

Pertussis vaccination programme for pregnant women update: vaccine coverage in England, July to September 2021

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Introduction

This report presents pertussis vaccine coverage in pregnant women in England for the period July to September 2021, updating previous data reported for June to August 2021 (1).

Following increased pertussis activity in all age groups, including infants under 3 months of age and the declaration of a national pertussis outbreak in April 2012 (2), pertussis vaccine has been offered to pregnant women since 1 October 2012 (3). The prenatal pertussis vaccination programme aims to minimise disease, hospitalisation and deaths in young infants, through intrauterine transfer of maternal antibodies, until they can be actively protected by the routine infant programme with the first dose of pertussis vaccine scheduled at 8 weeks of age (4).

In June 2014, the Joint Committee on Vaccination and Immunisation (JCVI) advised it should continue for a further 5 years (5). In February 2016, the JCVI considered new evidence demonstrating that vaccination earlier in pregnancy would increase opportunities during pregnancy for vaccination, without detrimentally affecting the protection afforded to the infant (6, 7). Based on this, JCVI advised that vaccination could be offered from gestational week 16, although for operational reasons vaccination should ideally be offered from around 20 weeks, on or after the foetal anomaly scan (8).

This advice was implemented from April 2016 as was offering the vaccine through general practice as well as some maternity services. In 2019, following JCVI recommendation, the prenatal pertussis vaccine became a routine programme in England (9).

In response to the coronavirus (COVID-19) pandemic, nationwide social distancing measures were initiated from 23 March 2020. To minimise disruptions, guidance to continue routine vaccination programmes with priority given to time sensitive vaccines, such as prenatal pertussis vaccines, were outlined by NHS England at the beginning of the pandemic (10).

In addition, the Royal College of Nursing published guidance on the management of immunisation clinics, and Public Health England (PHE) produced resources promoting immunisations to pregnant women and young families (11, 12).

Main points

This quarterly report evaluates pertussis coverage for women who delivered in the July to September 2021 quarter and became eligible for the prenatal pertussis vaccine from 16 weeks of pregnancy onwards.

Pertussis vaccine coverage in pregnant women for the second quarter of the 2021 to 2022 financial year was 65.4% in July, 64.9% in August, and 64.5% in September. The mean coverage for the quarter was 64.9%, which was 1.8 percentage points lower than mean coverage for the same quarter in the 2020 to 2021 financial year and 4.3 percentage points lower than mean coverage for the same quarter in the 2019 to 2020 financial year.

This observed decline in coverage has largely been driven by a decrease in London NHS Commissioning Region which had 14.8% lower coverage in September 2021 as compared to September 2019.

Methods

General practice (GP) level pertussis vaccine coverage data is automatically uploaded via participating GP IT suppliers to the ImmForm¹ website monthly and a separate annual extraction uploaded at the end of the financial year. ImmForm data is validated and analysed by the UK Health Security Agency (UKHSA) to check data completeness, identify and query any anomalous data and describe epidemiological trends.

Since April and May 2016 (implementation date varied by GP IT supplier) the following monthly (annual) data has been collected:

- denominator: number of women who delivered in the survey month (year), excluding miscarriages and stillbirths, regardless of gestational age
- numerator: number of women receiving pertussis vaccination between week 16 of pregnancy and delivery

For accurate denominators to be extracted from GP IT systems by the automated survey and precise coverage estimates to be calculated, it is important that the medical records of all women who have given birth have the following fields completed:

- the date of delivery
- the date of receipt of a pertussis-containing vaccine at or after week 16 of pregnancy, regardless of the setting where the vaccine was administered

¹ 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.

· where relevant, fields indicating stillbirth or miscarriage

From April 2021, 38 clinical commissioning groups (CCGs) merged to create 9 new CCGs which are reflected in the attached <u>data tables</u>. The new <u>CCGs</u> are:

- Bedfordshire, Luton and Milton Keynes CCG (M1J4Y)
- Hampshire, Southampton and Isle of Wight CCG (D9Y0V)
- Frimley CCG (D4U1Y)
- North East London CCG (A3A8R)
- North West London CCG (W2U3Z)
- Shropshire, Telford and Wrekin CCG (M2L0M)
- Black Country and West Birmingham CCG (D2P2L)
- Coventry and Warwickshire CCG (B2M3M)
- Kirklees CCG (X2C4Y)

Coverage by former local teams and NHS commissioning regions (based on the 2019 NHS England configurations) is also included in the attached data tables for trend comparisons.

Participation and data quality

All GP IT suppliers provided data for the July to September 2021 quarterly figures. National GP practice participation was at 97.8% (July 2021), 97.5% (August 2021) and 96.7% (September 2021).

Results

Monthly pertussis vaccine coverage ranged across the quarter from 64.5% in September to 65.4% in July, with mean coverage for the quarter at 64.9% (Table 1, <u>Figure 1</u>, see <u>data tables</u>). During this quarter, prenatal pertussis vaccine coverage by STP ranged from 28.0% (Cornwall and the Isles of Scilly Health and Social Care partnership STP, July) to 84.4% (Shropshire and Telford and Wrekin STP, July) (Table 1).

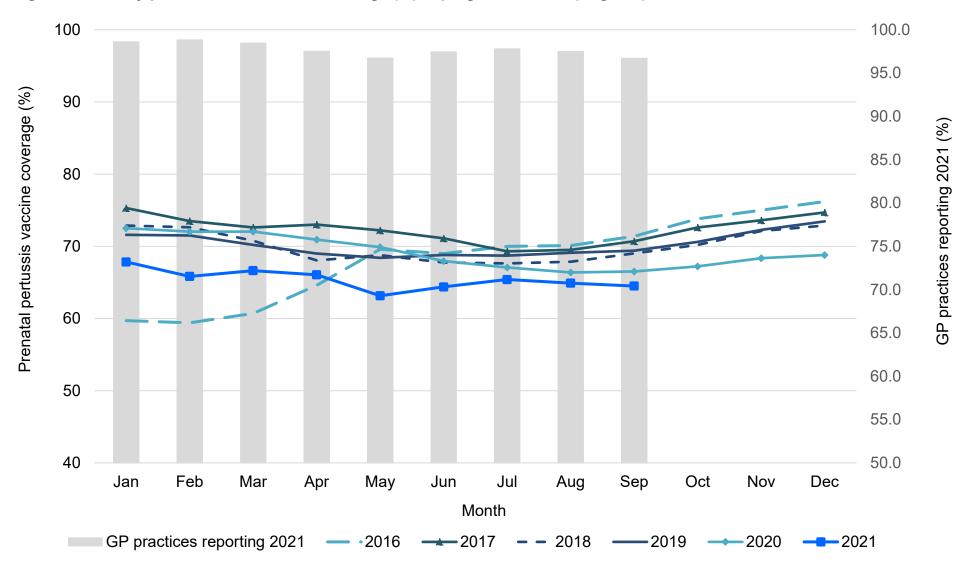
Table 1. Monthly pertussis vaccination coverage (%) in pregnant women by STP: England, July to September 2021

STP code	Sustainability transformation partnership (STP)	Jul-21	Aug-21	Sep-21
QE1	Healthier Lancashire and South Cumbria	59.9	57.9	63.0
QF7	South Yorkshire and Bassetlaw	74.5	71.9	71.8
QGH	Herefordshire and Worcestershire	67.0	62.8	69.0
QH8	Mid and South Essex	67.9	67.9	69.0
QHG	Bedfordshire, Luton and Milton Keynes	66.2	65.0	68.5
QHL	Birmingham and Solihull	47.4	53.0	48.7
QHM	Cumbria and North East	71.9	71.6	71.6
QJ2	Joined Up Care Derbyshire	79.4	81.5	75.5
QJG	Suffolk and North East Essex	72.3	73.1	75.0
QJK	Devon	75.8	66.8	69.5
QJM	Lincolnshire	60.3	60.7	62.3
QK1	Leicester, Leicestershire and Rutland	67.3	68.4	65.9
QKK	Our Healthier South East London	51.3	56.7	50.5
QKS	Kent and Medway	70.3	71.3	70.3
QM7	Hertfordshire and West Essex	66.7	70.5	71.0
QMF	East London Health and Care Partnership	37.1	34.7	31.3
QMJ	North London Partners in Health and Care	31.3	34.6	32.7
QMM	Norfolk And Waveney Health and Care Partnership	73.7	74.4	69.1
QNC	Staffordshire and Stoke On Trent	65.9	68.2	64.2
QNQ	Frimley Health and Care ICS	62.2	59.1	62.1
QNX	Sussex and East Surrey	76.9	76.8	73.1
QOC	Shropshire and Telford And Wrekin	84.4	80.6	77.8
QOP	Greater Manchester Health and Social Care Partnership	64.1	61.7	59.7

STP code	Sustainability transformation partnership (STP)	Jul-21	Aug-21	Sep-21
QOQ	Humber, Coast and Vale	78.8	80.0	79.9
QOX	Bath and North East Somerset, Swindon and Wiltshire	84.1	81.7	78.9
QPM	Northamptonshire	57.1	52.1	51.8
QR1	Gloucestershire	69.6	72.9	67.3
QRL	Hampshire and The Isle Of Wight	72.6	71.0	67.5
QRV	North West London Health and Care Partnership	44.0	44.8	45.1
QSL	Somerset	75.7	78.6	76.5
QT1	Nottingham And Nottinghamshire Health and Care	68.4	67.2	67.3
QT6	Cornwall and the Isles Of Scilly Health and Social Care Partnership	28.0	32.7	33.7
QU9	Buckinghamshire, Oxfordshire and Berkshire West	75.5	71.8	75.2
QUA	The Black Country and West Birmingham	56.7	56.7	54.8
QUE	Cambridgeshire and Peterborough	65.3	69.3	71.4
QUY	Bristol, North Somerset and South Gloucestershire	76.2	73.6	73.1
QVV	Dorset	75.7	74.7	76.1
QWE	South West London Health and Care Partnership	51.9	51.9	54.7
QWO	West Yorkshire and Harrogate Health and Care Partnership	72.2	70.8	72.3
QWU	Coventry and Warwickshire	60.9	63.1	63.0
QXU	Surrey Heartlands Health and Care Partnership	74.5	72.7	73.5
QYG	Cheshire and Merseyside	65.8	61.5	60.5
England		65.4	64.9	64.5
Monthly de	nominator	34,146	33,654	35,274

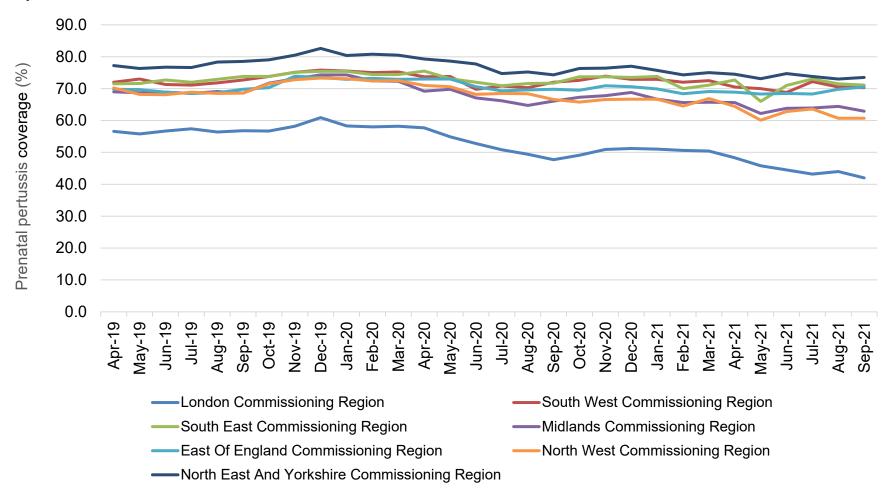
Monthly national coverage this quarter was between 1.5 percentage points lower in August to 2.0 percentage points lower in September, compared to monthly national coverage reported for the same quarter in the 2020 to 2021 financial year. Mean coverage for this quarter was 4.3 percentage points lower compared to national coverage reported in the same quarter in the 2019 to 2020 financial year. Coverage between July and September 2021 was the lowest compared to previous July to September coverage estimates post April 2016 when the new IT specification was implemented (Figure 1) and coverage peaked in the 2016 July to September quarter at a mean of 70.5%.

Figure 1. Monthly pertussis vaccination coverage (%) in pregnant women (England), 2016 to 2021



Coverage by former Local Teams and NHS commissioning regions (based on the 2019 NHS England configurations) are also included in the attached <u>data tables</u> for trend comparisons. In London NHS Commissioning Region there has been a decline in coverage each month since December 2019, with a 18.9% drop in coverage (60.9% versus 42.0%) to September 2021 (see <u>Figure 2</u>).

Figure 2. Monthly pertussis vaccination coverage (%) in pregnant women by NHS commissioning region, April 2019 to September 2021



^{1.} New IT specification implemented in March and April 2016 (13). Coverage reported prior to this date is likely to have been underestimated.

^{2.} Data from one of the largest IT suppliers is missing in April 2017.

^{3.} Data from the smallest IT supplier was excluded between July 2017 and September 2018, and in August to September 2019.

Discussion

The number of confirmed cases in infants under 3 months, who are targeted by the maternal immunisation programme, continues to remain extremely low with no confirmed cases between April and June 2021 compared to 13 and 23 cases in the same quarter in 2020 and 2019 respectively. Whilst overall pertussis activity has declined since measures to control the spread of COVID-19 were introduced, it continues to be important to encourage women to be immunised against pertussis at the optimal time during pregnancy in order to protect their babies from birth (14).

This quarterly report evaluates pertussis vaccine coverage for women who delivered in the July to September 2021 quarter. The continuation of the COVID-19 pandemic and its impact on the healthcare services has possibly resulted in vaccine coverage this quarter being lower than any previous July to September period since April 2016.

Overall, monthly prenatal pertussis vaccine coverage for the July to September 2021 quarter decreased from 65.4% in July to 64.9% in August and to 64.5% in September 2021. Between July to September 2021, the difference between the highest and lowest STP coverage for each month was around 56 percentage points, which is even higher than that observed for the April to June 2021 quarter (52%).

Coverage in the London NHS Commissioning Region has declined substantially since December 2019, falling 18.9% to the end of September 2021. Sharing learning across the country, including those measures that have been successful in mitigating the impact of social distancing, may help address any gaps in coverage for future cohorts of pregnant women.

Limitations to the data presented in this report may explain observed variability in coverage at the local level and over time. First, completeness of data is reliant on the recording of delivery dates in the mothers' medical records and comparison of this data with national data on maternities (15) indicate that in 2016, prior to the implementation of the revised IT specification, this data represented about 65% of the population of pregnant women.

A recent study in England suggests that maternity notes regarding pregnancy and delivery are often scanned or archived, rather than coded in an extractable format (16). There has been no indication that the COVID-19 pandemic has impacted the methods of recording and transferring vaccinations delivered in maternity units into the mothers' medical records.

Continued support in the delivery of this important programme has been sought from service providers (GP practices and maternity units), Screening and Immunisation Teams and Health Protection Teams. Screening and Immunisation Teams should continue to update service providers on the current epidemiology of the disease and the need to maintain and improve coverage achieved thus far.

If coverage, and ultimately the impact of the programme itself, is to be accurately monitored, it is essential that GPs and practice nurses continue to ensure that vaccination and date of delivery are recorded in the patient's GP record.

In areas that have commissioned maternity units to offer pertussis vaccines in pregnancy, it is important that providers ensure doses of vaccines given to individual women are also communicated to the woman's GP. Maternity units not offering pertussis vaccines to pregnant women should continue to discuss its importance, making use of available resources (17), and signpost the woman to her GP to receive the vaccine.

GPs, practice nurses, obstetricians and midwives should continue to encourage pregnant women to receive the pertussis vaccine, ideally between weeks 20 and 32 of their pregnancy (but up to term) to optimise protection for their babies from birth (8) and pre-natal pertussis vaccinations should be maintained throughout the COVID-19 pandemic (10, 11, 12).

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