

# Pneumococcal Polysaccharide Vaccine Uptake Report 2006/07, England

**Natalie Zhang and Richard Pebody**

Health Protection Agency Centre for Infections, Immunisation Department

**Correspondence:** 61 Colindale Avenue, London NW9 5EQ, England, tel: +44 (0)20 8327 7807, e-mail: [pneumococcus@HPA.org.uk](mailto:pneumococcus@HPA.org.uk)

## Executive Summary

**Objective:** Since 2003, the Health Protection Agency (HPA) has been monitoring the uptake of 23-valent pneumococcal polysaccharide vaccine (PPV) in the elderly in England on behalf of the Department of Health (DH). The vaccine is given once only so data is collected on vaccinations given anytime up to the end of March each year, as patients already vaccinated do not require additional doses. Annual surveys of vaccine uptake collected by GP practices through PCT immunisation coordinators are used to assess the performance of the national policy for PPV uptake in those aged 65 years and over. This data is required to evaluate the impact of the pneumococcal immunisation programme on disease levels and calculate how effective the vaccine has been in preventing disease in different age groups. In 2006/07 the survey was extended to include data by gender and data for the 65 years olds only.

**Methods:** Data on PPV uptake were gathered via the Health Protection Informatics (HPI) website for the period 1st April 2006 to 31st March 2007 and anytime on or up until 31st March 2007 from a national survey of general practitioners (GPs) through NHS primary care trust (PCT) immunisation coordinators.

**Results:** The national GP response rate to the survey increased in 2006/07 to 85.5% compared to the previous year. 66.6% of patients aged 65 years and over were vaccinated anytime on or up until 31st March 2007. 6.5% of these patients were vaccinated between 1st April 2006 and 31st March 2007. PPV uptake in the twelve months prior to 31st March 2007 was highest for those turning 65 years during the year at 20.3%. PPV uptake for vaccinations carried out anytime on or up until 31st March 2007 was highest in those aged 75 to 79 years at 76.0%. Overall coverage in the elderly male population (71.8%) was found to be higher than in their female counterparts (69.8%).

**Conclusions:** High GP response rates were achieved in 2006/07 by using the HPI website to collect data on PPV uptake in primary care. Data indicate that the overall coverage of the elderly in England is encouraging, especially for the 75 to 79 year olds. However vaccine coverage for the incoming cohort of newly turned 65 year olds was comparatively low indicating that GP practices were either not actively or effectively targeting those reaching 65 years for vaccination in 2006/07 or that this age group was declining pneumococcal vaccination. Vaccine coverage in the older age groups continues to increase each year suggesting that vaccination is being given opportunistically to anyone over 65 years rather than the 65 age group specifically being targeted. If this is the case we would expect vaccine uptake in these younger cohorts to increase over time.

## Introduction

Pneumococcal disease is the term used to describe infections caused by the bacterium *Streptococcus pneumoniae*. It has been estimated that two in every 1000 over 65 year olds are admitted to hospital each year in the UK as a result of pneumococcal pneumonia. This figure is doubled for those aged 80 years and over.<sup>1</sup>

In addition to being the most common cause of serious pneumonia, pneumococcal bacteria can cause middle ear infections, sinusitis and bronchitis (non invasive) as well as septicaemia and meningitis (invasive). Indeed, invasive pneumococcal disease is a leading cause of morbidity and mortality in the UK, affecting in particular the elderly, the very young, those with an absent or non-functioning spleen and other causes of impaired immunity.

The pneumococcal polysaccharide vaccine (PPV) is a 23-valent vaccine, protecting against 90% of the serotypes that cause serious disease in the UK. PPV protects against the following serotypes of the bacterium:

1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19F, 19A, 20, 22F, 23F, 33F

Currently, one dose of vaccination is recommended for groups at higher risk of invasive disease including those 65 years of age and over, with re-vaccination generally not required, except for specific groups with rapidly waning antibodies such as those with nephrotic syndrome. For further information on PPV and its indications, see the latest chapter in the Green Book<sup>2</sup>.

In August 2003, the Chief Medical Officer (CMO) made the recommendation that all those aged 65 years and over should receive PPV in England..

This policy was implemented in three distinct phases. Patients aged 80 years and over were initially recommended for PPV vaccination in August 2003. This was extended to include all those aged 75 years and over in April 2004 and the final stage, instigated from April 2005 onwards, recommends all those aged 65 years and over for vaccination.

Patients under 65 years at greater risk of pneumococcal disease are also advised to receive the vaccine but this collection of vaccine uptake data does not include this group of people. Further details of these recommendations can be found in Immunisation Against Infectious Disease (The 'Green Book')  
<http://www.dh.gov.uk/greenbook>

The PPV uptake collections are a valuable part of pneumococcal surveillance in England, yielding important information to assist with and assess the implementation, and effectiveness of the policy. Surveillance of PPV uptake in older adults began in 2003.

In January 2004, a collection was carried out to provide baseline uptake data with which to compare future collections in the elderly. Data were collected on PPV uptake in the ten years up to August 2003 for those aged between 65 to 74 years, 75 to 79 years and those aged 80 years and over.

For the 2003/04 collection, uptake data were collected on 75 to 79 year olds vaccinated in ten year period 1<sup>st</sup> April 1994 to 31<sup>st</sup> March 2004. In order to assess the extent to which the CMO's recommendation (August 2003) was being implemented, the 2003/04 collection also monitored the uptake specifically for the 80 year old and over cohort between 20<sup>th</sup> August 2003 and 31<sup>st</sup> March 2004.

Data were collected in 2004/05 for the first time using a web-based reporting system, called the Vaccine Tracking Programme (VTP), for all GP practices and their PCTs. The web-based survey ran along side the traditional route of data collection. Consequently paper returns were also allowed. The CMO letter in April 2004 extended the vaccination recommendation to include all those aged 75 years and over. The age ranges for which data were collected in the 2004/05 collection were altered accordingly.

The 2005/06 survey was the first solely web-based collection for PPV uptake. Neither paper nor email returns were allowed. GP practices provided data electronically from May to July 2006 and PCTs had an additional four weeks to check, amend and add to that data. In April 2005, the pneumococcal vaccine recommendation included all those aged 65 years and over. The 2005/06 collection thus collected data with age breakdowns to reflect the three phases of PPV recommendation.

Data were collected on the following age ranges, vaccinated between the 1<sup>st</sup> April 2005 and 31<sup>st</sup> March 2006 and vaccinated anytime up until 31<sup>st</sup> March 2006:

- 65 to 74 years
- 75 to 79 years
- 80 years old and over
- 65 years old and over

In the most recent collection for 2006/07, data were also collected on vaccine uptake with the newly turned 65 year olds forming their own cohort. The age breakdowns were as follows:

- *65 years old*
- 66 to 74 years
- 75 to 79 years
- 80 years old and over
- 65 years old and over

For the first time, data by gender were an optional addition for GPs to complete in 2006/07:

- *Males aged 65 years and over*
- *Females aged 65 years and over*

## Aims and Objectives of Present Collection

- To calculate the proportion of the population aged 65 years and over, including the most recent cohort, who have been vaccinated with PPV in:
  - The last twelve months (1<sup>st</sup> April 2006 to 31<sup>st</sup> March 2007)
  - At anytime on or up until 31<sup>st</sup> March 2007
- To continue to improve the web-based surveillance system in England for the monitoring of PPV uptake among those aged 65 years and over (and thus for other adult vaccines)
- To assess the implementation of the new PPV immunisation policy for the elderly by age-group and gender
- To provide coverage data with which to calculate PPV effectiveness using the Screening method

## Methods

The use of a web-based reporting system continued in 2006/07. The name of the website is now the Health Protection Informatics (HPI) Website, formally known as 'The Vaccine Tracking' (VTP) website and the 'Immunisation Informatics Site' (IIS).

On the 1st July 2006, the configuration of Strategic Health Authorities also changed. 10 SHAs were formed from the existing 28 SHAs. On the 1st October 2006, the 303 PCTs merged and became 152. In the majority of cases, this involved a simple merging of two or more PCTs, though for some regions, the geographical boundaries of these organisations were altered. More details are available at [http://www.dh.gov.uk/en/Policyandguidance/Organisationpolicy/Healthreform/DH\\_4135663](http://www.dh.gov.uk/en/Policyandguidance/Organisationpolicy/Healthreform/DH_4135663)

The role of the PCTs remains unchanged despite the structural reorganisation. Within each PCT, a designated pneumococcal coordinator held the key responsibility of disseminating information regarding the survey from the HPA to GP practices, fielding or referring GP queries, and chasing non-responding GP practices. The HPA endeavoured to proactively invite input from PCTs and GPs in the preparation aspects of the survey as well as the provision of data. For example, collection dates and dataset requirements were discussed with PCT pneumococcal coordinators before the start of the monitoring period.

It was agreed that data would be collected on PPV administered in two time periods;

- Between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007
- At anytime on or up until 31<sup>st</sup> March 2007

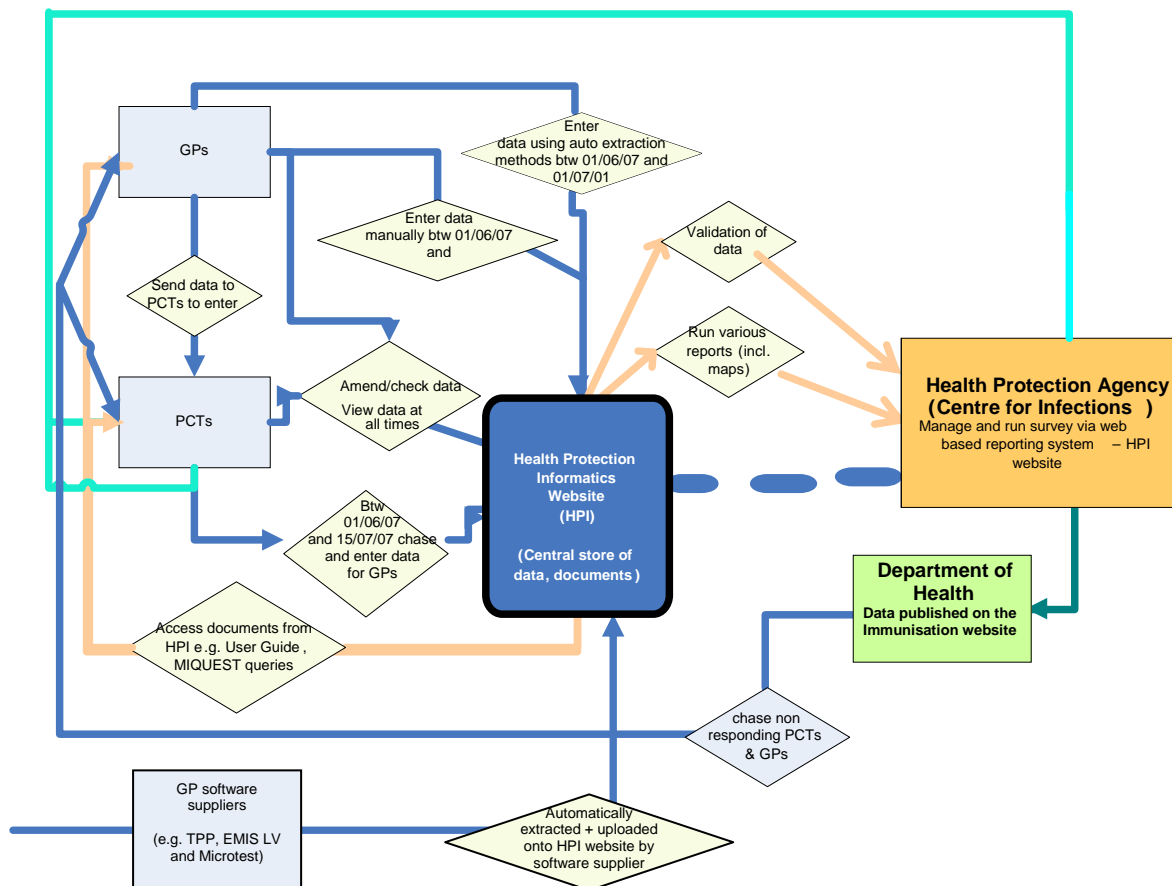
The monitoring period ran from 1st May to the end of July.

- GPs had from 1<sup>st</sup> May to the 1<sup>st</sup> June to enter data
- PCTs had from 1<sup>st</sup> May to the 15<sup>th</sup> June to chase, verify and amend data.

PCTs and GPs were also provided with User Guides with a “questions and answers” section and step-by-step instructions on how to log in, enter data and change passwords etc.

Figure A outlines the flow of data and the processes involved in supplying data for GPs and PCTs. The dataflow begins with the extraction of data. This is entered on to the HPI website, via a number of different methods.

**Figure A: Dataflow**



The survey was opened to GPs and PCTs on the 1<sup>st</sup> April 2006 for submission of data. Practices had one month (until 1<sup>st</sup> June) to enter data. PCTs had an additional two weeks (until 15<sup>th</sup> June) during which they could enter data on behalf on their practices. They could also check accuracy of data and amend if they wished. PCT coordinators were responsible for chasing non-responding practices.

A range of software companies provided data extraction methods for practices in 2006/07. These options varied from queries that had to be run by the practice itself through to automated remote extraction and upload of data onto the HPI website which only required practices to authorise the collection on their system. Not all practices were able to use the most automated methods as they were only compatible with specific clinical systems. The Phoenix Partnership (TPP), Microtest and EMIS LV provided automated extraction and upload of data, for their practices.

The PRIMIS + team at the University of Nottingham wrote MIQUEST queries that were compatible across several types of clinical systems. The MIQUEST queries searched for data using predefined Read Codes. Practices with data facilitators

could also opt to use an additional piece of software called CHART, which meant that they did not have to retype their data; it would automatically be uploaded to the website after the MIQUEST searches were run. Figure B lists the various extraction (and upload) options that were available to practices in the 2006/07 pneumococcal polysaccharide vaccine uptake survey.

Data could be entered onto the website in a number of ways:

1. The GP enters data manually (after running a query or manually extracting the data)
2. The GP runs a query and then uses software to upload the data automatically
3. The GP sends the data to the PCT to enter (after running a query or manually extracting the data)
4. The data are automatically extracted and uploaded onto the website by the software supplier

The use of automated extraction and upload facilities has undoubtedly increased through the years. 54% of GP practices (3894 out of 7216) had their data fully automatically extracted and uploaded in 2006/07 (up from 39% in the previous year).

**Figure B: Data Extraction Methods**

Data extraction method	User
Auto upload from PCAG	GP required to log in (semi-automated process)
Auto upload from QMS	GP required to log in (semi-automated process)
Auto upload from Quest	GP required to log in (semi-automated process)
Bulk Upload Microtest	Website admin (fully automated process for GPs)
Auto upload from CHART	GP required to log in (semi-automated process)
Bulk Upload TPP	Website admin (fully automated process for GPs)
Used MIQUEST and typed data into the website	GP or PCT
Did not use MIQUEST. Typed or changed data directly into the website.	GP or PCT
Bulk Upload EMIS LV	Website admin (fully automated process for GPs)

Some practices may have written queries themselves, if they did not want to use one of the predefined data extraction methods, or if their system was not compatible with any of the methods available.

The dataset requirements in 2006/07 remained simple to allow for the easy provision of data. Only three fields were mandatory. If GP practices chose to participate in the survey, they were not able to submit data unless these fields had been completed.

Patient age on the 31 <sup>st</sup> March 2007 as defined using the Dates of Birth (DOB) below.	<b>A</b> - Number of patients registered on the day data are extracted	<b>B</b> - Number of registered patients (those included in column <b>A</b> ) that have received the pneumococcal vaccine between 1 <sup>st</sup> April 2006 and 31 <sup>st</sup> March 2007*.	<b>C</b> - No. of registered patients (those included in column <b>A</b> ) that have received pneumococcal vaccine at any time (including the last year) on or before the 31 <sup>st</sup> March 2007 **.	<b>D</b> - % Uptake (vaccinated in last year)  Calculated field	<b>E</b> - % Uptake (vaccinated anytime before 31 <sup>st</sup> March '07)  Calculated field
<b>Aged 65 and over</b> - DOB on or before 31st Mar 1942	<b>A1</b> mandatory	<b>B1</b> mandatory	<b>C1</b> mandatory	<b>D1</b> = (B1/A1)*100	<b>E1</b> = (C1/A1)*100

There were also a further 18 fields that were optional, aimed at GP practices with assistance in data extraction. The fields are listed below.

Patient age on the 31 <sup>st</sup> March 2007 as defined using the Dates of Birth (DOB) below.	<b>A</b> - Number of patients registered on the day data are extracted	<b>B</b> - Number of registered patients (those included in column <b>A</b> ) that have received the pneumococcal vaccine between 1 <sup>st</sup> April 2006 and 31 <sup>st</sup> March 2007*.	<b>C</b> - No. of registered patients (those included in column <b>A</b> ) that have received pneumococcal vaccine at any time (including the last year) on or before the 31 <sup>st</sup> March 2007 **.	<b>D</b> - % Uptake (vaccinated in last year)  Calculated field	<b>E</b> - % Uptake (vaccinated anytime before 31 <sup>st</sup> March '07)  Calculated Field
<b>Aged 65 only</b> - DOB on or between 1st Apr 1941 to 31st Mar 1942	<b>A2</b> optional	<b>B2</b> optional	<b>C2</b> optional	<b>D2</b> = (B2/A2)*100	<b>E2</b> = (C2/A2)*100
<b>66-74 years</b> - DOB on or between 1st Apr 1932 to 31st Mar 1941	<b>A3</b> optional	<b>B3</b> optional	<b>C3</b> optional	<b>D3</b> = (B3/A3)*100	<b>E3</b> = (C3/A3)*100
<b>75 - 79 years</b> - DOB on or between 1st Apr 1927 to 31st Mar 1932	<b>A4</b> optional	<b>B4</b> optional	<b>C4</b> optional	<b>D4</b> = (B4/A4)*100	<b>E4</b> = (C4/A4)*100
<b>80+ years</b> - DOB on or before 31st Mar 1927	<b>A5</b> optional	<b>B5</b> optional	<b>C5</b> optional	<b>D5</b> = (B5/A5)*100	<b>E5</b> = (C5/A5)*100
<b>Number of males aged 65 and over</b> - DOB on or before 31st Mar 1942	<b>A6</b> optional	<b>B6</b> optional	<b>C6</b> optional	<b>D6</b> = (B6/A6)*100	<b>E6</b> = (C6/A6)*100
<b>Number of females aged 65 and over</b> - DOB on or before 31st Mar 1942	<b>A7</b> optional	<b>B7</b> optional	<b>C7</b> optional	<b>D7</b> = (B7/A7)*100	<b>E7</b> = (C7/A7)*100

\* Please note that patients in column B will be also included in column C

\*\* Please note that patients included in column B, should also be included in column C

Validation codes were incorporated into the system so that the user was alerted of common errors in their data entry. In order to ensure a basic level of accuracy for the collection, no data were accepted by the system unless it passed these validation checks.

There were also validation rules checking that all those aged 65 and over equals the sum of the age breakdowns (rows 2, 3, 4 and 5) and that all those aged 65 and over equals the sum of the [females ages 65+] + [males ages 65+].

This screenshot shows what users would see if submitting mandatory data only:

1. How did you extract data from your practice computer?

- Did not use MIQUEST. Typed or changed data directly into the web site
- Used MIQUEST and typed data into the web site

2. Please record your pneumococcal vaccine uptake return below

[Click here to enter data for the full survey](#)

Patient age on the 31 <sup>st</sup> March 2007 as defined using the Dates of Birth (DOB) below	A - Number of Patients registered on the day data is extracted.	B - Number of registered patients (those included in column A) that have received the pneumococcal vaccine between 1 <sup>st</sup> April 2006 and 31 <sup>st</sup> March 2007*.		C - Number of registered patients (those included in column A) that have received the pneumococcal vaccine at any time (including the last year) on or before the 31 <sup>st</sup> March 2007**.	
		Number of patients	% of patients	Number of patients	% of patients
Aged 65 and over DOB on or before 31 <sup>st</sup> Mar 1942	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-

\* Please note that patients in column B will be also included in column C

\*\* Please note that patients included in column B, should also be included in column C

**Audit Records**

Date of Action	User	Action
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>		

Click on the Submit button to save your survey details and then wait for a confirmation message.

Users choosing to provide optional data by gender breakdown and by age bands opened up the full survey form:

1. How did you extract data from your practice computer?

- Did not use MIQUEST. Typed or changed data directly into the web site
- Used MIQUEST and typed data into the web site

2. Please record your pneumococcal vaccine uptake return below

[Click here to enter data for the summary survey only](#)

Patient age on the 31 <sup>st</sup> March 2007 as defined using the Dates of Birth (DOB) below	A - Number of Patients registered on the day data is extracted.	B - Number of registered patients (those included in column A) that have received the pneumococcal vaccine between 1 <sup>st</sup> April 2006 and 31 <sup>st</sup> March 2007*.		C - Number of registered patients (those included in column A) that have received the pneumococcal vaccine at any time (including the last year) on or before the 31 <sup>st</sup> March 2007**.	
		Number of patients	% of patients	Number of patients	% of patients
Aged 65 and over DOB on or before 31 <sup>st</sup> Mar 1942	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-

Aged 65 years only DOB on or between 1 <sup>st</sup> Apr 1941 to 31 <sup>st</sup> Mar 1942	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-
Aged 66 to 74 years DOB on or between 1 <sup>st</sup> Apr 1932 to 31 <sup>st</sup> Mar 1941	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-
Aged 75 to 79 years DOB on or between 1 <sup>st</sup> Apr 1927 to 31 <sup>st</sup> Mar 1932	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-
Aged 80+ years DOB on or before 31 <sup>st</sup> Mar 1927	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-
Number of males aged 65 years and over DOB on or before 31 <sup>st</sup> Mar 1942	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-
Number of females aged 65 years and over DOB on or before 31 <sup>st</sup> Mar 1942	<input type="text"/>	<input type="text"/>	-	<input type="text"/>	-

\* Please note that patients in column B will be also included in column C

\*\* Please note that patients included in column B, should also be included in column C

Audit Records  
Date of Action User Action

Click on the Submit button to save your survey details and then wait for a confirmation message.

Once the data had been entered, PCTs could view their practice data using the reports listed below:

**65 And Over:** the number of patients aged 65 years and over registered, vaccinated and uptake % achieved

**All age ranges:** the number of patients registered, vaccinated and uptake % for all patients by age breakdown

**By Gender:** - the number of patients registered, vaccinated and uptake % for all at risk patients by gender.

**Datasource Breakdown:** - the number of patients registered, vaccinated and uptake % for all at risk patients by method of data entry (e.g. Auto upload from CHART, Used MIQUEST and typed data into the web site, EMIS bulk upload etc.)

For the HPA, there was a non-responder report which allowed the user to specify a level of response - e.g. 50% would find all the PCTs with a GP response lower than 50%. The report would then list the PCT coordinator and contact details for those PCTs and provided a facility to send an email to all those PCTs.

PCTs were provided with a similar function in 2006/07, allowing them to see a list of practices which were yet to respond. It was hoped that such tools on the website would provide PCTs with means to target non-responding GPs more easily and thus secure a higher response rate.

SHAs and HPA users also had the option to access the data in geographical and barchart views by age-group, gender, PCT etc etc.. An anonymous comparison function was introduced in 2006/07. GPs were able to view a bar chart that details their practice in relation to other practices (anonymously) within the PCT. Similarly, PCTs were able to anonymously compare their uptake figures against other PCTs within their SHA and the SHAs were able to compare their uptake figures against other SHAs. Comparison bar charts were available for uptake rates by all age breakdown and gender so GPs were able to compare how well they were doing in each area.

An audit trail at the end of each survey form enabled the HPA and the DH to see who had entered the data (i.e. whether it was the GP, a PCT, or via an automatic data extraction) and whether or when any changes to the data were made.

A number of other website features were introduced in 2006/07. An additional function on the website called the News Item section was added. This section of the website replaced the bulletin as it enabled the HPA to put messages up, to be viewed by particular users, for a certain time period. The News Items enables users to be informed of information in a timely fashion and receive reminders of deadlines. It also holds a short Frequently Asked Questions (FAQ) item on common issues

When a large number of emails/calls were received on a certain topic, information was posted about this on the News Items, allowing a flexible approach to the provision of information and a reduction in the number of emails sent to PCTs.

In 2006/07, more information relating to the various extraction and upload methods was made available to practices. Several documents were posted up on the Information Portal about all the software companies and the services they offered.

Numerous website addresses, help desk numbers, related instructions on how to set up extraction tools etc. were included. There was substantially more communication between HPA, DH and these companies than in previous years, which made it easier to advise practices and PCTs on the options that were available to them. The Information Portal also contained general useful information including key correspondence between the HPA and PCT coordinators, links to websites (e.g. NHS Immunisation website), the CMO's letter, updated chapters of the Green Book and draft/finalised datasets, the GP/PCT User guides and manual survey forms.

## Results

### - Response Rates

All PCTs (n=152) in England responded to the survey and 7216 out of the 8439 (85.5%) practices participated (Table 1). Amongst the Strategic Health Authorities, the GP response rate ranged from 78.4% (West Midlands SHA) to 93.7% (East Midlands SHA), (Table 2).

The lowest GP response rate for a PCT was 6.7% (Swindon) whilst 58 (38.2%) PCTs achieved a 100% GP response, (Table 3).

The national response rate at 85.5% is higher than that achieved in 2005/06, when it was 84.4%. The actual number of practices providing data in 2006/07 increased by 59, whilst the total number of registered practices in 2006/07 decreased by 67. The increase in response rate is not as marked as that seen between 2004/05 and 2005/06. However, an upward trend in national response rate is clearly being maintained.

Table 1 provides a comparison of GP response rates in years 2004/05, 2005/06 and 2006/07. Whilst the overall response rate improved nationally, the percentage of PCTs achieving 100% GP response rate fell significantly from 48% (146 out of 303 PCTs) in 2005/06 to 38% (58 out of 152 PCTs) in 2006/07, (Tables 1 and 3, Figure 1). Six out of the ten SHAs achieved higher response rates in 2006/07 than in the previous year, (Figure 2). Map 1 gives a geographical representation of GP response rate for the 2006/07 pneumococcal survey by SHA.

GP practices did not need to provide data for each field if they chose to take part in the survey. There were three mandatory fields. Two parts of the survey were optional – data by gender and data by age breakdown. 61.8% of GPs who responded provided gender data and 62.0% of responding GPs gave data by the four specific age groups (aged 65 years only, 66 to 74 years, 75 to 79 years and 80 years and over).

Swindon PCT also had the lowest GP response rate for optional data. Only one out of their 30 practices (3.4%) provided information on gender and specific age bands. In comparison, three PCTs (Telford and Wrekin, Hartlepool and Darlington) achieved a 100% GP response for the optional datasets. In 2006/07, only 2274 GP practices out of the responding 7216 (31.5%) did not use any of the automated or semi-automated extraction options designed for their use.

## - **PPV Uptake Anytime On or Up Until 31/03/07**

The overall PPV uptake in those aged 65 years and over for vaccinations given anytime on or before 31<sup>st</sup> March 2007 was 66.6%, (Table 4). The median uptake was 68.0%, suggesting that the uptake data is slightly negatively skewed with more PCTs achieving PPV uptake greater than the mean (Table 4 and Figure 3).

Uptake for the 2006/07 survey was highest in those aged 75 to 79 years, at 76.0% (vaccinated anytime until the 31<sup>st</sup> March 2007). The data were requested with a greater breakdown of ages in 2006/07, to include 65 years only, though data have also been combined for comparison purposes in Table 4.

The SHA with the highest vaccination uptake anytime on or up until 31<sup>st</sup> March 2007 was North East SHA with a 70.7% uptake in the 65 years and over, compared to the lowest (59.2%) in London SHA, (Table 2, Figure 4). Figure 5 details the PPV uptake achieved in each SHA by age group (65 only, 66 to 74 years, 75 to 79 years and 80 years and over). Map 2 gives a geographical representation of PPV uptake anytime on or before 31<sup>st</sup> March by SHA.

Great Yarmouth and Waveney PCT achieved the highest uptake in the 65 years and over at 77.0% (anytime on or before 31<sup>st</sup> March 2007), however it is important to note that this figures is based on 63.0% of GPs in the PCTs. Southwark PCT achieved the lowest uptake at 31.8%, based on data provided by 97.9% of GPs in the PCT, (Table 3).

## - **PPV Uptake between 01/04/06 – 31/03/07**

The overall PPV uptake in those aged 65 years and over, between the 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007, was 6.5% - both the mean and the median (Table 1 and Figure 6). This is lower than the 26.2% achieved in 2005/06 (Table 4), though it is important to realise that this is not wholly unexpected given that this is a one-off vaccine.

Indeed, uptake was highest in this new cohort with 20.3% being vaccinated upon reaching 65 years of age. 7.7% of those aged 66 to 74 years were vaccinated, 4.5% of those aged 75 to 79 years and 3.1% of those aged 80 years and over (Table 4 and Figure 8).

The SHA with the highest vaccination uptake for vaccinations carried out between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 was London SHA with an overall uptake of 7.4% in those aged 65 years and over. In comparison, the lowest was Yorkshire and Humber SHA with an overall uptake of 5.7%, (Table 2, Figure 7). This comparatively low uptake rate may have arisen because Yorkshire and Humber had already vaccinated most of its patient population previous to 1<sup>st</sup> April 2006, so they had fewer people left to vaccinate in this season. Indeed uptake in Yorkshire and Humber SHA for vaccinations given anytime on or before 31<sup>st</sup> March 2007 SHA (69.6%) was joint second highest. Conversely, London SHA had the lowest overall vaccine uptake ever immunised, suggesting that they may have more available people to vaccinate and thus resulting in their high uptake rate for the period 1<sup>st</sup> April 2006 to 31<sup>st</sup> March 2007. Figure 8 details the PPV uptake achieved in each SHA by age breakdown (65 only, 66 to 74 years, 75 to 79 years and 80 years and over). Map 3 gives a geographical representation of PPV uptake in the last twelve months prior to 31<sup>st</sup> March 2007 by SHA.

City and Hackney PCT achieved the highest uptake for April 2006 to March 2007 in the 65 years and over with an uptake of 12.6%, based on data from 87.5% of GPs in the PCT. The lowest uptake seen at PCT level was 2.8%, in Peterborough PCT, with 100% of practices providing data, (Table 3). It is likely that the same situation in SHAs is manifesting in PCTs as well. With a 72.9% uptake in North Peterborough and 70.6% in South Peterborough by the end of March 2006, the low uptake between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 may be partly attributable to most people already having received the vaccine.

## **Gender**

2006/07 is the first year that data have been requested by gender. It has been introduced as an optional part of the survey, with mostly automated or semi-automated GP practices providing this information.

Uptake of PPV, both between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 and anytime on or before 31<sup>st</sup> March 2007, was lower for women at 6.3% and 69.8% respectively, compared to 6.7% and 71.8% for men, (Table 5). This data is based on a 61.7% response from GP practices.

### **- 2006/07 New Cohort: 65 Year Olds Only**

The option to provide data by specific age ranges has been available since 2005/06. In 2006/07, data were collected for the first time on the uptake of PPV in those born on or between 1<sup>st</sup> April 1941 to 31<sup>st</sup> March 1942. The national uptake rate for those aged 65 years vaccinated between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 was 20.3%, indicating that for the most part GP practices may not be actively targeting the newly turned 65 years of age cohort, (Table 4). In Hammersmith and Fulham, uptake between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 was 8.7% (based on data submitted by 41.9% of GP practices in the PCT), (Table 3).

The greatest uptake level between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 was 37.5% for Kingston PCT. However, this data was based on only one GP practice in the PCT (3.4%) and given that it is more than 10% higher than the uptake achieved in any other PCT, it is unlikely to be representative of the PCT on the whole. In fact, this singly high uptake rate will have caused the mean percentage for 65 year olds vaccinated between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 (20.3%) to be unduly elevated.

Similarly, the national average for 65 year olds vaccinated on or before 31<sup>st</sup> March 2007 will also be in reality lower than 39.7% (Table 4), due primarily to the same GP practice in Kingston with an uptake rate of 56.2%. The lowest uptake for this period of time was 21.5% (Hammersmith and Fulham, based on a 41.9% response rate), (Table 3).

## **Discussion**

The annual pneumococcal polysaccharide vaccine survey in the elderly is now in its fourth year. The web-based reporting system is functioning both efficiently and effectively with the survey having become established as a routine collection exercise.

Good communication via emails and telephone calls was maintained with PCTs in 2006/07, both before the survey commenced and during the actual collection. Timely reminders were sent to PCTs to disseminate to their GP practices about approaching deadlines. Response rates were closely monitored in relation to this. Those PCTs whose response rates remained significantly lower than the national average were contacted by telephone. It appeared that these PCTs had generally people who were new or temporary to the role of pneumococcal coordinator (e.g. due to maternity cover) and unsure of their responsibilities in collecting the data. Once these new PCT coordinators had been supplied with information, their GP response rates were seen to increase considerably. Swindon PCT, which was only PCT without an appointed pneumococcal coordinator, achieved the lowest response rate by over 20%. This indicates the value and importance of having survey coordinators within the PCT.

The national mean GP response rate at the end of the 2006/07 campaign for the population was 85.5%. This is the highest rate recorded since monitoring began in 2003. Greater publicity, ease of web-reporting and better awareness of survey now that it is well-established will have all contributed to this increase in response rate. The availability and use of fully automated and semi-automated data extraction and entry has increased significantly through the years. Response rates will almost undoubtedly have benefited from this and emphasises the importance of more practices utilising this technology. Automated collection also significantly reduced the burden on practices and PCTs having to extract and collate the data themselves. It is evident that these automated options are especially useful in generating higher responses in the optional sections of the survey. Both the gender and age breakdowns by their very nature require data to be provided in more detail than that of the mandatory fields. It is understood that without purpose-built queries to extract the data, practices struggle to readily pull out the relevant data themselves, resulting in lower response rates. The DH and HPA continue to work with GP software suppliers in order to extend automated extraction options for practices. Since some suppliers have indicated that they would only introduce such options if there is obvious customer demand, both GP practices and PCTs have been encouraged to make their wishes known to suppliers as well. It is therefore hoped that the use of automated and semi-automated becomes even more widespread in future campaigns, leading to further increases in the overall response rates and, in particular, the response rates for the optional sections of the survey.

There was one notable technical problem associated with web-based data reporting which may have affected response rates (both mandatory and optional) in 2006/07. Shortly before the 2006/07 survey began, the HPI website changed service suppliers. As a result, the site address changed from <http://vax.nhs.uk> to <http://www.vax.dh.gov.uk> for internet users or <http://nww.vax.dh.nhs.uk> for N3 NHSNet connectivity users. PCT coordinators were informed of the move by email and were requested to disseminate the information to their GP practices. It was nevertheless evident when the survey began that not all practice managers had been made aware of the website change.

Some PCTs and GP Practices also experienced problems accessing the HPI website using <http://nww.vax.dh.nhs.uk>. An error with the proxy server that deals with traffic for this URL was identified that rejected traffic from certain types of users and resolved shortly afterwards. The "NWW" access problem proved to be a particular problem for CHART users trying to submit data as the CHART query had hard-coded the "NWW" URL. As a workaround, a method was devised to change a setting in CHART to use the internet "WWW" URL instead. Information relating to

this technical issue was posted on the News Items. It is possible that practices were dissuaded from providing information on account of these technical problems. Certainly the number of practices submitting data through by Auto Upload by CHART (174) seems quite low. It is also surprising that no practices used the auto upload extracted from a QMS system or Leicester PCAG systems in 2006/07. It has since been agreed that the internet address ([www.vax.dh.gov.uk](http://www.vax.dh.gov.uk)) will continue to be used for building the CHART query string to ensure this problem does not reoccur. CHART remains an important and popular convenience in data entry for many practices nationally.

Ideally, all patients above the age of 66 years would already have received the vaccine, so the only vaccines administered would be for the cohort of newly turned 65 year olds. In 2006/07 the highest coverage achieved was 76.0% for the age group 75 to 79 year olds and most crucially, only 39.7% of the new cohort of 65 year olds has been vaccinated. These data indicate that PCTs and GP practices are not specifically targeting the newly turned 65 year olds for PPV vaccine or that this age group was declining pneumococcal vaccination. In all the age-ranges, PPV uptake in the 12 month period 2006/07 is lower than that achieved in 2005/06. This trend is not confined to figures at a national level, but rather is expressed across all Strategic Health Authorities. Most importantly, the significant decrease in the percentage of 65 year olds and 66 to 74 year olds vaccinated in 2006/07 (20.3 and 7.7% respectively, compared to 38.1% for 65 to 74 year olds in 2005/06) is disappointing. It is important to note that when monitoring uptake of a one-off vaccine, it is to be expected that the number of people requiring immunisation each year will decrease and eventually plateau.

It was also noted that uptake of PPV by women was lower, both between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 (6.3%) and anytime on or before 31<sup>st</sup> March 2007 (69.8%), than men (6.7% and 71.8% respectively). The denominator for the female registered population was recorded to be greater than that for the male population. There is evidence of gender differences in vaccine uptake rate for other vaccines, particularly for the Influenza vaccine.<sup>3, 4</sup> Equally, however, there are also reports which have also found no connection between the two.<sup>5</sup> The reports which concluded that gender was a factor in vaccine uptake reported that vaccination uptake was significantly lower among women than men. It is hoped that the provision of data by gender will prove especially useful in evaluating the success of the vaccine uptake in terms of men and women for future campaigns. The 2006/07 campaign was the first time such data have been collected.

## Conclusions

The Health Protection Informatics Website continued to be a successful means for monitoring PPV uptake in primary care, as demonstrated by the continual increase in GP practice response rates throughout the years. Practices seem to be familiar with the monitoring system now that they have previous experience to draw on and most logistical problems have already been smoothed out.

The figures detailing the actual uptake of pneumococcal polysaccharide vaccine are also encouraging. The overall success of the pneumococcal campaign in the elderly is reflected in the mostly high levels of coverage achieved. In terms of vaccine uptake success by age group, the 75 to 79 year old had the most extensive coverage at 76.0%, whilst the greatest uptake rate, excluding the new 65 years cohort, was for the 66 to 74 year olds at 7.7% vaccinated between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March

2007. Since the final phase of the three step implementation of the policy to vaccinate all those aged 65 years and older took place in 2005/06, it is hoped that in future years GP practices will be able to concentrate on the incoming cohort of newly turned 65 year olds in that year. It is evident whilst that there has been a good coverage of the current cohort of 66 to 74 year olds, the 2006/07 65 year olds cohort was not especially targeted for vaccination at 20.3%.

In 2006/07, two more optional aspects were included in the survey: data by gender breakdown and data on the new cohort of 65 year olds. The response rate from GP practices was 61.8% and 62.0% respectively, which is largely attributable to automated extraction and submission. Considerable efforts are now being put into extending these fully automated or semi-automated options for future campaigns in order to further increase response rates.

## **Recommendations**

One of the many reasons that conducting the pneumococcal polysaccharide vaccine survey through the HPI website is superior to using paper returns is that the website allows the survey process to be automated or at least semi-automated for an increasingly large proportion of GP practices. The ease of web-reporting has certainly increased response rates. Indeed it is in the interest of all parties involved in the survey for the options available for automated extraction and submission to be extended. It is recommended that where possible non-automated GP practices and their PCTs inform software suppliers of their desire for more automated and semi-automat extraction methods to be introduced in support of Cabinet Office guidelines, which recommend that data transfers between the Government and the NHS should be web based.

It is hoped that through publicising the availability of automated options, improving the availability of these data collection options and working alongside our PCT coordinators to promote this survey, the numbers of GPs participating in future surveys will continue to rise. After the campaign closed, all 152 PCTs were contacted to update the details of their pneumococcal coordinators. It became evident that many of those listed within in the HPI system had long since moved on to different roles, some of them doing so without being replaced. By focusing attention on this immediately after the survey closed, it was hoped that PCTs would be more motivated to address this issue and certainly have had enough time to resolve it before the next campaign. PCTs with the lowest response rates were often those where the pneumococcal coordinators were unaware of their role, inexperienced or not present. For new comers to the role, it has been made known that the Vaccine Tracking Officer is most willing to provide advice or information it be required. The Information Portal on the HPI website is also a valuable source of information, containing extensive documents relating to the survey, including the GP and PCT user guides and the CMO letter. It has been reiterated to all PCTs that having a pneumococcal coordinator in post is vital to the success of surveys.

**Table 1: Comparison of GP response rates for 2004/05, 2005/06 and 2006/07**

	2006/07	2005/06	2004/05
Number of PCTs that provided data / total 152 PCTs (%)	152/152 (100%)	303/303 (100%)	292/303 (70.0%)
Total number of GPs	8439	8503	8655
Total number of GPs providing data	7216	7157	7096
<b>GP response rate (%)</b>	<b>85.5%</b>	<b>84.2%</b>	<b>81.9%</b>
Lowest GP response rate from a PCT	6.7%	6.7%	0.0%
Highest GP response rate from a PCT	100%	100%	100%
Number of PCTs achieving 0% GP response rate / total (%)	0%	0 (0%)	13 (4%)
Number of PCTs achieving 100% GP response rate / total (%)	58 (38%)	146 (48%)	143 (47%)

**Table 2: PPV Uptake in the 65s years and over and GP response rate by SHA for 2006/07**

SHA NAME	% Patients aged 65 years or over		% GP Response Rate
	Vaccinated between 1st April 2006 and 31st Mar 2007	Vaccinated anytime up until the 31st March 2007	
East Midlands SHA	6.2	66.0	93.7
London SHA	7.4	59.2	88.4
NHS East of England	6.4	64.8	86.3
North East SHA	6.2	70.7	89.2
North West SHA	6.5	68.3	84.0
South Central SHA	6.8	66.7	89.9
South East Coast SHA	5.8	69.6	80.4
South West SHA	7.0	68.9	82.0
West Midlands SHA	6.5	66.0	78.4
Yorkshire and The Humber SHA	5.7	69.6	86.5
<b>ENGLAND</b>	<b>6.5</b>	<b>66.6</b>	<b>85.5</b>

**Table 3: PPV Uptake in the 65 years and over and GP response rate by PCT for 2006/07**

PCT Name	Population 65 and Over	Vaccinated between 1st April 2006 and 31st Mar 2007		Vaccinated anytime up until the 31st March 2007		Number of responding practices	Number of practices	% GP Response Rate
		Number of patients	Total % Uptake	Number of patients	Total % Uptake			
ASHTON, LEIGH AND WIGAN PCT	47016	3585	7.6	30820	65.6	62	62	100.0
BARKING AND DAGENHAM PCT	27056	3038	11.2	12049	44.5	44	44	100.0
BARNET PCT	48112	4202	8.7	32056	66.6	74	76	97.4
BARNSELEY PCT	37463	2762	7.4	25470	68.0	42	43	97.7
BASSETLAW PCT	18201	1154	6.3	13403	73.6	12	12	100.0
BATH AND NORTH EAST SOMERSET PCT	32152	2178	6.8	21734	67.6	26	28	92.9
BEDFORDSHIRE PCT	64494	4840	7.5	43004	66.7	55	57	96.5
BERKSHIRE EAST PCT	49799	3183	6.4	35991	72.3	53	53	100.0
BERKSHIRE WEST PCT	52349	4686	9.0	37843	72.3	44	54	81.5
BEXLEY CARE TRUST (PCT based)	10540	849	8.1	7234	68.6	10	35	28.6
BIRMINGHAM EAST & NORTH PCT	55877	3999	7.2	32434	58.0	48	84	57.1
BLACKBURN WITH DARWEN PCT	17112	848	5.0	11987	70.1	24	32	75.0
BLACKPOOL PCT	19094	1514	7.9	12425	65.1	17	24	70.8
BOLTON PCT	35559	1962	5.5	23548	66.2	47	57	82.5
BOURNEMOUTH & POOLE PCT	66127	4163	6.3	49947	75.5	44	44	100.0
BRADFORD & AIREDALE PCT	69562	4685	6.7	49204	70.7	87	87	100.0
BRENT TEACHING PCT	22651	1705	7.5	15749	69.5	44	74	59.5
BRIGHTON AND HOVE CITY PCT	37963	2633	6.9	25931	68.3	47	47	100.0
BRISTOL PCT	62074	3021	4.9	34434	55.5	47	59	79.7
BROMLEY PCT	52969	4393	8.3	34150	64.5	50	50	100.0
BUCKINGHAMSHIRE PCT	73569	4330	5.9	31839	43.3	33	59	55.9
BURY PCT	28086	1423	5.1	17909	63.8	33	34	97.1
CALDERDALE PCT	30545	1759	5.8	20563	67.3	29	29	100.0
CAMBRIDGESHIRE PCT	85371	5028	5.9	62325	73.0	69	77	89.6
CAMDEN PCT	18334	1747	9.5	11475	62.6	34	45	75.6
CENTRAL & EASTERN CHESHIRE PCT	77278	3659	4.7	57312	74.2	52	52	100.0
CENTRAL LANCASHIRE PCT	51410	3525	6.9	34334	66.8	58	90	64.4
CITY AND HACKNEY TEACHING PCT	17907	2254	12.6	11600	64.8	42	48	87.5
CORNWALL & ISLES OF SCILLY PCT	106266	9006	8.5	68467	64.4	72	74	97.3
COUNTY DURHAM PCT	82831	4206	5.1	55508	67.0	71	75	94.7

**Table 3: PPV Uptake in the 65 years and over and GP response rate by PCT for 2006/07**

PCT Name	Population 65 and Over	Vaccinated between 1st April 2006 and 31st Mar 2007		Vaccinated anytime up until the 31st March 2007		Number of responding practices	Number of practices	% GP Response Rate
		Number of patients	Total % Uptake	Number of patients	Total % Uptake			
COVENTRY TEACHING PCT	47371	2947	6.2	30724	64.9	58	63	92.1
CROYDON PCT	46045	3777	8.2	30073	65.3	64	65	98.5
CUMBRIA PCT	90613	5488	6.1	60896	67.2	84	97	86.6
DARLINGTON PCT	16983	1087	6.4	12173	71.7	11	11	100.0
DERBY CITY PCT	44607	2468	5.5	31855	71.4	35	35	100.0
DERBYSHIRE COUNTY PCT	126799	6955	5.5	87125	68.7	98	98	100.0
DEVON PCT	109719	7214	6.6	76633	69.8	73	115	63.5
DONCASTER PCT	32474	2229	6.9	21204	65.3	27	46	58.7
DORSET PCT	92877	6847	7.4	66002	71.1	59	59	100.0
DUDLEY PCT	54632	3224	5.9	36904	67.6	56	56	100.0
EALING PCT	30852	2274	7.4	20171	65.4	63	83	75.9
EAST & NORTH HERTFORDSHIRE PCT	101475	5503	5.4	55108	54.3	56	62	90.3
EAST LANCASHIRE PCT	53490	3241	6.1	35892	67.1	49	65	75.4
EAST RIDING OF YORKSHIRE PCT	60026	2746	4.6	41078	68.4	38	38	100.0
EAST SUSSEX DOWNS & WEALD PCT	72542	5085	7.0	51274	70.7	45	45	100.0
EASTERN & COASTAL KENT PCT	75240	3584	4.8	51686	68.7	56	117	47.9
ENFIELD PCT	28270	1874	6.6	14886	52.7	34	63	54.0
GATESHEAD PCT	34617	2657	7.7	24857	71.8	33	33	100.0
GLOUCESTERSHIRE PCT	96394	7027	7.3	70363	73.0	75	84	89.3
GREAT YARMOUTH & WAVENEY PCT	31113	2335	7.5	23946	77.0	17	27	63.0
GREENWICH TEACHING PCT	27041	2518	9.3	16151	59.7	46	46	100.0
HALTON & ST. HELENS PCT	36882	2452	6.6	25441	69.0	37	54	68.5
HAMMERSMITH AND FULHAM PCT	26657	1173	4.4	10656	40.0	31	31	100.0
HAMPSHIRE PCT	226889	16956	7.5	153919	67.8	143	148	96.6
HARINGEY TEACHING PCT	21683	1797	8.3	13445	62.0	47	61	77.0
HARROW PCT	24945	1461	5.9	17540	70.3	33	40	82.5
HARTLEPOOL PCT	15028	1071	7.1	10064	67.0	16	16	100.0
HASTINGS & ROTHER PCT	39643	2368	6.0	29505	74.4	34	34	100.0
HAVERING PCT	42712	2235	5.2	27934	65.4	52	52	100.0
HEART OF BIRMINGHAM TEACHING PCT	30786	2484	8.1	16109	52.3	66	76	86.8

**Table 3: PPV Uptake in the 65 years and over and GP response rate by PCT for 2006/07**

PCT Name	Population 65 and Over	Vaccinated between 1st April 2006 and 31st Mar 2007		Vaccinated anytime up until the 31st March 2007		Number of responding practices	Number of practices	% GP Response Rate
		Number of patients	Total % Uptake	Number of patients	Total % Uptake			
HEREFORDSHIRE PCT	41783	1730	4.1	24157	57.8	22	25	88.0
HEYWOOD, MIDDLETON & ROCHDALE PCT	29852	2625	8.8	19258	64.5	35	35	100.0
HILLINGDON PCT	34974	2399	6.9	22801	65.2	51	51	100.0
HOUNSLOW PCT	27900	2208	7.9	18833	67.5	59	59	100.0
HULL PCT	40813	1812	4.4	27760	68.0	56	56	100.0
ISLE OF WIGHT HEALTHCARE PCT	24899	1385	5.6	18039	72.4	14	17	82.4
ISLINGTON PCT	19259	1458	7.6	11084	57.6	42	43	97.7
KENSINGTON AND CHELSEA PCT	28061	1574	5.6	11386	40.6	40	43	93.0
Kingston PCT	20979	1263	6.0	15876	75.7	28	29	96.6
KIRKLEES PCT	30329	2006	6.6	19818	65.3	38	76	50.0
KNOWSLEY PCT	22066	1907	8.6	15558	70.5	28	29	96.6
LAMBETH PCT	19555	2113	10.8	11655	59.6	34	53	64.2
LEEDS PCT	79506	5269	6.6	58183	73.2	79	113	69.9
LEICESTER CITY PCT	30040	2063	6.9	20849	69.4	44	63	69.8
LEICESTERSHIRE COUNTY & RUTLAND PCT	107477	6103	5.7	65614	61.0	72	84	85.7
LEWISHAM PCT	26948	2311	8.6	16095	59.7	45	50	90.0
LINCOLNSHIRE PCT	154708	8885	5.7	89302	57.7	94	102	92.2
LIVERPOOL PCT	67702	4444	6.6	42281	62.5	100	100	100.0
LUTON PCT	27625	1138	4.1	13776	49.9	29	33	87.9
MANCHESTER PCT	57687	4064	7.0	41200	71.4	103	103	100.0
MEDWAY PCT	36508	2546	7.0	26491	72.6	67	67	100.0
MID ESSEX PCT	55855	3545	6.3	39393	70.5	50	50	100.0
MIDDLESBROUGH PCT	18427	1914	10.4	12741	69.1	16	22	72.7
MILTON KEYNES PCT	24645	1938	7.9	18395	74.6	27	27	100.0
NEWCASTLE PCT	35822	1753	4.9	25982	72.5	34	37	91.9
NEWHAM PCT	22895	1558	6.8	15170	66.3	65	66	98.5
NORFOLK PCT	121274	7474	6.2	78902	65.1	67	91	73.6
NORTH EAST ESSEX PCT	51824	4936	9.5	31353	60.5	37	44	84.1
NORTH EAST LINCOLNSHIRE PCT	28222	1229	4.4	19426	68.8	33	33	100.0
NORTH LANCASHIRE PCT	55214	4404	8.0	41342	74.9	31	39	79.5

**Table 3: PPV Uptake in the 65 years and over and GP response rate by PCT for 2006/07**

PCT Name	Population 65 and Over	Vaccinated between 1st April 2006 and 31st Mar 2007		Vaccinated anytime up until the 31st March 2007		Number of responding practices	Number of practices	% GP Response Rate
		Number of patients	Total % Uptake	Number of patients	Total % Uptake			
NORTH LINCOLNSHIRE PCT	27890	1736	6.2	20084	72.0	21	21	100.0
NORTH SOMERSET PCT	40888	2729	6.7	26998	66.0	23	28	82.1
NORTH STAFFORDSHIRE PCT	31018	1604	5.2	19975	64.4	28	35	80.0
NORTH TEES PCT	15690	980	6.2	11578	73.8	14	27	51.9
NORTH TYNESIDE PCT	36290	2025	5.6	25381	69.9	30	30	100.0
NORTH YORKSHIRE & YORK PCT	144009	8150	5.7	107080	74.4	102	102	100.0
NORTHAMPTONSHIRE PCT	106485	7230	6.8	67976	63.8	83	83	100.0
NORTHUMBERLAND CARE TRUST (PCT base)	56424	3577	6.3	40985	72.6	45	51	88.2
NOTTINGHAM CITY PCT	39394	2936	7.5	27948	70.9	61	62	98.4
NOTTINGHAMSHIRE COUNTY PCT	110434	7618	6.9	82831	75.0	96	96	100.0
OLDHAM PCT	29927	2423	8.1	19525	65.2	45	46	97.8
OXFORDSHIRE PCT	93295	5608	6.0	69767	74.8	82	82	100.0
PETERBOROUGH PCT	38881	1087	2.8	15820	40.7	28	28	100.0
PLYMOUTH TEACHING PCT	41306	2678	6.5	30172	73.0	44	45	97.8
PORTSMOUTH CITY TEACHING PCT	21680	1320	6.1	15274	70.5	22	29	75.9
REDBRIDGE PCT	32720	2066	6.3	21375	65.3	50	50	100.0
REDCAR & CLEVELAND PCT	24580	1839	7.5	17266	70.2	22	22	100.0
RICHMOND AND TWICKENHAM PCT	23258	1277	5.5	16402	70.5	31	31	100.0
ROTHERHAM PCT	40919	2645	6.5	30227	73.9	37	39	94.9
SALFORD PCT	21202	1814	8.6	15553	73.4	37	60	61.7
SANDWELL PCT	41667	3637	8.7	26162	62.8	49	63	77.8
SEFTON PCT	53489	3366	6.3	31433	58.8	47	55	85.5
SHEFFIELD PCT	83632	3954	4.7	51080	61.1	78	94	83.0
SHROPSHIRE COUNTY PCT	56785	3702	6.5	40335	71.0	44	44	100.0
SOLIHULL CARE TRUST (PCT Based)	37098	2523	6.8	27475	74.1	31	31	100.0
SOMERSET PCT	71742	4955	6.9	52324	72.9	49	75	65.3
SOUTH BIRMINGHAM PCT	30623	1946	6.4	21160	69.1	34	64	53.1
SOUTH EAST ESSEX PCT	31712	2000	6.3	19388	61.1	48	73	65.8
SOUTH GLOUCESTERSHIRE PCT	48653	2987	6.1	28435	58.4	28	28	100.0
SOUTH STAFFORDSHIRE PCT	66586	4142	6.2	45709	68.6	62	96	64.6

**Table 3: PPV Uptake in the 65 years and over and GP response rate by PCT for 2006/07**

PCT Name	Population 65 and Over	Vaccinated between 1st April 2006 and 31st Mar 2007		Vaccinated anytime up until the 31st March 2007		Number of responding practices	Number of practices	% GP Response Rate
		Number of patients	Total % Uptake	Number of patients	Total % Uptake			
SOUTH TYNESIDE PCT	26980	1543	5.7	19917	73.8	29	29	100.0
SOUTH WEST ESSEX PCT	60950	3261	5.4	41499	68.1	83	83	100.0
SOUTHAMPTON CITY PCT	44145	2138	4.8	26782	60.7	37	37	100.0
SOUTHWARD PCT	39691	2238	5.6	12636	31.8	47	48	97.9
STOCKPORT PCT	19884	1627	8.2	14443	72.6	23	54	42.6
STOKE ON TRENT PCT	45237	3250	7.2	29736	65.7	56	56	100.0
SUFFOLK PCT	83289	6728	8.1	56173	67.4	51	69	73.9
SUNDERLAND TEACHING PCT	36607	2068	5.6	26520	72.4	42	54	77.8
SURREY PCT	142070	8295	5.8	96181	67.7	100	140	71.4
SUTTON AND MERTON PCT	46017	3065	6.7	31887	69.3	49	55	89.1
SWINDON PCT	2896	140	4.8	2088	72.1	2	30	6.7
TAMESIDE AND GLOSSOP PCT	33855	2566	7.6	25145	74.3	40	40	100.0
TELFORD AND WREKIN PCT	21989	1310	6.0	14497	65.9	22	22	100.0
TORBAY CARE TRUST (PCT Based)	30272	3113	10.3	21537	71.1	20	26	76.9
TOWER HAMLETS PCT	17544	2042	11.6	11788	67.2	36	36	100.0
TRAFFORD PCT	14999	786	5.2	10411	69.4	20	47	42.6
WAKEFIELD DISTRICT PCT	53626	2148	4.0	37245	69.5	40	40	100.0
WALSALL TEACHING PCT	11690	719	6.2	7483	64.0	18	65	27.7
WALTHAM FOREST PCT	30768	2013	6.5	17269	56.1	57	57	100.0
WANDSWORTH PCT	58651	3075	5.2	19353	33.0	48	49	98.0
WARRINGTON PCT	32419	2066	6.4	20757	64.0	27	29	93.1
WARWICKSHIRE PCT	87016	6252	7.2	62427	71.7	70	75	93.3
WEST CHESHIRE PCT	44285	1934	4.4	32042	72.4	37	38	97.4
WEST ESSEX PCT	44831	2594	5.8	31340	69.9	40	40	100.0
WEST HERTFORDSHIRE PCT	75323	5230	6.9	54364	72.2	61	67	91.0
WEST KENT PCT	95322	5709	6.0	68240	71.6	84	104	80.8
WEST SUSSEX PCT	151231	7731	5.1	103426	68.4	89	95	93.7
WESTMINSTER PCT	22682	1832	8.1	14715	64.9	50	50	100.0
WILTSHIRE PCT	76554	5333	7.0	55690	72.7	59	62	95.2
WIRRAL PCT	56646	3452	6.1	40106	70.8	58	60	96.7
WOLVERHAMPTON CITY PCT	26838	1892	7.0	17673	65.9	37	57	64.9
WORCESTERSHIRE PCT	105432	5902	5.6	70433	66.8	67	67	100.0
<b>ENGLAND TOTAL</b>	<b>7617037</b>	<b>494074</b>	<b>6.5</b>	<b>5076600</b>	<b>66.6</b>	<b>7216</b>	<b>8436</b>	<b>85.5</b>
mean	1639739	102052	6.2	1093803	66.7	1499	1781	84.2
min	2896	140	4	2088	31.8	2	22	6.7
max	151231	8295	11.6	103426	74.3	100	140	100
median	44215	2402	6.05	26651	68.85	44.5	54	95.95

**Table 4: PPV Uptake by age group in 2006/07 compared to 2005/06**

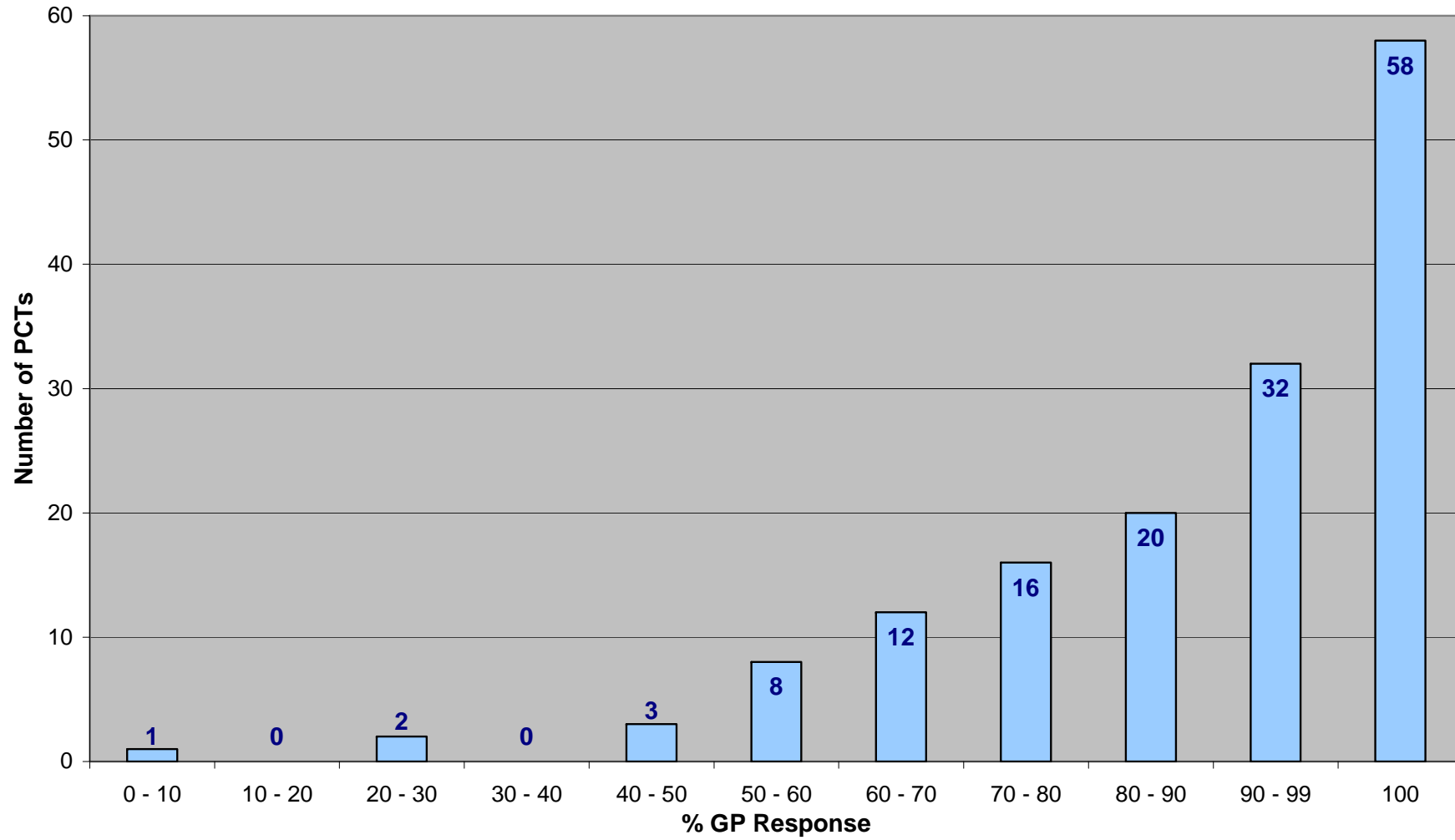
		% PPV Uptake				
		65 years and over	65 to 74 years	75 to 79 years	80 years and over	65 years only
Vaccinated between 01/04/06 and 31/05/07	mean	6.5	9.0	4.5	3.1	20.3
	range	2.8 - 12.6	4.3 - 37.5	1.6 - 11.7	1.1 - 8.7	8.7 - 37.5
	median	6.5	n/a	4.5	2.9	19.6
Vaccinated between 01/04/05 and 31/05/06	mean	26.2	38.1	20.6	9.5	n/a
	range	6.0 - 40.9	15.1 - 59.3	3.4 - 41.5	1.3 - 24.4	n/a
	median	27.4	39	21.5	9.6	n/a

		% PPV Uptake				
		65 years and over	65 to 74 years	75 to 79 years	80 years and over	65 years only
Vaccinated anytime up until the 31st March 2007	mean	66.7	66.5	76.0	74.5	39.7
	range	30.2 - 77.0	21.5 - 86.7	49.8 - 89.2	36.0 - 82.9	21.5 - 56.3
	median	68.0	n/a	75.8	74.4	39.2
Vaccinated anytime up until the 31st March 2006	mean	64.4	62.4	68.8	68.1	n/a
	range	12.1 - 79.0	24.0 - 77.7	9.1 - 82.6	8.1 - 82	n/a
	median	66.9	63.2	71.9	71.4	n/a

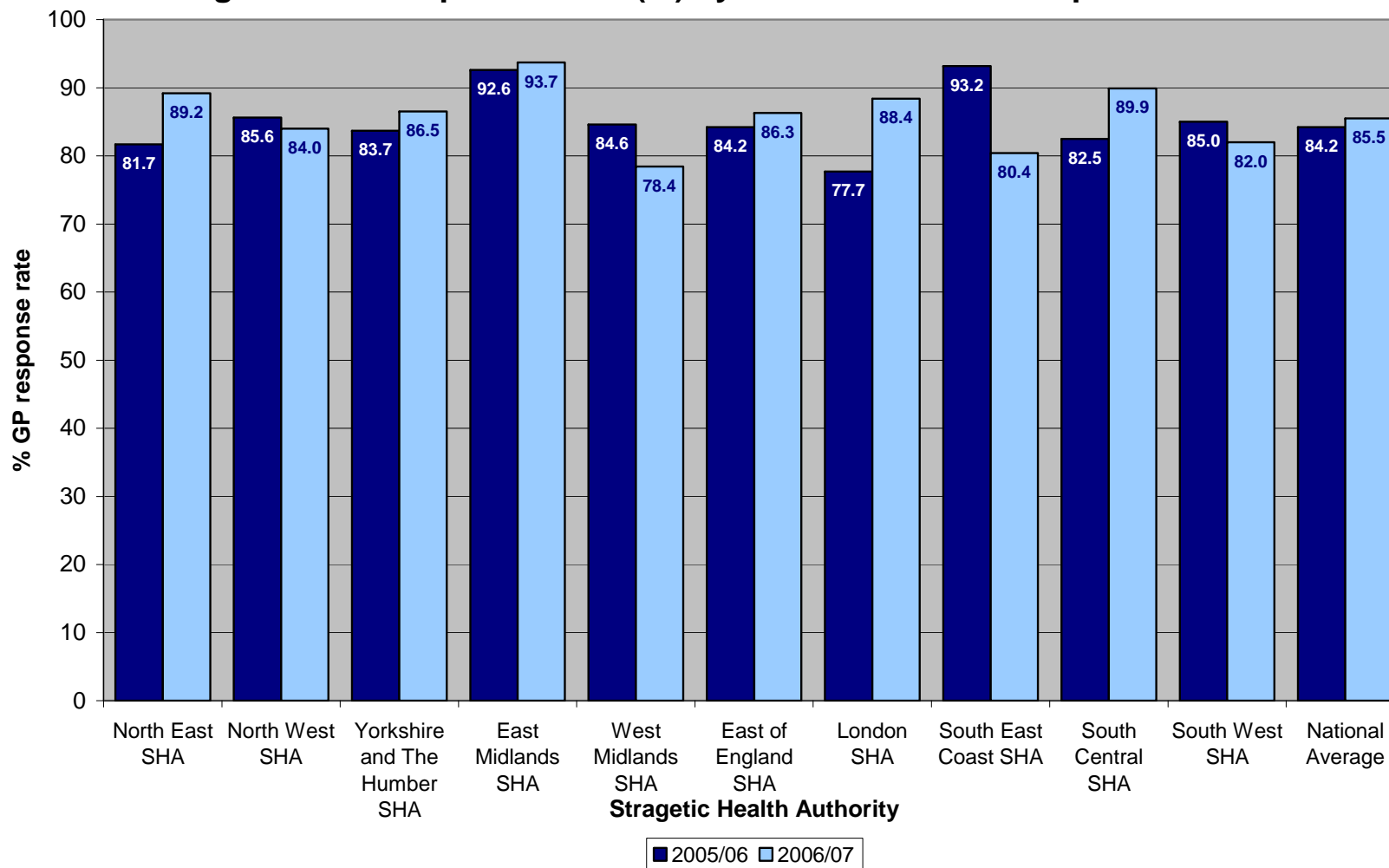
**Table 5: PPV Uptake in the 65 years and over by gender in 2006/07**

	Male	Female
Total number of patients	2344136	3009942
Number vaccinated between 1st April 2006 and 31st Mar 2007	156699	189517
<b>% Uptake between 1st April 2006 and 31st March 2007</b>	<b>6.7</b>	<b>6.3</b>
Number vaccinated anytime up until the 31st March 2007	1683475	2100133
<b>Uptake upto until the 31st March 2007</b>	<b>71.8</b>	<b>69.8</b>
Number of practices completing this field	5212	
Total number of practices	8436	
% of responding practices providing data by gender	61.8	

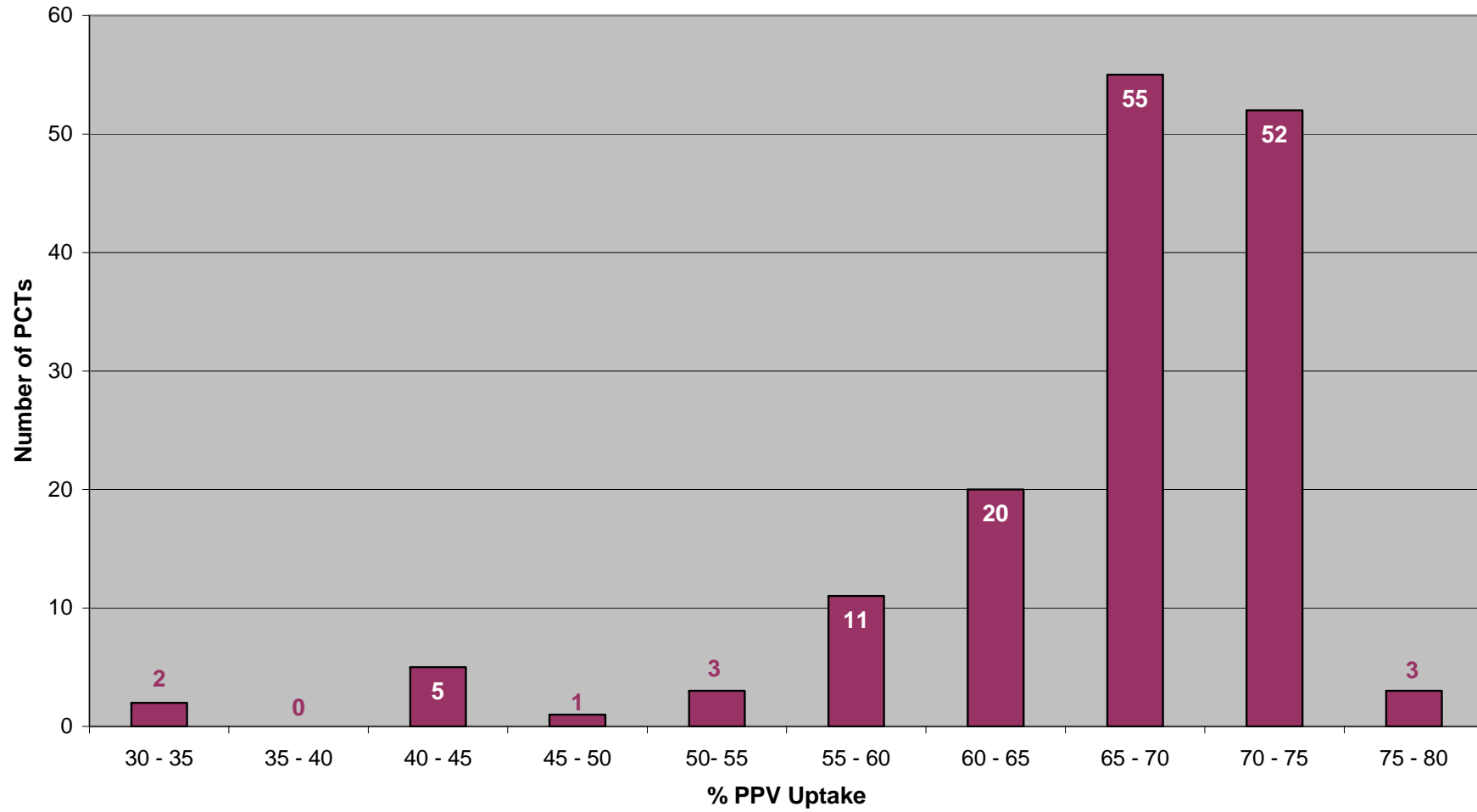
**Figure 1: Distribution of GP response rates (%) by PCT in 2006/07**



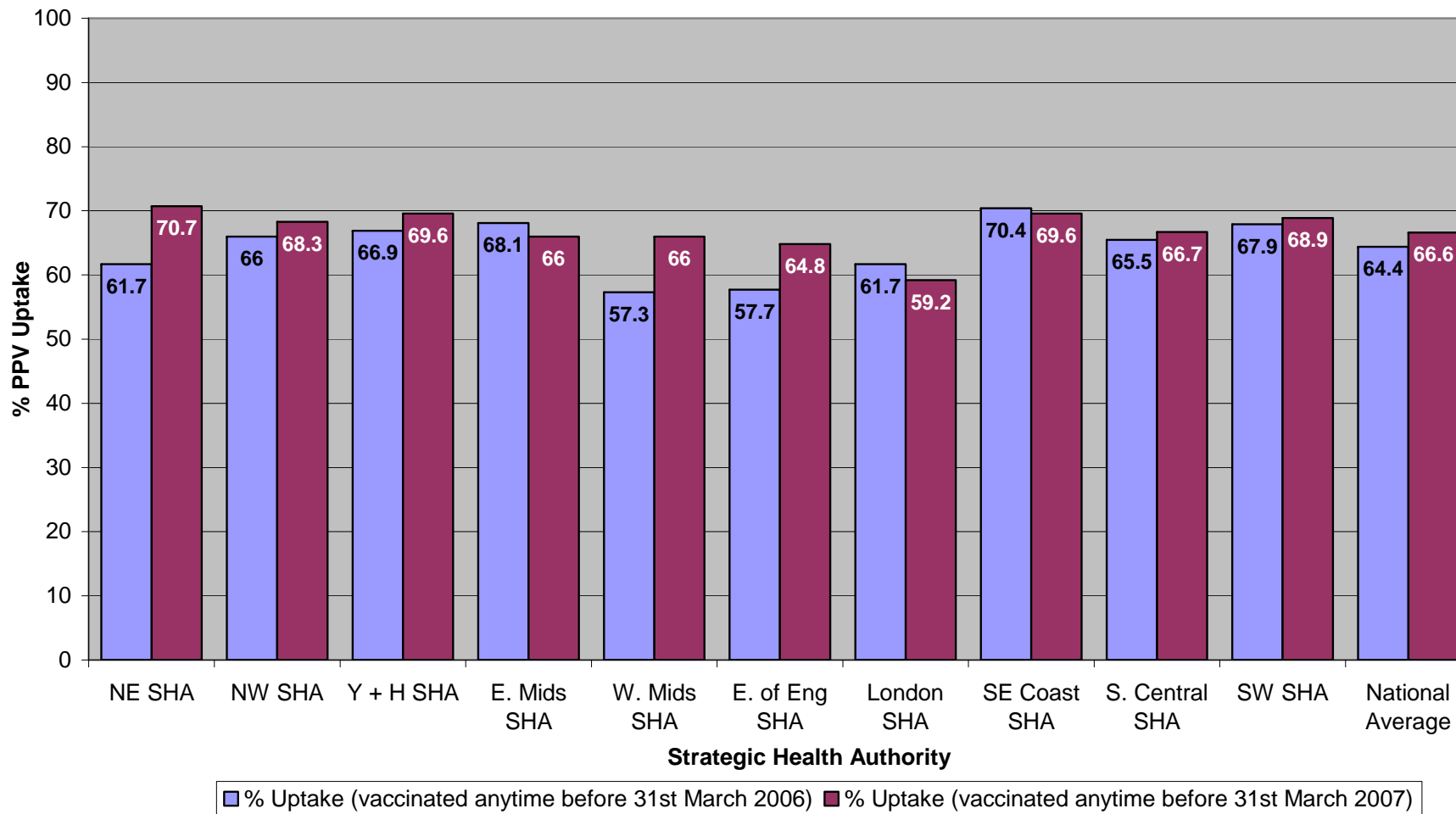
**Figure 2: GP response rates (%) by SHA for 2006/07 compared to 2005/06**



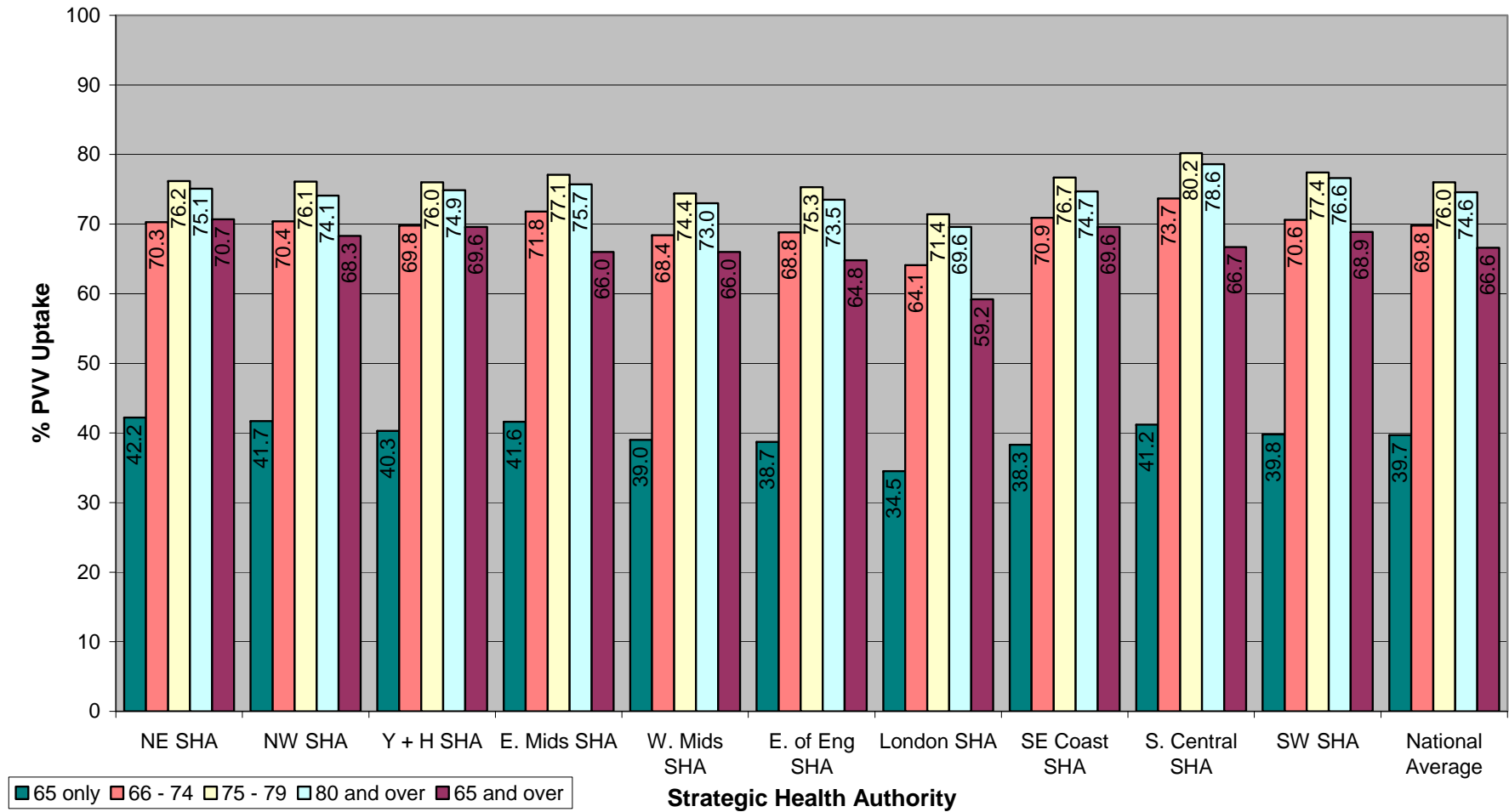
**Figure 3: Distribution of PPV Uptake anytime on or up until 31st March 2007 by PCT**



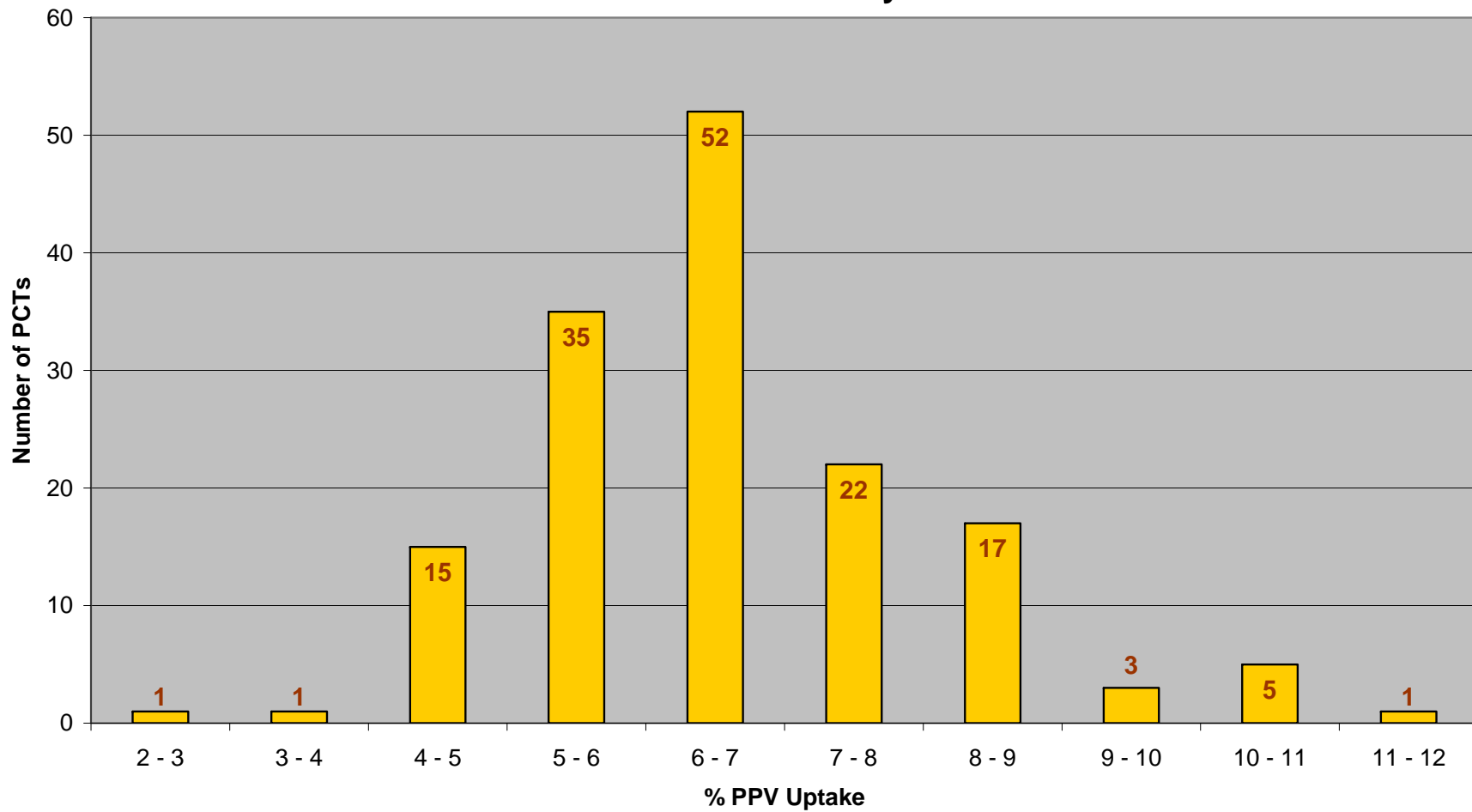
**Figure 4: PPV Uptake by SHA anytime on or up until 31st March 2006/07 compared to anytime on or up until 31st March 2005/06**



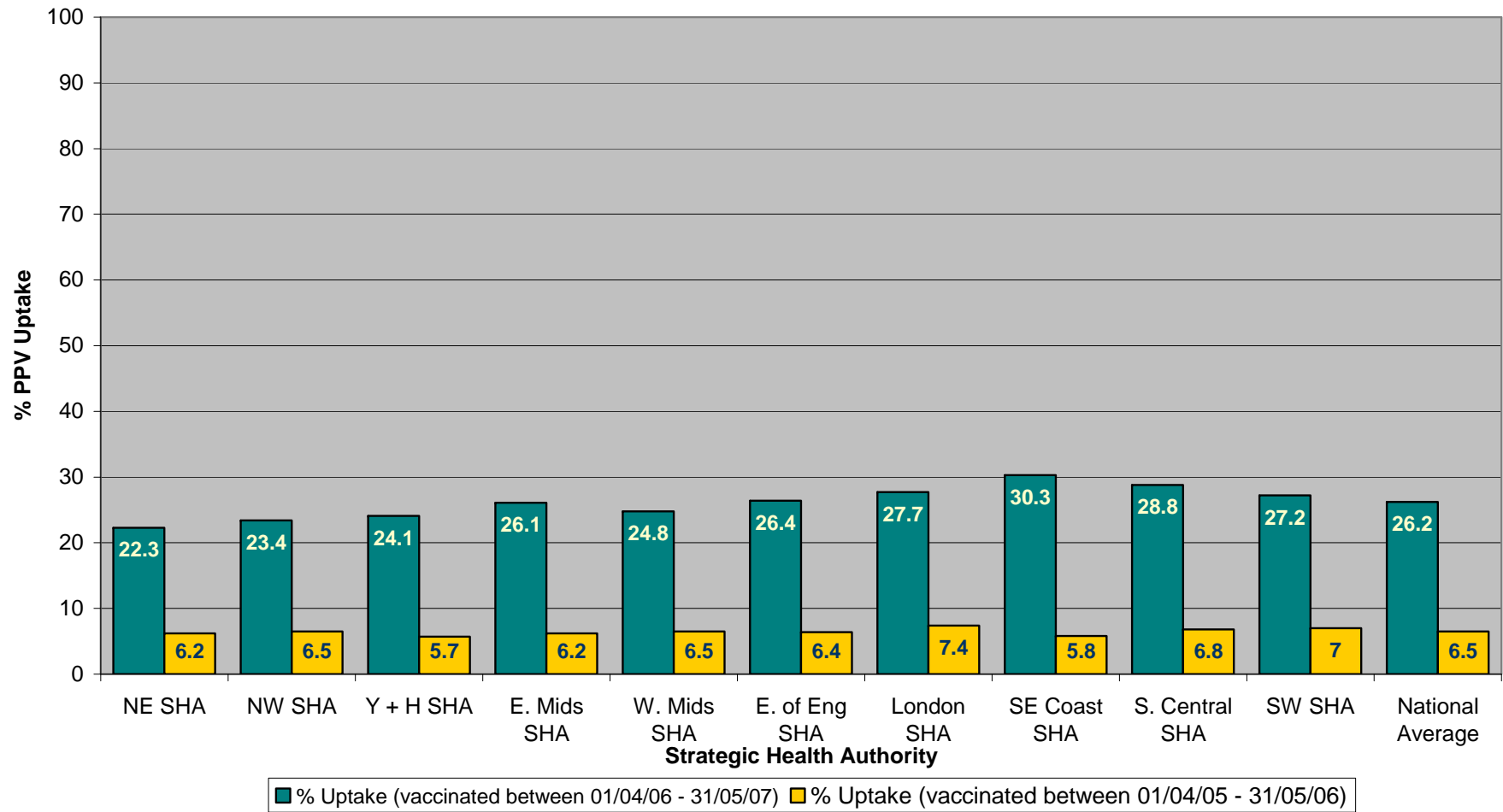
**Figure 5: PPV Uptake anytime on or up until 31st March 2007  
by age group and SHA**



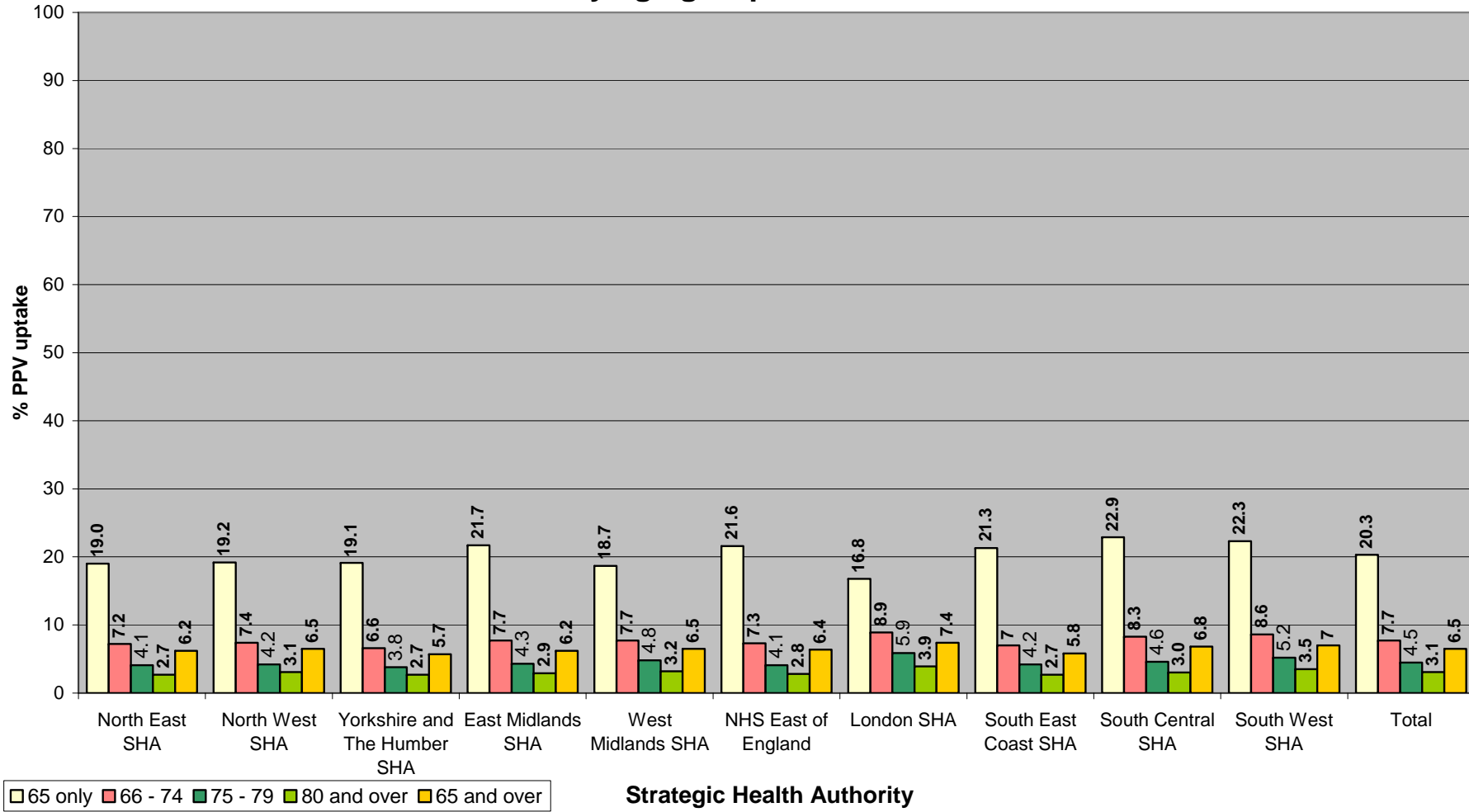
**Figure 6: Distribution of PPV Uptake between 1st April 2006 and 31st March 2007 by PCT**



**Figure 7: PPV Uptake by SHA for 1st April 2006 to 31st March 2007 compared to 1st April 2005 to 31st March 2006**



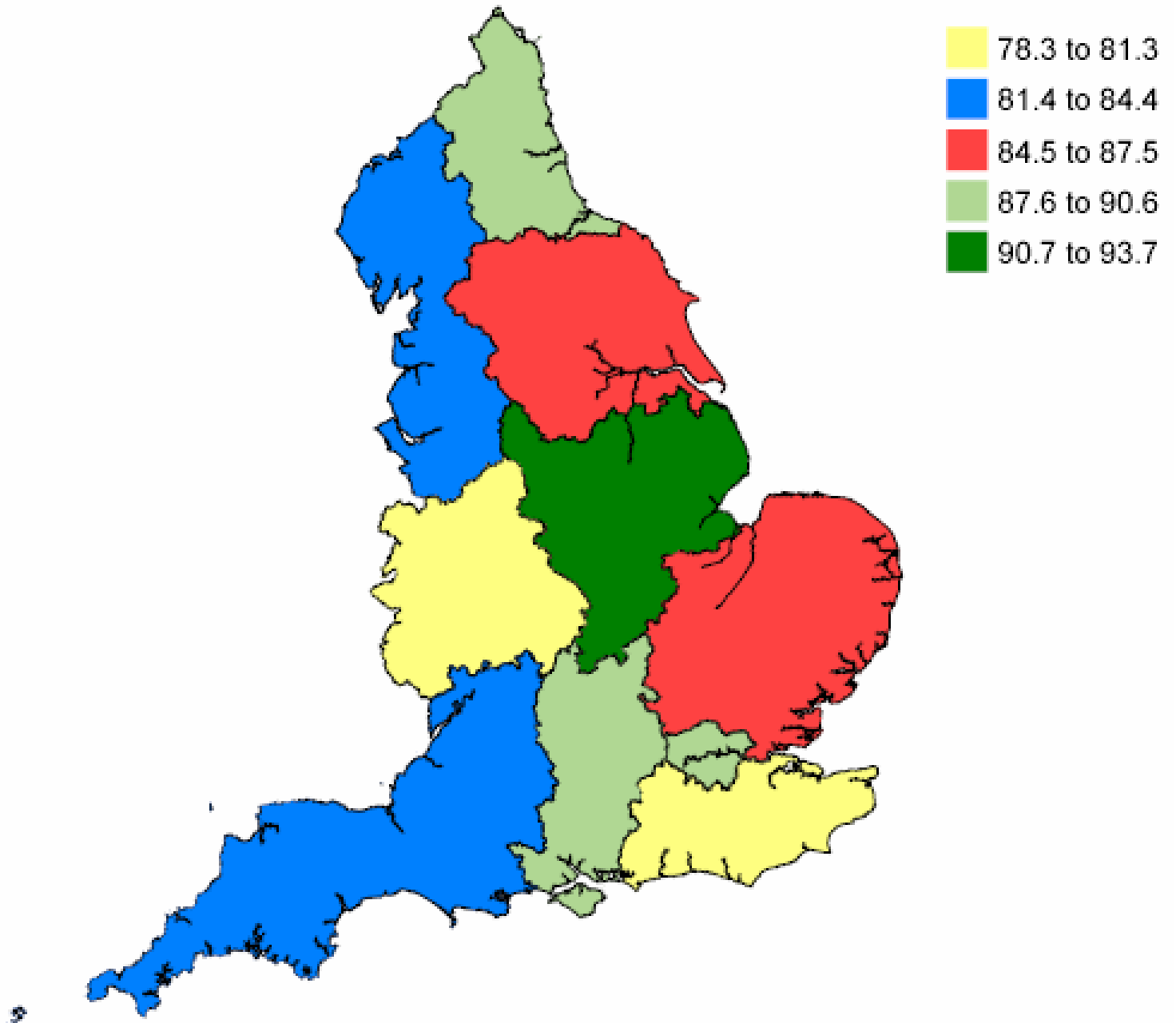
**Figure 8: PPV Uptake between 1st April 2006 and 31st March 2007  
by age group and SHA**



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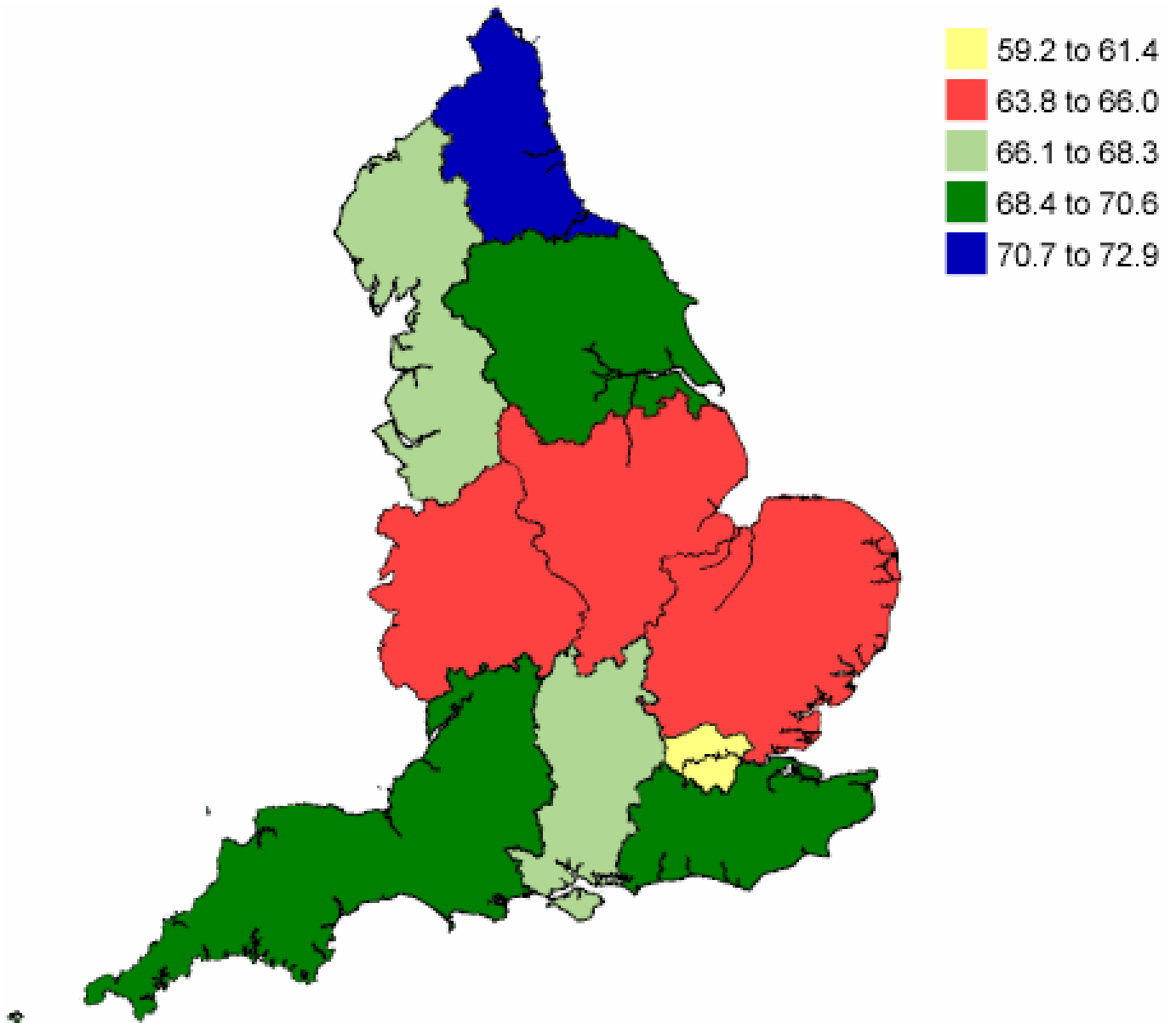
**Map 1**

Map showing the % GP response rate by SHA



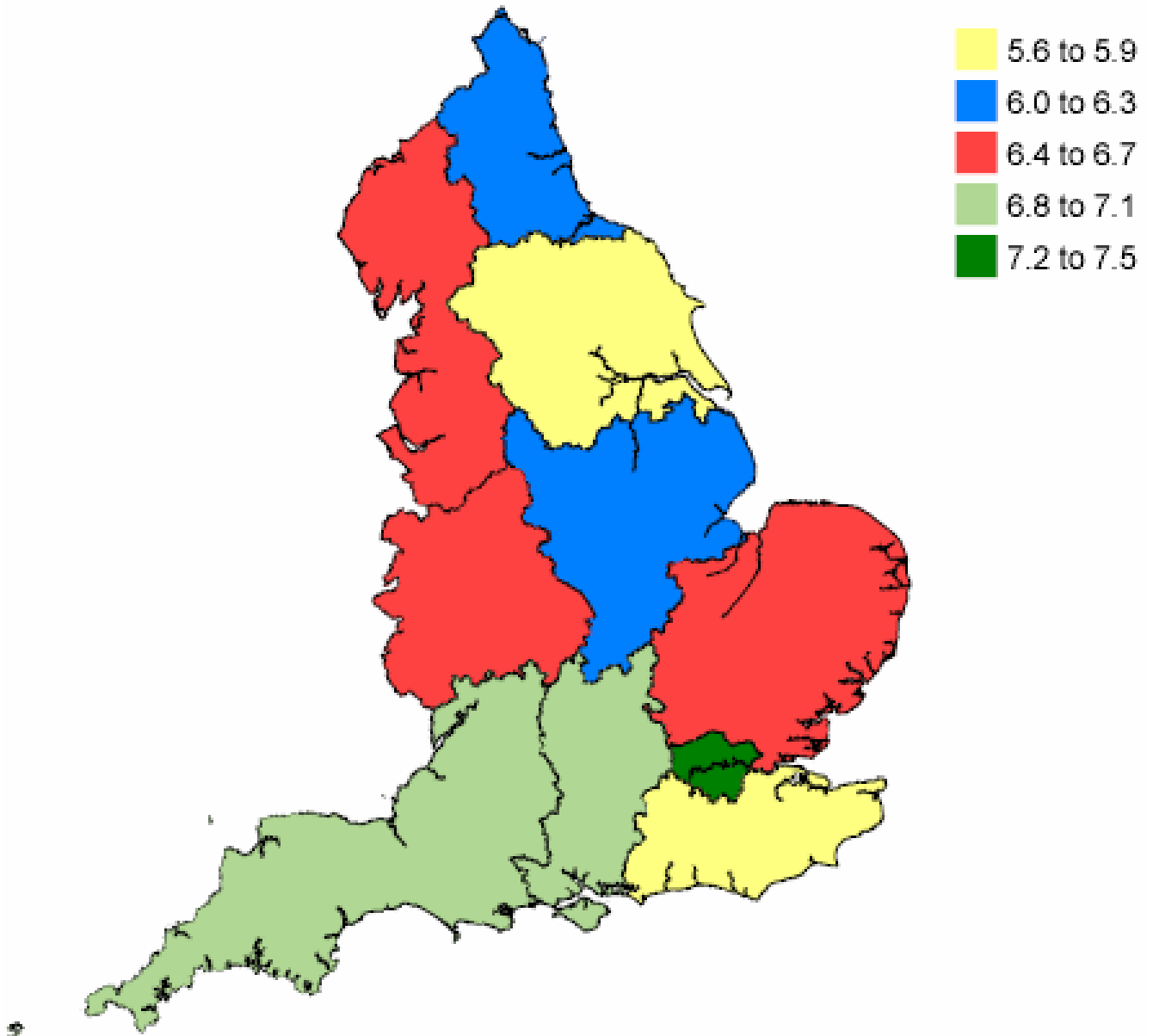
**Map 2**

Map showing the % PPV uptake at anytime on or up until 31<sup>st</sup> March 2007 by SHA



**Map 3**

Map showing the % PPV uptake between 1<sup>st</sup> April 2006 and 31<sup>st</sup> March 2007 by SHA



## Acknowledgements

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