

Childhood Immunisations for Pre-School Children

Summary

Immunisation is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body's own immune system to protect the person against subsequent infection or disease. Immunisation is a safe and cost-effective means to improve the health of populations and globally is estimated to save between 2 and 3 million lives per year¹. The World Health Organisation (WHO) states that after clean water, vaccination is the most effective public health intervention in the world.

This JSNA chapter covers immunisations routinely administered to pre-school children in the UK in accordance with the NHS vaccination schedule². There is a linked chapter which covers immunisations for school-age children.

Local context

The uptake rates for all of the pre-school immunisations in Bristol in 2025/26 are significantly lower than South West regional averages but mainly better than the national averages, which is an improvement over the situation just two years ago. Coverage had been declining over the last 10 years for the majority of pre-school vaccinations in Bristol, but in 2024/25 and 2025/26 we have seen some increase in the uptake of almost all of them across the pre-school vaccination schedule.

There is significant variation across Bristol in pre-school vaccination uptake rates and, unlike many other Public Health indicators, this variation does not clearly correspond with deprivation. In practice this variation is associated with a complicated range of interrelated cultural and demographic factors with deprivation among them, as well as issues of access and awareness. Within Bristol there is lower uptake on average within our Inner City and East locality compared to the rest of the city, and this is consistent across the range of childhood vaccinations, as it is for many of those delivered at older ages also.

National targets and herd immunity

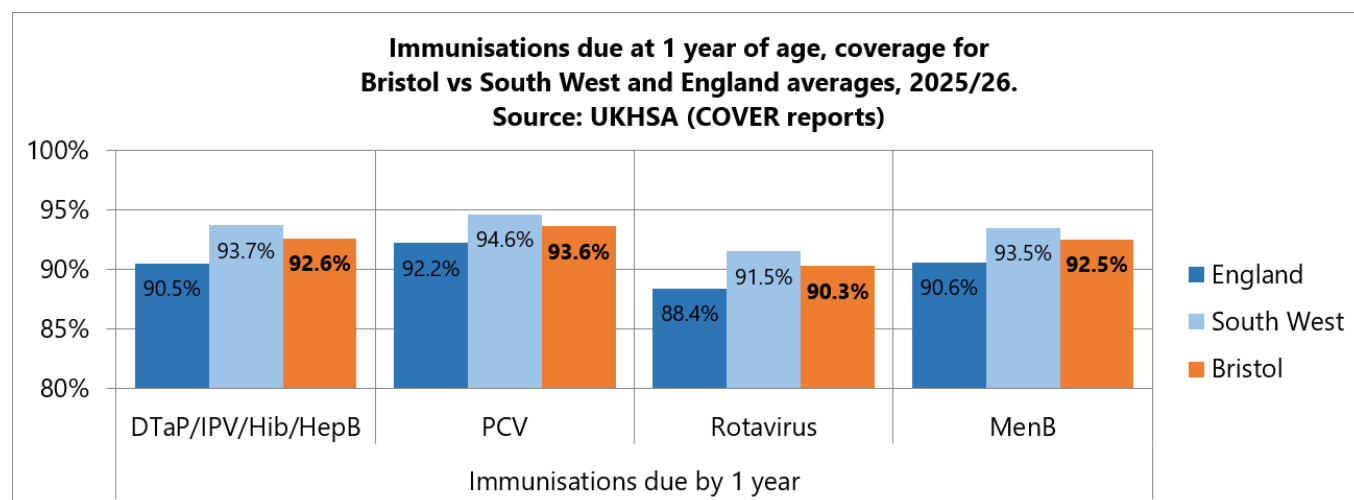
For most immunisations, the WHO states a target of immunising at least 95% of all children because this is the level where 'herd immunity' can be achieved. Herd immunity occurs when a high percentage of the population are vaccinated, making it difficult for a disease to spread because there are so few unprotected people left to infect.

This means that the few people unable to receive vaccinations (e.g. because they are too young or are having treatment for other diseases which prevents them from having vaccinations) can still be protected from catching the disease because there is less of it circulating¹. In order for immunisation to be effective, it is therefore vital to monitor the coverage levels within the population. What follows are the latest data available on pre-school immunisation coverage levels for Bristol.

Immunisations due by 1 year old

- Diphtheria, tetanus, polio, pertussis, Haemophilus influenza type B and hepatitis B (6-in-1; DTaP/IPV/HIB/HepB)
- Pneumococcal disease (PCV)
- Rotavirus
- Meningitis B (MenB)

Figure 1: Immunisations due at 1 year of age, coverage for Bristol vs South West and England averages, 2025/26.
Source: UKHSA (COVER reports)

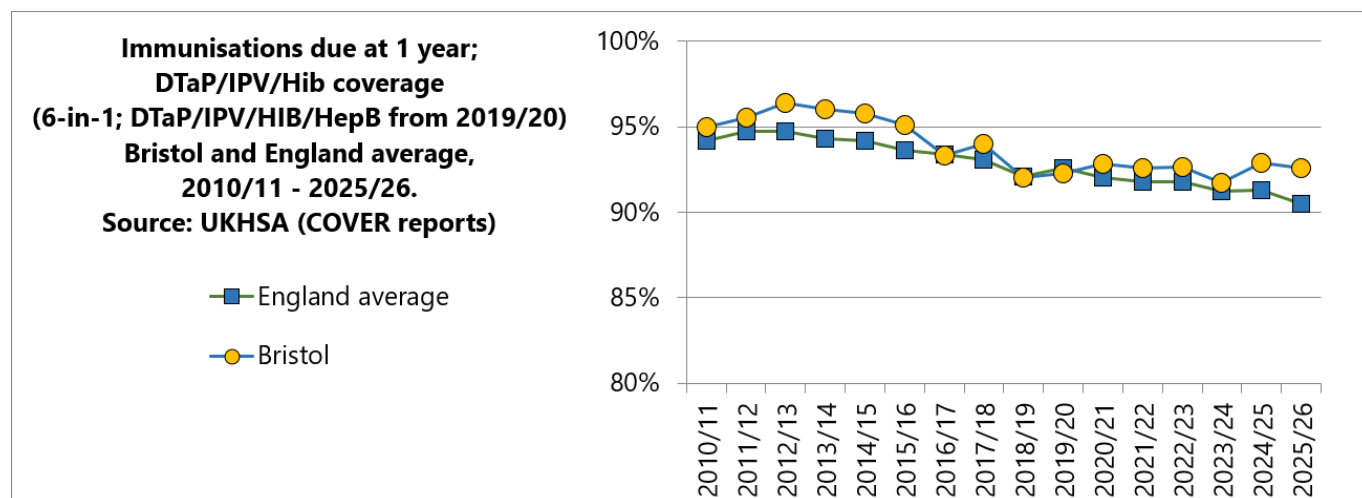


Diphtheria, tetanus, polio, pertussis, Haemophilus influenza type B and hepatitis B (6-in-1; DTaP/IPV/HIB/HepB) is a single vaccination that protects children against six serious diseases; Diphtheria, Tetanus, Pertussis (Whooping Cough), Polio, Haemophilus influenza type B (a cause of meningitis and pneumonia as well as other types of infection) and hepatitis B. By the age of one year a child is recommended to have been given 3 doses of the vaccine; all three doses are required to protect the child. Immunisation against hepatitis B was added to the previous 1-in-5 vaccination with effect from 2019/20, but the scheduling of this vaccination remains unaltered.

Figure 2 overleaf shows that uptake in Bristol has seen periods of declining coverage, particularly from 2012/13 to 2018/19 (from 96.4% to 92.0%), but since then coverage has tended to fluctuate around a more stable level albeit with fluctuation year to year, around and just above 92%. Having been close to the national average levels of coverage, from 2016/17 to 2023/24, Bristol's coverage for this vaccination has been noticeably higher than the national average in 2024/25 and 2025/26. The latest statistics show that uptake in Bristol (92.6%) is significantly higher than the national average (90.5%).

In 2025/26, Bristol's coverage for this vaccination was the highest amongst the English Core Cities, whose statistics range from 83.1% in Manchester to 92.4% in Sheffield. The Bristol coverage for this vaccination remains some way short of the 95% population coverage target for herd immunity.

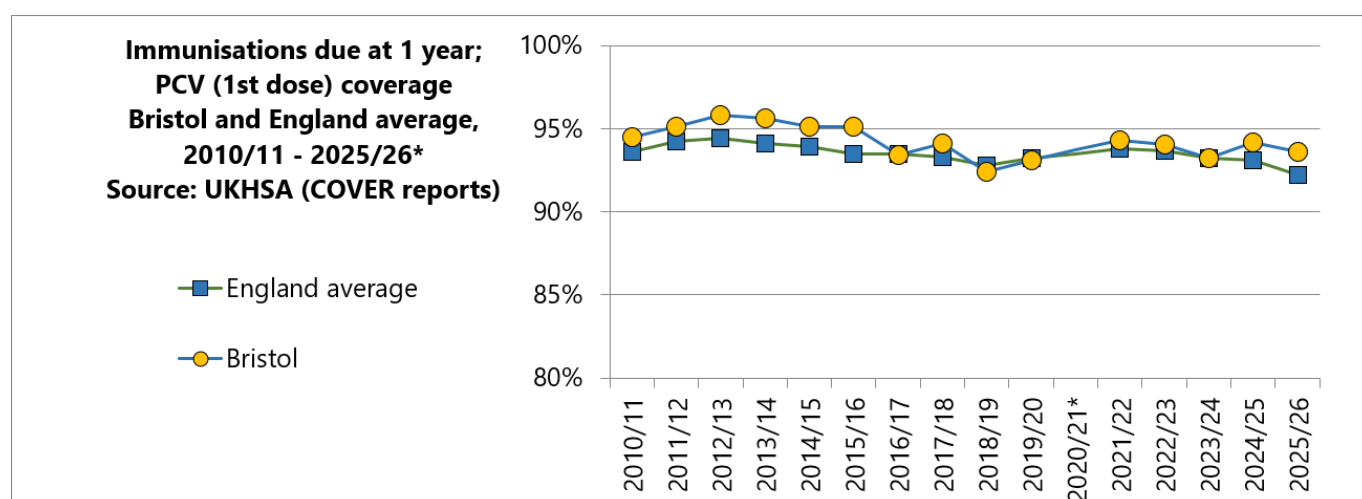
Figure 2: DTaP/IPV/HIB coverage (6-in-1; DTaP/IPV/HIB/HepB from 2019/20) at 1 year of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)



PCV (or pneumococcal conjugate vaccine) protects against an infection which can cause serious and potentially life threatening pneumonia, meningitis and septicaemia.

There have been several changes to the scheduling and administration of this immunisation which should be borne in mind when interpreting the trends in coverage. All babies born on or after 1 January 2020 received their 1st dose of PCV at 12 weeks of age. Prior to this, PCV primary at 12 months was 2 doses administered at 8 and 16 weeks. 2021/22 was the first year that coverage reported was based on the single dose primary course, and no data is available for the year 2020/21. From the 1st July 2025, the first dose offer of PCV immunisation moved to 16-weeks of age rather than 12-weeks.

Figure 3: PCV (1st dose) coverage at 1 year of age, Bristol and England averages, 2010/11 - 2025/26*. Source: UKHSA (COVER reports)



*PCV coverage data at 12 months was unavailable in 2020-21 due to a change in the schedule for this vaccine

Figure 3 shows that from 2012/13 to 2019/20, when the change in the scheduling of this vaccination was introduced, the coverage for this vaccination in Bristol declined overall from just under 96% to around 93%. Uptake since this time and the introduction of the single dose regime has been slightly improved, although there are some year-to-year fluctuations, tending to vary between 93% and 94%. For the first time since 2015/16, the coverage in Bristol during 2024/25 and 2025/26 (94.2% and 93.6% respectively) was significantly higher than the national average (93.1% and 92.2%) but remains a little short of the 95% population coverage target for herd immunity.

During 2025/26 Bristol had the third highest coverage (out of 8) for this immunisation within the English Core Cities group, which ranged from 85.3% in Manchester to 94.5% in Newcastle-upon-Tyne.

Rotavirus is a highly infectious stomach bug that typically , causes diarrhoea (sometimes with vomiting), tummy ache and fever in babies and young children. Most children recover at home within a few days, but nearly 1 in 5 will need to see their doctor, and 1 in 10 of these end up in hospital as a result of complications such as extreme dehydration. Since its introduction into the vaccination programme, the rotavirus vaccine has prevented more than 70% of cases. The vaccination is delivered as 2 oral doses between 8 and 12 weeks of age².

The Bristol uptake of this immunisation declined between 2020/21 and 2022/23 (from 91.0% to 88.6%) but has improved since to 90.3% in 2025/26, significantly higher than the national average (88.4%). Bristol uptake for this vaccination remains below the south-west regional average (91.5%) but is the highest amongst the Core Cities comparator group where uptake ranges from 80.2% in Manchester to 89.9% in Newcastle-upon-Tyne and Sheffield.

MenB - Meningococcal disease occurs due to infection by a bacteria that can cause both meningitis (infection of the membrane that covers the brain inside the skull), and septicaemia (infection of the blood stream). This vaccine is against type B (MenB), which is responsible for more than 90% of meningococcal infections in young children, an infection that can lead to serious illness, potentially cause brain damage, amputations and even death².

Since 2023/24, uptake of this vaccination has improved in Bristol from 90.7% to 92.5% in 2025/26, still a little short of the 95% herd immunity aspiration and the South-West regional average (93.5%), but significantly higher than the national average uptake (90.6%) and the highest within the Core Cities comparator group.

Variation across Bristol in childhood immunisation coverage – At 1 year

Annual uptake statistics by GP practice where the vaccination is delivered by GP practice based teams or staff (as for all childhood pre-school immunisations), allow for some insight into the variation across the LA area. In Bristol we are able to map our wards in an approximate fashion to those GP practices that mainly serve their residents, in the form of GP localities. The map overleaf (figure 4) indicates which wards relate to which GP localities via a best-fit methodology.

For all of the immunisations due in the first year of life, the Inner City and East locality has the lowest uptake, below the city average. The uptake in the other two localities is typically closer and

slightly above the city average. Deprivation tends to be associated with a lower level of immunisation uptake on average but the GP localities are not particularly homogenous in terms of the levels of deprivation to be found within their boundaries, and other analyses of vaccination rates where more detailed granular data has been available, have tended not to identify deprivation in isolation as the strongest predictor of uptake levels. What tends to be found is that deprivation working in combination with a number of other cultural and demographic factors will explain much more of the variation in uptake. The Inner City and East locality has the largest population of minoritised ethnic communities in the city, as well as some of the city's most deprived areas, and this may go some way to explain the lower uptake in this area.

Figure 4: Bristol GP localities mapped to Bristol LA wards. Source: Bristol City Council Public Health

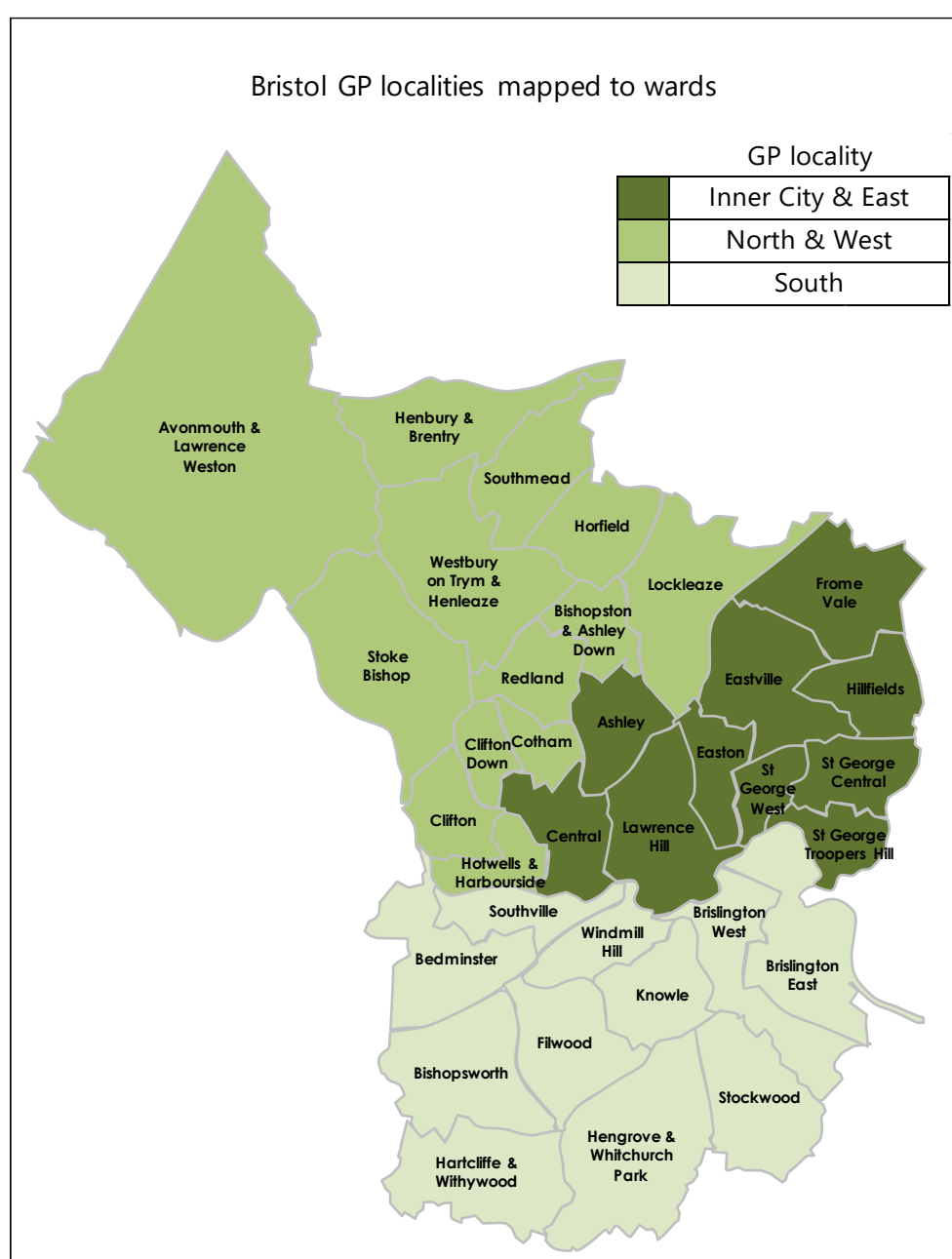
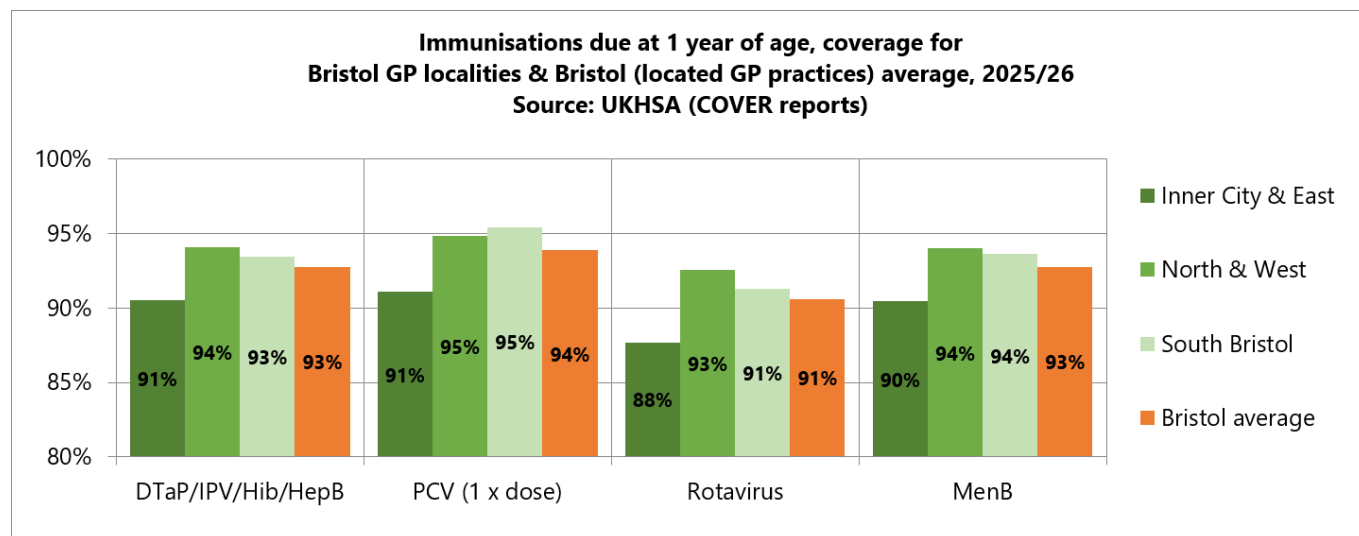


Figure 5: Immunisations due at 1 year of age, coverage for Bristol GP localities vs Bristol average, 2025/26. Source: UKHSA (COVER reports)



Immunisations due by 2 years old

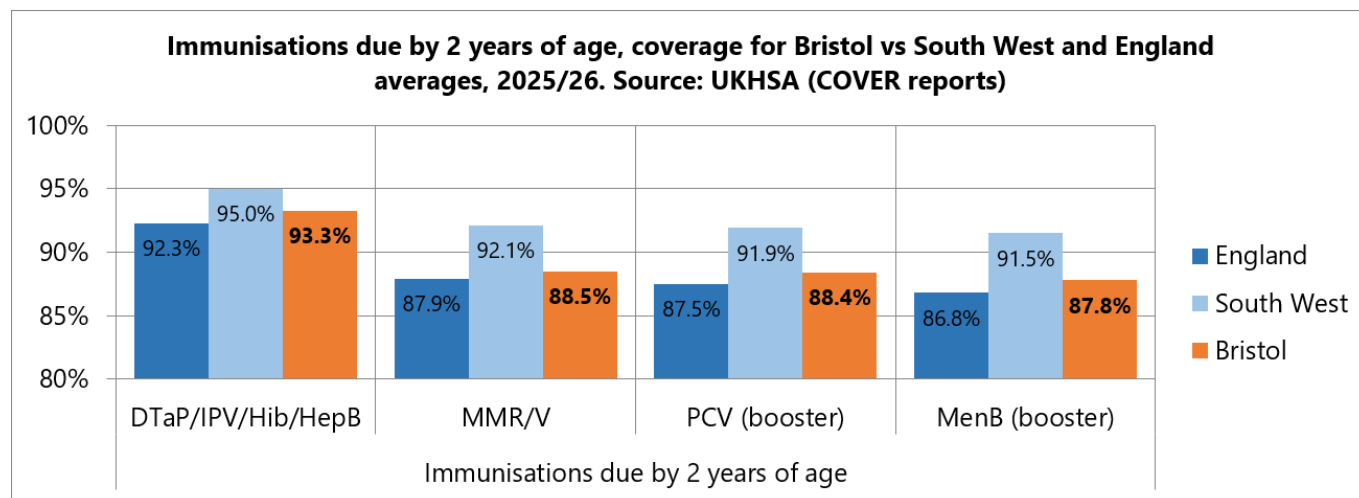
- Diphtheria, tetanus, polio, pertussis, Haemophilus influenza type B and hepatitis B (6-in-1; DTaP/IPV/HIB/HepB)
- Measles, mumps and rubella (MMR)/ +varicella (MMRV) from Jan 2026 – first dose*
- Pneumococcal disease (PCV) - booster
- Meningitis B (MenB) – booster

Changes to the immunisation schedule for children born on or after 1st July 2024:

The haemophilus influenzae type b and meningitis C (Hib/MenC) booster, previously offered to children turning 1-year of age, was deleted from the routine childhood immunisation schedule with effect from the 1st July 2025 and there are no published coverage statistics for this vaccination from 2025/26 onwards.

*A second dose of MMR/V vaccination, previously offered after the third birthday, will now be offered and delivered to children born on or after the 1st July 2024 at eighteen months of age. Children born before this date will continue to receive their second dose after their third birthday as previously. From now until 2027/28, as different birth cohorts will be receiving their second dose of MMR/V vaccination at different ages it would be inappropriate to publish MMR/V second dose uptake by two years of age and this statistic is likely to continue to be provided in relation to coverage of all children by 5 years of age and change for 2028/29.

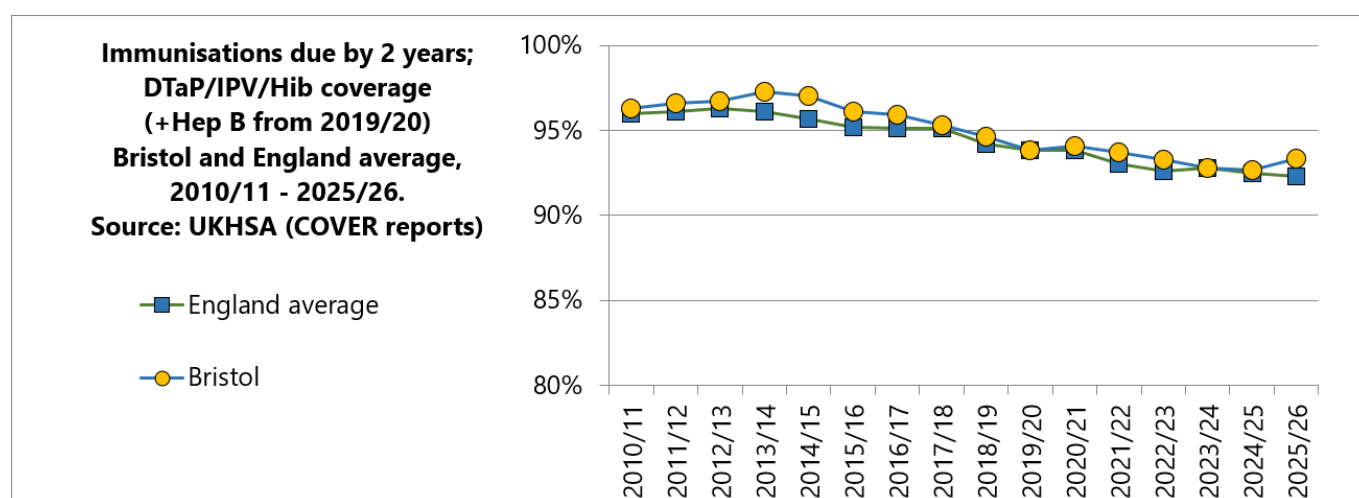
Figure 6: Immunisations due by 2 years of age, coverage for Bristol vs South West and England averages, 2025/26.
Source: UKHSA (COVER reports)



Diphtheria, tetanus, polio, pertussis, Haemophilus influenza type B and hepatitis B (6-in-1) By the age of two years old, a child should have been given 3 doses of the vaccine (4 doses for children born on or after 1st July 2024, the 4th dose to be offered at 18 months of age, with effect from 1st January 2026).

Between 2013/14 and 2024/25 the coverage rate for this vaccination by 2 years of age in Bristol fell year-on-year, in all but one year (2020/21) from a peak of 97.3% to 92.6% in 2024/25. There was a small improvement in the 2025/26 uptake of this vaccine in Bristol to 93.3%, significantly higher than the national average (92.3%) but below the south west regional average (95.0%) and the 95% population coverage target for herd immunity.

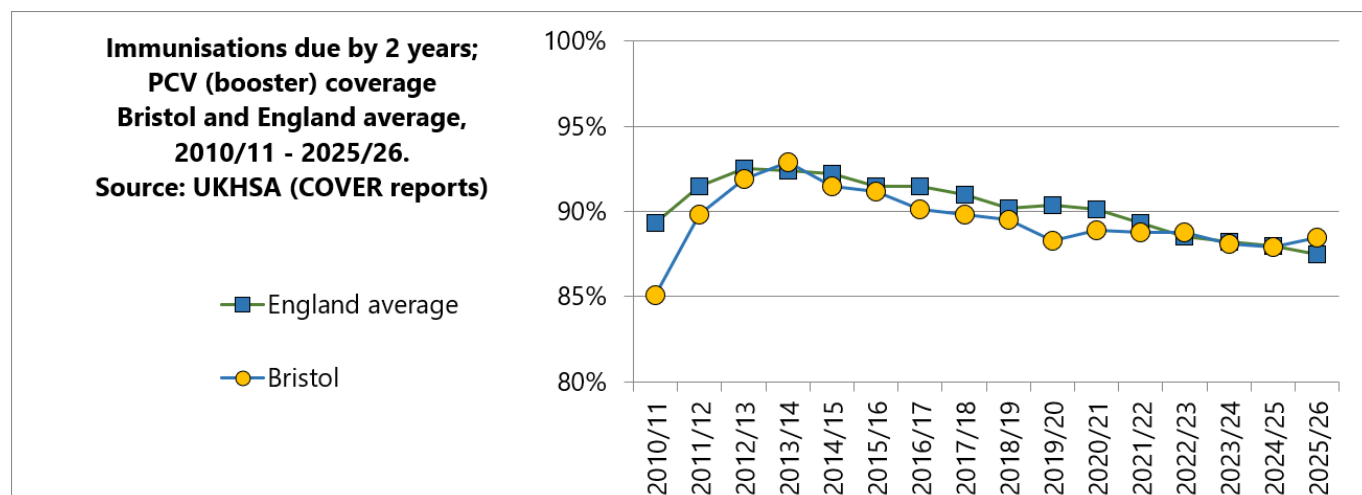
Figure 7: DTaP/IPV/HIB (+Hep B from 2019/20) coverage by 2 years of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)



PCV booster – For children born prior to January 2020, in addition to the 2 doses of the PCV vaccine during their first year of life, a booster dose is due in the following year, before their second birthday.

In a similar fashion to the previous vaccination described the uptake for the PCV booster before 2-years of age in Bristol fell in every year between 2013/14 and 2024/25 apart from 2020/21, dropping from a peak level of 92.9% to 87.9% over this period. There was some improvement during 2025/26 to 88.4% uptake in Bristol. The current uptake in Bristol is statistically similar to the England average of 87.5%. Bristol uptake for this vaccination remains well short of the 95% population coverage target for herd immunity.

Figure 8: PCV booster coverage by 2 years of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)



MMR/V one dose - Measles, mumps and rubella (MMR) are highly infectious conditions that can have serious, potentially fatal complications, including meningitis, swelling of the brain (encephalitis) and deafness. They can also lead to complications in pregnancy that affect the unborn baby and can lead to miscarriage². The MMR single vaccine protects against Measles, Mumps and Rubella (German measles). One dose should be received by 2 years age (usually around 12 months).

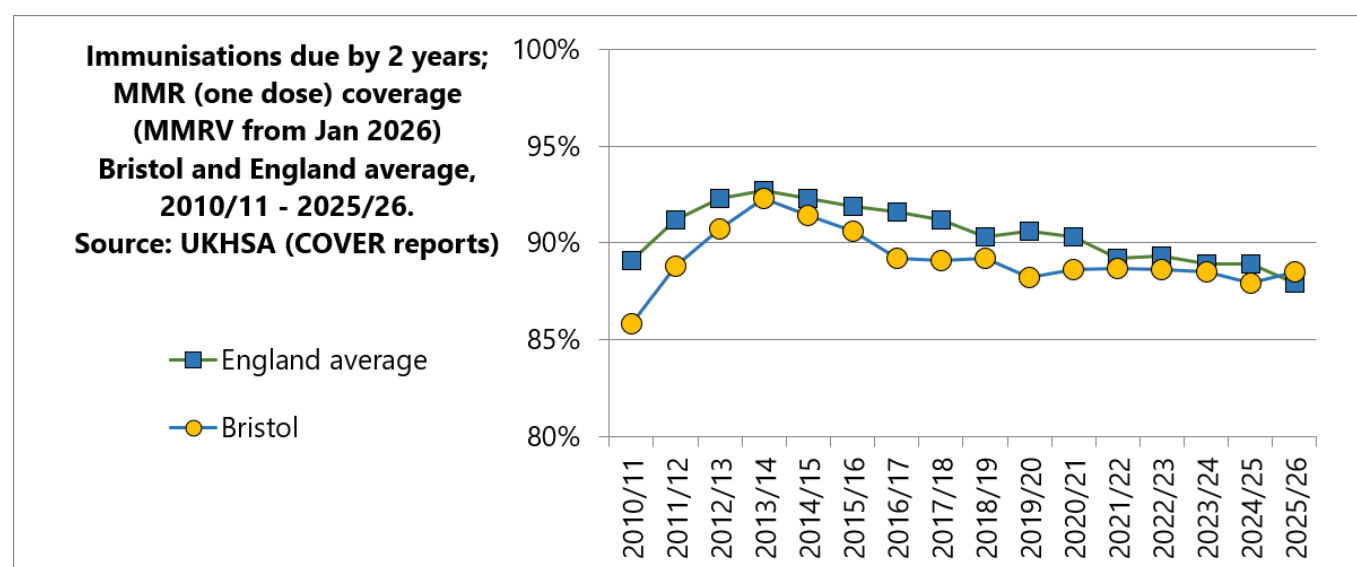
With effect from January 2026, immunisation against varicella (chickenpox - caused by the varicella zoster virus) was added to this vaccination. Varicella is a highly infectious disease, occurring most commonly in young children. The illness is typically self-limiting but like measles, mumps and rubella, can potentially cause severe complications, particularly through bacterial infection in both children and adults for whom the illness tends to be more severe. Varicella is a particular risk to infants, pregnant women (and their unborn child) and immunosuppressed individuals.

Nationally, MMR uptake was low during the 1990s, partly due to the reported link between MMR, bowel disease and autism. This link has since been firmly discredited and uptake has risen, but as coverage has failed to reach the 95% population coverage target for herd immunity there have been outbreaks of measles in the UK.

The uptake of one dose of MMR/V vaccination by the age of 2-years in Bristol declined quite sharply between 2013/14 and 2016/17 from 92.3% to 89.2%. From that time onwards the uptake level has been more consistent over time with some small fluctuation year to year. In 2024/25 the uptake was the lowest recorded since 2010/11 at 87.9%, but there was some recovery during the latest year to 88.5% in 2025/26. The 2025/26 uptake in Bristol was statistically similar to the national average (87.9%), well below the 95% population target for herd immunity and significantly lower than the south-west regional average (92.1%).

The coverage in the English Core Cities ranges from 78.7% in Birmingham to 90.9% in Newcastle-upon-Tyne, Bristol's coverage is towards the top of this range.

Figure 9: MMR/V (one dose) coverage by 2 years of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)

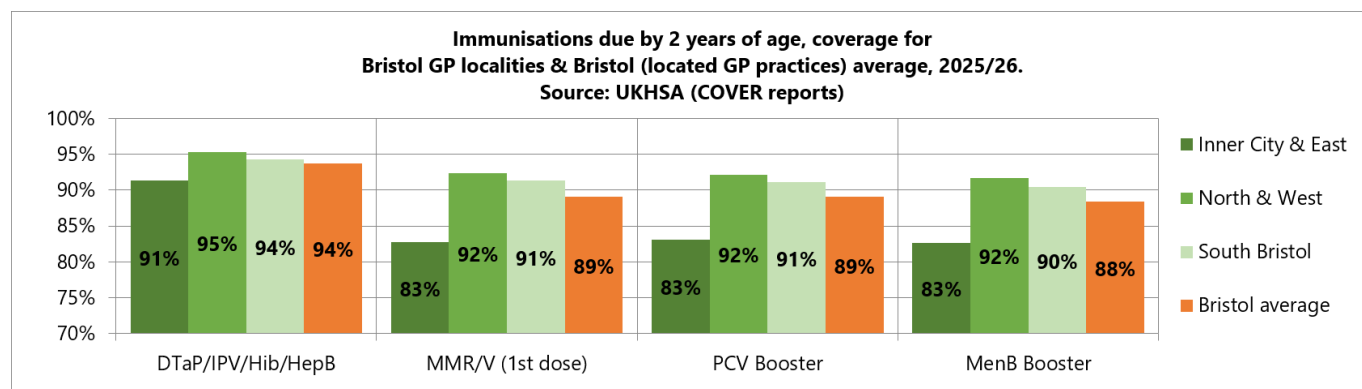


Variation across Bristol in childhood immunisation coverage – At 2 years

Please see the description of this analysis for the immunisations due by 1 year of age.

As observed for the childhood vaccinations due by 1 year of age, Inner City and East locality has the lowest uptake levels for all of the immunisations due by 2 years of age also. Similarly, the other localities have much higher and more similar levels of uptake, above the city average.

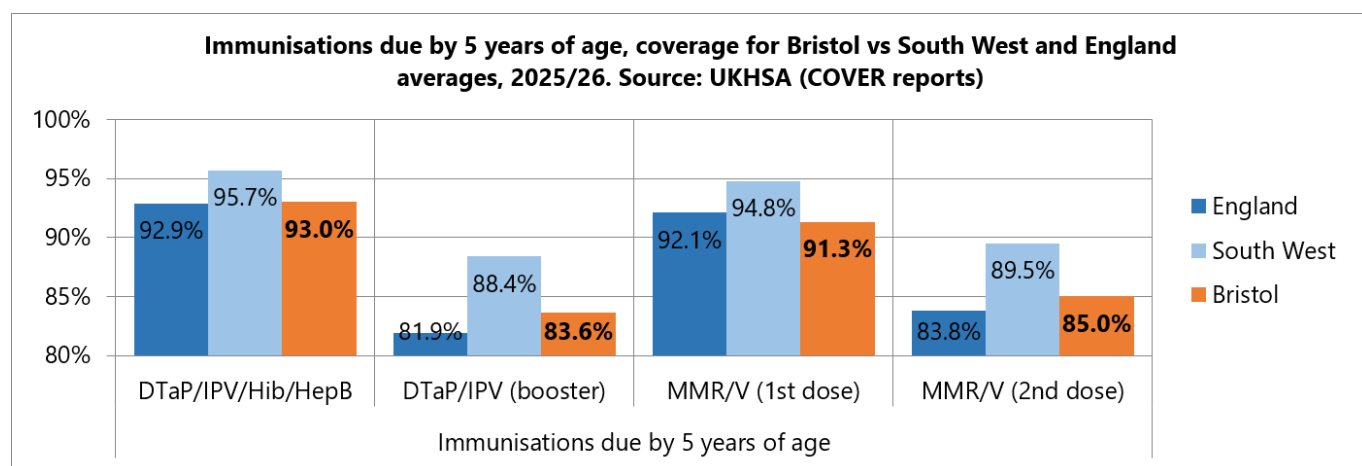
Figure 10: Immunisations due by 2 years of age, coverage for Bristol GP localities vs Bristol average, 2025/26.
Source: UKHSA (COVER reports)



Immunisations due by 5 years old

- Diphtheria, tetanus, polio, pertussis and Haemophilus influenza type B (DTaP/IPV/HIB) – Primary course
 - Diphtheria, tetanus, polio and pertussis (DTaP/IPV booster)
 - Measles, mumps and rubella (MMR) – First dose
 - Measles, mumps and rubella (MMR) / +varicella (MMRV) from Jan 2026 – First and second doses*
- (*See 2-year immunisations for changes to the delivery of MMR/V second dose)

Figure 11: Immunisations due by 5 years of age, coverage for Bristol vs South West and England averages, 2025/26.
Source: UKHSA (COVER reports)



Diphtheria, tetanus, polio, pertussis and Haemophilus influenza type B (DTaP/IPV/HIB) –

A child should have been given 3 doses of the vaccine by the time they are 1 year old, but if a dose is missed it can be given at a later date. Children born on or after 1st July 2024 will be due to receive a fourth dose at around 18 months of age.

The 2025/26 uptake of this vaccine in Bristol, by 5 years of age was (93.0%), below the 95% population coverage target for herd immunity and the south-west regional average (95.7%), but similar to the national average (92.9%). By definition, this coverage tends to relate mainly to vaccination activity taking place around 4 years earlier than now and so tends to reflect past delivery performance to a large extent.

Diphtheria, tetanus, polio and pertussis (DTaP/IPV booster) – This immunisation is offered pre-school, typically from 3 years and 4 months of age onwards, to boost protection against diphtheria, tetanus, polio and pertussis (whooping cough) even further than the vaccine referred to above.

The 2025/26 uptake of this vaccine in Bristol, by 5 years of age was (83.6%), better than the national average (81.9%) but well below the south-west regional average (88.4%). This coverage measure is a more accurate reflection of more recent vaccination delivery than the primary course described above.

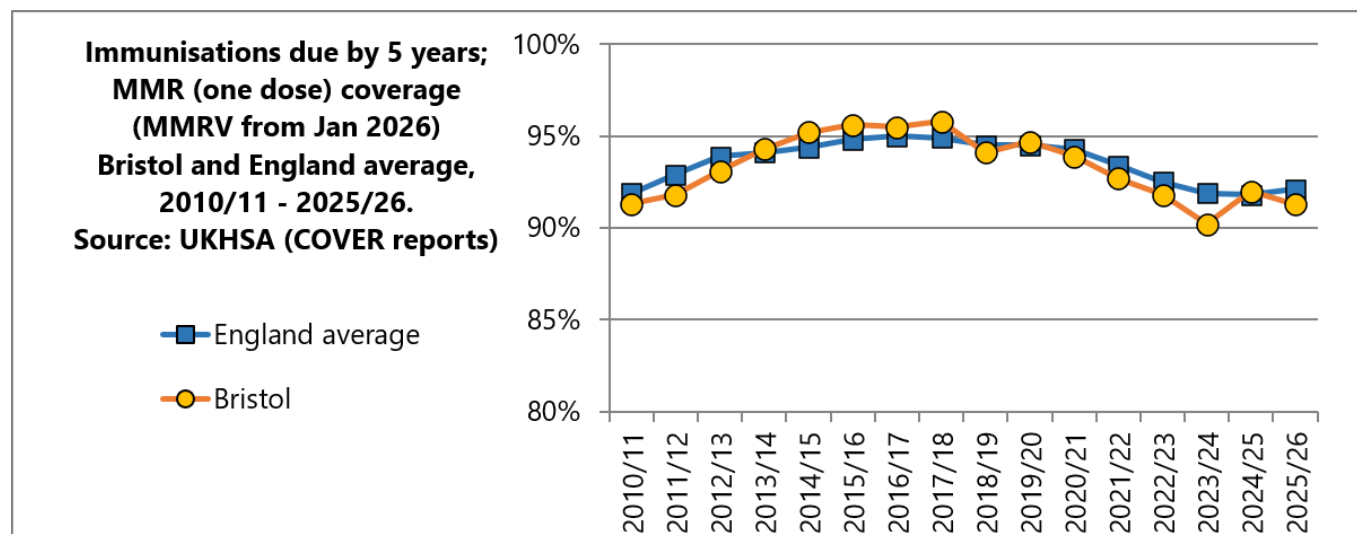
Measles, mumps and rubella (MMR/V) – Two MMR doses should have been received by the age of 5 years (one at about 12 months and one at about 3 & ½ years of age for children born prior to July 2024, and around 18 months of age for those born on or after that date).

The addition of protection from varicella (chickenpox) to this vaccination, from January 2026 onwards, is explained more fully in relation to the first dose of MMR/V by 2-years of age previously.

In Bristol in 2025/26, the proportion of 5 year olds that had received at least one dose of MMR/V vaccine by this age, was 91.3%, significantly lower than the national average (92.1%) and the South West regional average (94.8%). This coverage measure has varied considerably over the last 15 years, tending to reflect to a large extent vaccination delivery 3 or 4 years prior to the census date for this measure as most children receive their first dose of MMR/V vaccine well before their 5th birthday (typically in the second year of life) but some catch-up vaccination also. This measure of coverage by 5-years of age increased from 91.3% to 95.8% between 2010/11 and 2017/18 before declining for a prolonged period to 90.2% by 2023/24. Since then there has been a small recovery in coverage to 91.3% by 2025/26.

A single immunisation with the MMR/V vaccine will provide most recipients with protection from mumps, measles, rubella and varicella but a second vaccination provides superior and longer lasting protection and so a second dose is recommended.

Figure 12: MMR/V (one dose) coverage by 5 years of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)

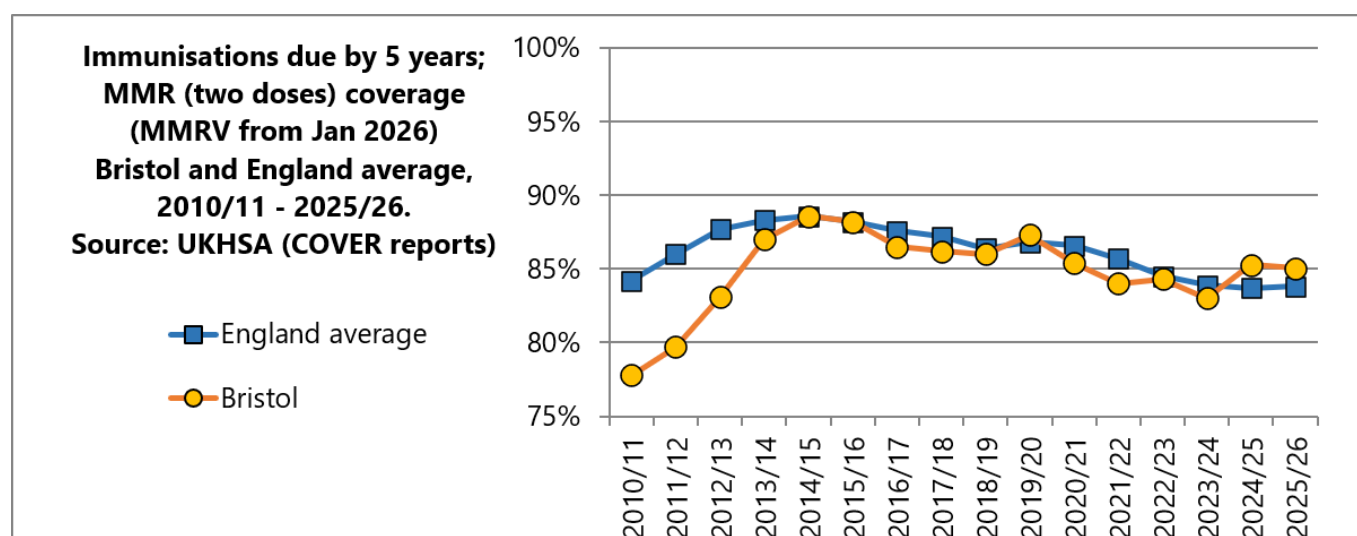


In Bristol, the 2025/26, coverage for two doses of the MMR/V vaccine at 5 years of age, was 85.0%. This was a little lower than the 85.3% reported for 24/25, but both years represent an improvement over the 83.0% in 2023/24, the low point of a decline that was most noticeable from 2019/20 onwards (starting from 87.3%), but which appears to have started in 2014/15.

Bristol's current uptake for two doses of MMR/V is significantly higher than the national average (83.8%), only the second year where that has been the case since 2010/11 but remains significantly lower than the south-west regional average (89.5%).

Bristol's uptake of two doses of MMR vaccine at 5 years of age is towards the top of the range for the Core Cities group, where coverage in 2025/26 ranged from 71.7% in Nottingham to 85.5% in Newcastle upon Tyne.

Figure 13: MMR (two doses) coverage by 5 years of age, Bristol and England averages, 2010/11 - 2025/26. Source: UKHSA (COVER reports)

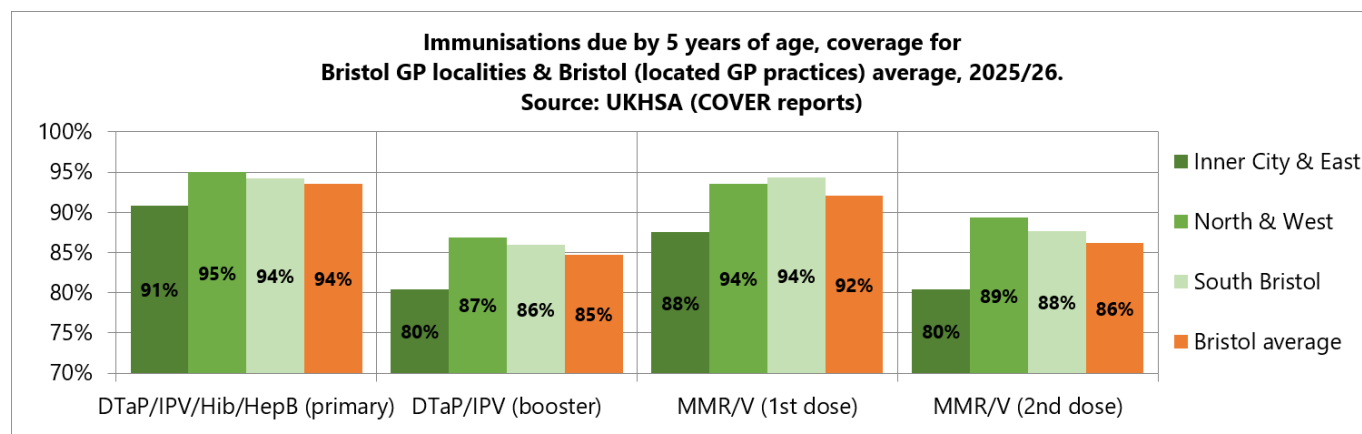


Variation across Bristol in childhood immunisation coverage – By 5 years of age

Please see the description of this analysis by GP locality for the immunisations due by 1 year of age.

As observed for immunisations due by 1 or 2 years of age, Inner City and East locality has the lowest average level of uptake for all childhood immunisations due by the age of 5 years.

Figure 14: Immunisations by 5 years of age, coverage for Bristol GP localities vs Bristol average, 2025/26. Source: UKHSA (COVER reports)



Further Information / References:

- 1) World Health Organization. <https://www.who.int/topics/immunization/en/>
- 2) NHS. <https://www.nhs.uk/conditions/vaccinations/nhs-vaccinations-and-when-to-have-them/>
- 3) Childhood Vaccination Coverage Statistics- England, 2025/26:
<https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-april-2025-to-march-2026>
- 4) Cover of vaccination evaluated rapidly (COVER) programme: annual data.
Supplementary GP vaccination coverage, England (COVER programme): April 2025 to March 2026: <https://www.gov.uk/government/statistics/cover-of-vaccination-evaluated-rapidly-cover-programme-april-2025-to-march-2026>

Date updated: September 2026

Next Update Due: September 2027