



Public Health
England

Protecting and improving the nation's health

Herpes zoster (shingles) immunisation programme 2014/2015: Report for England

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Executive summary

This report presents the evaluation of vaccine coverage for the second year of the herpes zoster (shingles) vaccination programme in England, from 1 September 2014 to 31 August 2015. Following its successful introduction in September 2013, coverage was maintained in the second year of the programme for both the routine (70 years old) and catch-up (78 and 79 years old) cohorts.

Shingles is caused by the reactivation of a latent varicella zoster virus (VZV) infection and is typically characterised by a unilateral 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.

In the second year of the programme (1 September 2014 to 31 August 2015), the vaccine was routinely offered to adults aged 70 years on 1 September 2014 and to two catch-up cohorts comprised of adults aged 78 and 79 years old on 1 September 2014.

In order to monitor the shingles vaccination programme, PHE has established a new vaccine coverage collection in England, monitoring coverage through monthly cumulative data collections via automatic upload of GP practice data using the ImmForm1 website. This report presents the final shingles vaccination coverage for the period 1 September 2014 to 31 August 2015.

Data collected for 2014/15 indicate shingles vaccine coverage for those aged 70 years on 1 September 2014 was 59.0%, compared with 61.8% in 2013/14, and ranged by NHS England area team (AT) from 48.8% (London) to 63.1% (Thames Valley), with two-thirds of ATs (16/25) reporting coverage above 60%. Annual shingles vaccine coverage for the two catch-up cohorts (those aged 78 or 79 years old on 1 September 2014) was 57.8% (no comparative data for 2013/14) and 58.5% (compared with 59.6% in 2013/14), respectively. For 78 year olds, this ranged by AT from 48.0% (London) to 63.7% (Thames Valley), with ten out of 25 ATs reporting coverage above 60%. For 79 year olds, this ranged by AT from 49.7% (London) to 63.6% (Thames Valley), with just under half (12/25) of ATs reporting coverage above 60%.

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/Logon.aspx?returnurl=%2f>

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 [5]. 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 [5].

In the second year of the programme (1 September 2014 to 31 August 2015), the vaccine was routinely offered to adults aged 70 years on 1 September 2014 (ie born between 2 September 1943 and 1 September 1944). The second year of the programme also included two catch-up cohorts comprised of adults aged 78 on 1 September 2014 (ie born between 2 September 1935 and 1 September 1936), and adults aged 79 on 1 September 2014 (ie born between 2 September 1934 and 1 September 1935). In addition, those who became eligible as 70 year olds from 1 September 2013 but had not yet been immunised were also eligible.

This report describes vaccine coverage data in the routine and catch-up cohorts in the second year of the programme, updating provisional cumulative data published in May 2015 reporting coverage to end-April 2015 [6].

All PHE documents relating to the shingles vaccination programme are accessible via the PHE shingles vaccination programme [pages](#).

Methods

Monthly, cumulative vaccine coverage data for shingles vaccination in England was automatically extracted from records of participating general practices (GPs) in England via the ImmForm website. Data was 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, 78 or 79 years on 1 September 2014 **who have ever received the vaccination** (numerator) as a proportion of the number of patients registered aged 70, 78 or 79 years on 1 September 2014 (denominator)
- **vaccine uptake** – The total number of patients aged 70, 78 or 79 years on 1 September 2014 **who received the vaccination between 1 September 2014 and 31 August 2015** (numerator) as a proportion of the number of patients registered aged 70, 78, or 79 years on 1 September 2014 (denominator)

Vaccine coverage data was also collected for those individuals in **future cohorts** ie in the 2014/15 survey those aged between 67 and 69 or between 72 and 77 as of 1 September 2014. Vaccine uptake data by gender for each eligible cohort was also collected. However, due to inconsistencies in data collection, it was only possible to present data from two GP IT suppliers, representing almost two-thirds of the data collected (62.5%).

PHE also commissioned PRIMIS² to provide Read Code specifications for clinical risk groups in whom shingles vaccination may be contraindicated [5], and data was collected on the number of individuals in eligible age cohorts who belonged to those risk groups as well the number of them who were vaccinated.

This report describes coverage and uptake of each eligible cohort, as well as uptake for future cohorts, by NHS England area team (AT). Uptake data by gender is presented, as is data on vaccination in contraindicated groups. Clinical commissioning group (CCG) and local authority (LA) level data are available for both the routine and catch-up cohorts on the PHE website [here](#)

² <http://www.nottingham.ac.uk/primis/tools/specifications/index.aspx>

Results

Vaccine coverage

Out of 7,802 GP practices in England, 7,473 (95.8%) provided annual shingles coverage data for the period 1 September 2014 to 31 August 2015, compared with 89.9% in the previous year. GP practice representation by AT ranged from 92.2% to 99.3%.

In the routine cohort, annual shingles vaccine coverage was 59.0% in 2014/15, compared with 61.8% in 2013/14. This ranged by AT from 48.8% (London) to 63.1% (Thames Valley), with two-thirds of ATs (16/25) reporting coverage above 60% (Appendix 1, Figures 1 and 2).

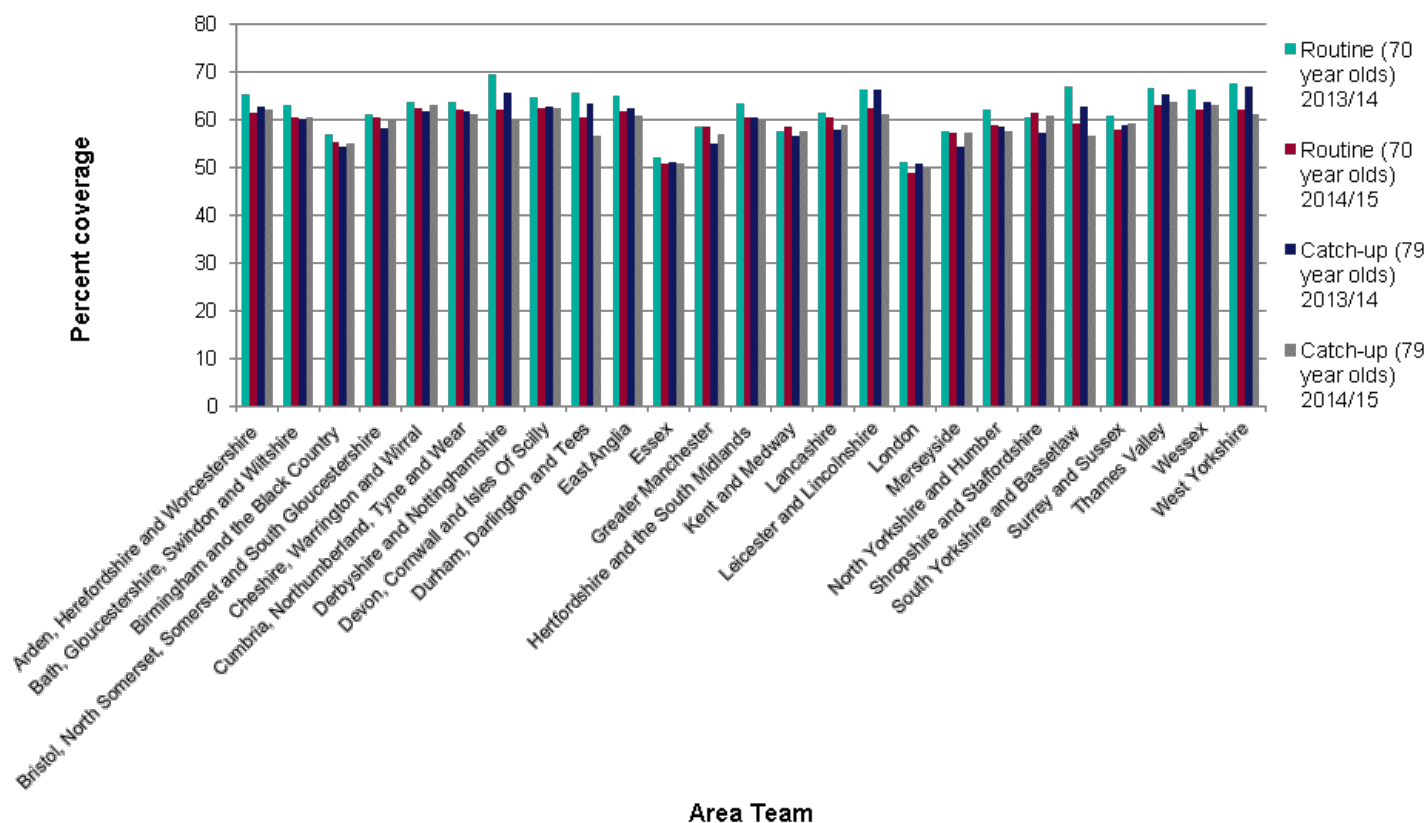
Coverage for the catch-up cohorts was 57.8% for 78 year olds (no comparative data for 2013/14) and 58.5% for 79 year olds (compared with 59.6% in 2013/14). For 78 year olds, this ranged by AT from 48.0% (London) to 63.7% (Thames Valley), with ten of 25 ATs reporting coverage above 60%. For the 79 year olds, this ranged by AT from 49.7% (London) to 63.6% (Thames Valley), with just under half (12/25) of ATs reporting coverage above 60% (Appendix 1, Figures 1 and 2).

Although coverage in London was consistently lower than that in other ATs, between July and August 2015 coverage increased by 4.3% (from 44.5% to 48.8%), compared with an increase of 1.5% in the same timeframe in 2014. The increase followed a press release in late July 2015 promoting the shingles vaccination programme in London, and suggests that the release had a positive impact on coverage in August 2015 [7] [8].

Figure 1: Shingles vaccine coverage estimates for the routine and catch-up cohorts by Area Team, August 2015, England

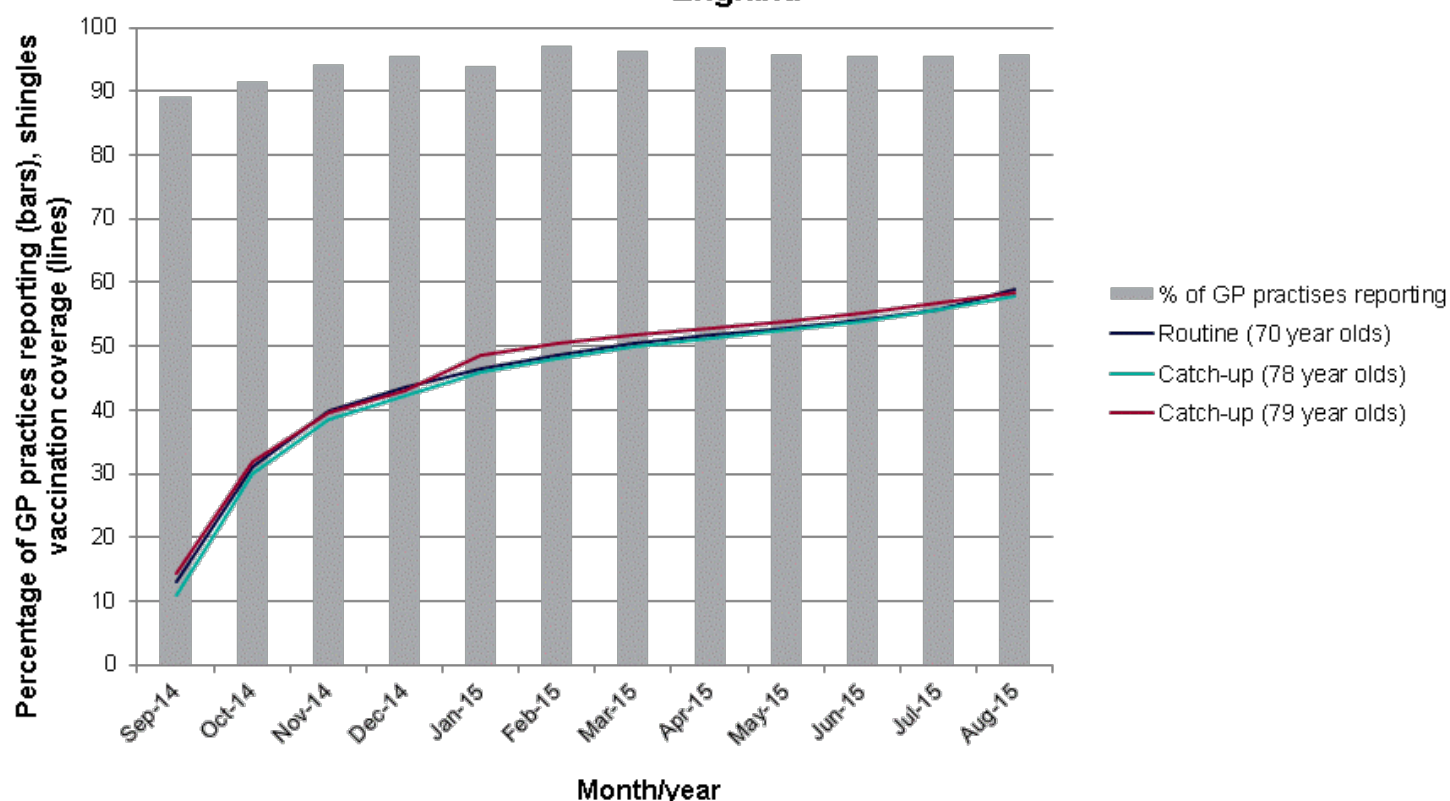


Figure 2: Shingles vaccine coverage estimates for the routine and 79 year old catch-up cohorts by Area Team and annual survey year



Similarly to the first year of the programme, most of those vaccinated received shingles vaccine in the first few months of the programme, during the seasonal influenza vaccination campaign. By the end of January 2015 (the end of the seasonal influenza vaccination coverage monitoring period for 2014/15) shingles vaccination coverage was above 45% for all three cohorts (Figure 3).

Figure 3: Monthly cumulative shingles vaccine coverage estimates and the percentage of GP practices reporting September 2014 to August 2015, England



Vaccine uptake and refusal

Shingles vaccine uptake (ie vaccinated between 1 September 2014 and 31 August 2015) for the routine cohort was 55.3%, compared with 61.8% in 2013/14. This ranged by AT from 44.1% (London) to 59.9% (Thames Valley). For those aged 78 and 79 years the annual shingles vaccine uptake was 57.1% (no 2013/14 comparative data) and 53.3% (compared with 59.6% in 2014/15), respectively. For the 78 year olds, this ranged by AT from 47.0% (London) to 62.9% (Thames Valley). For the 79 year olds, this ranged by AT from 41.9% (London) to 58.4% (Devon, Cornwall and Isles of Scilly). Due to inconsistencies in data collection, it was only possible to use vaccine uptake data from three GP IT suppliers, representing 98.3% of the data.

An estimated 2.9% of the routine cohort, 3.6% and 3.8% of the 78 and 79 year old catch-up cohorts respectively fell into clinical risk groups in whom shingles vaccine may

be contraindicated. Vaccine uptake in these groups was 36% for the routine cohort, 40.3% for the 78 year olds and 38.1% for the 79 year olds. Due to inconsistencies in data collection, it was only possible to use data from three GP IT suppliers, representing 98.3% of the data.

Among those eligible for the vaccine, 8.5% of 70 year olds, 9.6% 78 year olds and 10.3% of 79 year olds were recorded as having declined the vaccine.

As observed in 2013/14, vaccine uptake was higher in males than females for both the routine cohort (56.6% vs 56.1%) and the catch-up cohorts (60.4% vs 56.0% for those aged 78 and 57.0% vs 52.3% for those aged 79) [9].

Discussion

In the second year of the shingles vaccination programme in England, vaccine coverage of 59.0% was achieved for the routine cohort. For the two catch-up cohorts, 57.8% and 58.5% coverage was achieved for 78 and 79 year olds respectively. This represents a reduction in the proportion vaccinated in comparison to the first year of the programme, which achieved 61.8% for the routine cohort and 59.6% for the 79 year old catch-up cohort. However, the coverage achieved is particularly encouraging given that GPs were offering shingles vaccine to two catch-up cohorts in 2014/15, compared to one in 2013/14, and there was a parallel expansion of the routine immunisation programme for influenza vaccination to include children aged four years. Experience from other vaccination programmes targeting this age group have demonstrated it can take several years for a programme to become established and high coverage to be achieved. For example, for the influenza vaccination programme offered to all patients aged 65 years and over, an increase in coverage in England was observed once the programme had become established, increasing from 65.4% in 2000/01 (the first year of the programme) to over 70% from 2003/04 onwards [10]. While the 2014/15 coverage data demonstrates a second year of successful programme implementation, trends over time will continue to be monitored to ensure high coverage is maintained in future years.

In this report, we also present data collected on the estimated proportion of patients within the routine and catch-up cohorts who are in clinical risk groups in whom shingles vaccine may be contraindicated. We would expect the majority of patients identified to: (i) have a primary or acquired immunodeficiency state due to a medical condition or (ii) receive immunosuppressive therapy [5]. Vaccination uptake in contraindicated groups for 2013/14 was higher than expected, resulting in a review and validation of the extraction process to improve the quality and accuracy of this data [9]. Previously, those who had received immunosuppressive therapy up to six months before the start of the survey period were registered as contraindicated. This was updated for the 2014/15

collection, with those being registered as contraindicated if their latest recorded immunosuppressive therapy was after the start of the survey period. In the second year of the shingles vaccination programme, uptake in the contraindicated groups was substantially lower than in 2013/14, suggesting that the updated PRIMIS Read Code specification is recording a more accurate proportion of the registered population as contraindicated.

England is one of the few countries to have introduced a shingles vaccination programme for older adults and to collate comprehensive coverage data. The vaccine coverage in England is higher than that reported in the United States (US) in 2013, where 24.2% of adults aged 60 and above reported receiving herpes zoster vaccination to prevent shingles [11] (in the first year of the US programme, 2007, coverage was 1.9% [12]). Australia and Canada also recommend the shingles vaccine for older adults, but the vaccine is not publically funded, hence coverage is low (estimated coverage in Alberta, Canada, was 8.4% for those aged 60 and above from 2009 to 2013) [13, 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, this data is delineated by gender and ethnicity. Similar to 2013/14, uptake was higher in men than women in the routine cohort and just under 5% higher for men in the two catch-up cohorts. Although experimental ethnicity data was collected, data quality issues outlined in the 2013/14 report remain, and inconsistencies in collection between the four GP IT suppliers and a high proportion with no ethnic code make coverage figures by ethnicity difficult to interpret. In addition, these figures are unadjusted for factors such as socio-economic deprivation. As such, ethnicity data could not be published in this report. We are working to resolve these issues and hope to publish adjusted ethnicity data going forward.

Appendices

Appendix 1: Shingles vaccine coverage in England by age cohort and area team – 1 September 2014 to 31 August 2015

Area Team	Per cent of practices reporting annual data (no of forms completed/no of practices)	Percentage of age cohort vaccinated to end August 2015			
		Routine 70 years	Catch-up 78 years	Catch-up 79 years	Future cohorts (67-69 years and (72-77 years)
Arden, Herefordshire and Worcestershire	95.3	61.6	60.9	62.1	0.6
Bath, Gloucestershire, Swindon and Wiltshire	98.4	60.6	58.8	60.4	0.8
Birmingham and the Black Country	90.9	55.2	54.4	55.1	1.2
Bristol, North Somerset, Somerset and South Gloucestershire	95.0	60.4	60.9	60.0	0.5
Cheshire, Warrington and Wirral	94.6	62.4	61.2	63.0	0.6
Cumbria, Northumberland, Tyne and Wear	95.0	62.1	60.7	61.3	0.6
Derbyshire and Nottinghamshire	99.3	62.2	59.6	59.9	0.6
Devon, Cornwall and Isles Of Scilly	93.4	62.3	61.3	62.5	0.9
Durham, Darlington and Tees	97.6	60.4	57.1	56.7	0.8
East Anglia	96.5	61.9	59.5	60.7	0.6
Essex	97.4	50.9	50.3	50.7	1.0
Greater Manchester	92.3	58.7	56.5	57.1	0.8
Hertfordshire and the South Midlands	97.8	60.4	59.8	59.9	0.9
Kent and Medway	98.4	58.6	57.6	57.6	0.8
Lancashire	97.4	60.5	60.3	58.9	0.9
Leicester and Lincolnshire	95.2	62.6	60.1	61.1	0.6
London	95.8	48.8	48.0	49.7	1.5
Merseyside	92.2	57.4	56.0	57.4	1.0
North Yorkshire and Humber	97.0	58.9	57.6	57.6	0.7
Shropshire and Staffordshire	92.5	61.5	60.0	60.8	0.7
South Yorkshire and Bassetlaw	99.1	59.3	57.6	56.8	0.9
Surrey and Sussex	97.0	57.9	58.4	59.1	0.8
Thames Valley	95.3	63.1	63.7	63.6	0.7
Wessex	97.5	62.0	60.9	63.0	1.1
West Yorkshire	99.1	62.2	60.3	61.2	0.6
ENGLAND	95.8	59.0	57.8	58.5	0.9

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