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Pneumococcal Polysaccharide Vaccine (PPV) coverage report, England, April 2016 to March 2017

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Coverage of PPV in adults aged 65 years and over, vaccinated any time up to and including 31 March 2017, was 69.8%, 0.3% lower compared with 2015/16 and identical to 2014/15. The proportion of adults aged 65 years who were vaccinated in the last 12 months was 16.3%, compared to 16.6% in 2015/16.

Introduction

This report describes vaccine coverage for the twelfth year of the pneumococcal polysaccharide vaccine (PPV) programme in England, in adults aged 65 and over, comparing vaccine coverage estimates with the previous years of the programme [1-2].

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 [3]. In the first year of the programme, all people aged 80 years or above were eligible for a single dose of 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 eligible for the vaccine.

PPV contains purified polysaccharide from 23 capsular pneumococcal types (PPV23). Most healthy adults develop a good antibody response to a single dose of PPV however children younger than two years do not and so a pneumococcal conjugate vaccine (PCV13) is used in the childhood immunisation programme. Further information on PPV vaccine eligibility is available in the "Immunisation against infectious disease" book (the green book) [4].

1. Methods

GP practice level PPV vaccine coverage data are automatically uploaded via participating GP IT suppliers to the ImmForm* website on an annual basis. These data are then validated and analysed by PHE to check data completeness, identify and query any anomalous results and describe epidemiological trends. The following definitions are used in this report:

- vaccine coverage – the total number of patients aged 65 and above on 31 March 2017 who have **ever** received the vaccination (numerator) as a proportion of the number of patients registered aged 65 and above on 31 March 2017 (denominator)
- vaccine uptake – the total number of patients aged 65 and above on 31 March 2017 who have received the vaccination between 1 April 2015 and 31 March 2016 (numerator) as a proportion of the number of patients registered aged 65 and above on 31 March 2017 (denominator)

For the second year running, to better understand how PPV coverage increases after the first year individuals become eligible, data are reported by the following age bands:

65 years and over (overall)	68 years only
65 years only	69 years only
66 years only	70 to 74 years
67 years only	75 years and over

This report describes vaccine coverage and uptake of each eligible cohort for England and by NHS England Local Team (LT). Data by Local Authority, NHS England Clinical Commissioning Group (CCG), and former Area Team (AT) for trend analysis, are presented in an appendix associated with this report.

Participation and data quality

All four GP IT suppliers provided data for the annual report. Out of 7,436 GP practices in 2016/17, 7,103 (95.5%) provided data, similar to the proportion (95.0%) of practices reporting in 2015/16. This ranged by LT from 93.3% of practices in Lancashire and Greater Manchester, to 98.9% of practices in North Yorkshire and Humber (see table).

* ImmForm is the system used by Public Health England to record vaccine coverage data for some immunisation programmes and to provide vaccine ordering facilities for the NHS.

Results

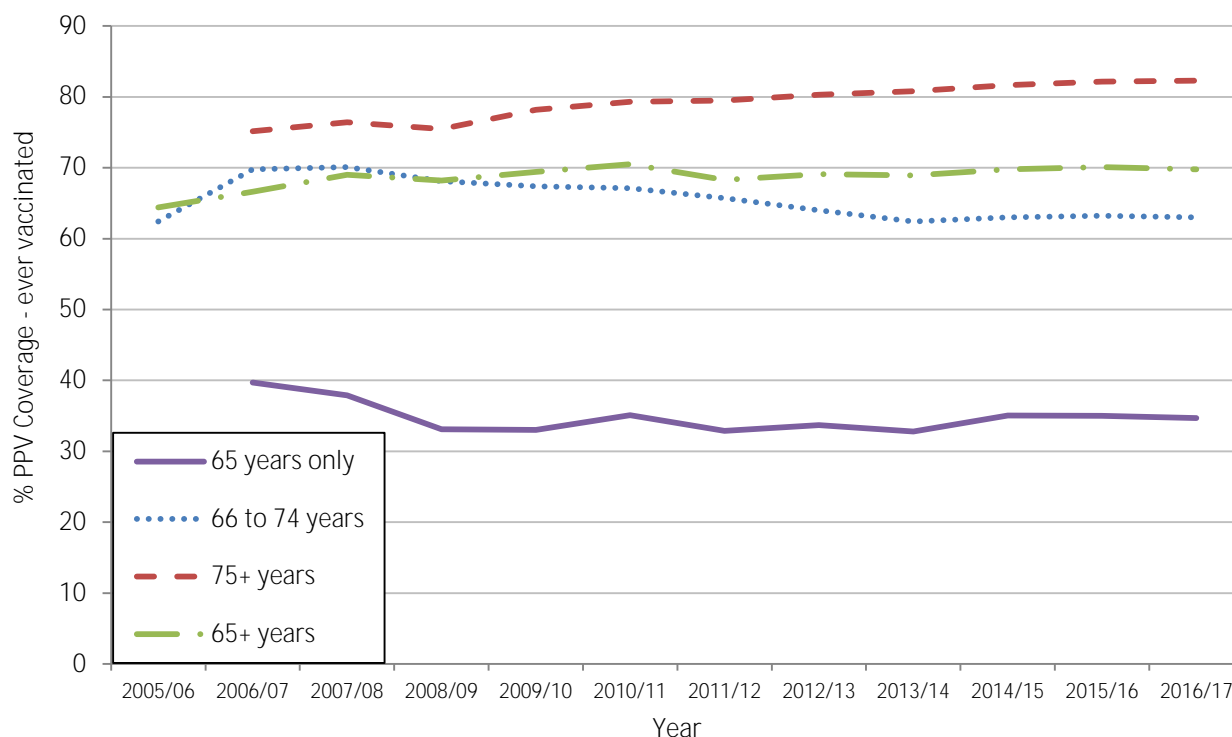
PPV coverage was 69.8% in all patients aged 65 and over, immunised at any time up to 31 March 2017 in England, rising to 82.3% for those aged 75 and over. The table describes coverage by LT and age group.

Percentage of GP practices reporting and vaccination coverage for patients who received PPV anytime up to 31 March 2017 by age group (years) for each Local Team in England

NHS England Local Team	% of GP practices responding	Age group							
		Over all (Aged 65 and over)	Aged 65 only	Aged 66 only	Aged 67 only	Aged 68 only	Aged 69 only	Aged 70-74	Aged 75 and over
SOUTH (WESSEX)	96.9	71.4	34.6	46.6	53.0	58.2	62.4	72.1	83.9
LONDON	95.1	64.3	31.0	39.9	46.1	51.0	55.4	66.0	77.6
NORTH (YORKSHIRE AND HUMBER)	98.9	71.8	37.5	48.1	55.2	60.8	64.4	72.9	83.9
NORTH (Q84 LANCASHIRE AND Q83 GREATER MANCHESTER)	93.3	70.3	36.9	47.2	53.9	58.6	63.5	73.0	82.4
NORTH (CUMBRIA AND NORTH EAST)	95.3	71.9	38.6	48.8	55.1	60.5	64.4	73.6	84.1
NORTH (CHESHIRE AND MERSEYSIDE)	98.4	73.2	40.8	52.7	59.1	63.4	68.1	75.8	83.7
MIDLANDS AND EAST (NORTH MIDLANDS)	96.5	70.5	35.6	46.3	52.7	57.9	62.5	72.4	83.0
MIDLANDS AND EAST (WEST MIDLANDS)	94.3	69.1	35.2	45.5	51.8	56.5	61.0	70.5	81.1
MIDLANDS AND EAST (CENTRAL MIDLANDS)	97.5	70.5	33.7	45.1	52.7	57.9	62.7	72.2	83.3
MIDLANDS AND EAST (EAST)	98.5	69.4	32.6	43.5	51.2	56.4	60.4	70.3	82.3
SOUTH (SOUTH WEST)	93.8	69.3	33.5	44.3	51.2	56.4	61.0	70.6	81.9
SOUTH (SOUTH EAST)	89.0	67.7	29.7	40.6	47.7	52.7	58.6	69.4	80.9
SOUTH (SOUTH CENTRAL)	95.8	72.0	35.9	45.9	55.0	60.1	64.5	74.0	84.2
England	95.5	69.8	34.7	45.3	52.3	57.4	61.9	71.5	82.3
England denominator	7,436	9,422,202	552,408	558,296	571,902	599,557	622,990	2,353,206	4,163,843

Since 2011/12, coverage in the 65 years and over age group has increased from 68.3% (2011/12) to 69.8% (2016/17) and from 79.5% (2011/12) to 82.3% (2016/17) in the 75 years and over age group (figure 1). PPV coverage in all patients aged 65 and over up to 31 March 2017 was 69.8% in males and 69.9% in females (figure 4).

Figure 1. Percentage PPV coverage – ever vaccinated, by age group, England, 2005/06 to 2016/17



PPV **uptake** in the previous 12 months across all age groups has remained stable over the past nine years (figure 2). In the 65 years only group, there has been a slight increase in PPV uptake since 2013/14 from 13.7% to 16.3% (2016/17). Of the 34.7% of patients in the 65 years only group vaccinated by 31 March 2017, 18.4% had already received the vaccine prior to 1 April 2016 because they were included in specific clinical risk groups (figure 3). Adults over the age of 65 years are still being vaccinated, but the proportion of individuals receiving vaccine in the previous 12 months decreases with age as the proportion of individuals already vaccinated increases (figure 3). PPV uptake in all patients aged 65 and over was 4.5% in males and 4.2% in females (figure 4). A small proportion (1.9%) of patients aged 65 or above refused/declined PPV vaccination. There was no difference in the proportion of patients refusing/declining the vaccine by gender.

Figure 2. Percentage PPV uptake – past 12 months, by age group, England, 2005/06 to 2016/17

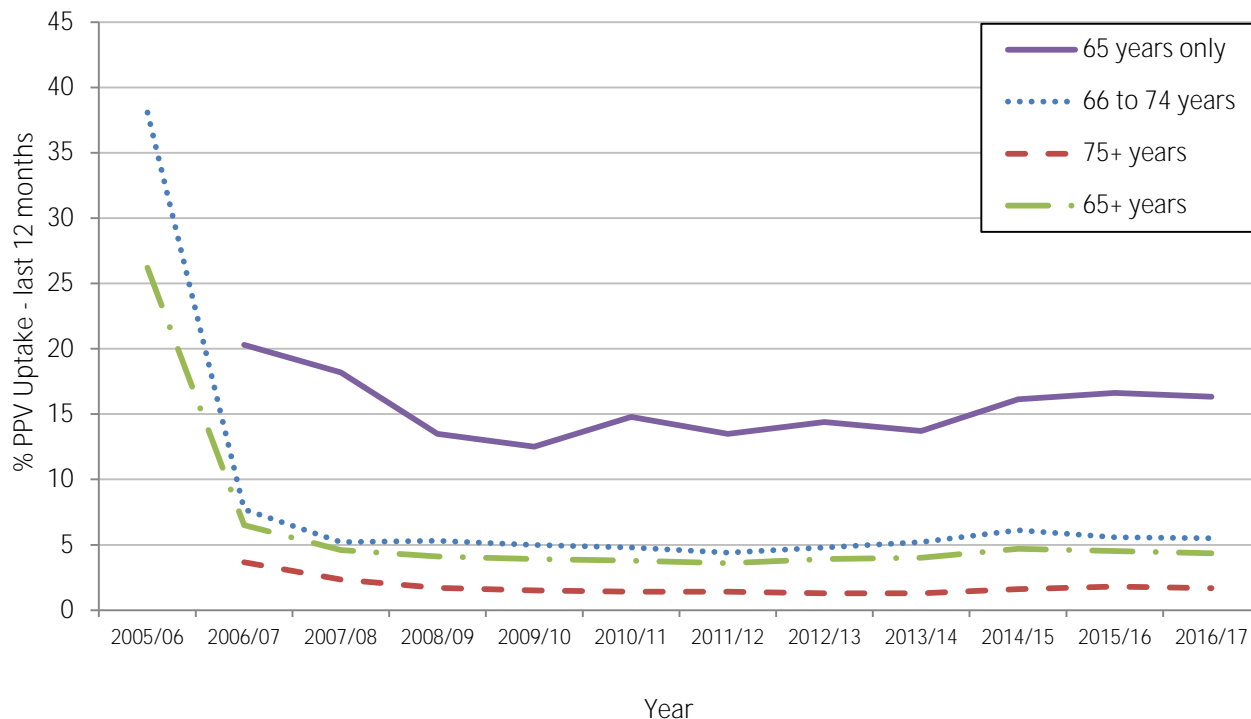


Figure 3. Percentage of individuals receiving PPV (up to 31 March 2016 or between 1 April 2016 and 31 March 2017), by age group, England

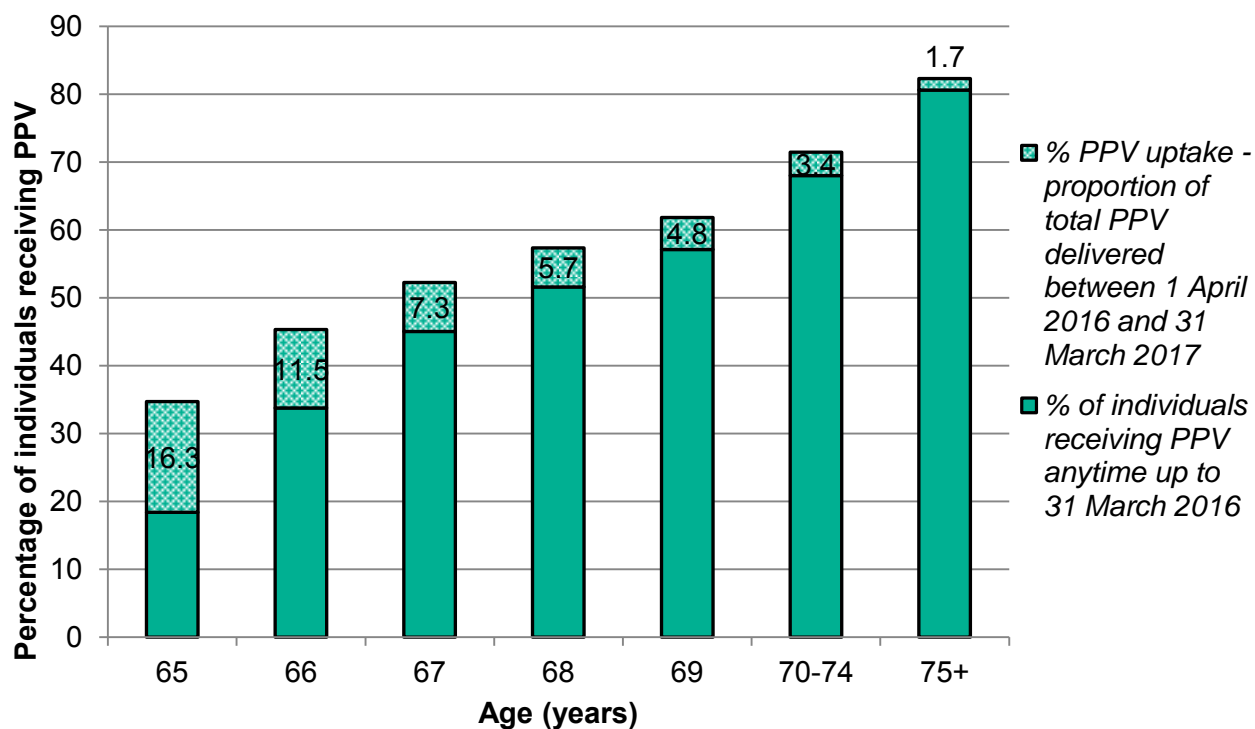
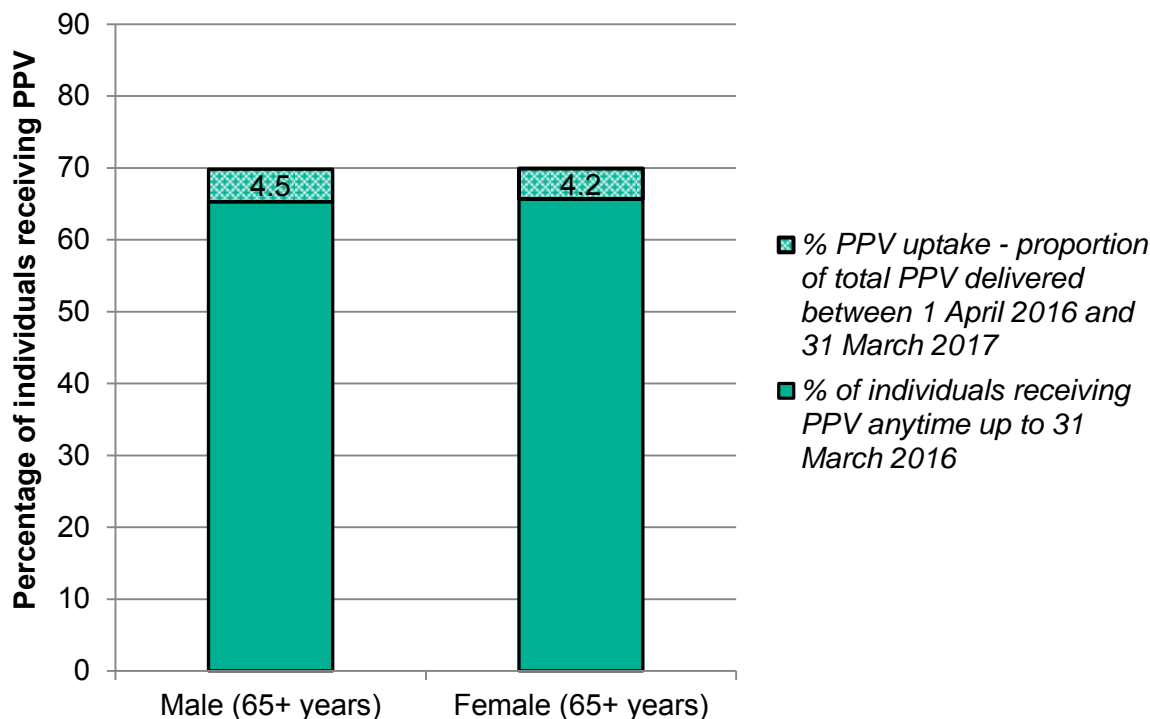


Figure 4. Percentage of individuals receiving PPV (up to 31 March 2016 or between 1 April 2016 and 31 March 2017), by gender, England



More detailed tables by AT, CCG and Local Authority are presented in an [appendix](#) associated with this report.

Discussion

The proportion of GP practices participating in the PPV survey was at least 95% for the third consecutive year. PPV coverage among people aged 65 years and over has been close to 70% for the past four years.

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, its existing use in risk groups prior to their entry into the over 65 programme, and the indirect impact of the conjugate vaccines used in children [5]. However, there is evidence of individual protection against the serotypes covered by PPV23 [6]. PHE is currently doing a study to further assess effectiveness in the 65 years and over age group and any decline by time since vaccination.

For the second year, data by individual year group have been collected for those aged 66 to 69 years. These data indicate that many of those eligible for PPV vaccination do not receive the vaccine in the first year that they become eligible but in the subsequent years, with additional

uptake gradually decreasing with age. 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.

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Public Health England, Wellington House, 133-155 Waterloo Road, London SE1 8UG
Tel: 020 7654 8000 www.gov.uk/phe

Twitter: [@PHE_uk](https://twitter.com/PHE_uk) Facebook: www.facebook.com/PublicHealthEngland

Queries relating to this document should be directed to:

HIV and STI Department,
National Infection Service, PHE Colindale,
61 Colindale Avenue, London NW9 5EQ.
gumcad@phe.gov.uk

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