



Infection report

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Pneumococcal Polysaccharide Vaccine (PPV) coverage report, England, April 2014 to March 2015

Coverage of PPV in adults aged 65 years and over, vaccinated any time up to and including 31 March 2015, was 69.8%, compared with 68.9% in 2014. The proportion of adults aged 65 years who were vaccinated in the previous 12 months was 16.1%, compared to 13.7% in 2014. Over a third (35.1%) of 65 year olds had received the vaccine any time up to and including the 31 March 2015. Coverage is presented here by NHS England Area Team with Clinical Commissioning Group and Local Authority level data provided [online](#).

Introduction

Pneumococcal disease can present as non-invasive or invasive infections caused by the bacterium *Streptococcus pneumoniae* (also called pneumococcus). Non-invasive disease includes middle ear infections (otitis media), sinusitis and bronchitis, whilst invasive pneumococcal disease (IPD) includes septicaemia, pneumonia and meningitis.

IPD is a significant cause of morbidity and mortality globally and in the UK with more than 5,000 confirmed cases reported annually in England. Young children, the elderly and people in clinical risk groups are most at risk of severe pneumococcal disease, and so all of these groups are currently offered pneumococcal immunisation.

A pneumococcal immunisation programme for older people was introduced in the UK in August 2003 [1]. In the first year of the programme, all people aged 80 years or above were offered a single dose of Pneumococcal Polysaccharide Vaccine (PPV) and in April 2004, this was extended to include all people aged 75 years and over. Since April 2005 all people aged 65 years and over have been offered the vaccine.

PPV contains purified polysaccharide from 23 capsular pneumococcal types (PPV23) [2]. Most healthy adults develop a good antibody response to a single dose of PPV however children younger than two years do not and so the pneumococcal conjugate vaccine [PCV] is used in the childhood immunisation programme [2].

Public Health England (PHE) monitors coverage of the PPV immunisation programme through an annual survey administered via ImmForm*. The survey measures the proportion of those aged 65 and over who have received PPV at any time and the proportion who received PPV during the previous year.

The data presented in this report describe vaccine coverage for the tenth year of the PPV programme in England, in adults aged 65 years and over. Data for previous years are available online [3].

* ImmForm is the system used by PHE to record vaccine coverage data for some immunisation programmes and to provide vaccine ordering facilities for the NHS (<https://www.immform.dh.gov.uk/SignIn.aspx?ReturnUrl=%2f>).

Methods

The ImmForm web-based system automatically extracts vaccine coverage data from participating General Practice (GP) clinical systems with minimal or no burden to the NHS.

The annual survey captured data on the number of patients registered on the date of extraction [denominator] and the number of patients registered who had received the PPV vaccine [numerator]. These data were collected for the time period up to and including 31 March 2015 as well as for the previous 12 months only i.e. between 1 April 2014 and 31 March 2015. These data are delineated by age at 31 March 2015 in the following age bands:

- 65 years and over (overall)
- 65 years only
- 66 to 74 years
- 75 years and over

GP data are collated by NHS England Area Team (AT), Local Authority and Clinical Commissioning Group (CCG).

Results

In total 7,561/7,822 (96.7%) GP practices reported PPV coverage data in 2015, an increase on the 92.9% (7,393/7,956) of practices reporting in 2014. This proportion ranged from 89.8% in Kent and Medway AT to 100% in Lancashire AT.

PPV coverage was 69.8% in all patients aged 65 and over, immunised at any time up to the 31st March 2015 in England (table 1). This ranged by AT (table 1) and age group as follows:

- 65.0% (London) to 73.3% (Merseyside) for people aged 65 years and over
- 30.0% (Essex) to 44.4% (Merseyside) for people aged 65 years only
- 57.5% (London) to 68.9% (Merseyside) for people aged 66 to 74 years
- 77.5% (London) to 84.4% (Thames Valley) for people aged 75 years and over

Table 1. Percentage of GP practices reporting and vaccination coverage for patients who received PPV anytime up to 31 March 2015 by age group for each Area Team in England

| Area Team (code) | % of GP practices reporting | Aged 65 and over | Aged 65 only | Aged 66 to 74 | Aged 75+ |
|---|-----------------------------|------------------|--------------|---------------|----------|
| Cheshire, Warrington and Wirral (Q44) | 96.4 | 72.6 | 38.7 | 66.8 | 83.5 |
| Durham, Darlington and Tees (Q45) | 96.5 | 69.5 | 35.8 | 62.6 | 82.0 |
| Greater Manchester (Q46) | 92.1 | 69.7 | 37.3 | 63.8 | 81.3 |
| Lancashire (Q47) | 100.0 | 70.3 | 35.7 | 64.1 | 81.9 |
| Merseyside (Q48) | 92.7 | 73.3 | 44.4 | 68.9 | 81.9 |
| Cumbria, Northumberland, Tyne and Wear (Q49) | 96.0 | 72.6 | 38.5 | 66.3 | 84.1 |
| N Yorkshire and Humber (Q50) | 99.1 | 70.6 | 35.7 | 63.3 | 83.3 |
| S Yorkshire and Bassetlaw (Q51) | 98.6 | 72.0 | 39.2 | 65.9 | 83.1 |
| W Yorkshire (Q52) | 99.7 | 71.6 | 39.9 | 65.3 | 82.8 |
| Arden, Herefordshire and Worcestershire (Q53) | 94.3 | 71.3 | 37.3 | 64.9 | 82.8 |
| Birmingham and Black Country (Q54) | 95.1 | 67.7 | 33.3 | 60.0 | 79.4 |
| Derbyshire and Notts. (Q55) | 99.6 | 73.3 | 40.1 | 67.7 | 84.0 |
| East Anglia (Q56) | 97.2 | 71.7 | 37.5 | 65.2 | 83.1 |
| Essex (Q57) | 98.9 | 66.2 | 30.0 | 58.2 | 79.5 |
| Hertfordshire and the S Midlands (Q58) | 96.5 | 69.8 | 32.4 | 63.0 | 82.4 |
| Leicestershire and Lincolnshire (Q59) | 99.2 | 70.7 | 37.4 | 64.5 | 82.1 |
| Shropshire and Staffordshire (Q60) | 93.8 | 66.7 | 30.9 | 59.6 | 79.9 |
| Bath, Gloucestershire, Swindon and Wiltshire (Q64) | 98.4 | 70.2 | 34.6 | 62.8 | 82.7 |
| Bristol, N Somerset, Somerset and S Gloucestershire (Q65) | 97.2 | 70.3 | 33.1 | 62.9 | 82.8 |
| Devon, Cornwall and Scilly Isles (Q66) | 93.4 | 68.7 | 32.3 | 61.6 | 81.2 |
| Kent and Medway (Q67) | 89.8 | 69.9 | 32.0 | 63.8 | 81.8 |
| Surrey and Sussex (Q68) | 98.2 | 67.5 | 30.9 | 59.0 | 80.1 |
| Thames Valley (Q69) | 96.6 | 72.6 | 35.0 | 66.3 | 84.4 |
| Wessex (Q70) | 96.8 | 71.7 | 35.6 | 64.1 | 83.9 |
| London (Q71) | 98.1 | 65.0 | 31.4 | 57.5 | 77.5 |
| England | 96.7 | 69.8 | 35.1 | 63.0 | 81.7 |
| England denominator | 7822 | 9464112 | 579965 | 4582037 | 4302110 |

Coverage has remained stable in recent years (figure 1) hovering at just below 70% in the 65+ years age group and at around 80% in the 75+ year age group (figure 1).

Figure 1. Percentage PPV coverage – ever vaccinated, by age group, England, 2005/06 to 2014/15



The proportion of patients vaccinated in the previous 12 months has remained stable over the last five years (figure 2, table 2). Almost a fifth (19.0%) of patients in the 65 years only group had already received the vaccine any time up to and including 31 March 2014 as they were eligible due to their inclusion in specific clinical risk groups, and an additional 16.1% received the vaccine in the previous 12 months (ie 1 April 2014 to 31 March 2015).

More detailed tables by AT, Clinical Commissioning Group (CCG) and Local Authority are available on the GOV.UK website page [“Pneumococcal polysaccharide vaccine \(PPV\): vaccine coverage estimates”](#).

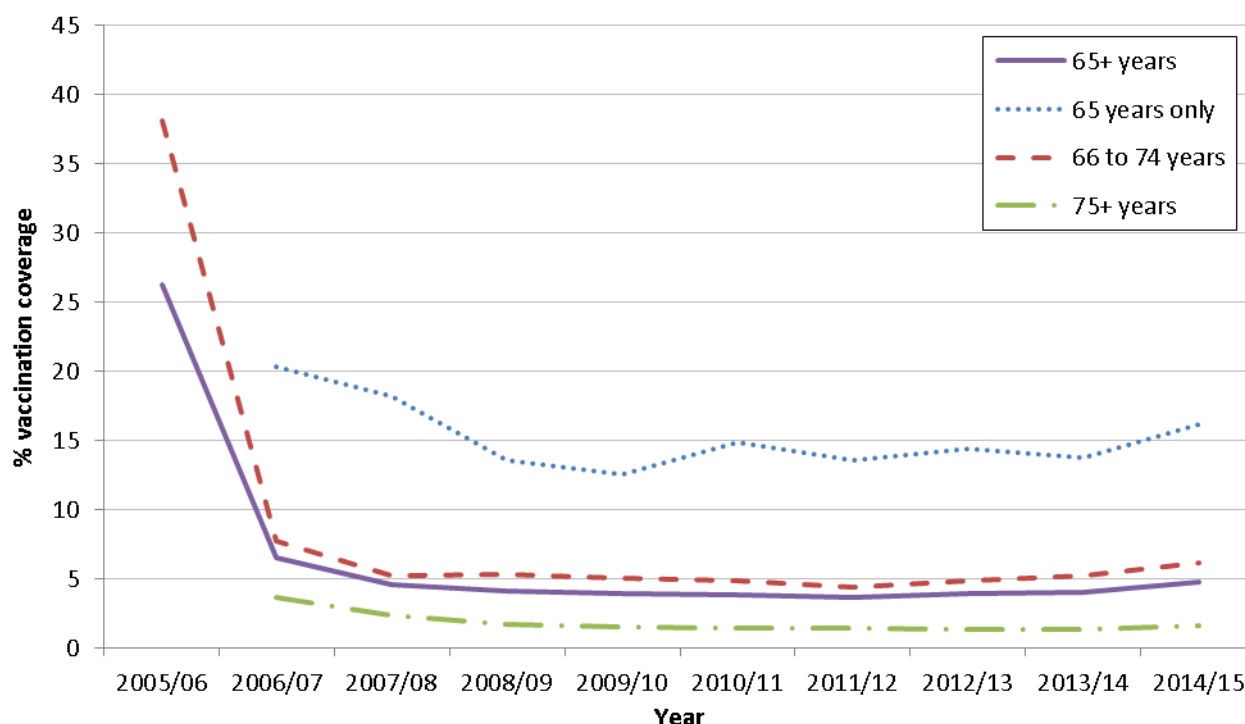
Data issues/limitations

This survey is a snapshot of vaccine coverage among the eligible GP registered population at the time of data extraction. The data will therefore exclude patients who received the vaccine but have subsequently died and patients who have since moved. Patients who are vaccinated but have not had their electronic patient record updated by the time of data extraction, will also not be included. The data include patients who have been vaccinated by another healthcare provider (provided their electronic record is updated before the data are extracted).

Table 2. Percentage of GP practices reporting and vaccination coverage for patients who received PPV between 1 April 2014 and 31 March 2015 by age group for each Area Team in England

| Area Team (code) | % of GP practices reporting | Aged 65 and over | Aged 65 only | Aged 66 to 74 | Aged 75+ |
|---|-----------------------------|------------------|--------------|---------------|----------|
| Cheshire, Warrington and Wirral (Q44) | 96.4 | 5.26 | 18.73 | 6.93 | 1.64 |
| Durham, Darlington and Tees (Q45) | 96.5 | 4.49 | 14.14 | 5.79 | 1.67 |
| Greater Manchester (Q46) | 92.1 | 5.21 | 14.83 | 6.62 | 2.16 |
| Lancashire (Q47) | 100.0 | 3.63 | 12.08 | 4.75 | 1.23 |
| Merseyside (Q48) | 92.7 | 5.37 | 20.06 | 6.60 | 2.09 |
| Cumbria, Northumberland, Tyne and Wear (Q49) | 96.0 | 4.33 | 15.29 | 5.74 | 1.33 |
| N Yorkshire and Humber (Q50) | 99.1 | 3.76 | 16.94 | 4.68 | 0.98 |
| S Yorkshire and Bassetlaw (Q51) | 98.6 | 4.87 | 16.62 | 6.69 | 1.31 |
| W Yorkshire (Q52) | 99.7 | 4.80 | 19.11 | 6.02 | 1.46 |
| Arden, Herefordshire and Worcestershire (Q53) | 94.3 | 5.20 | 19.01 | 6.73 | 1.65 |
| Birmingham and Black Country (Q54) | 95.1 | 5.11 | 12.57 | 6.61 | 2.73 |
| Derbyshire and Notts. (Q55) | 99.6 | 4.22 | 18.56 | 5.31 | 1.03 |
| East Anglia (Q56) | 97.2 | 5.10 | 20.97 | 6.56 | 1.48 |
| Essex (Q57) | 98.9 | 3.96 | 14.28 | 5.36 | 1.11 |
| Hertfordshire and the S Midlands (Q58) | 96.5 | 4.31 | 14.57 | 5.72 | 1.33 |
| Leicestershire and Lincolnshire (Q59) | 99.2 | 5.04 | 19.33 | 6.45 | 1.49 |
| Shropshire and Staffordshire (Q60) | 93.8 | 3.96 | 13.25 | 5.09 | 1.35 |
| Bath, Gloucestershire, Swindon and Wiltshire (Q64) | 98.4 | 4.22 | 16.68 | 5.54 | 1.18 |
| Bristol, N Somerset, Somerset and S Gloucestershire (Q65) | 97.2 | 3.68 | 15.09 | 4.85 | 0.99 |
| Devon, Cornwall and Scilly Isles (Q66) | 93.4 | 4.32 | 15.63 | 5.51 | 1.53 |
| Kent and Medway (Q67) | 89.8 | 4.60 | 15.51 | 6.09 | 1.45 |
| Surrey and Sussex (Q68) | 98.2 | 4.46 | 14.31 | 6.23 | 1.57 |
| Thames Valley (Q69) | 96.6 | 5.40 | 18.34 | 7.14 | 1.80 |
| Wessex (Q70) | 96.8 | 4.25 | 18.06 | 5.50 | 1.27 |
| London (Q71) | 98.1 | 5.56 | 13.78 | 7.21 | 2.68 |
| England | 96.7 | 4.67 | 16.15 | 6.07 | 1.62 |
| England denominator | 7822 | 9464112 | 579965 | 4582037 | 4302110 |

Figure 2. Percentage PPV coverage in the last 12 months, by age group, England, 2005/06 to 2014/15



Discussion

The proportion of GP practices participating in the PPV survey continues to be very high, achieving levels over 95% this year. For the fifth consecutive year, PPV coverage among people over the age of 65 remains stable at just under 70% of the eligible cohort.

The impact of the PPV programme on reducing the incidence of vaccine-type IPD in patients aged 65 years and over has not been evident in surveillance data, due to the vaccine's modest effectiveness and its existing use in risk groups prior to their entry into the over 65 year old programme. However, there is evidence of individual protection against the serotypes covered by PPV23 [4]. In addition it has yet to be determined if vaccine efficacy declines over time [4,5] and therefore reinforcing doses are not currently recommended except for people whose antibody levels decline more rapidly [2].

The data presented in this report indicate that many of those eligible for PPV vaccination do not receive the vaccine in the first year that they become eligible. However, increasing vaccine coverage in the older age groups demonstrates that vaccination continues to be offered opportunistically in primary care to those aged over 65 years.

PPV is a one-off vaccine available throughout the year however for a more efficient delivery it can be given at the same time as the seasonal influenza vaccine, which is also recommended for adults aged 65 years and over [6]. Coverage of the seasonal influenza programme in this age group has been 73% for the past three seasons [7-8] suggesting that at least similar coverage could be achieved for PPV. A further opportunity for offering this vaccine is also available for adults eligible for the shingles vaccine (currently offered to those who are 70 years old on the 1 September 2014, with a catch-up available for those aged 78 and 79 on 1 September 2014 [9]). The recent experience with the shingles programme has further demonstrated that it is feasible to successfully deliver an additional vaccine, targeted to a specific age group, alongside the influenza programme.

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