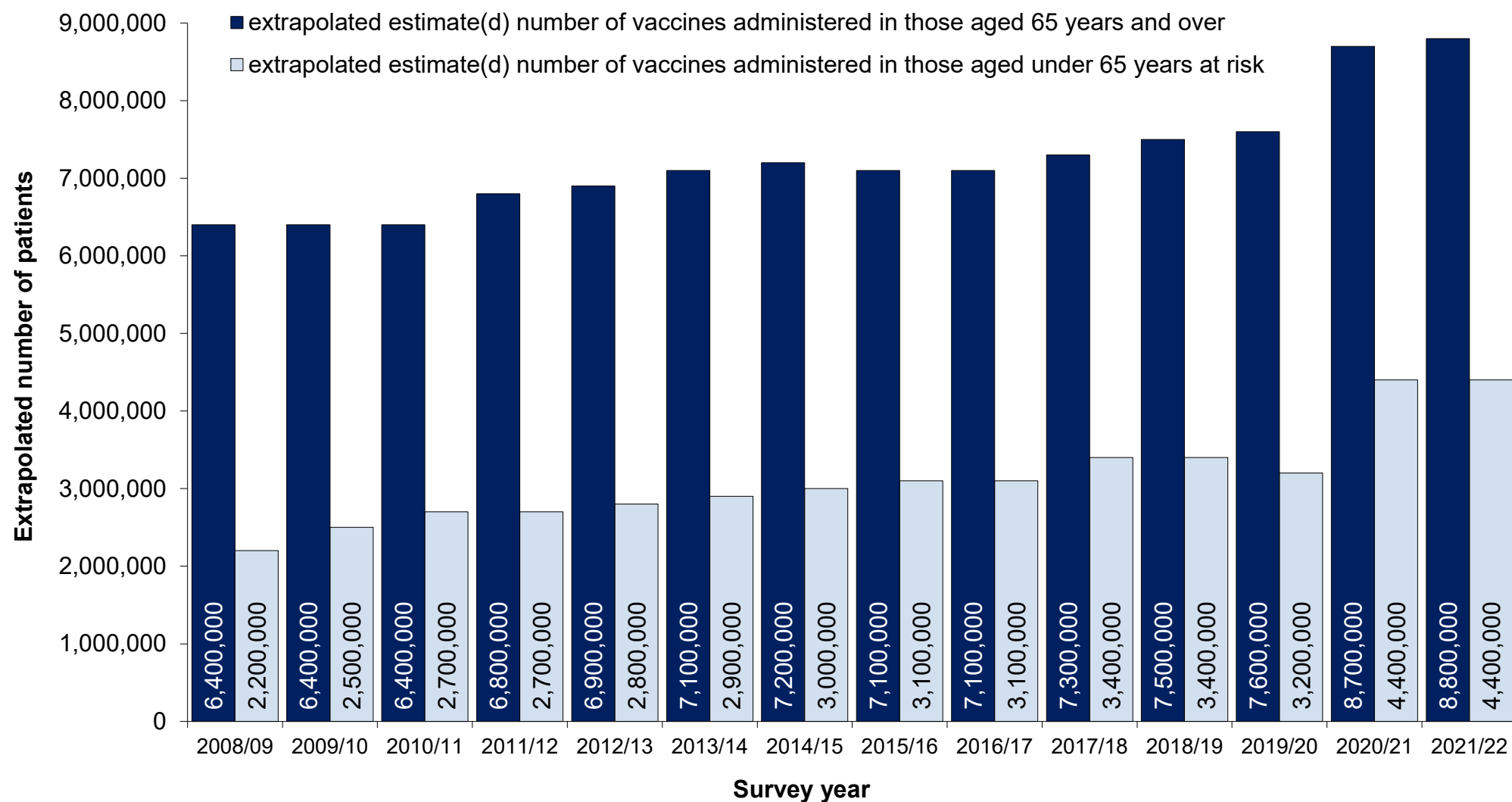
**Table 2. Observed and extrapolated estimate of number of registered patients aged 6 months to under 65 years old and in one or more clinical risk groups (excluding pregnant women without other risk factors and carers), who received an influenza vaccine**

Target groups for vaccination	2021 to 2022 Number of patients registered	2021 to 2022 Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Number of patients registered	2020 to 2021 Number of patients vaccinated	2020 to 2021 Percentage vaccine uptake
Aged 6 months to under 65 years in a clinical risk group	8,132,906	4,305,656	52.9	8,098,035	4,293,412	53.0
Aged 6 months to under 65 years in a clinical risk group extrapolated	8,372,222	4,432,353		8,296,775	4,398,780	

**Figure 1. Influenza vaccine uptake for those aged 65 years and over and 65 years at-risk from 2008 to 2009 to 2021 to 2022 in England (data prior to 2018 to 2019 is data up to the end of January)**



**Figure 2. Extrapolated estimated number of vaccines administered in the 65 years and over, and under 65 years at-risk from 2008 to 2009 to 2021 to 2022 in England (data prior to 2018 to 2019 is data up to the end of January)**



'At risk patients' aged 6 months to under 65 years in one or more clinical risk groups by age band.

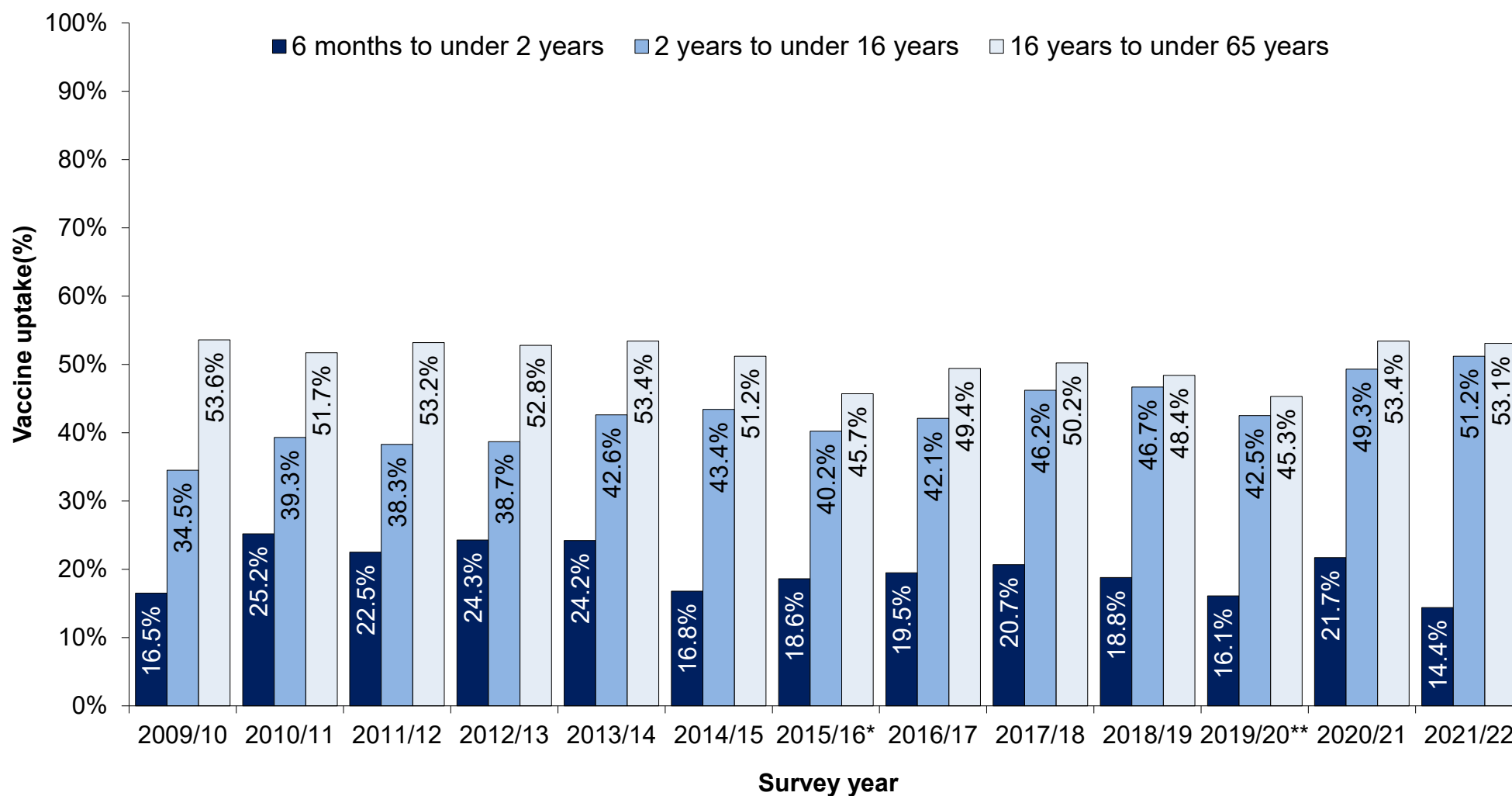
**Table 3. Observed and extrapolated number of registered patients aged 6 months to under 65 years at-risk by age band who received an influenza vaccine**

<b>Target groups for vaccination</b>	<b>2021 to 2022 Number of patients registered</b>	<b>2021 to 2022 Number of patients vaccinated</b>	<b>2021 to 2022 Percentage vaccine uptake</b>	<b>2020 to 2021 Number of patients registered</b>	<b>2020 to 2021 Number of patients vaccinated</b>	<b>2020 to 2021 Percentage vaccine uptake</b>
Total observed 6 months under 65 years in a clinical risk group	8,132,906	4,305,656	52.9	8,098,035	4,293,412	53.0
Total extrapolated 6 months under 65 years in a clinical risk group	8,372,222	4,432,353		8,296,775	4,398,780	
6 months to under 2 years in a clinical risk group	13,976	2,008	14.4	16,583	3,600	21.7
6 months to under 2 years in a clinical risk group extrapolated	14,387	2,067		16,990	3,688	
2 years to under 5 years in a clinical risk group	56,112	29,084	51.8	60,739	33,929	55.9
2 years to under 5 years in a clinical risk group extrapolated	57,763	29,940		62,230	34,762	
5 years to under 16 years in a clinical risk group	543,886	278,268	51.2	603,499	293,236	48.6

Target groups for vaccination	2021 to 2022 Number of patients registered	2021 to 2022 Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Number of patients registered	2020 to 2021 Number of patients vaccinated	2020 to 2021 Percentage vaccine uptake
5 years to under 16 years in a clinical risk group extrapolated	559,890	286,456		618,310	300,433	
16 to under 65 years in a clinical risk group	7,518,932	3,996,296	53.1	7,417,214	3,962,647	53.4
16 to under 65 years in a clinical risk group extrapolated	7,740,181	4,113,890		7,599,246	2,907,940	

Vaccine uptake remains lowest in those aged 6 months to under 2 years (14.4% down from 21.7% in 2020 to 2021) in a clinical risk group, whereas uptake is highest in those aged 16 years to under 65 years (53.1% compared to 53.4% in 2020 to 2021) in a clinical risk group ([Table 3](#) and [Figure 3](#)).

**Figure 3. Vaccine uptake in the under 65 years at-risk by age group comparing recent survey years**



\* From the 2015 to 2016 season patients with morbid obesity with no other clinical risk groups was included in the denominator.

\*\* There were supply issues for the live attenuated influenza vaccine (LAIV) vaccine in the 2019 to 2020 season which affected those aged 2 years to under 16 years.

## Individual risk groups

Vaccine uptake in the individual risk groups varies for patients in a clinical risk group aged under 65 years old and was comparable to last season (2020 to 2021).

Amongst the general population aged 6 months to under 65 years the proportion in each of the risk groups has been relatively stable over the last 2 years ([Table 4](#)). It is important to note that there were changes to the individual risk group denominators that affect the following: patients with chronic heart disease; patients with asplenia or dysfunction of the spleen; and patients with any learning disability (including those with severe learning disabilities).

The largest change in individual risk group denominators was in patients with any learning disability (including those with severe learning disabilities), where the number of people in this cohort have increased nearly 3 times the size of last year's cohort (271,366 to 781,297). Although vaccine uptake appears to have decreased by 18.7 percentage points from 58.3% to 39.6%, the number of vaccinations in this group have nearly doubled since last year from 158,127 to 309,578 vaccinations given.

The clinical coding of the asplenia or dysfunction of the spleen group was reviewed in November 2020 to capture more accurately those who would be eligible for a flu vaccination by removing codes related to sickle cell traits. Although vaccine uptake appears to have increased from 44.1% to 55.3%, the population is smaller, and the numbers vaccinated compared to last season are lower.

Furthermore, chronic heart disease prevalence has increased by approximately 500,000 compared to last season: this reflects the gradual increase of clinical coding associated with chronic heart disease seen in recent years. Despite the changes to this groups, vaccine uptake in this group has remained stable, with a slight decrease from 55.8% to 53.0%. Therefore, caution should be exercised when reviewing the data by individual risk group and comparing to previous seasons' data. For more information, please see the [data limitations section](#) of the report.

Vaccine uptake varies across individual risk groups and by age. Vaccine uptake by age decreased for all groups aged under 5 years old and the greatest variation by age was seen in patients with chronic kidney disease ranging from 11.4% in those aged 6 months to under 2 years and 62.4% in those aged 16 to under 65 years old ([Table 5](#)). This year, the highest vaccine uptake by individual risk group was in patients with severe learning disabilities at 65.4% however this was lower than the highest uptake by clinical risk group last year (highest vaccine uptake was 67.9% in patients with diabetes in the 2020 to 2021). The lowest uptake this season was in patients with any Learning Disability (including severe) at 39.6% compared to 44.1% in patients with asplenia or dysfunction to the spleen last season ([Table 5](#) and [Figure 4](#)). Both these groups should be treated with caution given the changes to the cohorts described above.



**Table 4. Percentage of each risk group in the at-risk and total population in the GP record compared to last season (2020 to 2021) for all those aged 6 months to under 65 years**

<b>Risk group</b>	<b>Prevalence per 100 in at-risk population 2021 to 2022</b>	<b>Prevalence per 100 in at-risk population 2020 to 2021</b>	<b>Prevalence per 100 in total 6 months to 65 years population 2021 to 2022</b>	<b>Prevalence per 100 in total 6 months to 65 years population 2020 to 2021</b>
Patients with diabetes	20.5	19.3	3.4	3.2
Patients with chronic kidney disease	4.1	4.2	0.7	0.7
Patients with immunosuppression	8.1	5.9	1.3	1.0
Patients with chronic neurological disease (including stroke or transient ischaemic attack (TIA), cerebral palsy, or MS)	10.7	10.3	1.8	1.7
Patients with a severe learning disability (subset of chronic neurological disease)	0.6	0.5	0.1	0.1
Patients with any learning disability (including severe)	9.6	3.4	1.6	0.6
Patients with chronic respiratory disease	36.8	37.7	6.1	6.3
Patients with chronic heart disease	22.3	15.2	3.7	2.5
Patients with chronic liver disease	8.7	7.9	1.4	1.3
Patients with asplenia or dysfunction of the spleen	2.7	4.5	0.4	0.8
Patients with morbid obesity (BMI $\geq$ 40) (aged 16 to under 65 years only)	15.3	15.5	3.2	3.0

**Table 5. Vaccine uptake by individual clinical risk groups and age band for GP registered patients aged 6 months to under 65 years old during the last 2 seasons (2020 to 2021 and 2021 to 2022)**

Comparison of vaccine uptake by age band to last season: red shading and 'd' indicates decrease; yellow shading and 'nc' indicates no change; green shading and 'i' indicates increase. Plain white background and no note indicates comparator data not available.

Risk group*	2021 to 2022 6 months to under 2 years	2021 to 2022 2 years to under 5 years	2021 to 2022 5 years to under 16 years	2021 to 2022 16 years to under 65	2021 to 2022 Total under 65 years	2020 to 2021 6 months to under 2 years	2020 to 2021 2 years to under 5 years	2020 to 2021 5 years to under 16 years	2020 to 2021 16 years to under 65 years	2020 to 2021 Total under 65 years
Patients with diabetes	17.3 (nc)	53.3 (d)	53.2 (d)	64.2 (d)	64.1	17.3	57.8	58.5	68.0	67.9
Patients with chronic kidney disease	11.4 (d)	48.3 (d)	44.4 (d)	62.4 (i)	62.0	28.6	55.7	44.5	61.8	61.4
Patients with immunosuppression*	20.3 (d)	49.6 (d)	49.0 (d)	60.3 (d)	59.9	22.8	56.7	50.9	60.9	60.4
Patients with chronic neurological disease (including stroke or TIA, cerebral palsy or MS) *	14.9 (d)	48.1 (d)	47.9 (i)	54.9 (i)	54.1	19.6	53.8	43.9	54.7	53.7
Patients with a severe learning disability (subset of chronic neurological disease)	**	51.8 (d)	44.9 (d)	67.5 (d)	65.4	**	62.5	49.0	68.3	66.4
Patients with any learning disability (including severe)	29.3 (d)	40.9 (d)	40.4 (d)	39.2 (d)	39.6	37.8	60.2	47.5	59.8	58.3
Patients with chronic respiratory disease	18.2 (d)	55.6 (d)	53.1 (i)	56.4 (d)	56.1	37.0	62.4	53.0	58.5	57.9
Patients with chronic heart disease*	14.5 (d)	50.4 (d)	49.3 (i)	53.3 (d)	53.0	25.4	55.8	45	56.8	55.8
Patients with chronic liver disease*	16.9 (d)	49.9 (d)	42.0 (i)	48.3 (i)	48.2	23.6	53.9	41.9	47.6	47.5
Patients with asplenia or dysfunction of the spleen*	21.9 (d)	56.6 (d)	53.6 (i)	55.6 (i)	55.3	24.4	56.7	42.3	44.2	44.1
Patients with morbid obesity (BMI>=40) *	**	47.0 (d)	42.4 (i)	47.4 (i)	47.4	n/a	n/a	n/a	45.1	45.1

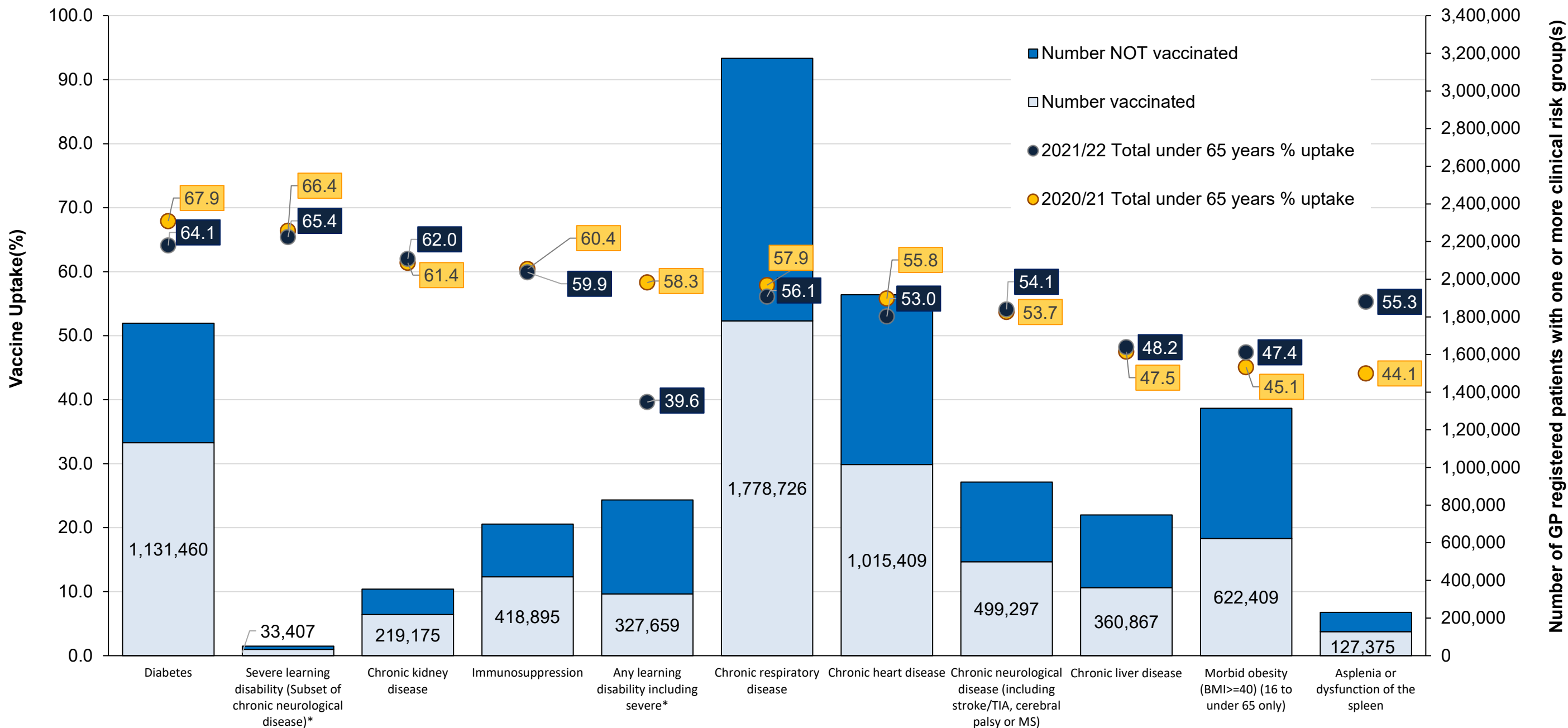
\* There were adjustments to classification in clinical coding of these groups in the SNOMED CT transition and caution should be applied in historical comparisons.

\*\* Indicates data was suppressed due to small numbers.

n/a indicates data was not available.

The prevalence of individual at risk groups can vary from year to year depending on current definitions of persons at-risk and the quality of the data capture, see [SNOMED CT transition](#) for further context. See [Table 4](#) for the changes to the prevalence of each risk group in the at-risk population aged 6 months to under 65 years old.

**Figure 4. Vaccine uptake in the 2021 to 2022 and 2020 to 2021 seasons, and extrapolated number of registered patients who received an influenza vaccine by individual clinical risk group for all those aged 6 months to under 65 years for 2021 to 2022 (data up to end of February 2022)<sup>16</sup>**



<sup>16</sup> It is important to note that the number of individuals under 65 years of age registered with learning disabilities has increased, for more information please refer to [Individual risk groups](#).

## Pregnant women<sup>17</sup>

Vaccine uptake in all pregnant women (healthy and in at-risk groups combined) was 37.9% in the 2021 to 2022 season, decreasing 5.7 percentage points from 43.6% in 2020 to 2021 (Table 6).

**Table 6. Observed and extrapolated estimate number of pregnant women registered and who received an influenza vaccine**

Target groups for vaccination	2021 to 2022 Number of patients registered	2021 to 2022 Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Number of patients registered	2020 to 2021 Number of patients vaccinated	2020 to 2021 Percentage vaccine uptake
All pregnant women (includes both 'healthy' and at-risk)	645,285	244,629	37.9	606,540	264,228	43.6
All pregnant women extrapolated (includes both 'healthy' and at-risk)	664,273	251,827		621,426	270,713	
Pregnant women and <b>in</b> a clinical risk group	77,992	40,403	51.8	77,051	44,487	57.7
Pregnant women and <b>in</b> a clinical risk group extrapolated	80,287	41,592		78,942	45,579	
Pregnant women <b>not</b> in a clinical risk group	567,293	204,226	36.0	529,489	219,741	41.5
Pregnant women <b>not in</b> a clinical risk group extrapolated	583,986	210,235		542,484	225,134	

<sup>17</sup> Data on the uptake of influenza vaccine by pregnant women needs to be interpreted with caution, see [Data limitations: pregnant women section of the report](#)

## Pre-school aged children<sup>18</sup>

Vaccine uptake in patients aged 2 and 3 years old was 50.1%<sup>20</sup> in 2021 to 2022, compared to 56.7% in the previous season (Table 7).

**Table 7. Observed and extrapolated number of GP registered patients aged 2 and 3 years old who received an influenza vaccine**

Target groups for vaccination	2021 to 2022 Number of patients registered	2021 to 2022 Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Number of patients registered	2020 to 2021 Number of patients vaccinated	2020 to 2021 Percentage vaccine uptake
All 2 and 3 year olds (includes both 'healthy' and at-risk)	1,256,015	629,157	50.1	1,279,856	725,631	56.7
All 2 and 3 year olds (includes both 'healthy' and at-risk) extrapolated	1,293,812	648,090		1,317,017	746,700	
All 2 and 3 and <b>in</b> a clinical risk group	36,445	20,533	56.3	34,792	22,199	63.8
All 2 and 3 and <b>in</b> a clinical risk group extrapolated	37,542	21,151		35,802	22,844	
All 2 and 3 and <b>not in</b> a clinical risk group	1,219,570	608,624	49.9	1,245,064	703,432	56.5
All 2 and 3 and <b>not in</b> a clinical risk group extrapolated	1,256,270	626,939		1,281,215	723,856	

<sup>18</sup> Vaccine uptake for individual year groups can be found in the [accompanying tables](#).

## Patients aged 50 to under 65 years

Due to the COVID-19 pandemic, in the 2020 to 2021 season the influenza vaccination programme was extended to include all those aged 50 to under 65 years from 1 December 2020. This part of the programme was phased to ensure the prioritisation of those in risk groups. For the 2021 to 2022 season this cohort continued to be eligible but were now eligible from the start of the season. Vaccine uptake was 45.7% in those aged 50 to under 65 years who were not in a clinical risk group, with an estimated 3,619,067 vaccinations given. Due to the difference in when eligibility occurred between seasons for this cohort, direct comparison cannot be made with the previous seasons' uptake which was 35.2%.

**Table 8. Observed and extrapolated figures for patients aged 50 to under 65 years old who received influenza vaccine**

Target groups for vaccination	Number of patients registered	Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Percentage vaccine uptake
All patients aged 50 to under 65 years (includes both 'healthy' and at-risk)	11,549,461	6,058,374	52.5	45.2
All patients aged 50 to under 65 years extrapolated (includes both 'healthy' and at-risk)	11,889,311	6,236,646		
Aged 50 to under 65 years and <b>in</b> a clinical risk group	3,849,041	2,542,756	66.1	66.3
Aged 50 to under 65 years and <b>in</b> a clinical risk group extrapolated	3,962,302	2,617,578		
Aged 50 to under 65 years <b>not in</b> a clinical risk group	7,700,420	3,515,618	45.7	35.2
Aged 50 to under 65 years <b>not in</b> a clinical risk group extrapolated	7,927,010	3,619,067		

## 'All patients' aged 6 months to under 65 years

Overall vaccine uptake is higher than last season at 26.6% (compared to 22.0% in 2020 to 2021 season). All age bands showed an increase in uptake (see [Table 9](#)). The increase in the 5 years to under 16 years age band reflects the continued extension of the childhood influenza vaccination programme. For the first time, all those aged 12 rising to 16 years old (academic Year 8 to Year 11) became eligible for vaccination in the 2021 to 2022 season. The extrapolated number of all registered patients aged 6 months to under 65 years (including those in a clinical at-risk group) who received an influenza vaccine by the end of February 2022 was just below 13.5 million (n=13,477,222).

**Table 9. Observed and extrapolated figures for 'All patients' aged 6 months to under 65 years old who received influenza vaccine by age band**

<b>All GP-registered patient data (includes those in a risk group and those not in a clinical risk group)</b>	<b>Number of patients registered</b>	<b>Number of patients vaccinated</b>	<b>2021 to 2022 Percentage vaccine uptake</b>	<b>2020 to 2021 Percentage vaccine uptake</b>
Total observed 6 months under 65 years	49,264,539	13,091,982	26.6	22.0
Total extrapolated 6 months under 65 years	50,714,180	13,477,222		
6 months to under 2 years	865,471	3,306	0.4	0.7
6 months to under 2 years extrapolated	890,938	3,403		
2 years to under 5 years	1,883,240	792,657	42.1	44.1
2 years to under 5 years extrapolated	1,938,656	815,981		
5 years to under 16 years	7,740,581	3,292,116	42.5	30.2
5 years to under 16 years extrapolated	7,968,353	3,388,989		
16 years to under 65 years	38,775,247	9,003,903	23.2	19.8
16 years to under 65 years extrapolated	39,916,234	9,268,849		

## Refused or declined<sup>19</sup>

Refused or declined vaccinations have decreased in all target groups for vaccination. The largest decrease was in those aged 65 years and over (4.9% compared to 7.0% in 2020 to 2021), see Table 10 and [Figure 5](#).

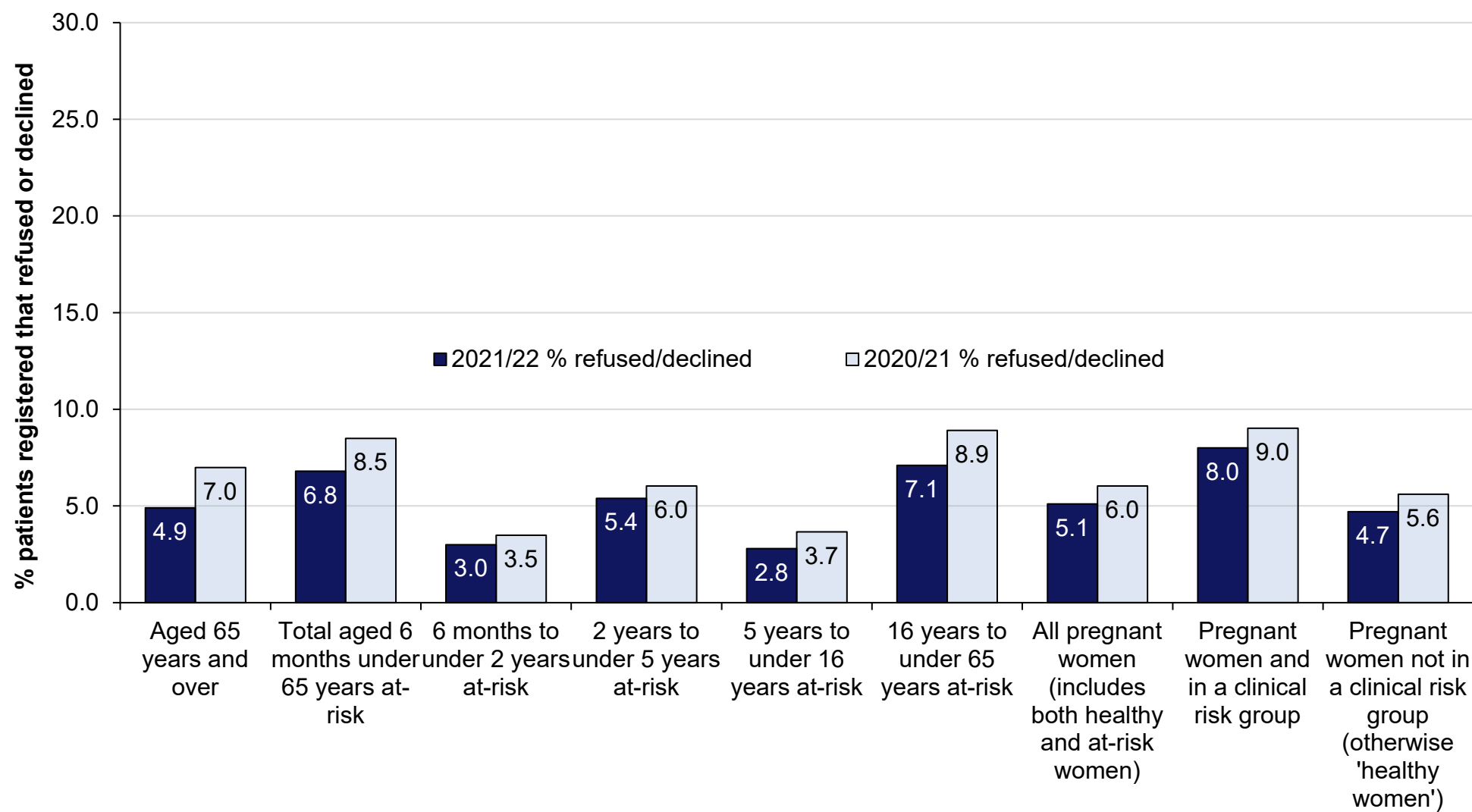
**Table 10. Number of registered patients who refused or declined the influenza vaccine**

Target groups for vaccination	Number of vaccinations refused or declined	2021 to 2022 % of population refused or declined	2020 to 2021 % of population refused or declined
Aged 65 years and over	524,039	4.9	7.0
Total aged 6 months under 65 years at-risk	554,807	6.8	8.5
6 months to under 2 years at-risk	419	3.0	3.5
2 years to under 5 years at-risk	3,037	5.4	6.0
5 years to under 16 years at-risk	15,247	2.8	3.7
16 years to under 65 years at-risk	536,104	7.1	8.9
All pregnant women (includes both healthy and at-risk women)	33,125	5.1	6.0
Pregnant women and <b>in</b> a clinical risk group	6,271	8.0	9.0
Pregnant women <b>not in</b> a clinical risk group (otherwise 'healthy women')	26,854	4.7	5.6

<sup>19</sup> Caution should be exercised when looking at these figures as different GP system suppliers use different ways of recording this and some may be collected via non-coded mechanisms.



**Figure 5. Percentage of refused or declined vaccination by target group for 2021 to 2022 compared to 2020 to 2021**



## Other healthcare settings<sup>20</sup>

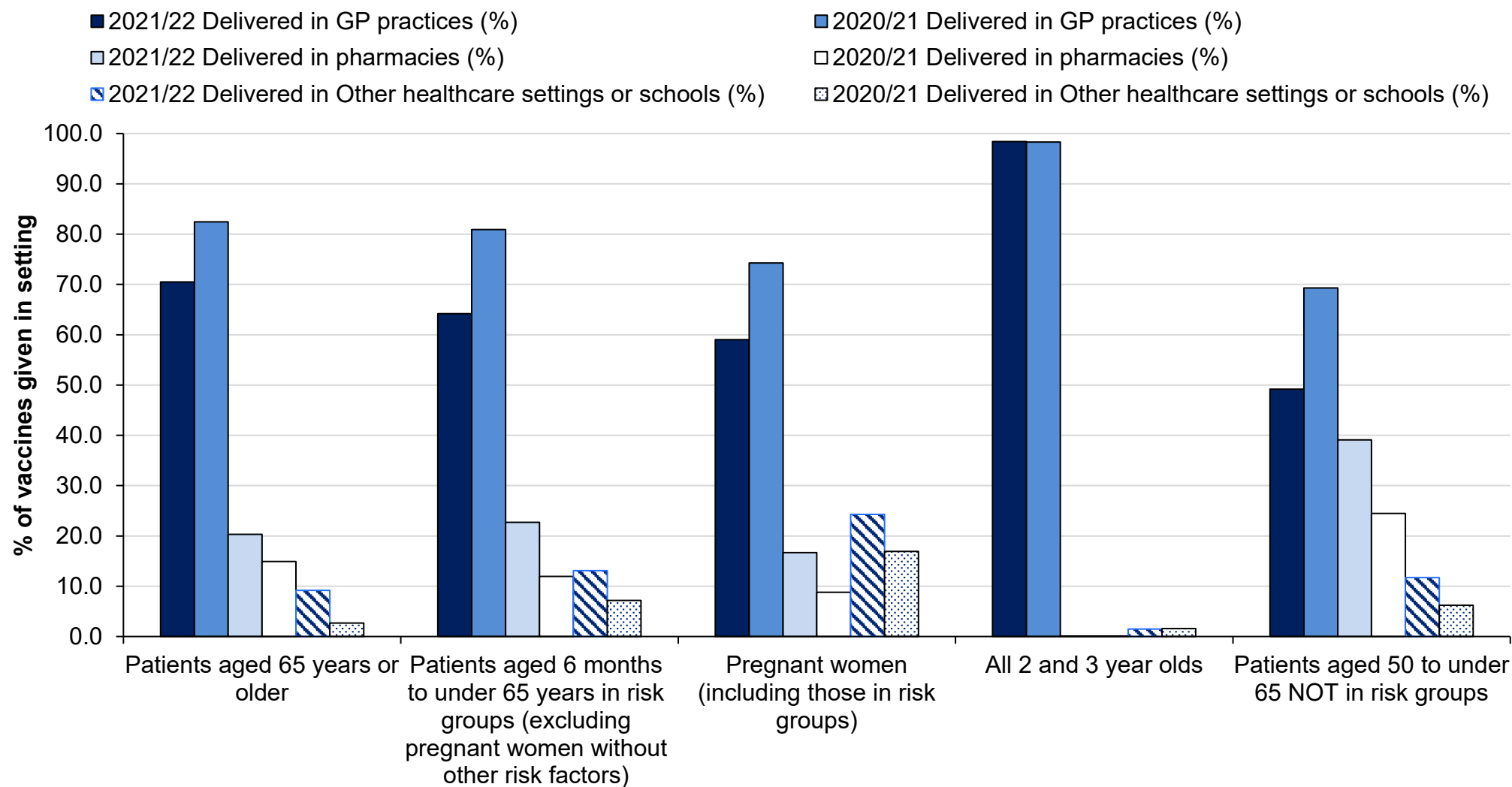
Most vaccinations are still delivered within the GP practices though there continues to be a gradual increase in vaccinations delivered in pharmacies and other healthcare settings (for example, antenatal clinics, residential homes and private or occupational health) this season, particularly in the 65 years or older cohort and the pregnant women cohort (Table 11 and Figure 6). Those aged 50 to under 65 years and not at-risk had the highest percentage of vaccinations recorded to be given outside of the GP practice, with nearly 40% of all vaccines in this cohort given in pharmacies. Pregnant women saw a 15.3% increase in vaccinations given outside the GP compared to the 2020 to 2021 season, with an 7.4% increase in vaccinations given in other healthcare settings. Those aged 65 years and over also saw an increase, with 11.9% higher proportion of recorded vaccinations given outside the GP practice than last season.

**Table 11. Percentage vaccine uptake by GP practices, pharmacies, and other healthcare settings**

Patient group	2021 to 2022 GP practices	2021 to 2022 Pharmacies	2021 to 2022 Other healthcare settings and schools	2020 to 2021 GP practices	2020 to 2021 Pharmacies	2020 to 2021 Other healthcare settings and schools
65 years and over	70.5	20.3	9.2	82.4	14.9	2.7
Six months to under 65 years at-risk	64.2	22.7	13.1	80.9	11.9	7.2
All pregnant women	59.0	16.7	24.3	74.3	8.8	16.9
All 2 and 3 year olds	98.4	0.1	1.5	98.3	0.1	1.6
50 years to under 65 years <b>not</b> in a clinical risk group	49.2	39.1	11.7	69.3	24.5	6.2

<sup>20</sup> Recording of vaccinations given in another healthcare setting outside of the GP practice does not come under an existing information standard, therefore location recording can be varied amongst GP practices and GP system suppliers (see data limitations section of this report).

**Figure 6. Percentage of vaccinations given by location for those aged 65 years and over, patients aged 6 months to under 65 years and in one or more clinical risk group, pregnant women, all 2 and 3 year olds and patients aged 50 to under 65 not in a clinical risk group**



## Carers

Vaccine uptake for carers aged 16 to under 65 years old and not in a clinical risk group was 34.3% compared to 46.7% in 2020 to 2021 season, a decrease of 12.4% ([Table 12](#)).

**Table 12. Observed and extrapolated figures for carers who received an influenza vaccine during the 2021 to 2022 season**

Target groups for vaccination	Number of patients registered	Number of patients vaccinated	2021 to 2022 Percentage vaccine uptake	2020 to 2021 Percentage vaccine uptake
16 years to under 65 years not at-risk who fulfil the carer definition	438,647	150,364	34.3	46.7
16 years to under 65 years not at-risk who fulfil the carer definition extrapolated	451,554	154,789		

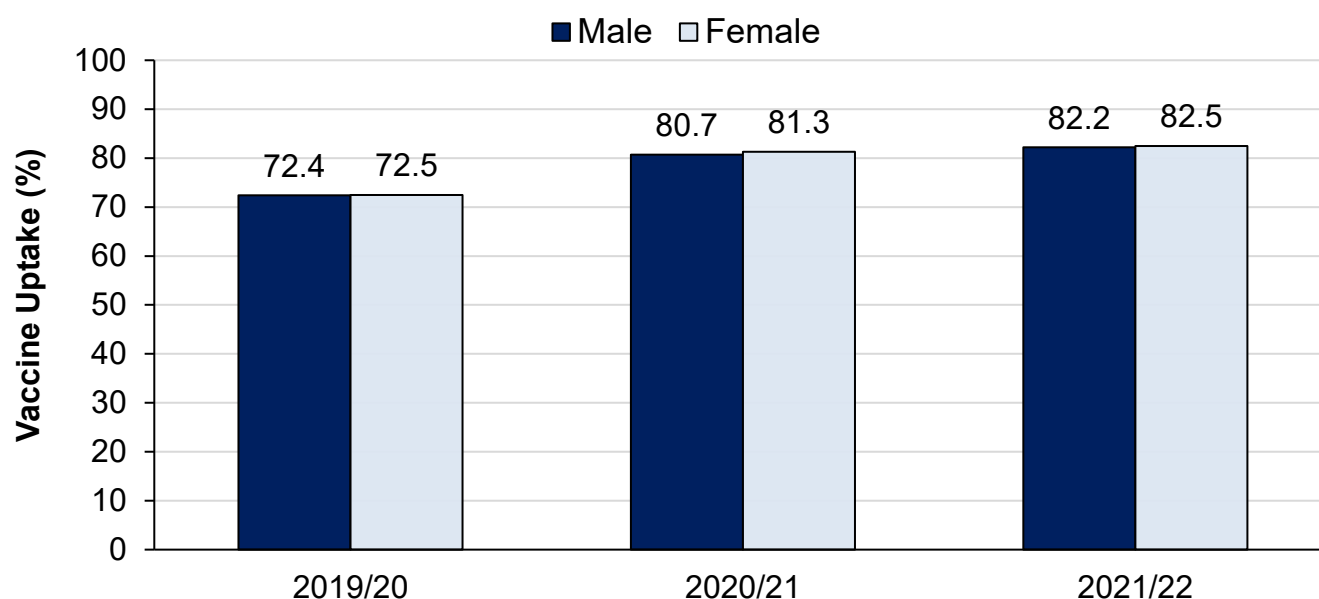
## Sex

Those with sex not specified or unknown were removed due to small numbers.

### 65 years and over by sex

For those aged 65 years and over, there was little or no difference in uptake between sex for the last 3 seasons ([Figure 7](#)).

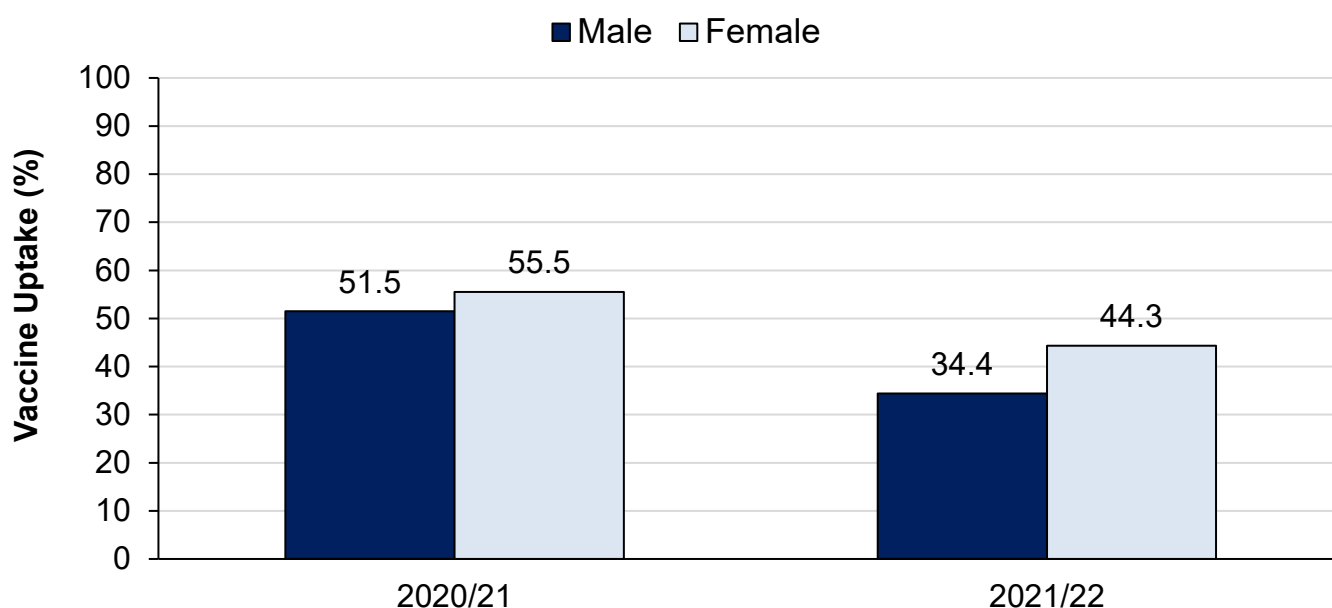
**Figure 7. Influenza vaccine uptake in those aged 65 years and over by sex for England from 2019 to 2020 season to 2021 to 2022 season**



### At-risk patients aged 16 to under 65 years by sex

For the current and previous season, data was collected for at-risk patients aged 16 years to under 65 years. The at-risk cohort includes pregnant women with other risk factors but excludes otherwise 'healthy' pregnant women. In the 2021 to 2022 season, vaccine uptake in at-risk patients aged 16 years to under 65 years was 9.9% higher in females than males in England (see Figure 8). This does not account for differences caused by the vaccination of pregnant women.

**Figure 8. Influenza vaccine uptake in at risk patients aged 16 to under 65 years old by sex for England**



## Vaccine type

Vaccine type was introduced to the GP survey in 2018 to 2019 as experimental data. Data was available again this year for 96.4% of those vaccinated aged 65 years and over, and for 96.8% of those vaccinated aged 16 to under 65 years and in a clinical risk group. The percentage of vaccination coded with a defined type remained similar to the 2020 to 2021 season with 47.2% in 2021 to 2022 compared to 48.2% last season for those aged 16 to under 65 years. Due to the extended programme, a recombinant quadrivalent vaccine (QIVr) was commissioned for use in the UK in 2020 to 2021. QIVr continued to be administered in the 2021 to 2022 season as [advised by JCVI](#) in at-risk adults and those age 65 years and older when more preferred vaccines were unavailable.<sup>21,22</sup>

Where vaccine type was provided for 9.7% of GP practices responding, 76.7% of those aged 65 years and over received the first line recommended adjuvanted quadrivalent influenza vaccine (aQIV)<sup>23</sup>. 19.5% were vaccinated with the 2 second-line vaccinations, 18.5% with QIVc and 1.0% with QIVr. 3.8% received QIVe which was not recommended to those aged 65 and over.

Where vaccine type was provided for 47.2% of GP practices responding, 67.3% of those aged 16 to under 65 years in a clinical risk group received the recommended first-line vaccines, 65.0% were QIVc and 2.3% were recorded with QIVr. 32.7% were vaccinated with the second-line QIVe vaccine. See [Table 13](#) and [Figure 9](#).

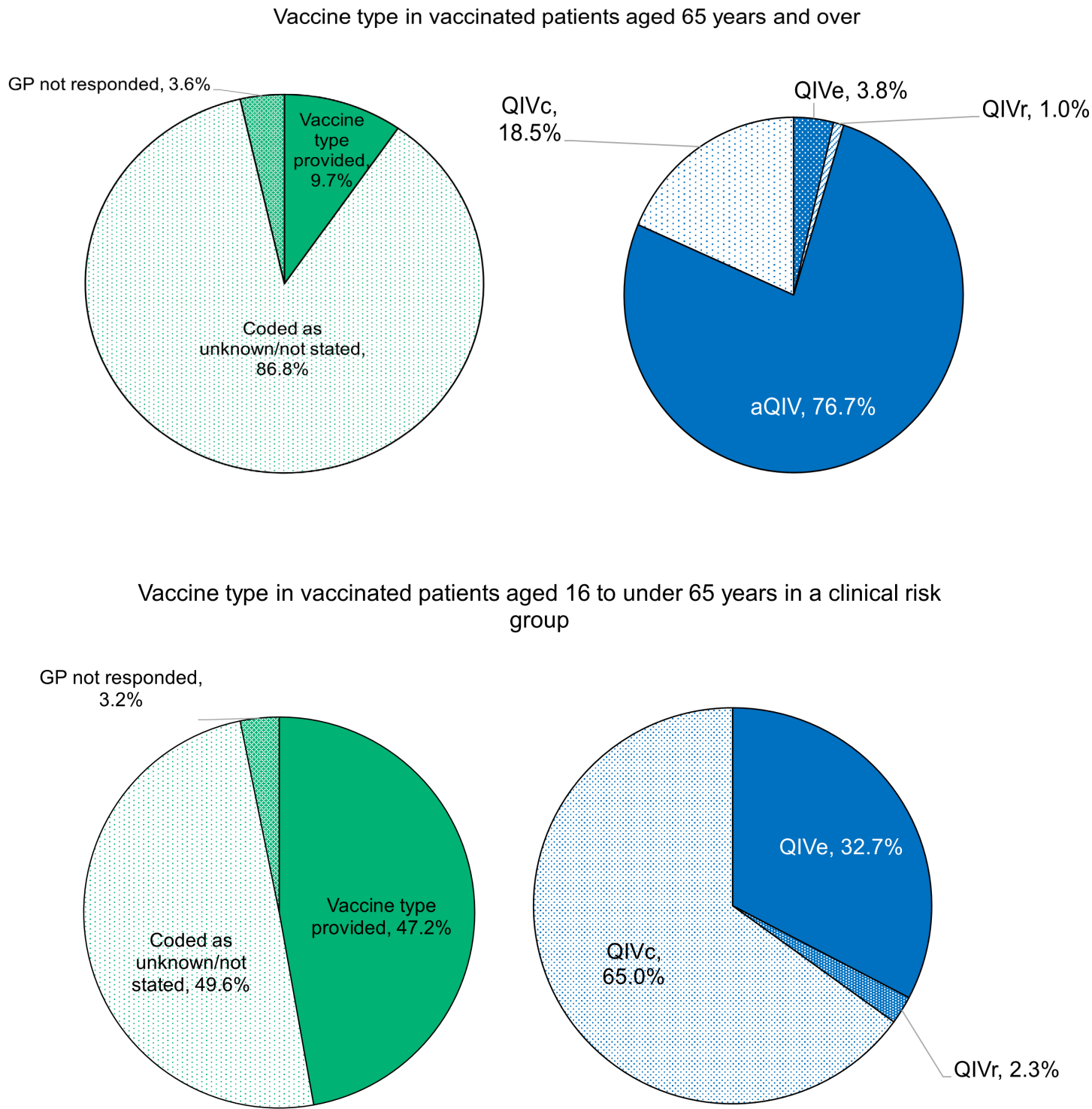
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<sup>21</sup> [QIVr vaccine given authorisation for temporary supply in 2020 2021](#)

<sup>22</sup> [JCVI Minutes 27 October 2020](#)

<sup>23</sup> JCVI also recommended the high dose quadrivalent influenza vaccine (QIV-HD). However, QIV-HD is not currently available in the UK market.

Figure 9. Percentage of vaccine type codes in the GP record by target cohort



**Table 13. Extrapolated number of vaccinations given by vaccine type in patients aged 65 years and over, and those aged 16 to under 65 years and in one or more clinical risk groups during the 2021 to 2022 season**

2021 to 2022	Patient group		Patients aged 65 years or older	Patients aged 16 to under 65 years at risk
	Vaccine uptake (percentage)		82.3%	52.9%
	Extrapolated number of people vaccinated		9.0 million	4.4 million
Vaccine type*	Adjuvanted vaccine (aQIV)	Percentage of those vaccinated where vaccine type is available	76.7%	N/A
		Extrapolated number of people vaccinated	6.9 million	
	Cell based vaccine (QIVc)	Percentage of those vaccinated where vaccine type is available	18.5%	65.0%
		Extrapolated number of people vaccinated	1.7 million	2.9 million
	Recombinant quadrivalent vaccine (QIVr)	Percentage of those vaccinated where vaccine type is available	1.0%	2.3%
		Extrapolated number of people vaccinated	90,000	100,000
	QIV non-adjuvanted vaccine (QIVe)	Percentage of those vaccinated where vaccine type is available	3.8%	32.7%
		Extrapolated number of people vaccinated	340,000	1.4 million

\* Note that a large proportion of vaccine type is unknown or not stated, therefore the number of people vaccinated by vaccine type is likely to be larger, caution should be exercised when interpreting these figures due to rounding.

This table has been updated since first publication. For details please see Document history under Notes on the report.



The number of live attenuated influenza vaccine (LAIV) vaccinations recorded for patients aged 2 and 3 years old have been collected as an experimental cohort for the last 3 years. Where vaccine type was provided for 97.5% of GP practices responding, 97.5% of vaccinated 2 and 3 year olds received LAIV and 2.5% received either QIVc or QIVe. However, please note that Public Health England (PHE) only procured LAIV and QIVc for this age group this year.

**Table 14. Influenza vaccine uptake in those aged 2 and 3 years old for England from the 2019 to 2020 season to the 2021 to 2022 season, and the proportion of LAIV vaccinations recorded for this cohort**

All 2 and 3 year olds	2021 to 2022
Vaccine uptake (percentage)	50.1%
Extrapolated number of people vaccinated	648,000
Percentage of those vaccinated with LAIV	97.5%
Extrapolated number of people vaccinated with LAIV	632,000
Percentage of those vaccinated with QIVc or QIVe	2.5%
Extrapolated number of people vaccinated with QIVc or QIVe	16,000

This table has been updated since first publication. For details please see Document history under Notes on the report.

## Social care workers

The collection of vaccination data for GP registered patients who are social care workers was introduced to the GP survey in the 2019 to 2020 season as an experimental cohort. In 2021 to 2022 data was available for 57.7% (3,777 out of 6,542) of all GP practices in England, compared to 48.0% (3,166 out of 6,596) of all GP practices in England in the 2020 to 2021 season. The response rate ranged from 28.5% in London to 85.5% in the South West. Therefore, caution should be used when interpreting the data.

A total of 37,919 social care workers were recorded on data submitted by GP practices, increasing from 25,949 last season. This is likely to account for around 2.5% of social care workers (1.52 million in adult social care). Of social care workers included in this data collection, 61.0% were vaccinated, compared to 60.4% last season. At the regional level, vaccine uptake ranged from 32.3% (London) to 67.3% (East of England).

## Ethnicity

Ethnicity data was collected for adults aged 65 years and over, those aged 16 to under 65 years in a clinical risk group, and pregnant women (see [Table 15](#)). Ethnicity is coded using the 16+1 ethnic data categories defined in the 2001 census that forms the national mandatory standard for the collection and analysis of ethnicity. 71.5% of patients aged 65 years and over were

recorded with a 2001 code, 17.9% were recorded with no code and 10.5% were recorded with a non-2001 census code. 0.2% were recorded as patient refused, and uptake in this group was 78.2%.

73.4% of patients aged 16 to under 65 years in a clinical risk group were recorded with a 2001 code, 8.6% were recorded with no code and 17.8% with a non-2001 census code. 0.2% were recorded as patient refused, and uptake in this group was 48.0%. For pregnant women, 74% were recorded with a 2001 code, 7.8% were recorded with no code and 18% with a non-2001 census code. 0.2% were recorded as patient refused, and uptake in this group was 31.4%.

Black or Black British and Caribbean had the lowest uptake in all 3 groups. White British had the highest uptake in those aged 16 to under 65 years in a clinical risk group and 65 years and over, whilst Other ethnic groups and Chinese had the highest for the pregnant women group.

**Table 15. Influenza vaccine uptake in those aged 16 to under 65 years in a clinical risk group and pregnant women by ethnicity group. The highest (green shading) and lowest (red shading) uptake are indicated in each eligible group**

Ethnicity group	Aged 65 years and over			16 to under 65 years in a clinical risk group			Pregnant women		
	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake
White British	6,363,020	5,462,596	85.8 (highest)	3,829,851	2,253,805	58.8 (highest)	272,987	118,815	43.5
White Irish	78,264	62,751	80.2	34,131	18,206	53.3	2,883	1,191	41.3
White Other	268,131	175,901	65.6	326,620	116,214	35.6	56,591	14,493	25.6
Mixed: White and Black Caribbean	12,504	7,403	59.2	29,760	9,635	32.4	3,683	799	21.7
Mixed: White and Black African	7,787	4,467	57.4	22,564	8,651	38.3	2,941	858	29.2
Mixed: White and Asian	8,113	5,984	73.8	18,298	8,854	48.4	2,377	906	38.1
Mixed: Any other mixed background	16,757	11,401	68.0	36,120	14,877	41.2	5,211	1,635	31.4
Asian or Asian British-Indian	167,539	128,953	77.0	200,608	108,937	54.3	22,665	9,409	41.5
Asian or Asian British-Pakistani	78,577	48,537	61.8	198,297	77,775	39.2	23,985	6,881	28.7

Ethnicity group	Aged 65 years and over			16 to under 65 years in a clinical risk group			Pregnant women		
	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake
Asian or Asian British-Bangladeshi	21,467	15,583	72.6	79,159	44,056	55.7	10,277	3,674	35.7
Asian or Asian British: Any other Asian background	73,487	53,301	72.5	117,291	62,247	53.1	13,584	5,397	39.7
Black or Black British-Caribbean	63,785	33,534	52.6 (lowest)	71,917	21,326	29.7 (lowest)	3,915	572	14.6 (lowest)
Black or Black British-African	52,880	28,052	53.0	153,608	58,532	38.1	16,485	4,550	27.6
Black or Black British and Any other Black background	13,417	7,545	56.2	41,008	13,351	32.6	3,637	753	20.7
Other ethnic groups: Chinese	26,856	17,779	66.2	23,297	11,888	51.0	2,998	1,385	46.2 (highest)
Other ethnic groups: Any other ethnic group	47,347	29,594	62.5	77,034	30,083	39.1	13,087	3,832	29.3

Ethnicity group	Aged 65 years and over			16 to under 65 years in a clinical risk group			Pregnant women		
	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake	Number of patients registered	Number of patients vaccinated	Percentage vaccine uptake
Ethnicity not stated	122,334	94,428	77.2	95,438	42,986	45.0	7,983	2,735	34.3
Ethnicity code not recorded (no code)	1,086,360	800,923	73.7	628,259	284,101	45.2	49,090	15,821	32.2
Ethnicity not given: patient refused	21,406	16,739	78.2	16,491	7,916	48.0	1,288	404	31.4
Ethnicity code is a non-2001 ethnicity code	1,855,439	1,551,913	83.6	1,297,828	693,836	53.5	113,121	44,341	39.2
<b>Total</b>	<b>10,385,470</b>	<b>8,557,384</b>	<b>82.4</b>	<b>7,297,579</b>	<b>3,887,276</b>	<b>53.3</b>	<b>628,788</b>	<b>238,451</b>	<b>37.9</b>

## Deprivation

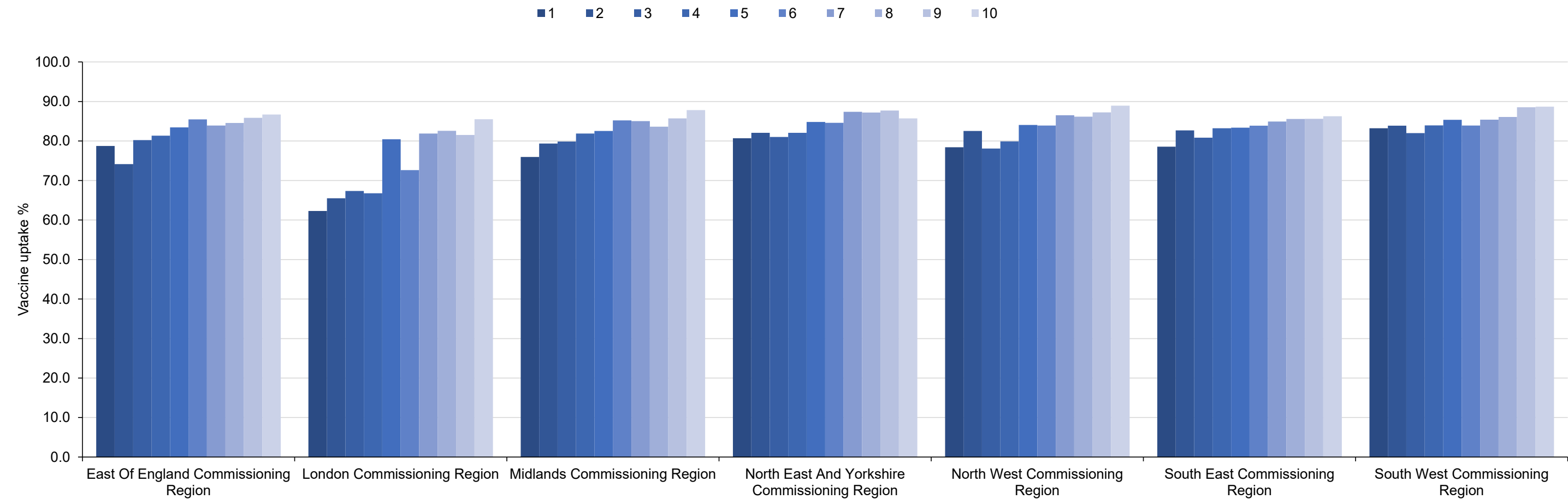
Vaccine uptake by deprivation is presented below using indices of multiple deprivation (IMD) deciles for the following target groups; 65 years and over; 16 to under 65 years at-risk and pregnant women. GP postcode is used as a proxy for IMD of the patients in the practice therefore caution is advised. Vaccinations in these target groups all show the same trend where vaccine uptake is highest in the least deprived areas and the lowest uptake in the most deprived areas (Table 16). The largest difference in vaccine uptake by IMD is in pregnant women where this varies by 15% compared to 11.8% in those aged 16 to under 65 years at-risk, and by 7.6% in those aged 65 years and over.

**Table 16. Influenza vaccination uptake in those aged 65 and over, all pregnant women and 16 to under 65 years in a clinical risk group and pregnant women by index of multiple deprivation**

IMD	Target group influenza vaccination uptake (percentage)		
	65 years and over	16 to under 65 years at risk	All pregnant women
1 (Most deprived)	78.7	48.2	31.6
2	79.0	49.1	32.5
3	80.0	50.5	34.9
4	81.6	52.6	37.2
5	82.6	54.3	39.2
6	83.6	54.8	41.3
7	84.1	56.6	42.3
8	84.1	57.0	42.5
9	85.3	58.4	45.2
10 (least deprived)	86.2	60.0	46.6
<b>Total England</b>	<b>82.3</b>	<b>53.1</b>	<b>37.9</b>

# 65 years and over

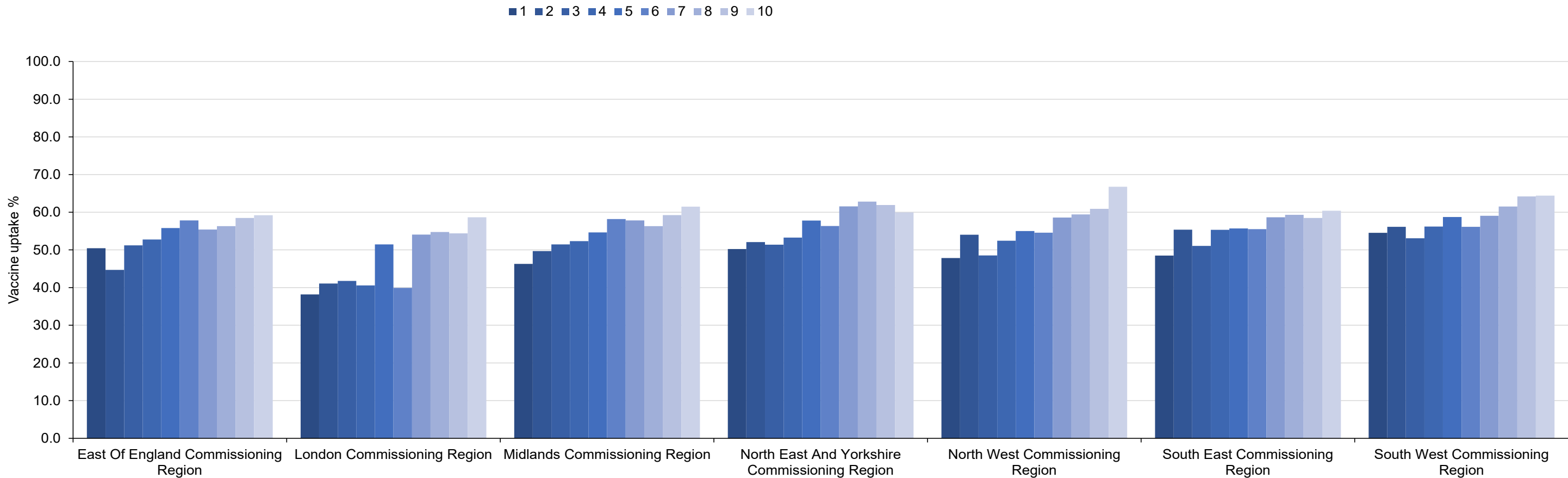
**Figure 10. Influenza vaccine uptake in those aged 65 years and over by index of multiple deprivation in each NHS commissioning region (1 to 10 is a scale of IMD with 1 being the most deprived and 10 being the least deprived)**



Vaccine uptake by IMD varies by region in those aged 65 years and over, the largest variation by IMD is seen in London where vaccine uptake is 23.2% lower in the most deprived cohort compared to the least deprived cohort. The regions with the least variation by IMD was in the South West region with around 6.7% variation between the least and most deprived cohorts.

## Aged 16 to 65 years at-risk

**Figure 11. Influenza vaccine uptake in those aged 16 to 65 years in a clinical risk group by index of multiple deprivation in each NHS commissioning region (1 to 10 is a scale of IMD with 1 being the most deprived and 10 being the least deprived)**

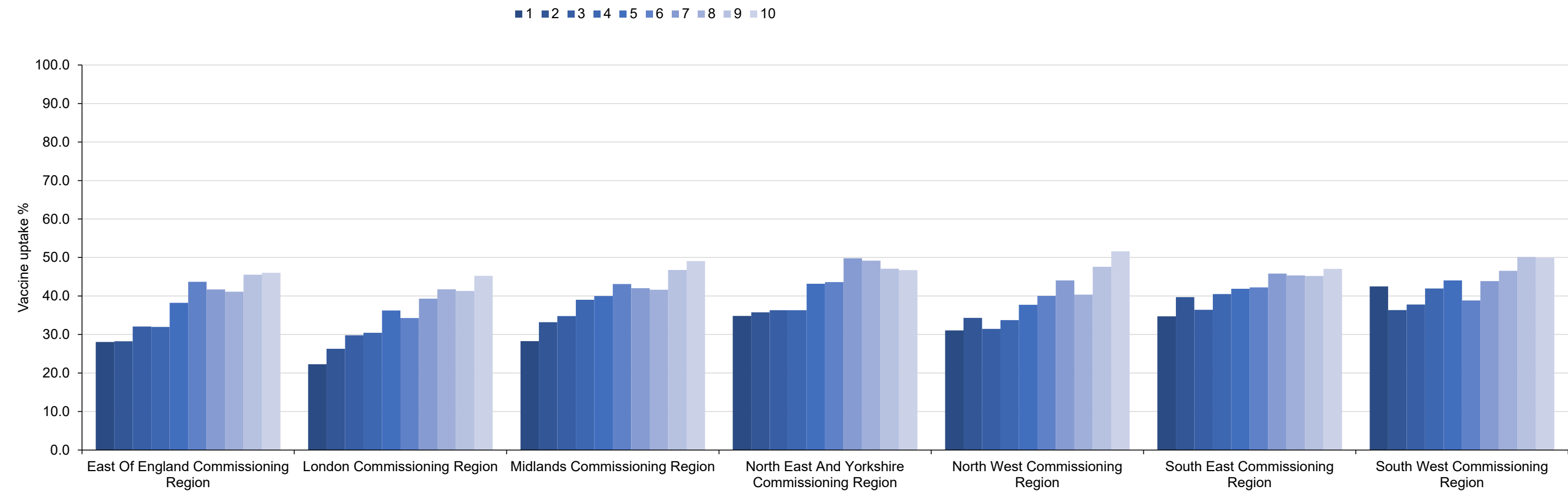


Vaccine uptake by IMD varies by region in those aged 16 to under 65 years at-risk, the largest variation by IMD is seen in London where vaccine uptake is 20.4% lower in the most deprived cohort compared to the least deprived cohort. The regions with the least variation by IMD was in the South West region with around 11.3% variation between the least and most deprived cohorts.



## Pregnant women

**Figure 12. Influenza vaccine uptake in all pregnant women by index of multiple deprivation in each NHS commissioning region (1 to 10 is a scale of IMD with 1 being the most deprived and 10 being the least deprived)**



Vaccine uptake by IMD varies by region in all pregnant women, the largest variation by IMD is seen in London where vaccine uptake is 22.9% lower in the most deprived cohort compared to the least deprived cohort. The region with the least variation by IMD was the South East with around 12% variation between the least and most deprived cohorts.

## Discussion

The automated response rate for GP practices for the 2021 to 2022 end of season surveys remained very high at over 97%. The increase in GP practice mergers and closures resulting in an increase in GP registered populations per GP practice have meant that automated extraction of data has become more important.

Automated responses mean that there is little or no burden on the NHS to provide data already collected in the GP records. However, more needs to be done to ensure optimum quality data is inputted into the GP record, as well as optimum extractions by the GP System Suppliers, such as vaccine type and social care worker status.

Weekly automated surveillance has again proved to be beneficial in providing rapid data at a national level to monitor the progress of the programme, especially due to the extension of the programme and pressure of the COVID-19 pandemic. In addition, an uptake summary tool continued to be provided on the ImmForm website that allowed users to view and evaluate their uptake rates by target cohorts, comparing them against the previous season, CCG average and overall national uptake.

Despite the challenges of the COVID-19 pandemic in the last 2 years, vaccine uptake in those aged 65 years and over has achieved the highest vaccine uptake ever of 82.3% and 80.9% in the 2021 to 2022 and 2020 to 2021 seasons respectively. Prior to this, vaccine uptake in this group remained relatively constant, at around 72%. It is likely to reflect the increased awareness of the importance of vaccination for influenza during the COVID-19 pandemic.

The national vaccine uptake ambition for those aged 65 years and over was set at 85% which is higher than the WHO target of 75%. Although the programme did not reach the national ambition, it continued to achieve above the WHO target of 75% vaccine uptake. No other cohorts achieve the high vaccine uptake ambitions set this for the 2021 to 2022 season.

Vaccine uptake in pregnant women in England in the 2021 to 2022 season was 37.9%, compared to 43.6% in 2020 to 2021.

Vaccine uptake in patients aged 6 months to under 65 years in one or more clinical risk group(s) remained stable at 52.9% compared to 53.0% in 2020 to 2021. Also, for this age group, the percentage of refused or declined vaccination have decreased slightly from 8.5% to 6.8% which is encouraging.

Vaccine uptake in the individual risk groups has remained similar for nearly all clinical risk groups compared to last season for all patients aged 6 months to under 65 years old, however variation in vaccine uptake by age has increased. There were some changes in the individual risk group denominators in those with any learning disability (including those with severe

learning disabilities) and asplenia or dysfunction of the spleen. These changes appear to be driven by improvements to data quality in the GP record and improved capture of eligible conditions. Those with any learning disability (including those with severe learning disabilities) group increased nearly 3 times the size of last year's cohort (271,366 to 781,297) and the number of vaccinations nearly doubled since last year from 158,127 to 309,578 vaccinations given.

This large increase is likely to be due to the inclusion of clinical codes related to autism being added to the denominator in September 2021, as well as increased incentives to improve health outcomes in those with learning disabilities in QOF. It is also likely that the removal of clinical codes related to sickle cell anemia traits from the asplenia or dysfunction of the spleen group have resulted in the apparent drop in those identified in this group from last year but is likely to be a more accurate reflection of the target population. Both examples show how the data is improving over time and how different interventions can impact the trend data and therefore year on year comparisons should be treated with caution.

The childhood LAIV programme, which was first implemented in 2013 to 2014. Due to the ongoing COVID-19 pandemic the childhood programme was temporarily extended to cover an additional 4 school year groups (reception to year 11, aged 4 to 16 years old) this season. Vaccinations for school years' reception to year 11 were delivered largely through schools and vaccine uptake is published in a separate report, [Seasonal influenza vaccine uptake in children of school age: winter season 2021 to 2022](#). Vaccine uptake in those aged 2 and 3 years old decreased this season from 56.7% in 2020 to 2021 to 50.1% in 2021 to 2022.

The temporary extension of the influenza vaccination programme due to the COVID-19 pandemic included all those aged 50 to under 65 years, who were again eligible for vaccination this season. Last season (2020 to 2021), those aged 50 to under 65 not in a clinical risk group were only eligible for vaccination from the start of December 2020, whereas they were eligible from the start of the programme this year. It was therefore encouraging that vaccine uptake increased from 45.2% last year to 52.5% this year, however the increase appears to have been driven by those who are not at risk as the vaccine uptake in those aged 50 to under 65 years and in a clinical risk group remained the same. This season, data on vaccine uptake by sex for those aged 16 to under 65 years and in a clinical risk group continued to be included. For those aged 65 years and over, there was little or no difference in vaccine uptake between male and female. For patients aged 16 years to under 65 years old and in a clinical risk group, vaccine uptake was 9.9% higher in females than males an increase from 5.9% in 2020 to 2021. This is higher than seen in all patient data in the 2019 to 2020 season. Further investigation is needed to understand the difference in vaccine uptake.

Vaccine uptake in England varied by ethnicity group in those aged 65 years and over, 16 to 65 years at-risk and all pregnant women, Black or Black British-Caribbean had the lowest uptake all 3 target groups while White British had the highest uptake in those aged 65 years and over

and 16 to under 65 years in a clinical risk group and Other ethnic groups: Chinese had the highest for the pregnant women group.

Vaccine uptake by Index of multiple deprivation (IMD) was presented this season using GP post code as a proxy for patient IMD. GP practices in the most deprived areas (IMD 1) had lower vaccine uptake compared to the least deprived areas (IMD 10). This trend was seen across the 3 target groups that were analysed, in:

- patients aged 65 years and over
- 16 to 65 years in a clinical risk group
- all pregnant women

These equality trends by sex, ethnicity and IMD are similar across other national immunisation programmes and there is still work to be done to reduce vaccine inequity.

Data by vaccine type has increased slightly from last year but still remains very low. However, where vaccine type was available, it was encouraging to see that a very high proportion of the vaccinations given were in line with recommendations for first-line vaccine types for each cohort similar to last year.

Establishing vaccinations given in health and social care workers remains difficult and vaccine uptake data on social care workers was included this year as experimental data. Despite SNOMED CT codes for social care occupations being added in 2018, this is still poorly recorded in the GP record and is not likely to be kept up to date on such a fluid workforce with very little available occupational health support. Data flows from social care employers and pharmacies will need to improve to ensure that vaccination status is reflected accurately in the GP record similar to other vaccinations given in other settings. During the COVID-19 pandemic, it was encouraging to see new initiatives aimed at improving data collection and data flows back into GP record.

This year was the largest flu vaccination programme ever delivered, vaccinating nearly 3 million more patients than last year despite an ongoing COVID-19 pandemic however we must ensure we can maintain and improve vaccine uptake across all our target groups.

## Acknowledgements

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- all those who participated in and supported the influenza vaccine uptake collection (GP patient survey), principally GP practice data providers, NHSEI regional public health commissioning teams, screening and immunisations teams and CCG screening and immunisation influenza coordinators in England
- the participation of GP IT system suppliers and third-party suppliers in providing the reporting tools and services for their customers in particular EMIS Health, VISION and TPP, who enabled automated extracts of data
- the participation of the PRIMIS team based in Nottingham, who were commissioned to provide the Read and SNOMED CT codes specification for this collection
- the ImmForm helpdesk and development team that provided and supported the online survey

# Appendix

## CCG changes for the 2021 to 2022 NHS hierarchy

2020 to 2021 Old organisation code	2020 to 2021 CCG organisation name	2021 to 2022 New organisation code	2021 to 2022 CCG organisation name	2021 to 2022 STP name
06F	NHS Bedfordshire	M14J7	NHS Bedfordshire, Luton, and Milton Keynes	Bedfordshire, Luton, and Milton Keynes
06P	NHS Luton			
04F	NHS Milton Keynes			
10K	NHS Fareham and Gosport	D9Y0V	NHS Hampshire, Southampton, and Isle of Wight	Hampshire and The Isle of Wight
10L	NHS Isle of Wight			
10J	NHS North Hampshire			
10V	NHS South Eastern Hampshire			
10X	NHS Southampton			
11A	NHS West Hampshire			
15D	NHS East Berkshire CCG	D4U1Y	NHS Frimley	Frimley Health and Care ICS
99M	NHS North East Hampshire and Farnham			
10C	NHS Surrey Heath CCG			
07L	NHS Barking and Dagenham CCG	A3A8R	NHS North East London	East London Health and Care Partnership
07T	NHS City and Hackney CCG			
08F	NHS Havering CCG			
08M	NHS Newham CCG			

<b>2020 to 2021 Old organisation code</b>	<b>2020 to 2021 CCG organisation name</b>	<b>2021 to 2022 New organisation code</b>	<b>2021 to 2022 CCG organisation name</b>	<b>2021 to 2022 STP name</b>
08N	NHS Redbridge CCG			
08V	NHS Tower Hamlets CCG			
08W	NHS Waltham Forest			
07P	NHS Brent	W2U3Z	NHS North West London	North West London Partners in Health and Care
09A	NHS Central London (Westminster)			
07W	NHS Ealing			
08C	NHS Hammersmith and Fulham			
08E	NHS Harrow			
08G	NHS Hillingdon			
07Y	NHS Hounslow			
08Y	NHS West London			
05N	NHS Shropshire	M2L0M	NHS Shropshire, Telford, and Wrekin	Shropshire and Telford and Wrekin
05X	NHS Telford and Wrekin			
05C	NHS Dudley	D2P2L	NHS Black Country and West Birmingham	The Black Country and West Birmingham
05L	NHS Sandwell and West Birmingham			
05Y	NHS Walsall			
06A	NHS Wolverhampton			
05A	NHS Coventry and Rugby	B2M3M	NHS Coventry and Warwickshire	Coventry and Warwickshire
05R	NHS South Warwickshire			
05H	NHS Warwickshire North			

Seasonal influenza vaccine uptake in GP patients winter season 2021 to 2022

<b>2020 to 2021 Old organisation code</b>	<b>2020 to 2021 CCG organisation name</b>	<b>2021 to 2022 New organisation code</b>	<b>2021 to 2022 CCG organisation name</b>	<b>2021 to 2022 STP name</b>
03A	NHS Greater Huddersfield	X2C4Y	NHS Kirklees	West Yorkshire and Harrogate Health and Care Partnership
03J	NHS North Kirklees			



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