



Public Health
England

Protecting and improving the nation's health

Herpes zoster (shingles) immunisation programme September 2015 to August 2016: Report for England

About Public Health England

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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

Prepared by: Immunisation, Hepatitis and Blood Safety Department, PHE.
For queries relating to this document, please contact: shingles@phe.gov.uk

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Executive summary

This report presents the evaluation of vaccine coverage for the third year of the herpes zoster (shingles) vaccination programme in England, from 1 September 2015 to 31 August 2016. In the third year of the programme the vaccine was routinely offered to adults aged 70 years on 1 September 2015 and to a single catch-up cohort of adults aged 78 years on 1 September 2015. PHE monitors shingles vaccination coverage through monthly cumulative data collections via automatic upload of GP practice data using the ImmForm¹ website.

Shingles vaccine coverage in the routine cohort (aged 70 years) was 54.9% in 2015/16, representing a 6.9% decline since the start of programme (59.0% in 2014/15, 61.8% in 2013/14). A decrease in coverage was also observed in the catch-up cohort (aged 78 years) from 57.8% in 2014/15 to 55.5% in 2015/16. London NHS Local Team (LT) had coverage of 47.1% for the routine (70 year old) cohort but all other Local Teams reported coverage above 50% with highest coverage recorded for the South Central LT at 57.4%. Similarly, only London LT had coverage for the catch-up (78 year old) cohort below 50% (48.1%). The South West and South Central LTs had the highest coverage (58.3%). Longer term follow-up data suggests that some of those eligible for shingles vaccination who did not receive it in the year they became eligible catch-up in subsequent years, so these coverage estimates are likely to increase. Coverage of the routine (70 years) cohort in 2013/14 (aged 72 in 2015/16) had reached 69.2% by August 2016.

Shingles is caused by the reactivation of a latent varicella zoster virus (VZV) infection and is typically characterised by a unilateral vesicular rash. The incidence and severity of shingles increase with age and an important complication is persistent pain extending beyond the period of rash, known as post herpetic neuralgia (PHN). The aim of the vaccination programme is to reduce the incidence and severity of shingles in those targeted by the programme by boosting individuals' pre-existing VZV immunity. Given the lower coverage achieved in the routine and catch-up cohort in 2015/16 compared with previous years, GPs are urged to continue to offer vaccinations to these cohorts as per current guidance, to improve protection in these age groups.

¹ 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://portal.immform.dh.gov.uk/>

Introduction

Shingles is caused by the reactivation of latent varicella zoster virus (VZV) infection, following a decline in cell mediated immunity and the incidence of disease is known to increase with age. Shingles typically presents with a unilateral vesicular rash, usually limited to a single dermatome. The diagnosis is almost exclusively made on clinical suspicion with very few cases being laboratory confirmed. An important and debilitating complication of shingles is persistent pain extending beyond the period of rash known as post-herpetic neuralgia (PHN). The risk of PHN increases with age and is known to contribute significantly to the overall burden of shingles within the population [1, 2].

In 2010, the UK's Joint Committee on Vaccination and Immunisation (JCVI) recommended that a herpes zoster (shingles) vaccination programme should be introduced for adults aged 70 years with a catch up programme for those aged 71 to 79 years [3, 4]. On 1 September 2013, a shingles vaccination programme was introduced and vaccine was routinely offered to adults aged 70 years on 1 September 2013, and to those aged 79 years as part of the catch-up campaign. The aim of the programme is to reduce the incidence and severity of shingles in those targeted by the programme by boosting individuals' pre-existing VZV immunity.

Zostavax, which is a live attenuated vaccine, is the only licensed shingles vaccine in the UK [5]. It is derived from the Oka strain of VZV and has a significantly higher antigen content than the Varivax varicella vaccine [6]. Since it is a live vaccine, Zostavax should not be given to patients who have a known primary or acquired immunodeficiency state or patients who are receiving current immunosuppressive therapy including high-dose corticosteroids, biological therapies or combination therapies [6].

In the third year of the programme (1 September 2015 to 31 August 2016), the vaccine was routinely offered to adults aged 70 years on 1 September 2015 (ie born between 2 September 1944 and 1 September 1945). The third year of the programme also included a catch-up cohort of adults aged 78 on 1 September 2015 (ie born between 2 September 1936 and 1 September 1937). In addition, patients who became eligible in the first two years of the programme but have not been vaccinated against shingles remain eligible until their 80th birthday (patients aged 71, 72 and 79 on 1 September 2015).

This report describes vaccine coverage data in the routine and catch-up cohorts in the third year of the programme, updating provisional cumulative data published in July 2016 reporting coverage to end-May 2016 [7]. All PHE documents relating to the shingles vaccination programme, including previous annual reports, are accessible via the PHE [shingles vaccination programme pages](#).

Methods

Monthly, cumulative vaccine coverage data for shingles vaccination in England were automatically extracted from records of participating general practices (GPs) in England via the ImmForm website. Data were then validated and analysed by PHE to check data completeness, identify and query any anomalous results and describe epidemiological trends. The automated monthly surveys measured the proportion vaccinated in two ways:

- **vaccine coverage** – the total number of patients aged 70 or 78 years on 1 September 2015 **who have ever received the vaccination** (numerator) as a proportion of the number of patients registered aged 70 or 78 years on 1 September 2015 (denominator)
- **vaccine uptake** – The total number of patients aged 70 or 78 years on 1 September 2015 **who received the vaccination between 1 September 2015 and 31 August 2016** (numerator) as a proportion of the number of patients registered aged 70 or 78 years on 1 September 2015 (denominator)

N.B. For one supplier (representing approximately 30% of GP practices) data were extracted late, so represent cumulative data up to 13 September (as opposed to 31 August).

Vaccine coverage data was also collected for some previous routine and catch-up cohorts (those aged 71, 72, and 79 on 1 September 2015) who have remained eligible for vaccination. Vaccine uptake data by gender for the routine and catch-up cohort were also collected.

PHE also commissioned PRIMIS² to provide Read Code specifications for clinical risk groups in whom shingles vaccination may be contraindicated [6]. Vaccine uptake data was collected on the number of individuals in the routine and catch-up cohorts who belonged to those risk groups, as well the number of them who were vaccinated.

Clinical Commissioning Group (CCG), Local Team (LT), Area Team (AT) and Local Authority (LA) level data are available for both the routine and catch-up cohorts on the [PHE website](#).

² <https://www.nottingham.ac.uk/primis/tools-audits/specifications/shingles.aspx>

Results

Vaccine coverage

Out of 7,602 GP practices in England, 6,865 (90.3%) provided annual shingles coverage data for the period 1 September 2015 to 31 August 2016, compared with 95.8% in the previous year. The decrease in the number of practices providing data affected all GP IT suppliers. GP practice representation by LT ranged from 87.4% to 94.0%.

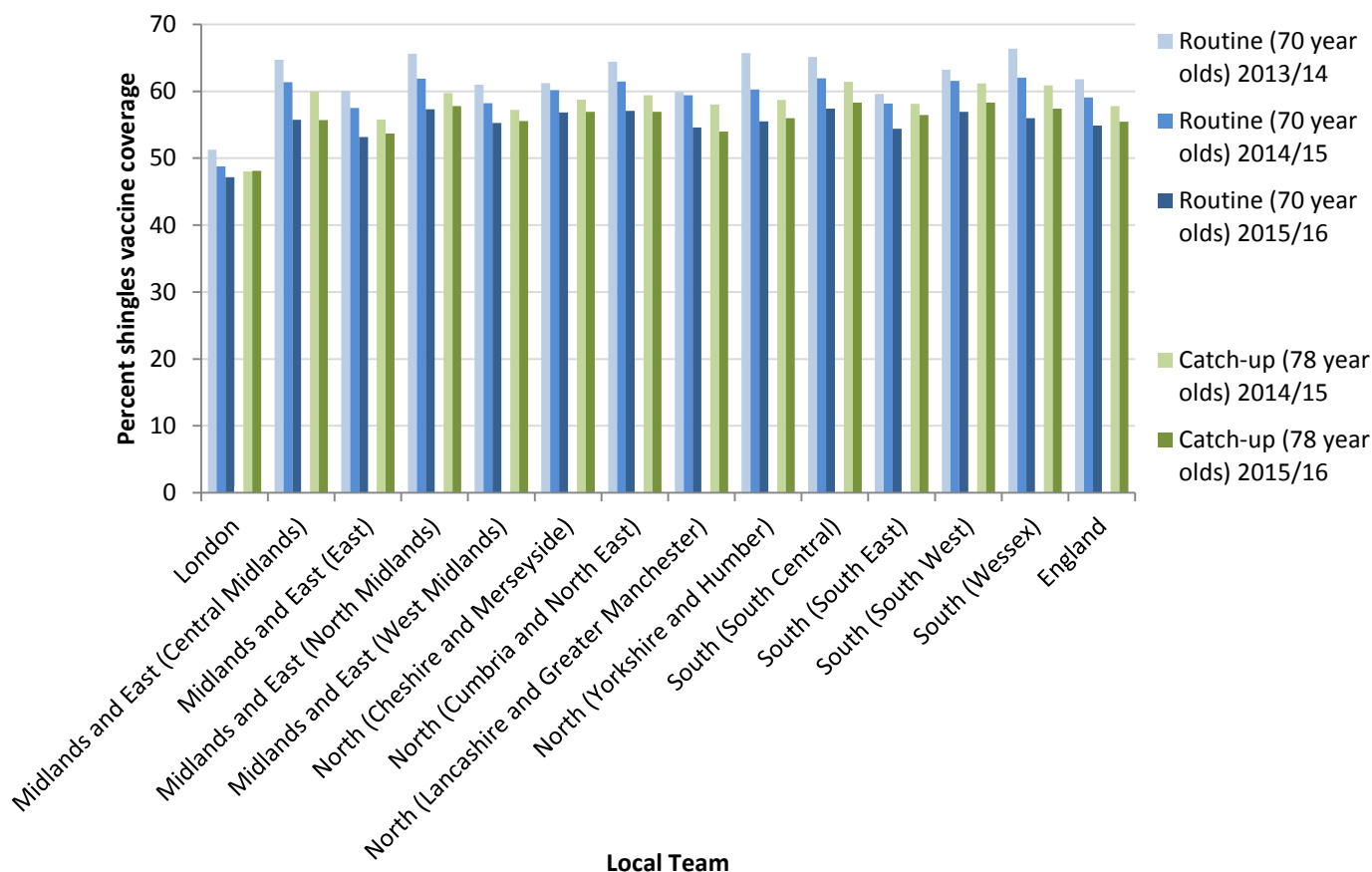
In the routine cohort, annual shingles vaccine coverage was 54.9% in 2015/16, compared with 59.0% in 2014/15 and 61.8% in 2013/14. Only London LT had coverage below 50% (47.1%). The South Central LT had the highest coverage at 57.4% (Table 1, Figure 1). Shingles vaccine uptake (ie vaccinated between 1 September 2015 and 31 August 2016) for the routine cohort was 52.0%.

Coverage for the catch-up cohort was 55.5%, compared with 57.8% in 2014/15 (no comparative data for 2013/14). As for the routine cohort, only London LT had coverage below 50% (48.1%), highest coverage (58.3%) was recorded for South (South Central) and South (South West) (Table 1, Figure 1). Shingles vaccine uptake (ie vaccinated between 1 September 2015 and 31 August 2016) for the catch-up cohort was 52.8%.

Table 1. Shingles vaccine coverage in England by age cohort and local team to end August 2016

Local Team	Per cent of practices reporting data in Aug 2016	Percentage of age cohort vaccinated to end August 2016	
		Routine 70 years	Catch-up 78 years
London	87.4	47.1	48.1
Midlands and East (Central Midlands)	89.7	55.7	55.7
Midlands and East (East)	92.5	53.2	53.7
Midlands and East (North Midlands)	87.6	57.3	57.8
Midlands and East (West Midlands)	88.5	55.3	55.6
North (Cheshire and Merseyside)	89.7	56.8	56.9
North (Cumbria and North East)	93.5	57.1	56.9
North (Lancashire and Greater Manchester)	93.1	54.6	53.9
North (Yorkshire and Humber)	91.9	55.5	56.0
South (South Central)	94.0	57.4	58.3
South (South East)	88.8	54.4	56.4
South (South West)	91.8	56.9	58.3
South (Wessex)	89.6	56.0	57.4
England	90.3	54.9	55.5

Figure 1. Annual (September to August) shingles vaccine coverage for routine and catch-up cohorts by Local Team and for England 2013/4 to 2015/16



Vaccine coverage by Local Authority for the routine cohort ranged from 25.6% to 71.0%, and for the catch-up cohort from 30.6% to 68.8% [see web tables](#).

Similarly to the first year of the programme, most of those vaccinated in the 2015/16 programme received shingles vaccine in the last few months of the calendar year, during the seasonal influenza vaccination campaign. By the end of January 2016 (the end of the seasonal influenza vaccination coverage monitoring period for 2015/16) approximately 80% of those vaccinated by the end of August had received their vaccine (Figures 2 and 3).

Figure 2. Monthly cumulative shingles vaccine coverage for routine cohorts 2013/4 to 2015/16 and the percentage of GP practices reporting in 2015/16*, England

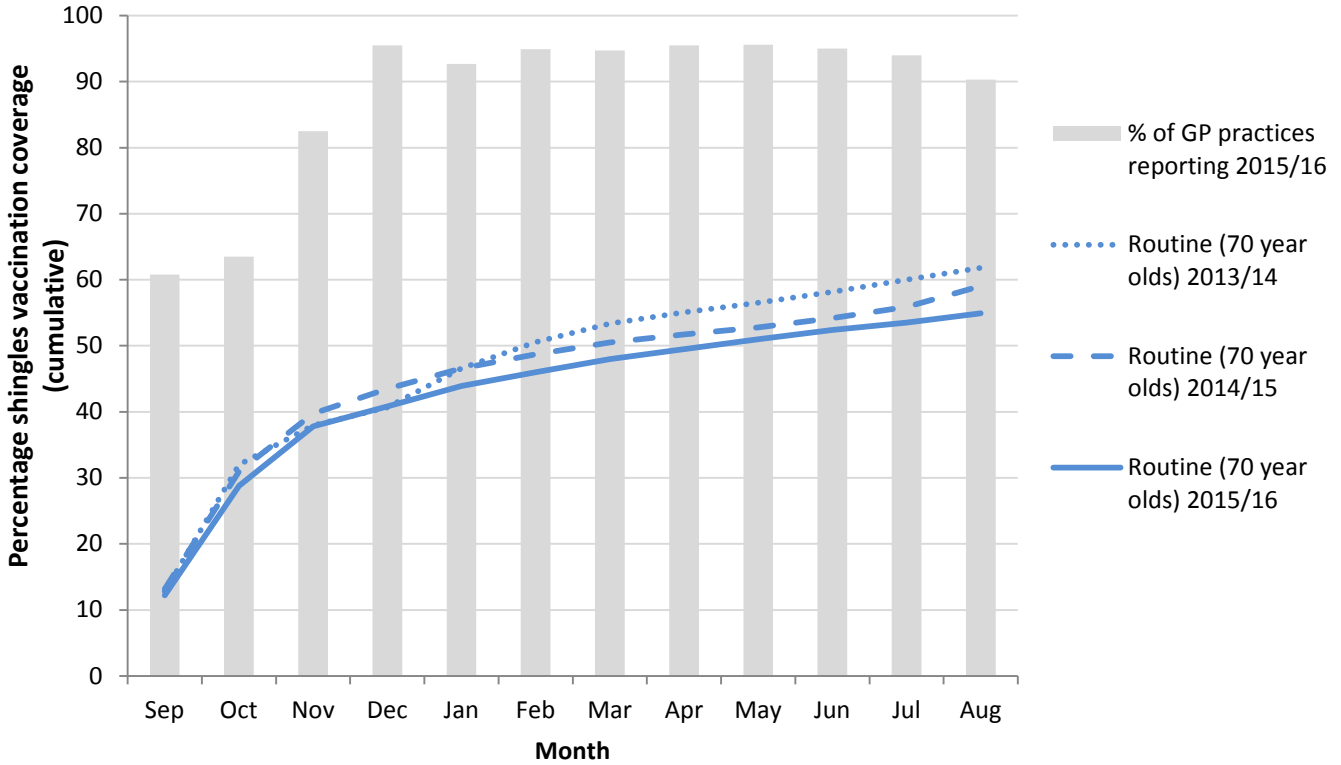
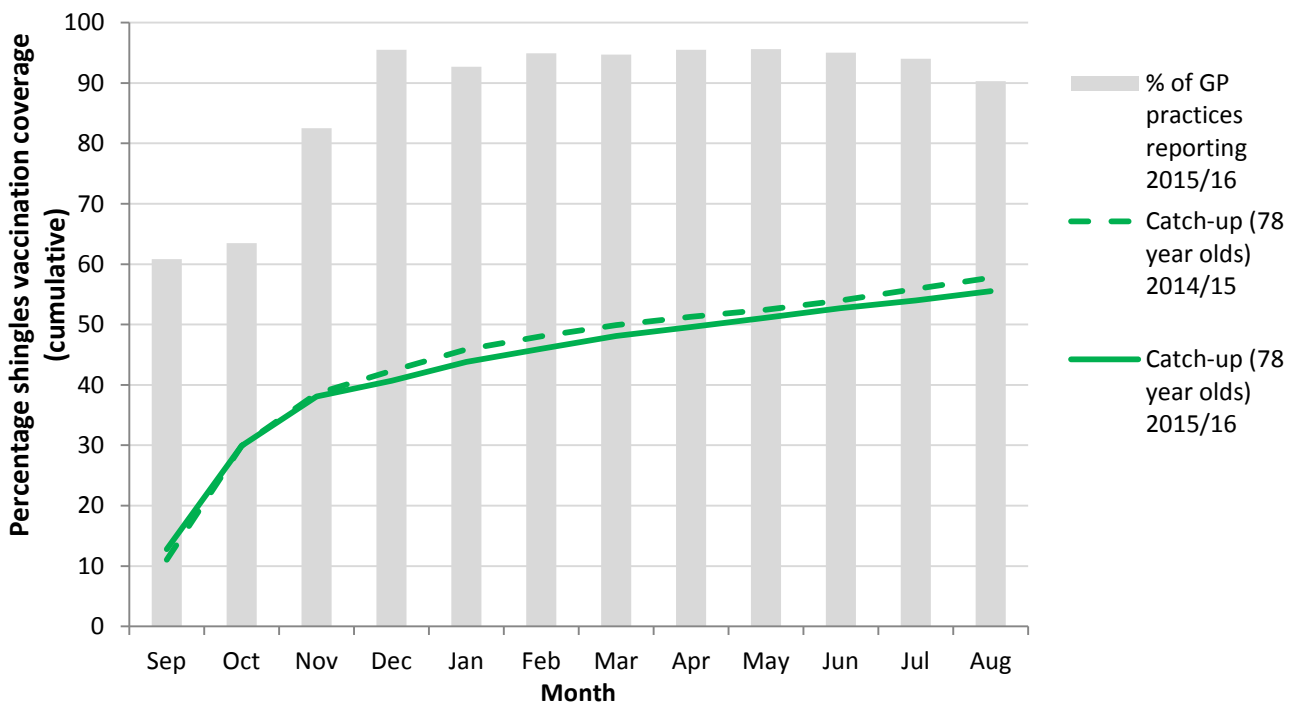


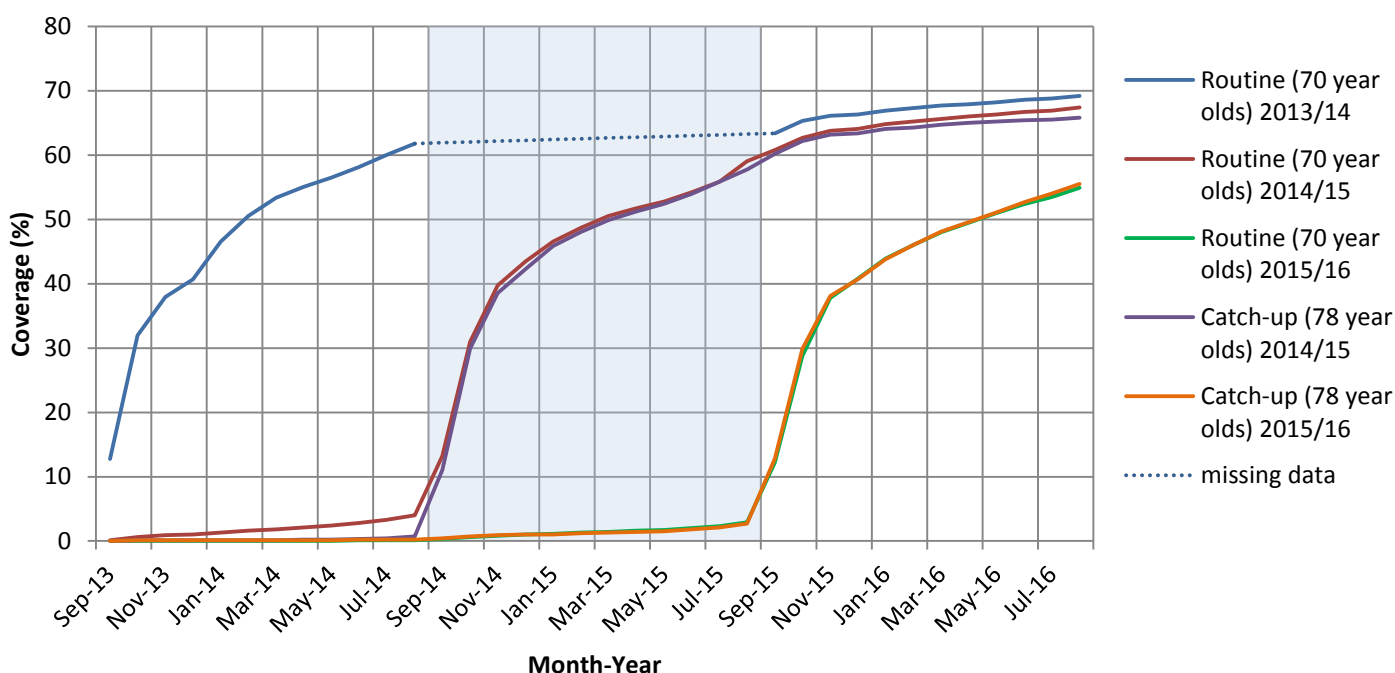
Figure 3. Monthly cumulative shingles vaccine coverage for catch-up cohorts 2014/15 and 2015/16 and the percentage of GP practices reporting in 2015/16*, England



*Due to technical issues, coverage estimates for September and October 2015 (figures 1 and 2) include data from only three of four IT suppliers, representing 61.5% GP practices [8].

Vaccine coverage in previous years' cohorts continued to increase in 2015/16. Those aged 71 years in 2015/16 (ie those in the routine 70 year old cohort in 2014/15) had increased coverage from 59.0% in August 2015 to 67.4% by the end of August 2016. Similarly, those aged 70 years in 2013/14 had steadily increased coverage from 61.8% in August 2014 to 69.2% by August 2016 (Figure 4).

Figure 4. Monthly cumulative shingles vaccine coverage for routine and catch-up cohorts monitored between September 2013 to August 2016, England



Contra-indications, refusals and uptake by gender

An estimated 3.0% of the routine cohort and 3.8% of the catch-up cohort fell into clinical risk groups in whom shingles vaccine may be contraindicated. Vaccine uptake in these groups was 33.1% for the routine cohort, and 36.1% for the catch-up cohort.

Among those eligible for the vaccine, 6.1% of 70 year olds and 7.0% of 78 year olds were recorded as having declined the vaccine, compared to 8.5% and 9.6% respectively in 2014/15.

In 2013/14 and 2014/15 vaccine uptake was higher in males than females for both the routine and catch-up cohorts. In 2015/16 vaccine uptake was higher in males for the catch-up cohort (54.5% males vs 51.4% females) but lower in males for the routine cohort (51.7% males vs 52.3% females).

Discussion

The third year of the shingles vaccination programme in England continued to see a decline in coverage. There may be a number of factors that have caused a drop in shingles vaccine uptake. These include difficulties in practices identifying the eligible patients during busy influenza immunisation clinics, a lack of call/re-call in the service specification to allow mop up of those who missed immunisation during the flu season, and possible lowering of patients' awareness of the vaccine since its introduction in 2013. PHE is promoting the need for shingles vaccines through professional channels and considering a range of possible approaches to simplify the programme and associated eligibility criteria.

The experience of the programme so far shows that coverage in specific cohorts increases in the years following the year the cohort becomes eligible for the vaccine. It is therefore expected that, like in previous years, coverage in those who were 70 on September 1 2015 will increase in subsequent years.

Coverage in the routine cohort in 2015/16 was 54.9%, but among those becoming eligible in 2015/16 (70 on 1 September 2015), only 52.0% were vaccinated between September 2015 and August 2016. This suggests 2.9% of this cohort was vaccinated prior to becoming eligible. Similarly, 2.7% of the catch-up cohort was vaccinated prior to becoming eligible.

The coverage data reported here are similar to shingles vaccine coverage calculated using data from 91 GPs reporting data to the Royal College of General Practitioners (RCGP) Research and Surveillance Centre [9]. RCGP data were available to December 2015 and gave a coverage by this month of 39% for both the 2015/16 routine and catch-up cohorts as well as showing continued vaccination of past cohorts.

The UK is one of the few countries to have introduced a shingles vaccination programme for older adults and to collate comprehensive coverage data [10]. Uptake data for Northern Ireland in 2015/16 for the routine (52.2%) and catch-up (50.3%) cohorts is in line with England uptake data (52.0% and 52.8% respectively) in these cohorts [data provided by Public Health Agency, Health and Social Care Northern Ireland]. Coverage data for Scotland in 2015/16, 54.4% in 70 year olds and 50.9% in 78 year olds, is also in line with England coverage data (54.9% and 55.5% respectively) [data provided by Health Protection Scotland]. The vaccine coverage in England is higher than that reported in the United States (US) in 2014, where 27.9% of adults aged 60 and above reported receiving herpes zoster vaccination to prevent shingles [11]. Australia will include shingles vaccine as part of its national immunisation programme free of charge from November 2016 for those aged 70 years, with a five year catch-up programme for those aged 71-79 years [12]. Canada also recommend

the shingles vaccine for older adults, but the vaccine has not previously been publicly funded, hence coverage has been low (estimated coverage in Alberta, Canada, was 8.4% for those aged 60 and above from 2009 to 2013) [13]. Shingles vaccine has been available free of charge for those aged 65-70 years in Ontario since September 2016 [14].

The Equality Act 2010 requires PHE to ensure that interventions and services are designed and implemented in ways that meet the needs of different groups in society, advancing equality of opportunity between protected groups and others. In order to monitor inequalities in vaccine coverage, these data are delineated by gender and ethnicity. The pattern of higher vaccine coverage in males observed in previous years' cohorts continued for the routine cohort in 2015/16, but the opposite was observed in the 2015/16 catch-up cohort. National data collected in 2014/15 has been analysed to explore inequalities in vaccine coverage and identified that compared with White British, some ethnicities had significantly lower coverage even after adjusting for geography and deprivation [Charlotte Ward, personal communication, findings submitted for publication]. Differences in shingles vaccine coverage by ethnic group have also been reported in the United States where, in those aged ≥ 60 years in 2014, highest coverage was observed in Whites (32.0%) compared with Blacks (11.6%), Hispanics (14.16%) and Asians (16.5%) [11]. Data for England will continue to be monitored and PHE, together with its partners, has agreed to form a working group to better describe and address inequalities in vaccine uptake.

Given the lower coverage achieved in the routine and catch-up cohort in 2015/16 compared with previous years, GPs are urged to continue to offer vaccinations to these cohorts as per current guidance, to improve protection in these age groups, who remain eligible until they reach the age of 80.

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