



# Whooping cough rises sharply in UK and Europe

## Increasing vaccine uptake is critical to controlling pertussis outbreaks

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Pertussis incidence is high and climbing in the UK. In January 2024, there were 553 cases in England compared with 858 cases for the whole of 2023. The largest previous pertussis outbreak in recent years was in 2012, when cases were at their highest level in two decades. At this stage, it is difficult to tell how the current rise in pertussis activity will play out over the coming months.

Pertussis is highly contagious. Up to 90% of household contacts become infected, although harms occur predominantly in young infants, who are too young to be fully vaccinated and are at the highest risk of severe complications.<sup>1</sup> Roughly 4% of confirmed cases in January were in infants under the age of 3 months, although most people affected have been over 15 years old.<sup>2</sup>

The rise in pertussis infections has been replicated across many European countries. It is thought to be the result of the natural cyclical pattern of pertussis, where cases rise every few years (and from an exceptionally low incidence during the covid-19 pandemic), in combination with a steady reduction in pertussis vaccine uptake among pregnant women and children. In September 2023, Denmark declared a pertussis epidemic after the incidence rose throughout the summer.<sup>3</sup> Similarly, the Czech Republic is experiencing its worst pertussis outbreak in a decade despite pertussis vaccination being mandatory.<sup>4</sup> Other affected countries include Belgium, Norway, and Spain.<sup>4</sup>

In the UK, pertussis is a statutorily notifiable disease. Healthcare professionals are required to notify public health authorities of suspected cases based on clinical assessment rather than waiting for laboratory confirmation. During periods of high prevalence, the positive predictive value of a clinical diagnosis will be greater than when prevalence is low, although the increased likelihood of people presenting to their general practitioner with pertussis places additional pressures on primary care. Anyone with pertussis should stay away from nursery, school, or work until 48 hours after starting appropriate antibiotics, or three weeks after symptom onset if they have not received antibiotics. Although public health exclusion is necessary to prevent onward transmission, it risks widening inequalities and has potential economic effects for working people and families.

A high incidence of pertussis places additional pressure on primary care, secondary care, and public health services already responding to an increase in measles cases. Health protection actions focus on protecting the most vulnerable, with antibiotic prophylaxis offered to those at the highest risk of severe disease and groups such as healthcare workers

who are at risk of transmitting the infection to vulnerable people.

### Vaccination strategy

All infants in the UK are offered pertussis vaccination as part of the 6-in-1 combination vaccine at 8, 12, and 16 weeks of age, with an additional preschool booster. However, the UK has seen a steady decline in uptake of all routine childhood vaccinations over the past decade. As of September 2023, 92.9% of 2 year olds had completed their 6-in-1 vaccinations, compared with 96.3% in March 2014. Immunity from pertussis vaccination wanes over time, so teenagers and adults may still become infected.

Routine childhood vaccination does not protect young infants at highest risk, but vaccination of pregnant women to boost maternal antibodies is 97% effective at preventing death from pertussis in this group. All pregnant women are offered pertussis vaccine, but uptake has dropped from over 70% in September 2017 to 58% in September 2023.<sup>5</sup> NHS trusts reported that the pandemic adversely affected vaccination rates, on top of a longer term decline.<sup>6</sup>

Resolving the current outbreak requires immediate public health measures, including prompt clinical assessment, antibiotics, and isolation of infectious individuals. However, the most effective strategy to strengthen long term population protection is increasing vaccination uptake. Parents are being urged to contact their GP if their child's routine vaccinations are not up to date. However, responsibility for increasing uptake cannot fall solely on parents. Healthcare professionals, particularly those working with pregnant women and infants, have a vital role in promoting and supporting access to vaccination; 86% of parents say that healthcare professionals are their most trusted sources of vaccine information.<sup>7</sup>

Crucially, we know that lower vaccine uptake is directly linked to wider inequalities. Targeted, co-produced approaches are needed for those who experience particular challenges accessing vaccinations (such as asylum seekers or pregnant women in prison), in combination with population-wide campaigns, to increase vaccine coverage and ensure that health inequalities do not widen further during this current rise in cases.

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