Influenza Immunisation Uptake Monitoring Programme, England

Seasonal influenza vaccine uptake amongst

GP patient groups in England

Winter season 2010-11

This collection received approval as a **MANDATORY** collection from the Review of Central Returns Steering Committee (ROCR) under the licence **ROCR/OR/0113/003PMAN**

Version	V1.0
Last updated on	19 July 2011
Status	FINAL
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DH INFORMATION READER BOX

Policy	Estates
HR / Workforce	Commissioning
Management	IM & T
Planning /	Finance
Clinical	Social Care / Partnership Working

Document Purpose	For Information
Gateway Reference	16499
Title	Seasonal influenza vaccine uptake amongst GP patient groups in England 2010/11
Author	HPA/DH
Publication Date	6 September 2011
Target Audience	PCT CEs, NHS Trust CEs, SHA CEs, Care Trust CEs, Foundation Trust CEs , Directors of PH
Circulation List	Directors of HR, Allied Health Professionals, GPs
Description	This report provides a summary of the uptake of seasonal influenza vaccine amongst GP patients in England in the 2010/11 influenza season.
Cross Ref	Seasonal influenza vaccine uptake in those aged 65 years and over, and those aged under 65 years falling in a clinical at-risk group, for England 2009/10
Superseded Docs	
Action Required	
Timing	
Contact Details	Fateha Begum influenza@hpa.org.uk
For Recipient's Use	

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Executive summary

The Seasonal influenza vaccination programme for 2010/11 for England was set out in the CMO Letter published 23 June 2010.[1] The Department of Health (DH) recommended that seasonal trivalent influenza vaccine be offered to the following eligible groups of GP patients:

- all those aged 65 years and over
- all those aged 6 months to under 65 years falling in a clinical at-risk group[2, 3]
- those living in long-stay residential care homes or other long-stay care facilities
- those who are in receipt of a carer's allowance, or those who are the main carer of an elderly or disabled person whose welfare may be at risk if the carer falls ill.

In addition, and for the first time, pregnant women (at any stage of pregnancy) were offered the seasonal trivalent influenza vaccine whether in a clinical at-risk group or not.[4]

In undertaking the monitoring surveillance programme, the Health Protection Agency (HPA) coordinates the collection and reporting of national [England] data on the uptake of seasonal influenza vaccine by these groups for DH for a range of purposes:

- to support assessment by DH, SHAs and PCTs of the management and delivery of the vaccination programme whilst the programme is running
- to allow PCTs, SHAs and the DH to assess local, regional and national delivery and compare with previous influenza vaccination programmes
- to identify groups (by age and/or at-risk) and geographical area where coverage is low (and high)
- establish the collection of uptake data for pregnant women, and
- to support pharmacovigilance

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[1] The CMO announced the Seasonal influenza vaccination programme for 2010/11 in a letter published 23 June 2010 available to view and download from the DH website: **www.dh.gov.uk/en/Publicationsandstatistics/Lettersandcirculars/Professionalletters/Chiefmedicalofficerletters/DH_116507**

[2] For definitions of clinical at-risk groups for 2010/11 and example illnesses see Annex 4 of the CMO Letter: **www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_116943.pdf**

3 As well as offering seasonal influenza vaccine to people in the clinical at-risk groups, GPs are also advised to take into account the risk of influenza infection exacerbating any other underlying disease that a patient may have as well as the risk of serious illness from influenza itself with seasonal influenza vaccine offered in such cases.

[4] See the revised Green Book chapter 19 on 'Influenza' updated August 2010 and January 2011 respectively: **www.dh.gov.uk/en/Publichealth/Immunisation/Greenbook/index.htm**

*The seasonal influenza vaccine uptake survey is **not** designed to assess GP payments. The collection monitors and tracks vaccine uptake during the influenza season to provide a **snapshot** of 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.*

Data are gathered from strategic health authorities (SHAs), primary care trusts (PCTs) and GP practices online via the ImmForm website, entered either manually or through automated electronic uploads. The 2010/11 seasonal influenza survey comprised a weekly sentinel survey and two monthly survey returns - the first on cumulative vaccinations up to end October 2010 and a final return for cumulative vaccinations administered for the period 1 September 2010[5] to 28 February 2011 (inclusive) for GP registered patients only. Formal approval from the Review of Central Returns Steering Committee (ROCR) was received for the collection of this data from the NHS under the reference ROCR/OR/0113/003PMAN as a mandatory collection.

This report describes the uptake of seasonal trivalent influenza vaccine amongst eligible GP patient groups during the 2010/11 seasonal influenza vaccination programme in England.[6] Data are shown by different eligible and clinical at-risk groups, with comparisons made with vaccine uptake in previous collections.

[5] Although the vaccination programme does not start until 1 October, some practices receive vaccine supplies in September and may start their vaccinations before 1 October. Therefore, for data collection purposes, data are sought for vaccinations from 1 September 2010 onwards.

[6] Late in the vaccination programme (from 10 January 2011), supplies of the monovalent H1N1v vaccine (Pandemrix®) were released in circumstances where existing supplies of trivalent seasonal influenza vaccine had been exhausted and could not be replenished rapidly. Monovalent H1N1v and trivalent seasonal influenza vaccinations were not distinguished in this survey and therefore, an unknown proportion of vaccinations recorded are of the monovalent H1N1v vaccine.

Season 2010/11: Key results

Cumulative uptake on vaccinations administered from 1 September 2010 to end of 28 February 2011 from 97.7% (8084/8278) of GP practices in England, covering all 151 PCTs (including PCT-based care trusts) showed vaccine uptake of 72.8% for those aged 65 years and over and 50.4% for those aged 6 months to under 65 years in a clinical at-risk group. Uptake in pregnant women was 38.0%. Uptake increased in the 6 months to under 2 years at-risk group to 25.2% from 16.5% in 2009/10. Uptake by clinical at-risk groups ranged from 40.4% in patients with chronic degenerative neurological, cerebral palsy or MS disease to 68.4% in those with diabetes. Summary results by response and priority groups are as follows:

Response rate (GP practices) to the survey increased from 93.0% in 2009/10 to 97.7% in 2010/11

- All but one PCT (150) achieved a response rate of 70% or more. The lowest was 69.3% (up from 54.8% last season)
- 15 PCTs (10%) achieved a response rate between 80 and 95%
- All but 20 PCTs (131) achieved a response rate of 95% or more
- 105 (69.5%) PCTs achieved a 100% response rate

Data entry/extraction methods

- XML Bulk upload: 72.7% of practices (5881 out of 8084 returning data) submitted data via automated XML bulk upload (see page 7), an increase on the number last year, which was 70.6% (5506 out of 7797 practices returning data for 2009/10)
- Manual: 27.2% (2205 out of 8084 practices returning data) submitted manually, i.e. directly typed data onto the website. This was a decrease on the number of manual practices last year, which was 29.4% (2291 out of 7797 practices returning data for 2009/10)

National [England] vaccine uptake in patients aged 65 years and over was 72.8% similar to 2009/10 uptake of 72.4%

- Uptake by SHA ranged from 71.1% to 74.6%, with six SHAs achieving uptake rates higher than the national average
- All but 17 PCTs (134) achieved an uptake of more than 70%, with the highest uptake being 78.7%

- 27 PCTs achieved the World Health Organization (WHO) target uptake of more than 75% (compared with 16 PCTs in 2009/10)
- The lowest uptake in a PCT was 67.2% compared with 64.9% in 2009/10

National [England] vaccine uptake in those aged 6 months to under 65 years in a clinical at-risk group decreased slightly from 51.6% last year to 50.4% in 2010/11

- Uptake by SHA ranged from 47.9% to 53.2%, with six SHAs achieving uptake rates higher than the national average
- All but three PCTs (148) achieved more than 40% uptake, with the lowest uptake being 35.3% (compared with 39.0% in 2009/10)
- All but 60 PCTs (91) achieved more than 50% uptake (compared with 106 PCTs in 2009/10)
- 13 (compared with 26 in 2009/10) PCTs achieved more than 55% uptake; the highest uptake achieved was 61.5% compared with 60.5% in 2009/10
- The lowest uptake by age band was 25.2% in those aged 6 months to under 2 years at-risk, a marked increase from the 16.5% achieved in 2009/10. The highest uptake was 51.7% in those aged 16 to less than 65 years in a clinical at-risk group. This was slightly lower than 2009/10 uptake recorded at 53.6%
- Uptake by individual risk group ranged from 40.4% among patients with chronic degenerative neurological disease, cerebral palsy or MS to 68.4% among those with diabetes
- Uptake by risk group and age was particularly low in the youngest children aged 6 months to under 2 years for those with stroke/TIA at 23.6% compared with children aged 2 years to under 16 for those with chronic heart disease at 26.6%. Uptake was high in the older age group aged 16 to under 65 years for those with diabetes

National [England] vaccine uptake in pregnant women (combined) was 38.0%

- Uptake in pregnant women in a clinical at-risk group was 56.6%
- Uptake in pregnant women not in a clinical at-risk group was 36.6%

Data on seasonal influenza vaccine uptake by pregnant women need to be viewed in the context of the way these data are collected which is explained later in the report.

Methods

Data on seasonal influenza vaccine uptake (based on registered GP patients only) were submitted by GP practices and/or PCT flu coordinators on the ImmForm website either via an automated extraction (XML bulk upload) provided by GP IT software suppliers (who extract data directly from GP computer systems)[7] or by PRIMIS+ via their CHART tool (which also extracts data from GP computer systems) or manually. Approximately 73% of all GP practices responding to the survey (5881 out of 8084 practices returning data) submitted monthly data using automated methods with no burden to the NHS.[8] Weekly automated collections were also undertaken.

Dataset [9] [10]

Cumulative data on seasonal trivalent influenza vaccinations administered from 1 September 2010 to end of 28 February 2011 (inclusive) were collected in the following groups and age bands;

- aged 65 years and older: *MANDATORY DATA FIELDS*
  [All patients]
- aged 6 months to under 2 years: *MANDATORY DATA FIELDS*
  [All patients and summary of patients in one or more at-risk group(s)]
- aged 2 years to under 16 years: *MANDATORY DATA FIELDS*
  [All patients and summary of patients in one or more at-risk group(s)]

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[7] The source of data is from GP practice systems only. It is assumed that vaccinations given in other settings by other healthcare providers (e.g. pharmacies, special clinics) will be recorded onto GP systems. This ensures a clear auditable trail to the original source of any data and will avoid double counting. It may be that for some vaccinations where recording onto a GP system is difficult or slow (e.g. vaccinations of travelling communities or homeless) that recording of these vaccinations may be missed by the survey, although this is undesirable.

[8] See Appendix 5 for list of GP IT software suppliers participating in the weekly 2010/11 seasonal influenza vaccine uptake surveys.

[9] The dataset collected reflects the eligible groups set out in the CMO letter as best as possible but may not necessarily match the criteria exactly. Therefore, vaccine uptake data may not reflect inclusion of certain sets of patients with particular underlying clinical illnesses.

[10] The data on 'All patients' and 'Summary of patients in one or more at-risk group(s)' are provided by all GP practices who responded to the survey. These are mandatory fields to be completed. However, the data broken down by individual at-risk group is not a mandatory requirement, therefore data for these fields are optional and are not necessarily given by all who provided data for the 'All patients' and 'Summary of patients in one or more at-risk group(s)' fields. Furthermore the 'Summary' of at-risk patients EXCLUDES otherwise healthy pregnant women and carers; it should only contain patients in one or more at-risk group(s) and if a patient is in MORE THAN one at-risk group, they are only counted ONCE.

- aged 16 years to under 65 years: *MANDATORY DATA FIELDS*
  [All patients and summary of patients in one or more at-risk group(s)]
- Pregnant women: *MANDATORY DATA FIELDS*
  ['Healthy' pregnant women, i.e not in a clinical at-risk group and those falling in one or more at-risk group(s)]
- Carers: *OPTIONAL DATA FIELDS*
  [Patients vaccinated solely by virtue of being a carer, so not in a risk group, not aged 65 or over and not pregnant]
- Clinical at-risk group: *OPTIONAL DATA FIELDS*
  [By age band and disease]
- Number of Pandemrix® doses administered: *OPTIONAL DATA FIELD*
  [Count of cumulative doses from 1 September 2010 onwards]

Denominators

GP practices provided data on the number of patients registered on the date of data extraction that fell within each defined eligible group (the denominator) and the number of those vaccinated within each group (the numerator) up to end of 28 February 2011. This system allowed denominator fluctuations as patients joined, left, or died during the collection.[11] Denominators for pregnant women may be over-inclusive, i.e. they include women who were eligible and then became ineligible for vaccination (i.e. individuals who were pregnant at some point on or after 1 September 2010, who were then no longer pregnant due to termination, miscarriage, or birth) before they could be vaccinated. Thus, there is the likelihood that the denominator will increase as more women become pregnant over time, but those that are no longer pregnant, are not removed.[12]

Further explanation on interpreting denominator and uptake rate for pregnant women is provided in the pregnancy section of this report.

[11] The vaccine uptake survey does not allow data providers to adjust their figures if a patient refused the vaccine. The denominator (number of registered patients) includes within it, patients that have been offered the vaccine but refused it, as the uptake rate is measured against the overall eligible population. Data on the number of people that refused the vaccine were not collected.

[12] Denominators may also include the small group of people with a contra-indication to the vaccine.

Birth date ranges

The 65 years and over population (denominator) during the monitoring period was defined in line with vaccination policy, as those whose 65th birthday occurred on or before 31 March 2011 (i.e. patients aged 65 years or older by 31 March 2011 eligible to receive seasonal influenza vaccine in the 2010/11 vaccination programme). Similarly, the upper limit for the 16 to under 65 years age band is also defined by age at 31 March 2011 and in a change from the previous season, the youngest age band of 6 months to under 2 years is no longer fixed as those born on or before 1 April 2010 but defined by their age on date of data extraction.[13]

Clinical at-risk group(s)

Clinical at-risk groups (*excluding* healthy pregnant women or healthy carers from the summary count of those patients in one or more at-risk groups) were delineated by age bands as stated above and for each individual risk group, as follows:

- chronic heart disease
- chronic respiratory disease
- chronic kidney disease
- chronic liver disease
- diabetes
- immunosuppression
- stroke, transient ischaemic attack
- chronic hereditary/degenerative disease of the central nervous system including multiple sclerosis and cerebral palsy.

Pregnant women

Pregnant women (not delineated by age) were defined as those confirmed as being pregnant (in the first, second or third trimesters) by a medical professional (e.g. GP, midwife) between 1 September 2010 to 28 February 2011 inclusive. They were delineated as either as healthy pregnant women (not at-risk) or pregnant women at-risk with one or more of the clinical at-risk

[13] The dates for calculating the age ranges are relative to the date when the information is extracted from the practice computer system. See Appendix 2 ‘Birth date ranges’

factors (listed above).[14] Denominators include women who lose their pregnancy for whatever reason and those that give birth during this time. These denominators may be over-inclusive as they will include women that become eligible and then ineligible (when they cease to be pregnant) before they can be vaccinated. [15]

Experience during the 2009/10 H1N1v pandemic influenza vaccination programme highlighted difficulties in obtaining an accurate denominator through electronic means for this group of patients, because of the way pregnancy is recorded and coded on clinical systems in primary care. The inclusion of pregnant women as a separate risk group introduced a significant change in the seasonal influenza vaccination programme for 2010/11 and required a coding system for pregnancy and eligibility (or non-eligibility) that could be used as the basis for data extraction and analysis of vaccine uptake data for this group. GP practices were able to code pregnant women and subsequently pregnancy outcome, by means of software searches using PRIMIS+ recommended READ codes to extract vaccine uptake data, as the main source for identifying the eligible group for seasonal influenza vaccination.[16] The numerator for pregnant women is only counted for those that fall within the denominator, as a proportion of the number vaccinated out of the number identified as 'very probably pregnant' (i.e. identified according to the READ code specification).

The pregnancy data need to be interpreted with caution as the denominator may not be accurate as an absolute measure and consequently the calculated uptake rates are only valid for the sub-set of pregnant women that fall within the scope of the specification. Results should consequently be interpreted cautiously in terms of representativeness of all pregnant women.

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[14] Women confirmed as being pregnant by a medical professional before 1 September 2010 will have been included in the survey of pregnant women given pandemic vaccine which finished 31 August 2010.

[15] Where a pregnant woman presented for the first time in her pregnancy after 1 September 2010 but before the seasonal trivalent vaccine became available, if she received the monovalent H1N1v vaccine this will have been counted by the Pandemrix® data field within the 2010/11 seasonal influenza dataset.

[16] No READ codes would be required for loss/termination of pregnancy or birth for the data collection although it is accepted they are relevant to clinicians when scheduling and administering the vaccinations. For more information see document 'PRIMIS+ advice on recording pregnancy and influenza vaccine uptake data collection in pregnant women' on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_1

Further information on READ codes for use in the seasonal influenza vaccination programme is provided later.

H1N1v monovalent influenza vaccine usage summary

Data were collected on the use (not uptake) of H1N1v pandemic vaccine; Pandemrix® (not Celvepan® which has passed expiry dates). Children in a clinical at-risk group aged 6 months to under 5 years that had not previously received Pandemrix® vaccine and immunocompromised patients aged 6 months or older that had not previously received Pandemrix® vaccine, should have been offered Pandemrix®. Thus, data collected was a *count* of the number of vaccinations/doses administered (no denominators or breakdown of groups) from 1 September 2010 onwards irrespective of whether given as first dose or a second dose.[17] This included vaccinations given at GP practices, as well as any vaccinations given by other healthcare providers that were subsequently recorded on GP practice systems. These data are used to assess the use of the vaccine during the 2010/11 influenza season (doses given prior to 1 September 2010 will have been captured in the H1N1v pandemic influenza vaccine uptake data collection and therefore are not included in this survey). Late in the vaccination programme (from 10 January 2011), supplies of the monovalent H1N1v vaccine (Pandemrix®) were released in circumstances where existing supplies of trivalent seasonal influenza vaccine had been exhausted and could not be replenished rapidly.

READ codes (and guidance on pregnancy coding)

READ codes are primarily used for data collection purposes to extract vaccine uptake data for clinical at-risk groups as defined in the CMO letter and translated in the READ code specification. The codes also help to *identify* patients who should be offered influenza vaccination. However, some patients with conditions not specified in the listed READ codes may be offered seasonal influenza vaccine by their GP based on clinical judgement.[18] The PRIMIS+

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[17] See DH handbook of immunisation practice and procedures in the UK *'Immunisation against infectious disease'* (Green Book) chapter 19 on 'Influenza' for more information including the 2010/11 influenza season vaccination algorithm, available on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Greenbook/index.htm

[18] "Influenza vaccine should be offered to people in the clinical at-risk categories…clinicians should [also] use clinical judgement and take into account the risk of influenza exacerbating any underlying disease that any patient may have, as well as the risk of serious illness from influenza itself"; revised Green Book chapter 19 on 'Influenza' updated August 2010 and January 2011 respectively:
www.dh.gov.uk/en/Publichealth/Immunisation/Greenbook/index.htm

team based at the University of Nottingham was commissioned by DH to provide the clinical at-risk group READ codes specification for the 2010/11 influenza season. This included additional guidance and appropriate READ codes for recording pregnancy in the collection of vaccine uptake data in pregnant women (these guidance materials are published on both the DH and PRIMIS+ websites).[19] READ codes also captured the number of Pandemrix® doses administered from 1 September 2010 onwards and when (midway through the campaign) Pandemrix® vaccine was substituted for the seasonal trivalent vaccine where existing supplies of the seasonal trivalent vaccine had been exhausted and could not be replenished rapidly.

READ codes revised to include Pandemrix® vaccinations

GP IT software suppliers modified their data extraction queries to add in the Pandemic vaccine specific READ codes; this was implemented from 'Week 2' (onwards) for the weekly sentinel data collection (bulk upload only) and for the February survey for all practices, so that the data provided covers both the seasonal trivalent vaccines and the monovalent H1N1v Pandemrix® vaccine (dose 1 only).[20]

[19] Please note the READ code specification is for vaccine uptake monitoring purposes only. It is important that it is not used for recall as it does not cover the entire population eligible to receive flu vaccine nor should it be used for payment purposes. Any results should be subject to clinical review.

For the full list of READ codes and additional advice on recording of pregnancy in the seasonal influenza vaccine uptake collection for 2010/11 see DH web link: **www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3** and PRIMIS+ web link: **www.primis.nhs.uk**

[20] A communication to all PCT flu coordinators was sent out regarding this on 14 January 2011 via ImmForm. The revised version of the READ code specification which includes the Pandemic vaccine codes is accessible via the DH website at the following link: **www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_2**

Collection monitoring period

The monitoring period for the 2010/11 seasonal influenza vaccine uptake collection ran from 1 September 2010 to 28 February 2011 inclusive. Cumulative data on vaccinations administered during this period were collected from **all** practices in two monthly surveys[21] and from a **sentinel** sample of approximately 55% of automated GPs in a weekly survey. The data gathered in March 2011 for the final February 2011 survey[22] are presented in this report and are used to describe the national [England] influenza vaccine uptake for the winter of 2010/11.

Reducing the burden – automation and collection frequency

ROCR licensing which underpins the vaccine uptake collection makes it mandatory for all GP practices to submit data. With just under 8300 practices in England potentially responding to the 2010/11 survey, considerable efforts were made to reduce the burden of data collection on GPs by increasing the number of automated returns extracted directly from GP IT systems. The increased use of automated data extraction and upload mechanisms provided by GP IT software suppliers[23] has to date accounted for approximately 73% of GPs in the 2010/11 campaign choosing to submit data automatically, thereby reducing the burden of data collection on GP practices and PCT flu coordinators.

Moreover, the frequency of data collections for GP practices was reduced from four monthly surveys (as in previous years), to two surveys in 2010/11 - October (data collected in November for vaccines administered by the end of October 2010) and February (data collected in March for cumulative vaccines administered by the end of February 2011). The usual November and December monthly surveys were withdrawn, halving the burden on the NHS. This was also due in part to the continued successful monitoring, over the last three influenza seasons, of vaccine uptake on a weekly basis collected from a group of sentinel GP practices (approximately 55%)

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[21] The first collection was the October survey which took place at the start of November 2010 for data on vaccinations from 01/09/2010 up to end 31/10/2010. The second and final collection was the February survey which took place in March 2011 for cumulative data on vaccinations from 01/09/2010 up to end 28/02/2011.

[22] The final January survey was originally planned to take place in February (for cumulative data to end of 31 January 2011 as stipulated in CMO letter and subsequent user guidance) but was replaced by a February survey to take place in March for cumulative vaccinations administered to end of 28 February 2011 due to continued flu vaccination activity at the end of 2010/beginning of 2011. In addition, the weekly sentinel uptake surveys were also extended for another four weeks to cover vaccinations up to end February 2011 (week ending 27 February).

[23] See Appendix 5 for list of GP IT software suppliers participating in the 2010/11 seasonal influenza vaccine uptake campaign.

with fully automated extract and upload facilities (namely EMIS (LV), iSoft and TPP practices only)).

The weekly sentinel surveillance has proved to be beneficial in providing timely data at national level to monitor the progress of the programme by giving a good indication of vaccine uptake rates with no additional burden to the NHS.[24]

ImmForm website

The ImmForm website is designed, hosted and managed by the DH. One of its functions is to provide a secure platform for vaccine uptake data collection for several immunisation surveys, including the seasonal influenza vaccine uptake collection. On behalf of DH, the HPA influenza immunisation uptake monitoring team co-ordinates and facilitates the data collection process for GP practices and PCTs as well as collate and analyse end of campaign data, to produce the annual report.

Seasonal influenza vaccine uptake data are submitted on-line via the ImmForm website either through an automated data extraction (normally performed by a GP IT software supplier extracting data direct from GP computer systems) or by an on-line manual submission.[25] Data are submitted at GP practice level and can then be aggregated at PCT, SHA and national [England] level as required. During the data collection period, GP practices, PCTs and SHAs are able to use specific tools and functions available on the ImmForm website to facilitate local and regional management of the seasonal influenza programme. These functions include the ability to:

- view and evaluate seasonal influenza vaccine uptake rates by each of the cohort target groups broken down further by age band and risk category (PCTs can view data for all practices in their area)
- compare seasonal influenza vaccine uptake and performance anonymously with other GP practices/PCTs/SHAs at local, regional and national levels

[24] For both monthly and weekly collection schedules and accompanying notes see Appendices 3 and 4. An online weekly update on influenza activity and vaccine uptake throughout the 2010/11 influenza season was provided in the weekly HPA Influenza bulletin available at the following link: **www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/SeasonalInfluenza/EpidemiologicalData/05influsWeeklyinfluenzareportsarchive/**

[25] Along with Appendices 3 and 4 for survey collection schedules, see Appendix 5 for list of GP IT software suppliers and description of data extraction methods.

- validate the data at point of entry and correct any errors before data submission
- view uptake data in various formats (e.g. as bar charts) including downloading data to EXCEL (in portrait or landscape mode) as well as having access to data from previous influenza seasons to compare with the current programme
- allow PCTs to view a ‘non-responder’ report which highlights those GP practices within the PCT who have failed to submit data thus allowing the PCT to follow-up with these practices to obtain and submit outstanding data.

The website is available for registered users and is accessed via the internet at **www.immform.dh.gov.uk**

Results

(Charts and tables referenced are provided at the end of the report)

GP response and overall [extrapolated] vaccine uptake

97.7% (8084/8278) of GP practices in England (with all 151 PCTs represented including PCT-based care trusts) provided data on cumulative seasonal influenza vaccine uptake for the period 1 September 2010 up to end of 28 February 2011 (inclusive). [Chart 1]

The total population (extrapolated estimate) of registered patients eligible to receive vaccine (those aged 65 years and over and those aged 6 months to under 65 years falling in a clinical at-risk group *excluding* pregnant women) in the final February survey was over 14 million (*n*= 14,198,563). The total population (extrapolated estimate) of registered patients (in the same cohorts and excluding pregnant women) who would have been vaccinated assuming 100% of GP practices in England responded, is over 9 million (*n*= 9,138,032). This does not include frontline health and social care workers or poultry workers who were also eligible to receive seasonal influenza vaccine (data for these groups are collated in separate surveys). [Figure 1 (below) and Chart 2]

Weekly versus monthly vaccine uptake comparison (provisional data)

The weekly survey using timely data automatically extracted from a sentinel group of around 55% of GP practices compared with both automated and manual submissions from the all-practices monthly surveys, shows good agreement between the two. Weekly and monthly data were overall in good agreement, with provisional national uptake results from the two monthly returns matching their weekly equivalent confirming that the weekly sentinel collection provides an excellent indicator of uptake at national level. [Chart 3]

Figure 1 Extrapolated estimated numbers of patients eligible and who received seasonal influenza vaccine during the 2010/11 influenza programme

Target groups for vaccination (excluding pregnant women and carers	Number of patients registered	Number of patients vaccinated
Aged 65 years and over	8,631,137	6,287,011
Aged 65 years and over (extrapolated estimate)	8,834,327	6,435,016
Aged under 65 years in a clinical risk group	5,240,859	2,640,846
Aged under 65 years in a clinical risk group (extrapolated estimate)	5,364,236	2,703,015
Total actual	**13,871,996**	**8,927,857**
Total extrapolated (estimate)	**14,198,563**	**9,138,032**

Patients aged 65 years and over

The national mean uptake at the end of the 2010/11 campaign for the

65 years and over age cohort was 72.8%, a slight increase compared with that achieved in 2009/10 at 72.4%.[26] [Chart 4]

The estimated (extrapolated) total number of patients aged 65 years and over registered at a GP practice who received seasonal influenza vaccine by end of February 2011 was approximately 6.4 million (*n*= 6,435,016).[27] [Figure 1 and Chart 2]

[26] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level are available to view as separate tables on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

[27] This figure is extrapolated based on the actual number of patients registered in this cohort. It is calculated by assuming a 100% response rate from GPs and assuming that there are no differences in the size of GP practices returning data compared to those that are not, so this figure should be regarded as an estimate.

The highest percentage uptake in this cohort achieved at SHA level was 74.6% , the lowest at 71.1% . The highest percentage uptake in this cohort achieved at PCT level was 78.7% , with the lowest at 67.2% .[28]

Patients aged 6 months to under 65 years in a clinical at-risk group

The national mean uptake at the end of the 2010/11 campaign for those aged 6 months to under 65 years falling in a clinical at-risk group was 50.4%, compared with 51.6% reached last season. [29] [Chart 4]

The estimated (extrapolated) total number of patients aged 6 months to under 65 years in a clinical at-risk group registered at a GP practice who received seasonal influenza vaccine by end of February 2011, was approximately 2.7 million (*n*= 2,703,015).[30] [Figure 1 and Chart 2]

The highest percentage uptake in this cohort achieved at SHA level was 53.2% and the lowest was 47.9% . The highest percentage uptake in this cohort achieved at PCT level was 61.5% and the lowest was 35.3% . [31]

Patients aged 6 months to under 65 years at-risk: Individual age bands

By age band, the highest uptake in patients was in those aged 16 to under 65 years at-risk at 51.7% though in contrast this was a decrease compared with the 2009/10 uptake recorded at 53.6%. The lowest uptake by age band was in those aged 6 months to under 2 years at-risk at 25.2% however, this was a huge increase from 16.5% achieved in the same age band in

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[28] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level are available to view as separate tables on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

[29] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level are available to view as separate tables on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

[30] This figure is extrapolated based on the actual number of patients registered in this cohort. It is calculated by assuming a 100% response rate from GPs and assuming that there are no differences in the size of GP practices returning data compared to those that are not, so this figure should be regarded as an estimate.

[31] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level are available to view as separate tables on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

2009/10 and an even larger increase in uptake levels compared with 7.3% achieved in season 2008/09.[32] There was also an increase in vaccine uptake in those aged 2 years to under 16 years at-risk at 39.3% from 34.5% achieved in 2009/10. Again, this particular age band has also shown an overall marked increase in uptake with percentage uptake growing over the past three consecutive influenza seasons (23.8% in season 2008/09). [Chart 5 and Table 1]

Vaccine uptake by SHA ranged from 17.9% to 32.7% in those aged 6 months to under 2 years at-risk; from 33.3% to 43.2% in those aged 2 years to under 16 years at-risk and from 49.1% to 54.4% in those aged 16 years to under 65 years at-risk.

Vaccine uptake by PCT ranged from 2.0% to 58.6% in those aged 6 months to under 2 years at-risk; from 10.0% to 51.7% in those aged 2 years to under 16 years at-risk and from 37.6% to 63.3% in those aged 16 years to under 65 years at-risk. [33]

Patients aged 6 months to under 65 years at-risk: Overall uptake in disease groups [34]

In season 2010/11, vaccine uptake was highest for those patients with diabetes at 68.4% recording close to the 2009/10 uptake of 68.8%. The lowest uptake was in patients with chronic degenerative neurological disease (CDN), cerebral palsy or MS at 40.4%; a slight increase on 2009/10 uptake recorded at 38.7%. Uptake in the immunosuppression disease group increased from 50.1% last season to 53.6%, representing overall a 10% increase between 2008/9 to 2010/11. The only decrease was seen in the chronic heart disease group which saw vaccine uptake fall compared with 2009/10 from 56.5% to 52.2% in 2010/11. [Chart 6]

In all other groups such as chronic respiratory, chronic liver and chronic kidney disease, uptake rates are similar to 2009/10. With regards to chronic kidney disease (CKD), the uptake rate had to be adjusted as data from some GP IT software suppliers had to be excluded due to an incorrect application of the READ code specification for CKD (their data extraction queries included CKD stages 1 and 2 in error, in addition to stages 3 to 5 defined in the specification,

[32] This could be due in part to the way the lower age limit is now defined. For 2010/11 it was age at date of extraction, but for previous seasons it was children born on or before 1 April.

[33] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level are available to view as separate tables on the DH website at the following link:
www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

[34] Data represents on average 91.8% of all GP practices in England responding (7425/8084), who provided data across all optional at-risk group categories for the 2010/11 vaccine uptake survey.

thereby inflating the size of the denominator). Consequently, vaccine uptake for this disease group is derived from a smaller sample of 44% of GP practices.[35]

In general, percentage uptake across all disease groups has remained relatively constant recording at much the same levels as in season 2009/10 with the exception of small increases.

Patients aged 6 months to under 65 years at-risk: Specific uptake by age band in disease groups

For specific uptake by age in individual clinical disease groups, children aged 6 months to under 2 years with stroke/TIA recorded the lowest uptake at 23.6%. However, this was an improvement overall for this age group compared with previous collections, where low uptake levels of 13.4% and 3.3% were observed for children aged 6 months to under 2 years with immunosuppression for seasons 2009/10 and 2008/09 respectively. By contrast, vaccine uptake improved for those with immunosuppression in 2010/11 rising to 34.0%. The highest uptake in the 6 months to under 2 years age band was amongst those with chronic kidney disease at 46.4%. [Chart 7]

Vaccine uptake in the 2 years to under 16 years age band shows the highest uptake amongst those with diabetes at 63.4%. This was an increase on 60.0% recorded for the same cohort in the same disease group in 2009/10. The lowest uptake was seen in patients with chronic heart disease at 26.6%, compared with 22.6% recorded in patients with chronic degenerative neurological (CDN) disease, which was the lowest uptake by at-risk group in 2009/10. Vaccine uptake in the 16 years to under 65 years age band shows the highest uptake amongst patients with diabetes at 68.5%, slightly lower than 2009/10 at 68.9%. The lowest uptake was seen in patients with CDN at 41.7%. This was an improvement compared with 40.5% for the same cohort in the same disease group in 2009/10. [Chart 7]

Pregnant women

Data were collected for the first time on seasonal trivalent vaccine uptake amongst pregnant women. National [England] vaccine uptake for this cohort (which includes those not at-risk and those in a clinical at-risk group combined) was 38.0%. The estimated (extrapolated) total number of patients in this group who received seasonal influenza vaccine was 124,000. [Table 2]

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[35] Further information on this issue is provided in the ‘Discussion’ section of this report.

Vaccine uptake by SHA and PCT ranged from 30.4% to 46.6% and 5.6% to 57.1% respectively. Nearly two-thirds of PCTs (90) achieved a vaccine uptake rate of 38.0% or more, matching the national average. Ten PCTs (7%) recorded uptake levels at 50% or more.[36]

Vaccine uptake in pregnant women not in a clinical at-risk group was 36.6% with an estimated (extrapolated) number of patients in this cohort who received seasonal influenza vaccine at 111,000. Vaccine uptake by SHA ranged from 28.8% to 45.5% and by PCT 5.2% to 56.5%.

Vaccine uptake in pregnant women in a clinical at-risk group was 56.6%. An estimated (extrapolated) number of patients in this cohort who received seasonal influenza vaccine was 13,000 out of approximately 23,000 (extrapolated) number of patients registered eligible. [Table 2]

Vaccine uptake by SHA ranged from 51.8% to 60.8% and by PCT 34.9% to 76.1%.

The weekly survey (provisional data) based on approximately 55% of automated GP practices observed a gradual but lower uptake in vaccines administered in pregnant women in the early weeks of the programme, in contrast to those aged 65 years and over and those aged 6 months to under 65 years at-risk. This continued until week 49, after which vaccine uptake rapidly increased. Pregnant women in a clinical at-risk group in particular surpassed uptake levels in those aged 6 months to under 65 years at-risk at week 2. From week 4 onwards uptake in pregnant women began to plateau. [Chart 8]

Carers (aged under 65 years, not at-risk and not pregnant)

The national mean uptake in carers aged under 65 years, not in a clinical at-risk group and not pregnant was 42.7% in 2010/11. This matched 2009/10 recorded uptake at 42.3%.[37] Seasonal influenza vaccine uptake in carers continues to be higher than that of frontline healthcare workers (HCWs), which for 2010/11 was 34.7% (uptake of HCWs is described in more detail in a separate report).

[36] Seasonal influenza vaccine uptake data for 2010/11 at PCT and SHA level, including pregnant women, are available to view as separate tables on the DH website at the following link: **www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3**

[37] Data represents 91.3% of all GP practices in England responding (7383/8084), who provided data for this question to the 2010/11 vaccine uptake survey.

All patients

Seasonal influenza vaccine may also have been given to patients who, for instance, were vaccinated on the basis of clinical judgement, who may not necessarily have been captured by the READ codes for the 'clinical at-risk' groups specified by the survey. These vaccinations are included within the 'All patients' data items on the ImmForm surveys which represents all registered patients (delineated by age bands) that received vaccine and, therefore, will also include patients at-risk, carers, pregnant women and any other patients vaccinated based on clinical need. The sub-set 'at-risk' population is separately collected in the 'Summary of patients in one or more at-risk group(s)' data fields and thus is distinguishable for separate analysis (as shown above).[38] The actual total number of patients aged 6 months to under 65 years who received vaccine, excluded from the identifiable at-risk population, by the end of February 2011 was 3.1% at over 1.25 million (*n*= 1,251,873) based on 97.7% of GP practices (8084/8278) in England responding. The estimated (extrapolated) number of patients aged under 65 years who received vaccine and were not identified at-risk, was nearer 1.3 million (*n*= 1,281,344).[39]

Pandemrix® count

Data collected on the number of Pandemrix® vaccinations administered only from 1 September 2010 onwards showed an increasing level of Pandemrix® use over the course of the influenza vaccine uptake season. By the final February survey, the estimated (extrapolated) Pandemrix® count for cumulative vaccinations administered from 1 September 2010 onwards, was 172,260 based on 86.0% of GP practices (6956/8084 practices) providing these optional data.

[38] It is also possible that these data may include a proportion of healthcare workers who were administered seasonal influenza vaccine and had their vaccinations recorded on to their GP records. It is hoped that any frontline healthcare workers administered vaccine based on the criterion of direct patient care will have been captured in the separate HCWs seasonal influenza vaccine uptake survey for 2010/11.

[39] Calculated by assuming a 100% response rate from GPs and assuming that there are no differences in the size of GP practices returning data compared to those that are not. Also assuming no differences between GPs in administering vaccine to individuals outside the listed at-risk groups based on judgment of clinical need. Therefore this figure should be regarded as an estimate.

Discussion of data limitations

As reported elsewhere in this document, denominator data for some dataset categories should be interpreted with caution due to validation and discrepancy limitations. A summary of these findings is listed below:

Pregnancy: denominator variance

Quality assurance on the uptake in pregnant women using comparative data from bulk upload data providers indicated a wide discrepancy in estimated denominators (the number of registered pregnant women in England) between the different data sources.[40] It was unclear whether this discrepancy was due to the way the different systems record pregnancy (specifically how they limit or allow practice variation in recording pregnancy), how they extract the data for uptake surveys or both. Data providers were requested to check their application of extraction queries for the pregnancy data items to confirm that they were in line with the READ code specification.

Subsequently, the denominator variance observed seemed to be as a result of recording and classification of pregnant patients on local systems, rather than the data extraction queries themselves. As previously seen in the collection of vaccine uptake data on pregnant women from the H1N1v pandemic influenza vaccine uptake survey, determining an accurate denominator is difficult because of the complexities in the way pregnancy is recorded and coded on local clinical systems in primary care. Analysis of the H1N1v pandemic influenza uptake data identified that denominators were higher than expected. It appears the revised READ code specification for the seasonal influenza vaccine uptake survey for 2010/11 may have constricted the pregnancy definitions too far, as numbers appeared lower than expected.

Furthermore, in order to prevent overlap with the survey of pregnant women administered pandemic vaccine, which finished on 31 August 2010, the seasonal influenza vaccine uptake survey for 2010/11 looked at pregnant women confirmed pregnant on or after 1 September 2010. Consequently, the calculated uptake rates are only valid for the sub-set of pregnant women that fall within the scope of the survey specification (i.e. as a proportion of the number

[40] From provisional weekly data, low uptake levels for pregnant women not in a clinical at-risk group indicated under reporting for EMIS practice data in particular, with wide differences in comparative denominators across the data providers when extrapolated up to give national estimates from each data provider's data. Thus, the actual uptake rate looked questionable.

vaccinated out of the number identified as 'very probably pregnant (in line with the specification)). In summary, the pregnancy data needs to be interpreted with caution given that the denominator may not be accurate as an absolute measure and the numerators were only derived from those that fall within the denominator and therefore may not be representative for all pregnant women.

Pandemrix® count: over-estimates in doses administered

Quality assurance on the October monthly survey data (for the period ending 31 October 2010) using comparative data from a number of different data providers, found the number of Pandemrix® doses administered since 1 September 2010 to be in the millions. In other words, there appeared to be a very considerable over-estimate of the Pandemrix® count. The discrepancy appeared to continue and when looking at the (provisional) weekly data at week 2 for instance, extrapolating the numbers to give an estimate for 100% of GP practices resulted in conflicting estimates of the number of doses given when comparing EMIS data with The Phoenix Partnership (TPP) data. While the EMIS Pandemrix® count data showed a downward and erratic trend up to week 1, TPP-only data disaggregated was much more consistent in giving a good indicator of the overall trend; showing a slight increase in week 1 (week ending 09/01/2011)[41] and a marked increase in week 2 (week ending 16/01/2011).[42]

Differences in sample size between EMIS and TPP practice data were noted and the fact that extrapolation will necessarily have a margin of error was also taken into account. However, the differences being observed were great enough to warrant explanation of other possible factors affecting the data. Consequently, data providers were asked to check and confirm whether the Pandemrix® count was to specification, i.e. Pandemrix® doses administered since 1 September 2010 and not (as suspected) from 1 September 2009 or indeed if the difference was due to other reasons. On investigation, the EMIS data appeared to have an error in their Pandemrix® count data field; it was including Pandemrix® vaccinations administered since 1 September *2009*. EMIS proceeded to rectify the error with the release of amended searches from week 2

[41] Which would be expected as some practices will already have had some stock of Pandemrix® vaccine in their fridges.

[42] As practices with no stock of seasonal flu vaccine would have had the chance to order and receive Pandemrix® and arrange clinics.

onwards to include Pandemrix® vaccinations administered since 1 September 2010.[43] There are no observable quality issues with the Pandemrix® for the final February survey data.

Chronic kidney disease (CKD): denominator population discrepancy; incorrect application of the READ code specification

Quality assurance regarding some GP IT software supplier's data identified some coding errors that would cause a degree of inflation of clinical at-risk group denominators. Over-inflated denominators were found for chronic kidney disease (CKD) for both EMIS and TPP practices and when compared against data from other GP bulk upload data providers; vaccine uptake rates in general appeared to be slightly lower. These data providers were asked to confirm whether or not the TPP or EMIS data extraction query *excludes* CKD stage 1 and 2 from the extracted denominators. Likewise PRIMIS+ were asked to *confirm* whether CKD stages 1 and 2 were included in the READ code specification. They confirmed that the READ code specification captures all stages of kidney disease (to account for patients moving between stages) but that ultimately searches will only extract those patients where kidney disease is stage 3, 4 or 5 in order to capture patients with the latest stage as 'chronic'. Moreover, PRIMIS+ also confirmed that 'any patients with a diagnostic term of chronic kidney disease are included regardless of latest stage' i.e CKD15_COD = all stages, CKD35_COD = stages 3-5 and CKD_COD = all chronic diagnosis codes.

Subsequently, TPP and EMIS both confirmed their data extraction queries did include CKD codes for stages 1 and 2 rather than CKD codes for stages *3 to 5* only and therefore not in line with the READ code specification resulting in erroneous CKD denominator data for their practices. As this would give rise to an underestimation of the true (national) coverage of chronic kidney disease uptake because of over-inflated denominators, the decision was taken to exclude TPP and EMIS CKD data and rely on the smaller sample of 44.0% of GP practices to assess uptake by CKD for vaccinations administered to end of February 2011.[44]

[43] However, at week 2, extrapolated figures for EMIS and TPP data combined gave an estimate of 57,000 doses (cumulative) recorded for TPP only data and 199,000 doses (cumulative) recorded for TPP and EMIS data combined, which is significantly higher than the estimate of 57,000 using TPP-only data. (Analysis not provided in this report). Consequently partial rollout of the EMIS patch fix to all GP sites explained why the count was still higher and why EMIS-only numbers were falling rather than increasing given that the original query extracted all doses since 1 September 2009.

[44] Final data, accompanying this report and tables already published on DH website presents partial CKD data which should be interpreted with caution given the limited dataset.

Snapshot of influenza vaccination data

Finally, it is important to note that seasonal influenza vaccine uptake data is a *snapshot* of registered GP patients only vaccinated at the time of data extraction/end of the influenza season. The data will exclude patients who have received the vaccine but have subsequently died, patients who have since moved and 'temporary'[45] patients that may have received the vaccine but were not registered on the date of data extraction. Patients that are vaccinated, but have not had their electronic patient record updated by the time of data extraction, will also be excluded. This will also exclude the prison population, unless they were registered with a GP practice at the time of data extraction and their vaccination details were recorded on their electronic record.

[45] If there is an increase in temporary patients that falls by the time of the final data collection then this will not be recorded. This would only affect the total number of patients vaccinated but would not affect overall vaccine uptake rates unless proportionally more temporary residents were vaccinated than permanent residents.

Conclusions

The response rate for GP practices and PCTs returning data to the 2010/11 survey was the highest ever at 97.7% (8084/8278 practices participating returning data). In addition, there was a greater decline in the manual burden on practices providing data online with the number of practices taking advantage of automated extraction processes increasing to approximately 73% of all returns, reflecting the continuing growth in the proportion of data being extracted and uploaded automatically. Automated data extraction process results overall in an almost zero burden on GPs in providing the data. The bulk upload of data is an efficient method for capturing vaccine uptake data reducing the burden on GP practices and PCT influenza coordinators, and eliminates the typographical and transcription errors that may occur with manual data entry. Practices currently not engaged in this process should consider the benefits to them and encourage their suppliers to provide them with the capability to provide data automatically or consider using the CHART tool provided free of charge by PRIMIS+ to GP practices in England, which works on a number of different IT systems.

The data presented suggest some continued improvement in vaccine uptake for patients aged 6 months to under 65 years falling within a clinical at-risk group. Nevertheless, there was still almost 50% of the at-risk group population, eligible to receive the seasonal flu vaccine that remained unvaccinated. In contrast, the uptake rate in those aged 65 years and over has remained relatively constant in the past few years, fluctuating between 72 and 75%. Though the WHO recommended target of 75% was reached in season 2005/06, uptake has not been matched or bettered since.

Vaccine uptake varies widely between disease groups and by age groups. The diabetes disease group had the highest uptake (68.4%) while other disease groups such as chronic degenerative neurological disease and chronic liver disease; uptake remains around 40% and ranging from between 50 to 60% in the other disease categories. This may be due to multiple sclerosis and hereditary/degenerative diseases not coming under the national Directed Enhanced Service (DES) whereas provision for payment for all diabetics and for patients with stroke/TIA is made under QOF. Moreover, some PCTs may not have implemented local enhanced service arrangements for these risk group populations, which may explain the lower uptake levels. Overall, the percentage of people vaccinated in each risk group showed only marginal levels of improvement in uptake levels when compared with previous survey years.

For age groups, vaccine uptake in at-risk children aged 6 months to under 2 years continues to be the lowest at 25.2% whilst those aged 16 years to under 65 years continues to have the highest uptake at 51.7%.

Pregnant women were included for the first time in the seasonal influenza dataset. Uptake levels over the course of the influenza season were variable beginning with a slow increase in uptake in the early weeks of the vaccination programme. Following an increase in influenza-like-illness (ILI) in the community including cases of pregnant women, an updated CMO Letter was issued by DH encouraging pregnant women, particularly those perceived at-risk, to come forward and get vaccinated. There was a late, sharp increase in uptake with pregnant women in a clinical at-risk group surpassing uptake in those aged 6 months to under 65 years at-risk.

There continues to be a wide geographical variation in seasonal influenza vaccine uptake.

Acknowledgements

The authors would like to thank everyone that contributed to the data collection, specifically:

- all those who participated in and supported the seasonal influenza vaccine uptake collection (GP patient survey) for 2010/11, principally GP practice data providers and PCT flu and immunisation co-ordinators in England.
- the participation of GP IT software suppliers in providing the reporting tools and services for their customers in particular, EMIS, The Phoenix Partnership (TPP), Microtest, InPS and iSoft who enabled XML bulk upload extracts of data.
- the participation of the PRIMIS+ team based in Nottingham, who were commissioned to provide the READ codes specification for this collection, a 2010/11 flu library for their CHART tool and a bulk data extraction process for their CHART tool.
- the ImmForm Helpdesk and Development Team that provided and supported the online survey.
- DH colleagues for their contribution in this report, namely Dr Tom Barlow, Principal Scientist, Immunisation Branch and Peter Gates, Project Manager, ImmForm Team (IT lead for ImmForm)

Charts and tables

(Data referenced in the report)

The main seasonal influenza vaccine uptake data for 2010/11 for patients aged 65 years and over and under 65 years in a clinical at-risk group including pregnant women and carers, at PCT and SHA level are available to view as separate tables on the DH website at the following link:

www.dh.gov.uk/en/Publichealth/Immunisation/Keyvaccineinformation/DH_104070#_3

(Publication date 25 May 2011)

Chart 1

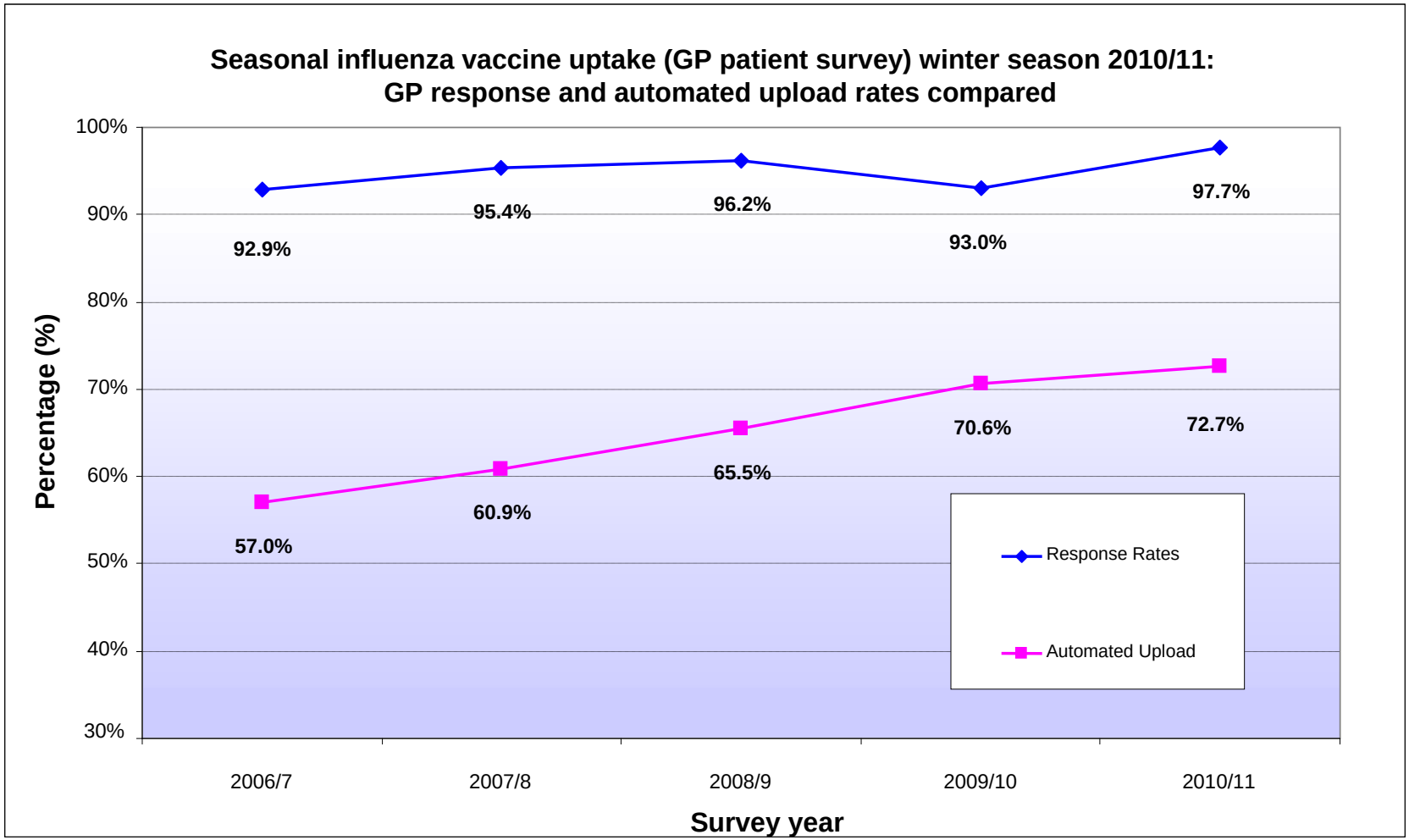

Seasonal influenza vaccine uptake (GP patient survey) winter season 2010/11:
GP response and automated upload rates compared
100%
90%
80%
70%
60%
50%
40%
30%
Percentage (%)
92.9%
95.4%
96.2%
93.0%
97.7%
57.0%
60.9%
65.5%
70.6%
72.7%
Response Rates
Automated Upload
2006/7
2007/8
2008/9
2009/10
2010/11
Survey year

Chart 2

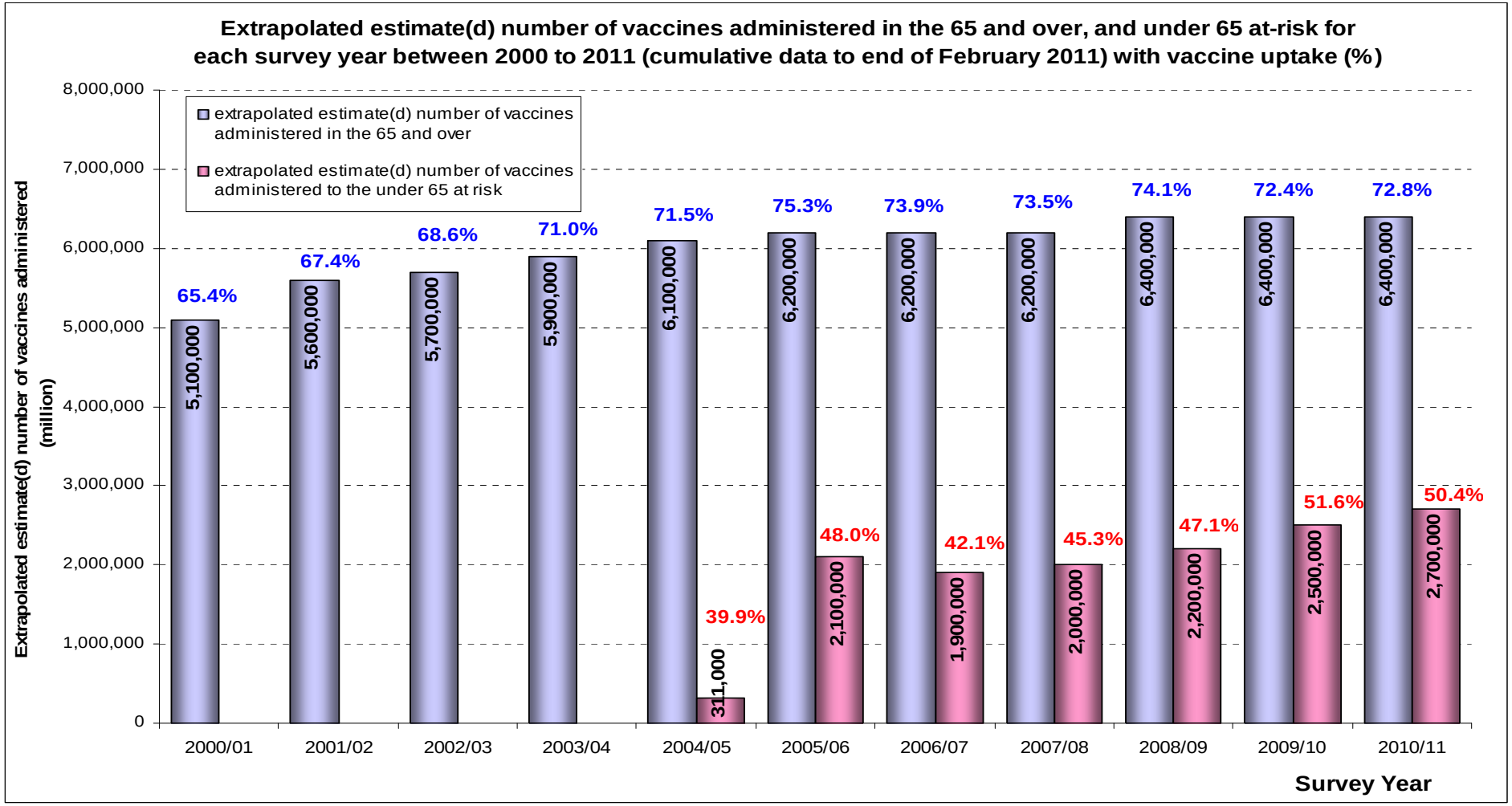

Extrapolated estimate(d) number of vaccines administered in the 65 and over, and under 65 at-risk for each survey year between 2000 to 2011 (cumulative data to end of February 2011) with vaccine uptake (%)
extrapolated estimate(d) number of vaccines administered in the 65 and over
extrapolated estimate(d) number of vaccines administered to the under 65 at risk
Extrapolated estimate(d) number of vaccines administered (million)
8,000,000
7,000,000
6,000,000
5,000,000
4,000,000
3,000,000
2,000,000
1,000,000
0
2000/01
2001/02
2002/03
2003/04
2004/05
2005/06
2006/07
2007/08
2008/09
2009/10
2010/11
Survey Year
65.4%
5,100,000
67.4%
5,600,000
68.6%
5,700,000
71.0%
5,900,000
71.5%
6,100,000
39.9%
311,000
75.3%
6,200,000
48.0%
2,100,000
73.9%
6,200,000
42.1%
1,900,000
73.5%
6,200,000
45.3%
2,000,000
74.1%
6,400,000
47.1%
2,200,000
72.4%
6,400,000
51.6%
2,500,000
72.8%
6,400,000
50.4%
2,700,000

Chart 3

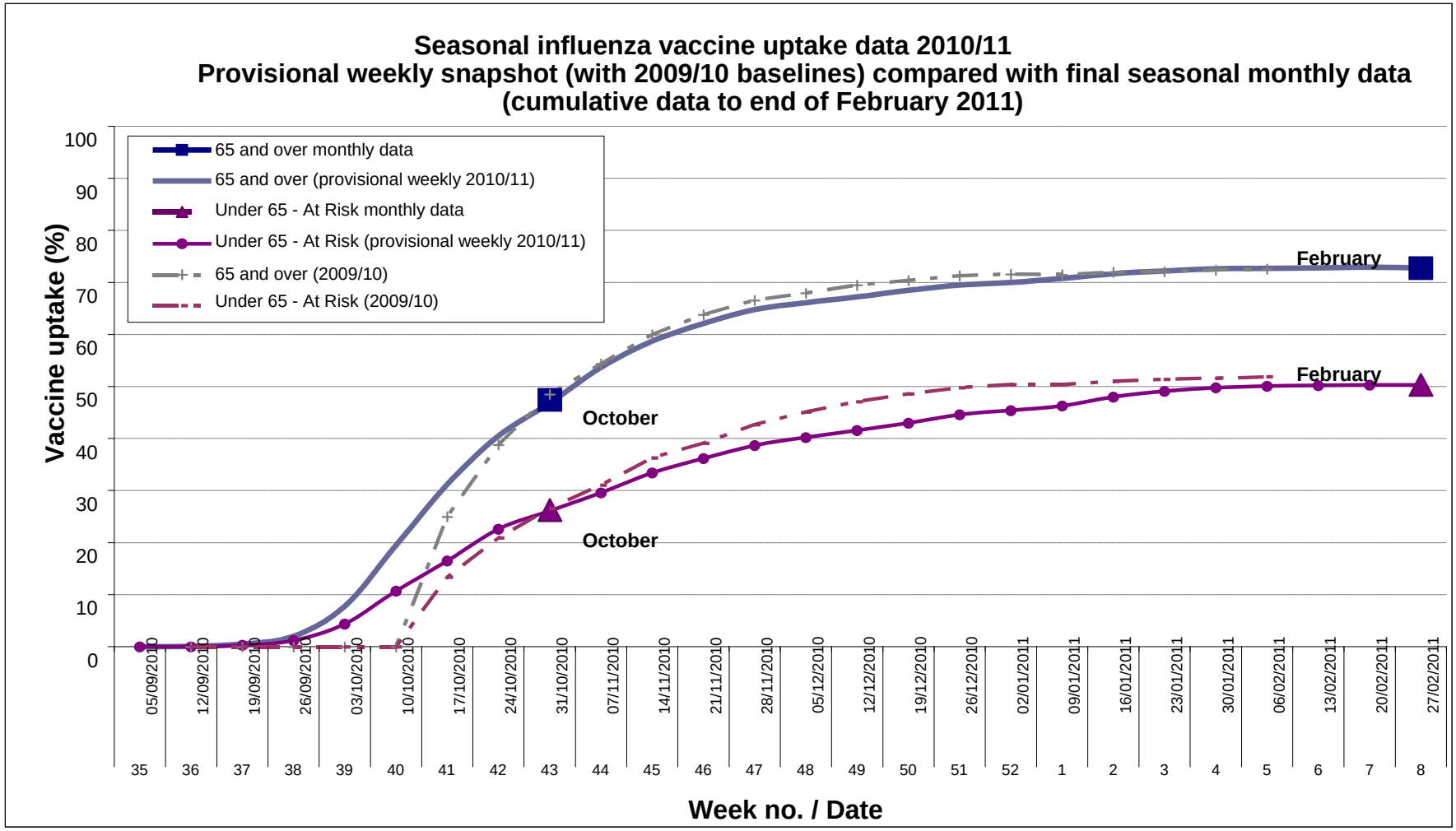

Seasonal influenza vaccine uptake data 2010/11
Provisional weekly snapshot (with 2009/10 baselines) compared with final seasonal monthly data
(cumulative data to end of February 2011)
65 and over monthly data
65 and over (provisional weekly 2010/11)
Under 65 - At Risk monthly data
Under 65 - At Risk (provisional weekly 2010/11)
65 and over (2009/10)
Under 65 - At Risk (2009/10)
Vaccine uptake (%)
100
90
80
70
60
50
40
30
20
10
0
February
February
October
October
05/09/2010
12/09/2010
19/09/2010
26/09/2010
03/10/2010
10/10/2010
17/10/2010
24/10/2010
31/10/2010
07/11/2010
14/11/2010
21/11/2010
28/11/2010
05/12/2010
12/12/2010
19/12/2010
26/12/2010
02/01/2011
09/01/2011
16/01/2011
23/01/2011
30/01/2011
06/02/2011
13/02/2011
20/02/2011
27/02/2011
35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 1 2 3 4 5 6 7 8
Week no. / Date

Chart 4

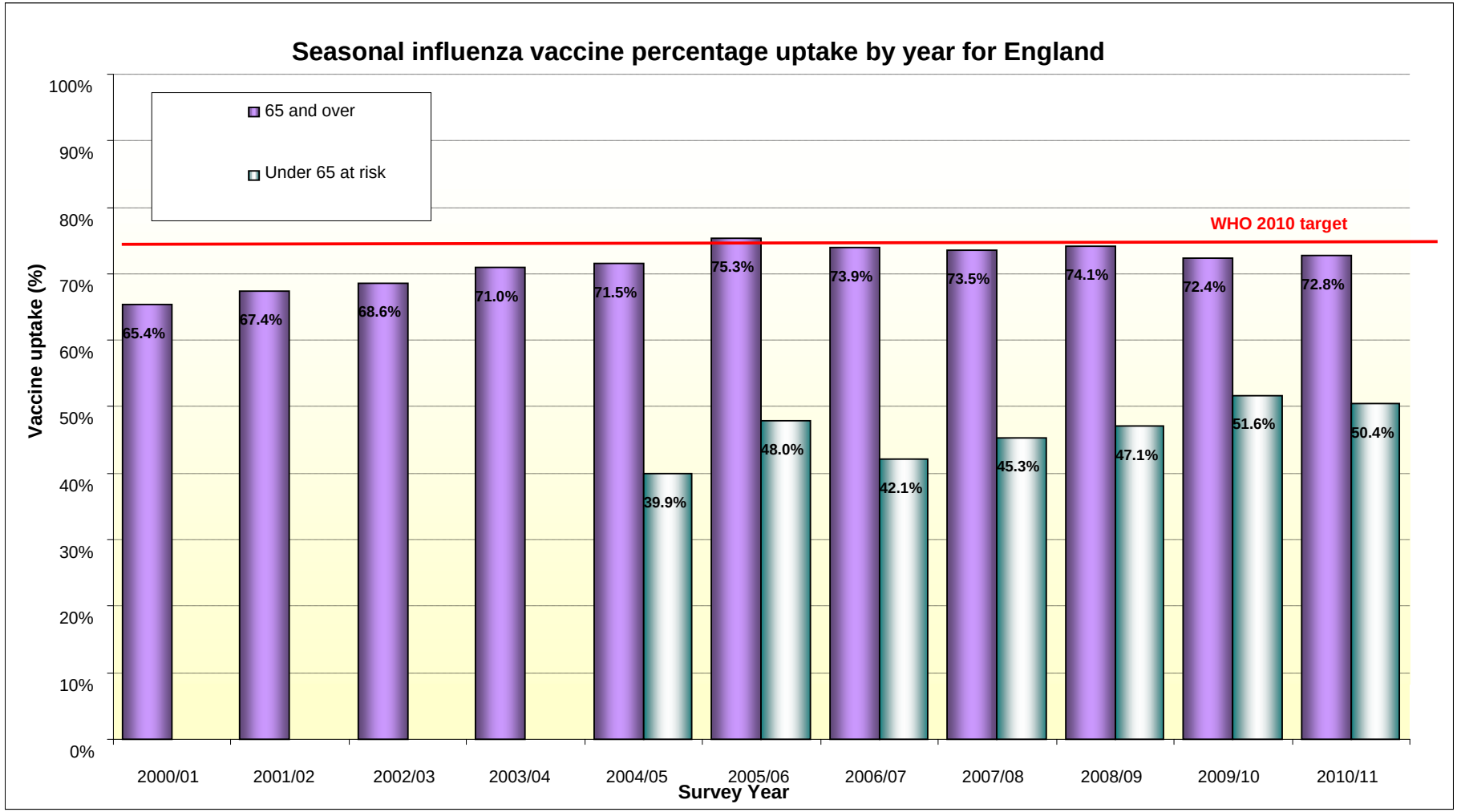

Seasonal influenza vaccine percentage uptake by year for England
65 and over
Under 65 at risk
WHO 2010 target
Vaccine uptake (%)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
65.4%
67.4%
68.6%
71.0%
71.5%
39.9%
75.3%
48.0%
73.9%
42.1%
73.5%
45.3%
74.1%
47.1%
72.4%
51.6%
72.8%
50.4%
2000/01
2001/02
2002/03
2003/04
2004/05
2005/06
2006/07
2007/08
2008/09
2009/10
2010/11
Survey Year

Chart 5

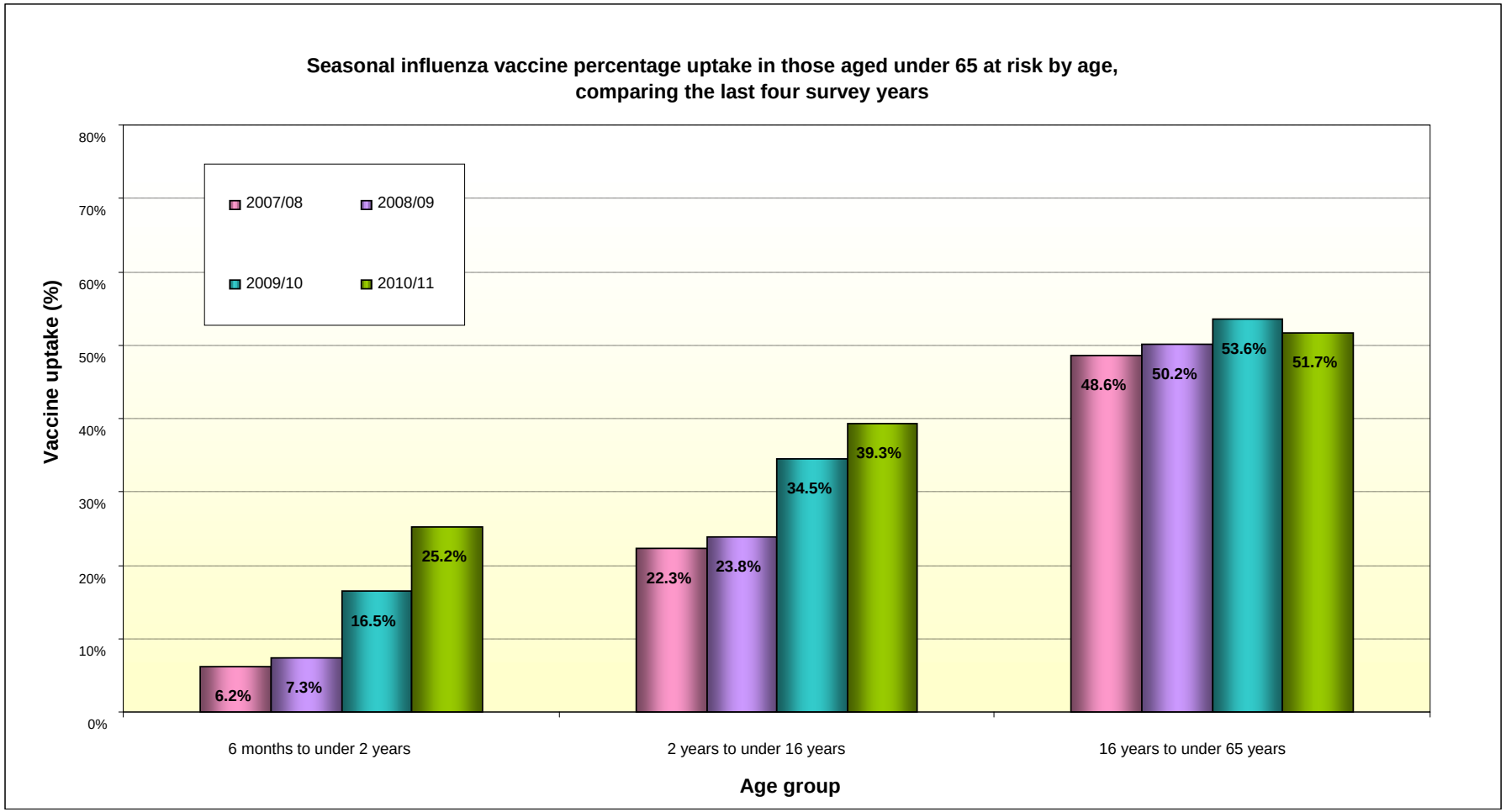

Seasonal influenza vaccine percentage uptake in those aged under 65 at risk by age, comparing the last four survey years
Vaccine uptake (%)
80%
70%
60%
50%
40%
30%
20%
10%
0%
2007/08
2008/09
2009/10
2010/11
6.2%
7.3%
16.5%
25.2%
22.3%
23.8%
34.5%
39.3%
48.6%
50.2%
53.6%
51.7%
6 months to under 2 years
2 years to under 16 years
16 years to under 65 years
Age group

Chart 6

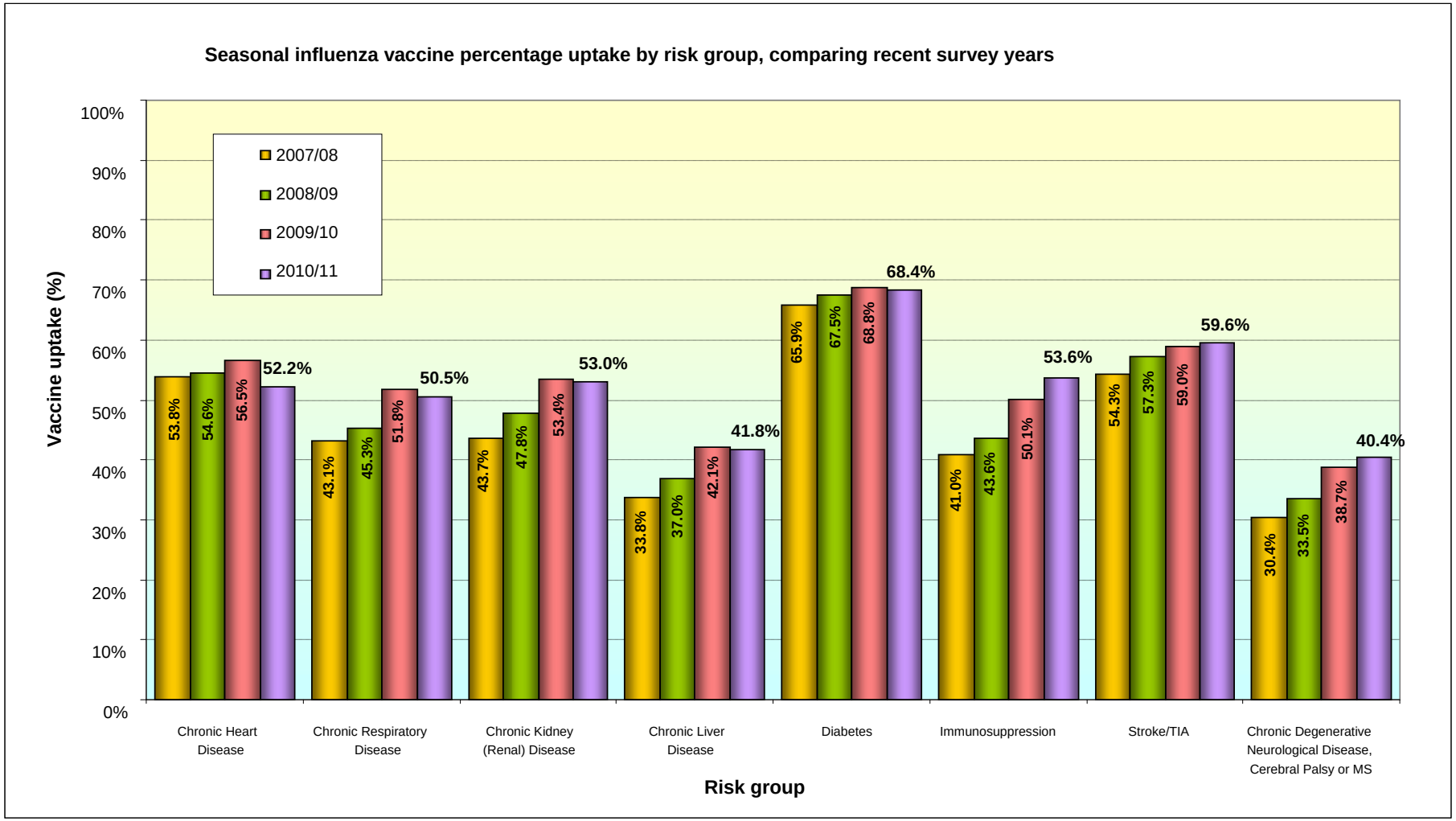

Seasonal influenza vaccine percentage uptake by risk group, comparing recent survey years
Vaccine uptake (%)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2007/08
2008/09
2009/10
2010/11
53.8%
54.6%
56.5%
52.2%
43.1%
45.3%
51.8%
50.5%
43.7%
47.8%
53.4%
53.0%
33.8%
37.0%
42.1%
41.8%
65.9%
67.5%
68.8%
68.4%
41.0%
43.6%
50.1%
53.6%
54.3%
57.3%
59.0%
59.6%
30.4%
33.5%
38.7%
40.4%
Chronic Heart Disease
Chronic Respiratory Disease
Chronic Kidney (Renal) Disease
Chronic Liver Disease
Diabetes
Immunosuppression
Stroke/TIA
Chronic Degenerative Neurological Disease, Cerebral Palsy or MS
Risk group

Chart 7

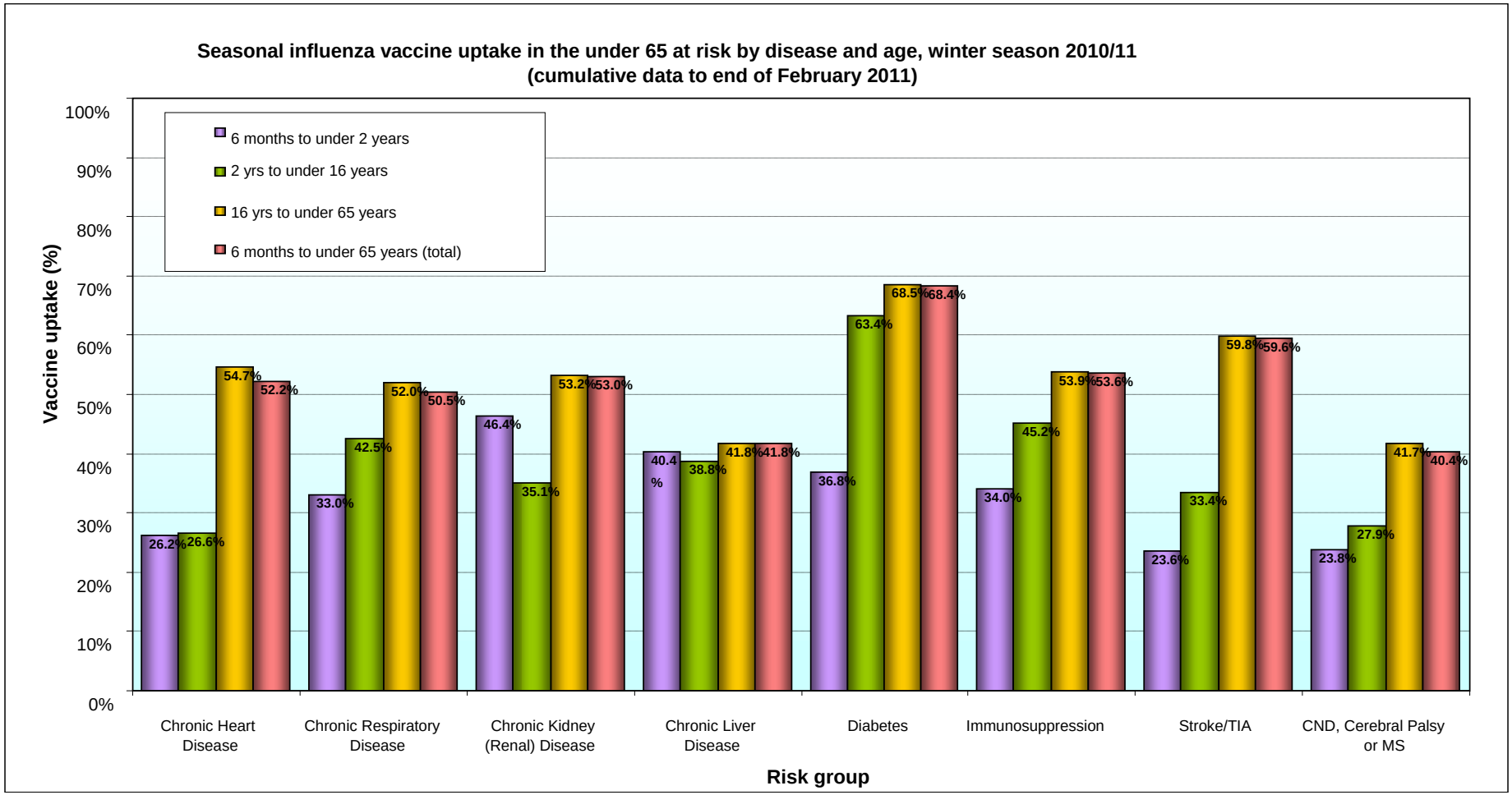
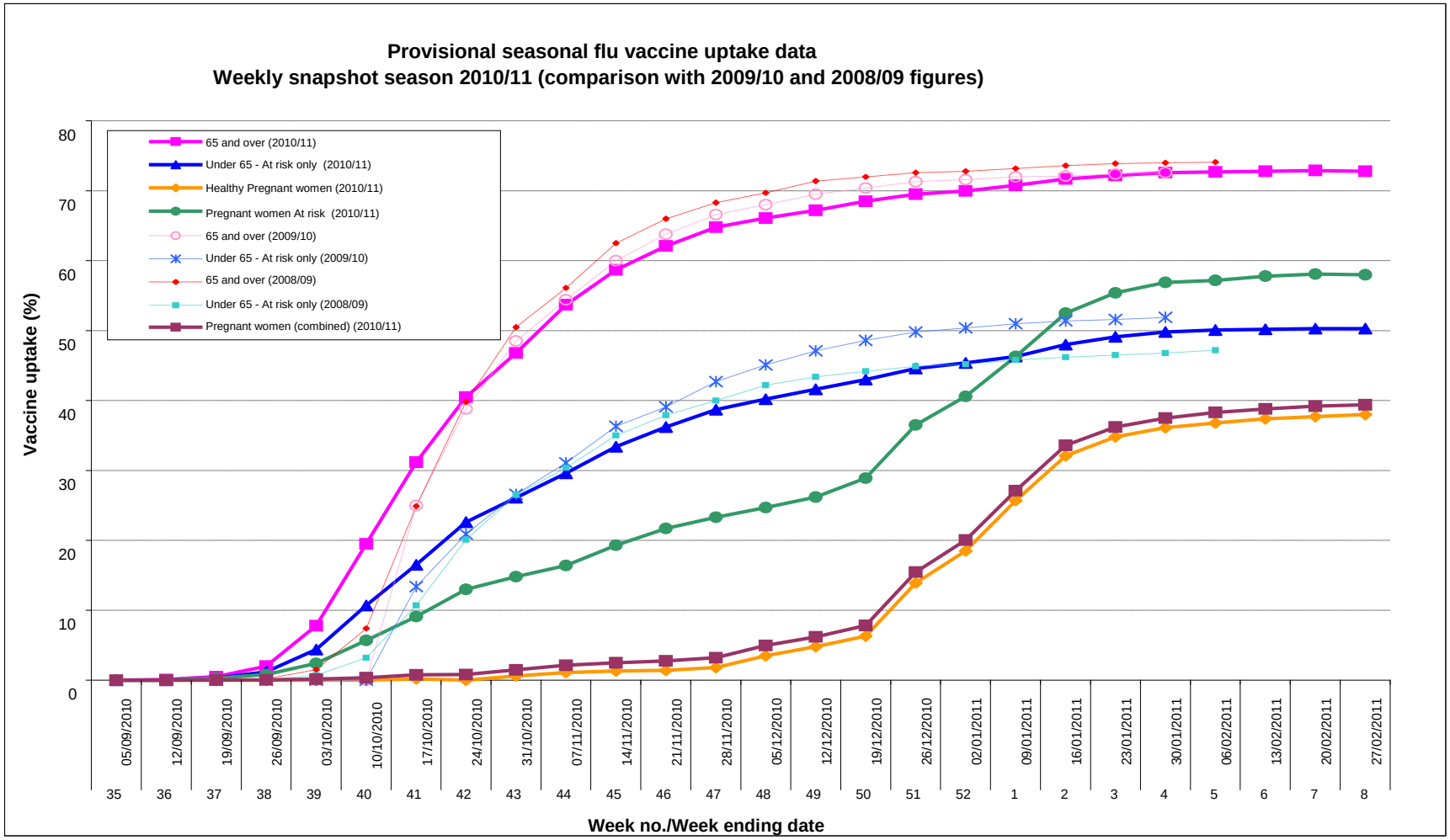

Seasonal influenza vaccine uptake in the under 65 at risk by disease and age, winter season 2010/11
(cumulative data to end of February 2011)
6 months to under 2 years
2 yrs to under 16 years
16 yrs to under 65 years
6 months to under 65 years (total)
Vaccine uptake (%)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
26.2%
26.6%
54.7%
52.2%
33.0%
42.5%
52.0%
50.5%
46.4%
35.1%
53.2%
53.0%
40.4%
38.8%
41.8%
41.8%
36.8%
63.4%
68.5%
68.4%
34.0%
45.2%
53.9%
53.6%
23.6%
33.4%
59.8%
59.6%
23.8%
27.9%
41.7%
40.4%
Chronic Heart Disease
Chronic Respiratory Disease
Chronic Kidney (Renal) Disease
Chronic Liver Disease
Diabetes
Immunosuppression
Stroke/TIA
CND, Cerebral Palsy or MS
Risk group

Chart 8


Provisional seasonal flu vaccine uptake data
Weekly snapshot season 2010/11 (comparison with 2009/10 and 2008/09 figures)
65 and over (2010/11)
Under 65 - At risk only (2010/11)
Healthy Pregnant women (2010/11)
Pregnant women At risk (2010/11)
65 and over (2009/10)
Under 65 - At risk only (2009/10)
65 and over (2008/09)
Under 65 - At risk only (2008/09)
Pregnant women (combined) (2010/11)
Vaccine uptake (%)
0
10
20
30
40
50
60
70
80
05/09/2010
12/09/2010
19/09/2010
26/09/2010
03/10/2010
10/10/2010
17/10/2010
24/10/2010
31/10/2010
07/11/2010
14/11/2010
21/11/2010
28/11/2010
05/12/2010
12/12/2010
19/12/2010
26/12/2010
02/01/2011
09/01/2011
16/01/2011
23/01/2011
30/01/2011
06/02/2011
13/02/2011
20/02/2011
27/02/2011
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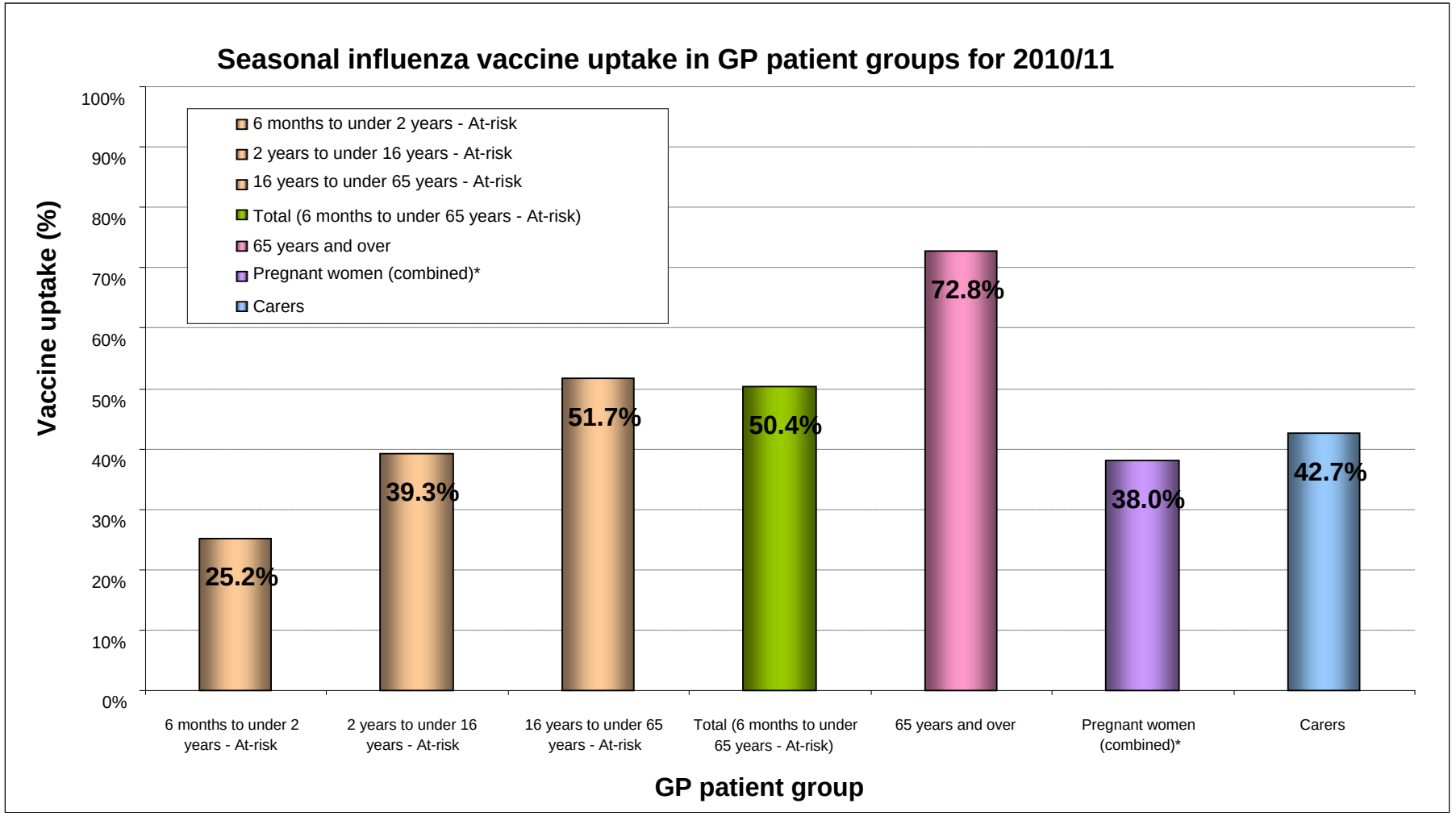
Week no./Week ending date

Chart 9



* Pregnant women combined includes those NOT in a clinical at-risk group and those in a clinical at-risk group

Table 1

Seasonal influenza vaccine uptake in patients aged 6 months to under 65 years falling in a clinical at-risk group (excluding pregnant women and carers) by age band for 2010/11

Seasonal influenza vaccine uptake in patients aged 6 months to under 65 years falling in a clinical at-risk group, by age band for 2010/11					
Age Group	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine Uptake (%)**	**Extrapolated (estimate) number of patients registered eligible***	**Extrapolated (estimate) number of patients vaccinated**
6 months to under 2 years	14,010	3,528	25.2	14,340	3,611
2 years to under 16 years	527,880	207,499	39.3	540,307	212,384
16 years to under 65 years	4,698,969	2,429,819	51.7	4,809,590	2,487,020
Total by Risk Group	**5,240,859**	**2,640,846**	**50.4%**	**5,364,236**	**2,703,015**

*Assuming a 100% GP practice response

Table 2

Seasonal influenza vaccine uptake in pregnant women (not at-risk and those falling in a clinical at-risk group) for 2010/11

Seasonal influenza vaccine uptake in pregnant women for 2010/11					
Pregnant Women	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine Uptake (%)**	**Extrapolated (estimate) number of patients registered eligible***	**Extrapolated (estimate) number of patients vaccinated**
Pregnant and NOT IN a clinical risk group	295,834	108,297	36.6	302,798	110,846
Pregnant and IN a clinical risk group	22,728	12,867	56.6	23,263	13,170
Pregnant combined	**318,562**	**121,164**	**38.0**	**326,061**	**124,016**

*Assuming a 100% GP practice response

Table 3

Seasonal influenza vaccine uptake in GP patient groups for 2010/11 (actual registered and vaccinated)

Patient Eligible Group	Patients registered	Number vaccinated	Vaccine Uptake (%)
6 months to under 2 years – At-risk	14,010	3,528	25.2
2 years to under 16 years – At-risk	527,880	207,499	39.3
16 years to under 65 years – At-risk	4,698,969	2,429,819	51.7
Total (6 months to under 65 years – At-risk)	5,240,859	2,640,846	50.4
65 years and over	8,631,137	6,287,011	72.8
Pregnant women (combined)*	318,562	121,164	38.0
Carers	266,815	113,982	42.7

*Pregnant women combined (i.e. all pregnant women including those NOT in an at-risk group and those IN an at-risk group)

Supplementary tables

Table 4

Seasonal influenza vaccine uptake in people aged 65 and over, comparing recent survey years (2006 to 2011)					
Data collected on patients aged 65 and over	**2010/11**	**2009/10**	**2008/09**	**2007/08**	**2006/07**
Number of PCTs represented	151/151 (100%)	152/152 (100%)	152/152 (100%)	152/152 (100%)	152/152 (100%)
Total number of practices	8278	8380	8293	8375	8464
Total number of practices providing data on the 65 and over	8084	7797	7980	7988	7860
Overall practice response (%)	**97.7**	**93.0**	**96.2**	**95.4**	**92.9**
Total registered population aged 65 and over	8,631,137	8,199,279	8,267,751	8,071,672	7,815,298
Total number of people vaccinated aged 65 and over	6,287,011	5,938,128	6,130,532	5,934,370	5,779,145
Vaccine uptake (%)	**72.8**	**72.4**	**74.1**	**73.5**	**73.9**

Table 5

Seasonal influenza vaccine uptake in people aged 6 months to under 65 years at risk, comparing recent survey years (2006 to 2011)					
Data collected on patients aged 6 months to under 65 years at risk	**2010/11**	**2009/10**	**2008/09**	**2007/08**	**2006/07**
Number of PCTs represented/total PCTs (%)	151/151 (100%)	152/152 (100%)	152/152 (100%)	152/152 (100%)	152/152 (100%)
Total number of practices	8278	8380	8293	8375	8,464
Total number of practices providing data on the 6 months to under 65 years at risk	8084	7797	7980	7988	7,860
Overall practice response (%)	**97.7**	**93.0**	**96.2**	**95.4**	**92.9**
Total registered population aged 6 months to under 65 years at risk	5,240,859	4,577,720	4,579,245	4,367,354	4,198,789
Total Number of People Vaccinated aged 6 months to under 65 years at risk	2,640,846	2,362,085	2,154,828	1,977,509	1,769,212
Vaccine uptake (%)	**50.4**	**51.6**	**47.1**	**45.3**	**42.1**

Table 6

Seasonal influenza vaccine uptake in people aged under 65 at risk, and overall practice response by SHA and age group for 2010/11					
Strategic Health Authority	**Vaccine uptake (%)**				
	6 months to under 2 years	**2 years to under 16 years**	**16 years to under 65 years**	**6 months to under 65 years (Total)**	**Overall practice response (%)**
North East SHA	30.7	41.5	53	52	96.6
North West SHA	29.6	43.1	54.4	53.2	98.4
Yorkshire and The Humber SHA	25	38.8	51.9	50.6	99.4
East Midlands SHA	30	40.7	51.6	50.6	99.7
West Midlands SHA	21.1	36.3	51.7	50	98.8
East of England SHA	25.1	39.1	49.5	48.3	97.7
London SHA	17.9	33.3	50.9	48.9	96.2
South East Coast SHA	27.9	37.6	49.1	47.9	94.3
South Central SHA	31.4	42.8	52	51	99.4
South West SHA	32.7	43.2	52.2	51.2	96.3
Percentage uptake (England)	**25.2%**	**39.3%**	**51.7%**	**50.4%**	**97.7%**

Table 7

Seasonal influenza vaccine uptake in patients aged 6 months to under 65 at risk, by age group and disease for 2010/11												
Age group	**6 months to under 2 years**			**2 years to under 16 years**			**16 years to under 65 years**			**Total by Risk group**		
Risk group	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine uptake (%)**	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine uptake (%)**	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine uptake (%)**	**Number of patients registered on day of data extraction**	**Number of patients vaccinated up until 28.02.11**	**Vaccine uptake (%)**
Chronic Heart Disease	6,428	1,681	26.2	64,501	17,151	26.6	727,062	397,376	54.7	797,991	416,208	52.2
Chronic Respiratory Disease	3,490	1,152	33.0	363,305	154,509	42.5	1,873,582	975,189	52.0	2,240,377	1,130,850	50.5
Chronic Kidney (Renal) Disease*	28	13	46.4	1,425	500	35.1	97,624	51,978	53.2	99,077	52,491	53.0
Chronic Liver Disease	99	40	40.4	2,147	832	38.8	181,092	75,784	41.8	183,338	76,656	41.8
Patients with Diabetes	76	28	36.8	16,296	10,335	63.4	1,067,917	731,636	68.5	1,084,289	741,999	68.4
Patients with Immunosuppression	188	64	34.0	10,246	4,627	45.2	315,749	170,069	53.9	326,183	174,760	53.6
Patients with Stroke/TIA	127	30	23.6	1,661	555	33.4	182,142	108,960	59.8	183,930	109,545	59.6
Patients with Chronic Degenerative Neurological Disease, Cerebral Palsy or MS	739	176	23.8	25,049	6,983	27.9	236,360	98,622	41.7	262,148	105,781	40.4

* The national vaccine uptake figure for chronic kidney (renal) disease is derived from a smaller dataset of 44.0% of GP practices as data from some IT software suppliers has been excluded due to incorrect application of the survey specification.

Notes

General

End of campaign cumulative uptake data for England on seasonal flu vaccinations given from 1 September 2010 to 28 February 2011.

A proportion of vaccinations will be of monovalent H1N1v vaccine.

Data represents 97.7% of all GP practices in England responding (8084/8278 practices in total) by end of February 2011. Where a total for England is quoted (e.g. sum of number of patients registered and number vaccinated) this is taken from the 97.7% GP practice sample and is therefore not an extrapolated estimated figure for all of England (unless otherwise stated).

All figures are derived from data as extracted from records on GP systems or as submitted by GP practices (or on their behalf by PCTs).

Pregnancy

Vaccine uptake data for pregnant women needs to be interpreted with some caution.

In order to prevent overlap with the survey of uptake of pandemic vaccine by pregnant women, which finished on 31 August 2010, the survey of vaccinations of pregnant women given seasonal influenza vaccine looked at pregnant women confirmed pregnant on or after 1 September 2010. Therefore, denominators are not an absolute measure of all women pregnant during 2010/11 winter and consequently the calculated uptake rates are for the sub-set of pregnant women that fall within the scope of the specification.

Furthermore, determining an accurate denominator to calculate vaccine uptake data on pregnant women is difficult because of the complexities in the way pregnancy is recorded and coded on clinical systems. However, the numerators were only derived from those that fall within the denominator.

Risk group

Data represents on average 91.8% of all GP practices in England responding (7425/8084), who provided data across all optional at-risk group categories

The national vaccine uptake figure for chronic kidney (renal) disease in England is derived from a smaller dataset of 44.0% of GP practices as data from some IT software suppliers has been excluded due to incorrect application of the survey specification.

Notes regarding how the data shown on ImmForm for those aged under 65 in a clinical at-risk group, should be interpreted as:

- patients may appear in more than one at-risk group. This means that it is possible that the total people in all at-risk groups might be more than the total people at risk.
- people that appear in more than one risk group, are counted once in 'Summary of patients in one or more at-risk group(s)'
- 'All patients' is a count of all patients, including those in at-risk groups

Carers

Data represents 91.3% of all GP practices in England responding (7383/8084), who provided data for this question.

Definition of a 'carer' includes those who are in receipt of a carer's allowance, or those who are the main carer of an older or disabled person whose welfare may be at risk if the carer falls ill. These patients would be vaccinated on an individual basis at the GP's discretion because they meet the criteria of being a 'carer' and not because they fall within a clinical risk group.

Data source: DH ImmForm website: Registered patient GP practice data

Influenza Immunisation Vaccine Uptake Monitoring Programme

Department of Health (DH) and Health Protection Agency (HPA)

Appendix 1:
Clinical risk groups 2010/11
CMO Letter published 28th May 2010 amended 23rd June 2010 – Annex 4

Influenza vaccine should be offered to people in the clinical risk groups set out below. Please note this list is not exhaustive and clinicians are urged to refer to the new Green Book Chapter on Influenza that will be available online by the end of July 2010[1]. **Clinicians should also take into account the risk of influenza exacerbating any underlying disease that any patient may have, as well as the risk of serious illness from influenza itself**. Vaccination should be offered in such cases.

Clinical risk groups	*Examples (decision based on clinical judgement)*
Chronic respiratory disease and asthma that requires continuous or repeated use of inhaled or systemic steroids or with previous exacerbations requiring hospital admission	• Chronic obstructive pulmonary disease (COPD) including chronic bronchitis and emphysema; bronchiectasis, cystic fibrosis, interstitial lung fibrosis, pneumoconiosis and bronchopulmonary dysplasia (BPD) • Children who have previously been admitted to hospital for lower respiratory tract disease
Chronic heart disease	• Congenital heart disease • Hypertension with cardiac complications • Chronic heart failure • Individuals requiring regular medication and/or follow-up for ischaemic heart disease
Chronic kidney (renal) disease	• Chronic renal failure • Nephrotic syndrome • Renal transplantation
Chronic liver disease	• Cirrhosis • Biliary artesia • Chronic hepatitis
Chronic neurological disease	• Stroke • Transient ischaemic attack (TIA) Clinicians should consider on an individual basis the clinical needs of their patients including individuals with multiple sclerosis and related or similar conditions; or hereditary and degenerative disease of the central nervous system.
Diabetes	• Type 1 diabetes • Type 2 diabetes requiring insulin or oral hypoglycaemic drugs • Diet controlled diabetes

[1] www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/GreenBook/fs/en

Immunosuppression	• Immunosupression due to disease or treatment • Patients undergoing chemotherapy leading to immunosuppression • Asplenia or splenic dysfunction • HIV infection • Individuals treated with or likely to be treated with systemic steroids for more than a month at a dose equivalent to prednisolone at 20mg or more per day (any age) or for children under 20kg a dose of 1mg or more per kg per day. • some immunocompromised patients may have a suboptimal immunological response to the vaccine
Pregnant women	• Pregnant women **not** in clinical risk groups for seasonal influenza and who have **not** already received the H1N1 swine influenza vaccine are included in the 2010/11 seasonal vaccination programme on the advice of JCVI. This is because pregnant women are at increased risk from the H1N1 swine influenza virus, which is expected to be the predominant circulating influenza strain in the 2010/11 influenza season

Seasonal Influenza Vaccine Uptake 2010/11 – Birth Date Ranges

Monthly Surveys

The 65 years and over population (denominator) during the monitoring period was defined in line with vaccination policy, as those whose 65th birthday occurred on or before 31st March 2011 (i.e. those aged 65 years or older by the 31st March 2011 eligible to receive vaccine in the 2010/11 vaccination programme). Therefore, some patients may not have been 65 years when receiving their vaccine but were included in the survey.

Denominators for those individuals aged from six months to under two years at risk, are defined by their age on date of data extraction. In a change from last season, the six month age band is no longer fixed as those born on or before 1st April 2010; it too is now defined by age on the date of data extraction.

Dates of birth	**Aged 6 months to under 2 years of age on date of extraction**		**Aged 2 to under 16 years of age on date of extraction**		**Aged 16 on date of extraction to under 65 years of age on 31 March 2011**		**Aged 65 and over on 31 March 2011**
Date of data extraction	Date of birth on or after	Date of birth on or before	Date of birth on or after	Date of birth on or before	Date of birth on or after	Date of birth on or before	Date of birth on or before
OCTOBER SURVEY (Vaccinations from 1 September 2010 to 31 October 2010, collected in November)							
1st November 2010	2nd Nov. 2008	1st May 2010	2nd Nov. 1994	1st Nov. 2008	1st April 1946	1st Nov. 1994	31st March 1946
2nd November 2010	3rd Nov. 2008	2nd May 2010	3rd Nov. 1994	2nd Nov. 2008		2nd Nov. 1994	
3rd November 2010	4th Nov. 2008	3rd May 2010	4th Nov. 1994	3rd Nov. 2008		3rd Nov. 1994	
JANUARY SURVEY (Vaccinations from 1 September 2010 to 31 January 2010, collected in February)							
1st February 2011	2nd Feb. 2009	1st August 2010	2nd Feb. 1995	1st Feb. 2009	1st April 1946	1st Feb. 1995	31st March 1946
2nd February 2011	3rd Feb. 2009	2nd August 2010	3rd Feb. 1995	2nd Feb. 2009		2nd Feb. 1995	
3rd February 2011	4th Feb. 2009	3rd August 2010	4th Feb. 1995	3rd Feb. 2009		3rd Feb. 1995	
4th February 2011	5th Feb. 2009	4th August 2010	5th Feb. 1995	4th Feb. 2009		4th Feb. 1995	
7th February 2011	8th Feb. 2009	7th August 2010	8th Feb. 1995	7th Feb. 2009		7th Feb. 1995	
8th February 2011	9th Feb. 2009	8th August 2010	9th Feb. 1995	8th Feb. 2009		8th Feb. 1995	
9th February 2011	10th Feb. 2009	9th August 2010	10th Feb. 1995	9th Feb. 2009		9th Feb. 1995	
10th February 2011	11th Feb. 2009	10th August 2010	11th Feb. 1995	10th Feb. 2009		10th Feb. 1995	
11th February 2011	12th Feb. 2009	11th August 2010	12th Feb. 1995	11th Feb. 2009		11th Feb. 1995	
14th February 2011	15th Feb. 2009	14th August 2010	15th Feb. 1995	14th Feb. 2009		14th Feb. 1995	

Weekly Surveys

Dates of birth	Aged 6 months to under 2 years of age on date of extraction		Aged 2 to under 16 years of age on date of extraction		Aged 16 on date of extraction to under 65 years of age on 31 March 2011		Aged 65 and over on 31 March 2011
Date of data extraction	Date of birth on or after	Date of birth on or before	Date of birth on or after	Date of birth on or before	Date of birth on or after	Date of birth on or before	Date of birth on or before
WEEKLY SURVEYS (weeks ending in SEPTEMBER - Vaccinations from 1 September 2010 to 30 September 2010, collected in October)							
1st October 2010	2nd Oct. 2008	1st April 2010	2nd Oct. 1994	1st Oct. 2008	1st April 1946	1st Oct. 1994	31st March 1946
WEEKLY SURVEYS (weeks ending in OCTOBER Vaccinations from 1 September 2010 to 31 October 2010, collected in November)							
1st November 2010	2nd Nov. 2008	1st May 2010	2nd Nov. 1994	1st Nov. 2008	1st April 1946	1st Nov. 1994	31st March 1946
WEEKLY SURVEYS (weeks ending in NOVEMBER Vaccinations from 1 September 2010 to 30 November 2010, collected in December)							
1st December 2010	2nd Dec. 2008	1st June 2010	2nd Dec. 1994	1st Dec. 2008	1st April 1946	1st Dec. 1994	31st March 1946
WEEKLY SURVEYS (weeks ending in DECEMBER Vaccinations from 1 September 2010 to 31 December 2010, collected in January)							
1st January 2011	2nd Jan. 2009	1st July 2010	2nd Jan. 1995	1st Jan. 2009	1st April 1946	1st Jan. 1995	31st March 1946
WEEKLY SURVEYS (weeks ending in JANUARY Vaccinations from 1 September 2010 to 31 January 2010, collected in February)							
1st February 2011	2nd Feb. 2009	1st August 2010	2nd Feb. 1995	1st Feb. 2009	1st April 1946	1st Feb. 1995	31st March 1946

NOTE: - For weekly surveys, the same principles should be followed for the denominators as with the monthly surveys. Only the first of each month is shown as the date of extraction in the above table to illustrate the principle.

APPENDIX 3: MONTHLY ALL PRACTICES SURVEY

MONTHLY SURVEY (automated and manual submissions)

The 2010/11 monthly 'all practices' survey consisted of both automated and manual submissions collected in two monthly returns; the first was the October survey covering vaccinations up to end 31 October 2010 and the second was the February survey (which replaced the traditional January survey) which was an extended collection on cumulative vaccinations up to end 28 February 2011 (final survey data).

Each survey was open to all GP practices and PCTs at the start of the survey month. The **GP end date** for the October survey is **9 working days** (inclusive) after the start date, reflecting the need to have these data available quickly to allow interventions in the programme if necessary. The **PCT end date** for October is an **additional 2 working days** after the GP end date to submit further data on behalf of GP practices, amend data if necessary and validate data. XML uploads are required by 7 working days, to give enough time for data providers to collect and collate the data, but also give time for GP practices to view the data before the survey closes.

The **GP end date** for the February survey is **10 working days** (inclusive) after the start date, allowing more time to collate and submit the final data. The **PCT end date** for February is an **additional 5 working days** after the GP end date. XML uploads are required by 7 working days, to give enough time for data providers to collect and collate the data, but also give time for GP practices to view the data before the survey closes. PCTs also had the opportunity to check the accuracy of data submitted and amend them if necessary. PCT Flu co-ordinators were also responsible for following up on non-responding practices.

Every GP practice in England was requested to complete the mandatory fields as required; in addition it was anticipated that the optional dataset will be completed

by those practices that have access to the semi/fully automated extraction and upload facilities.[1]

GP Practices Monthly Surveys collection dates					
Survey Month	**For data covering vaccinations administered up to date**	**Survey Start Date**	**XML Bulk Upload Submit Date**	**GP Survey End Date**	**PCT Survey End Date**
October	**Sun 31/10/2010**	**Mon 01/11/2010**	**Tue 09/11/2010**	**Thu 11/11/2010**	**Mon 15/11/2010**
February	**Mon 28/02/2011**	**Tue 01/03/2011**	**Wed 09/03/2011**	**Mon 14/03/2011**	**Mon 21/03/2011**

NOTES

1. The data for each survey is cumulative (as per previous seasons) i.e. from 1st September to the end of each survey month (ie 31/10/2010 and 28/02/11 respectively).
2. The datasets for the weekly and the two monthly surveys are identical; they are still the same collection.
3. GP Practices, PCTs and HPA will still be able to view and amend the month-based surveys submitted data up until their respective end dates for each month.
4. PCTs have extra window of submission days after the GP Practice deadline to perform a final review of the survey data submitted. PCTs have read-write access during this period and may enter/amend data on behalf of their GP practices who for whatever reason, had missed their submission deadline or chose not to enter data altogether.
5. GPs should notify their PCT Flu co-ordinator immediately as soon as anomalies with data are realised in order to allow time to amend any errors or inconsistencies.

[1] EMIS (LV platform), TPP and Microtest again provided automated bulk upload. iSoft provided bulk data uploads for the first time. It was expected to have InPS (Vision) on board, although their participation was unlikely to be ready for the October survey. PRIMIS+ provided a data upload service via their CHART Tool; for more information you can contact PRIMIS+ via the web link below;
http://www.primis.nhs.uk/index.php/contact-us

APPENDIX 4: WEEKLY SENTINEL SURVEY TIMETABLE

WEEKLY SENTINEL SURVEY (covering approximately 50+% of all automated GPs)

The 2010/11 weekly vaccine uptake collection took place with participation from interested GP IT software suppliers.

Weekly data were collected from a sentinel group of GP practices (around 50%) with fully automated extract and upload facilities via the following GP IT suppliers; EMIS (LV platform only), TPP and iSoft. Data were collected from week 35 (week ending 5 September 2010) to week 08 (week ending 27 February 2011) on vaccinations administered up to midnight on Sunday each week and were usually available to view on the ImmForm website between the following Monday and no later than Wednesday morning. This allowed seasonal influenza vaccine uptake data to be monitored regularly with no additional burden on GP practices or PCTs.

Weekly Sentinal (Bulk Upload only)		
Week No	**Data up to Date**	**Submit Date**
35	Sun 05/09/2010	Mon 06/09/2010
36	Sun 12/09/2010	Mon 13/09/2010
37	Sun 19/09/2010	Mon 20/09/2010
38	Sun 26/09/2010	Mon 27/09/2010
39	Sun 03/10/2010	Mon 04/10/2010
40	Sun 10/10/2010	Mon 11/10/2010
41	Sun 17/10/2010	Mon 18/10/2010
42	Sun 24/10/2010	Mon 25/10/2010
43	Sun 31/10/2010	Mon 01/11/2010
44	Sun 07/11/2010	Mon 08/11/2010
45	Sun 14/11/2010	Mon 15/11/2010
46	Sun 21/11/2010	Mon 22/11/2010
47	Sun 28/11/2010	Mon 29/11/2010
48	Sun 05/12/2010	Mon 06/12/2010
49	Sun 12/12/2010	Mon 13/12/2010
50	Sun 19/12/2010	Mon 20/12/2010
51	Sun 26/12/2010	Wed 29/12/2010
52	Sun 02/01/2011	Tue 04/01/2011
1	Sun 09/01/2011	Mon 10/01/2011
2	Sun 16/01/2011	Mon 17/01/2011
3	Sun 23/01/2011	Mon 24/01/2011
4	Sun 30/01/2011	Mon 31/01/2011
5	Sun 06/02/2011	Mon 07/02/2011
6	Sun 13/02/2011	Mon 14/02/2011
7	Sun 20/02/2011	Mon 21/02/2011
8	Sun 27/02/2011	Mon 28/02/2011

NOTES

1. The data for each month is cumulative (as per previous seasons) i.e. from 1st September to the end of the previous week ending each Sunday (WEEKLY).
2. Weekly data generally collected on a Monday for data up to midnight on the previous Sunday. The exceptions are where the Monday (or Tuesday) falls on a Bank Holiday, so is deferred a day or two
3. It is anticipated that only those suppliers that have automated upload functionality (i.e. XML bulk upload or web service) will provide weekly data on behalf of their participating practices. In addition, some practices with semi-automated upload capability (URL data string) may chose to provide weekly data.
4. GP practices and PCTs will not be directly involved in the collection of these data (other than authorising the collection, which they would already have done for the monthly collections), as it is an automated process.
5. Vaccine uptake data is measured from 1 September 2010. The weekly collections will start in September (although it is recognised that uptake will be low and will depend on vaccine availability).

APPENDIX 5: GP IT SOFTWARE SUPPLIERS

BULK DATA UPLOADS (options available to GP Practices for 2010/11 season)

Automated bulk upload data were collected from GP practices whose suppliers had the capability to extract data centrally and provide it as bulk uploads in XML format. There were a number of options that were available to GP Practices, depending on software supplier. EMIS (LV platform), Microtest Ltd, TPP (The Phoenix Partnership) and QMS practices could opt to have their data extracted and uploaded automatically. For the first time additional bulk upload data providers such as InPS and iSoft also provided automated data extraction for their customers for the 2010/11 seasonal influenza vaccine uptake survey.

PRIMIS+ provided a bulk data upload service via their CHART Tool. MIQUEST CHART queries were available from PRIMIS+; these are compatible with a number of GP systems. The GP practice downloads the query which is then run at the practice, by the practice. The data is submitted directly to PRIMIS+ (GP practices had to register with PRIMIS+ first) from CHART. PRIMIS+ then packaged up the data on behalf of GP practices and provided a bulk upload with all the data to DH for uploading on ImmForm (for more information see PRIMIS+ website at www.primis.nhs.uk

GP IT software suppliers and third party data providers confirmed to provide **weekly data** in 2010/11 were EMIS (LV platform), iSOFT and TPP and **monthly data** were EMIS (LV platform), iSOFT, Microtest, PRIMIS+ (via CHART), TPP and QMS; on behalf of their participating GP practices. These uptake data are very valuable in assessing the impact of the seasonal influenza vaccination campaign and we are grateful for the on-going support and cooperation of GP IT suppliers in providing these data at no burden to the NHS. It is important to remind GP practices who have or are changing IT suppliers to turn-off the automated extraction from their 'old' system and turn it on for their 'new' system. This is because we have had some instances in the past, where bulk upload data from their 'old' supplier has been submitted after

the data from their 'new' system and it has been overwritten. Any queries about specific IT systems should be directed to the relevant IT system supplier.

GP IT SOFTWARE SUPPLIERS

SOFTWARE SUPPLIER	Options available
EMIS LV	MIQUEST QUERY (+ CHART) EMIS XML AUTO BULK UPLOAD
EMIS PCS	MIQUEST QUERY (+ CHART)
MICROTEST Ltd	MIQUEST QUERY (+ CHART) MICROTEST XML AUTO BULK UPLOAD
HealthySoft	MIQUEST QUERY (+ CHART)
InPS Vision	MIQUEST QUERY (+ CHART) CLINICAL AUDIT INPS XML AUTO BULK UPLOAD
iSoft-Premiere	MIQUEST QUERY (+ CHART) ISOFT XML AUTO BULK UPLOAD
iSoft-Synergy	MIQUEST QUERY (+ CHART) ISOFT XML AUTO BULK UPLOAD
SEETEC	MIQUEST QUERY (+ CHART)
TPP SystemOne	MIQUEST QUERY (+ CHART) TPP XML AUTO BULK UPLOAD
QMS	MIQUEST QUERY (+ CHART) QMS XML AUTO BULK UPLOAD
PRIMIS+	MIQUEST QUERY (+ CHART) PRIMIS+ XML AUTO BULK UPLOAD

GP IT data providers are requested to validate their XML bulk upload data against the Seasonal Influenza XML Schema to allow them to identify and correct any errors prior to submission on ImmForm. Once successfully validated, the XML file is then submitted by logging in to the ImmForm website and selecting the *XML Survey Upload* menu option and following the prompts (separate guidance can be made available on request). If this service is not available, then we will request bulk upload data providers to e-mail the file (after it has been validated against the schema) to ImmForm@dh.gsi.gov.uk.