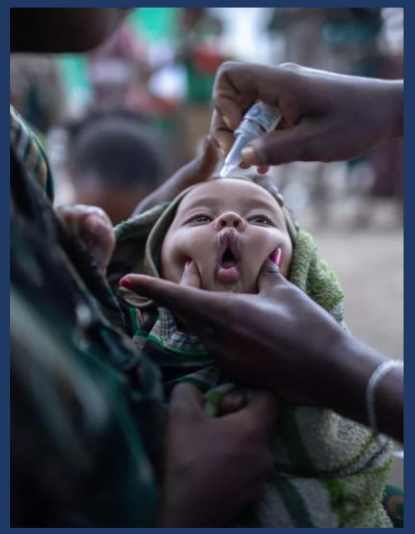





United Kingdom

Administrative Data Quality Review Report, 2025







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Administrative Data Quality Review

This report presents a systematic review of immunization administrative data quality. It is designed to support country-level data review discussions. Administrative ("admin") data can be affected by reporting errors, denominator inconsistencies, and supply disruptions. This report helps identify where data quality issues may exist and why admin coverage may diverge from the WHO/UNICEF Estimates of National Immunization Coverage (WUENIC), survey, and official government estimates.

This report covers the following data quality components:

Schedule & Supply Context

Vaccine schedule, introduction years, and recorded stockouts

Coverage Overview

WUENIC, admin, official government, and survey coverage across all vaccines and years.

Admin Coverage Flags

Years where admin coverage exceeds 100% or changes by more than ± 10 percentage points.

Admin vs. Estimates

Gaps between admin and WUENIC estimates; gaps between admin and official government estimates.

Numerator Checks

Percent change from the previous year in the number of children vaccinated; co-administration consistency checks.

Denominator Checks

Percent change from the previous year in target population size; live births vs. surviving infants over time.

Admin Data Availability Heatmap

Heatmap showing which vaccines have missing or present administrative data by year.

Admin Data Comments

Country-reported explanations for numerator accuracy, denominator source, and denominator accuracy.

Flags in this report indicate areas that warrant further review — they do not necessarily indicate errors. Country context, schedule changes, and reporting system updates should be considered alongside these findings.

The electronic Joint Reporting Form (eJRF)

Since 1998, in an effort to strengthen collaboration and minimize the reporting burden of countries, WHO and UNICEF have jointly collected immunization system and related information through a standard questionnaire (the Joint Reporting Form) sent to all Member States. In 2021, the form was updated to a cloud-based solution known as the electronic Joint Reporting Form (eJRF).

The eJRF serves three core functions:

Mission-Critical Data	Strategic Utility	Comprehensive Scope
Serves as the primary data source for tracking the **Immunization Agenda 2030 (IA2030)** and the Sustainable Development Goals (SDGs).	Informs WUENIC estimates, guides global funding decisions, and populates the UNICEF *State of the World's Children* reports.	Captures national and subnational coverage, vaccination schedules, vaccine stockouts, and disease trends.

All data in this presentation is sourced from the eJRF.

Definitions of immunization terms

Vaccine coverage
Percentage of infants (children under one year of age) who received certain vaccine-doses. For example, coverage of DTP3 is the percentage of infants who received all three doses of diphtheria, tetanus, and pertussis (DTP) vaccine.

Unvaccinated
An infant that did not receive the first dose of a vaccine series. The term zero-dose is used to describe children unvaccinated with DTP1.

Under-vaccinated
An infant who received some but not all the recommended vaccine-doses in the national schedule.

Vaccine-Doses
- Bacillus Calmette-Guerin (BCG): vaccine against tuberculosis
- Hepatitis B birth dose, given within 24 hours after birth (HepBB)
- Diphtheria, tetanus, and pertussis vaccine, first dose (DTP1) and third dose (DTP3)
- Hepatitis B vaccine, third dose (HepB3)
- Haemophilus influenzae type b vaccine, third dose (Hib3)
- Inactivated polio vaccine, first dose (IPV1) and last dose (IPVC)
- Measles containing vaccine, first dose (MCV1) and second dose (MCV2)
- Rotavirus vaccine, last dose (RotaC)
- Pneumococcal vaccine, last dose (PCVC)
- Yellow Fever vaccine (YFV)
- Meningococcal A vaccine (MengA)
- Human papillomavirus vaccine, first dose (HPV1) and last dose (HPVc): vaccine to protect against certain types of human papillomavirus that can lead to cancer or genital warts

The Immunization Agenda 2030 (IA2030)
The IA2030 is a global strategy endorsed by the World Health Assembly aiming to ensure everyone, everywhere, at every age benefits from vaccines for improved health and well-being by 2030. It focuses on increasing vaccine coverage, equity, sustainability and pandemic preparedness while promoting life-course immunization and integrating immunization with other health services.

Data Sources Presented

This report presents data from the following sources:

WUENIC	Administrative ("Admin")	Official	Survey
WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) provides annual country-level immunization coverage estimates produced jointly by WHO and UNICEF. These estimates are derived from a systematic review of all available data sources and are adjusted to account for data quality issues.	Reported by national authorities and based on aggregated administrative reports from health service providers on the number of vaccinations administered during a given period (numerator) and reported target population data (denominator).	Estimated coverage reported by national authorities that reflects their assessment of the most likely coverage based on any combination of administrative coverage, survey-based estimates, or other data sources or adjustments.	Based on estimated coverage from population-based household surveys among children aged 12–23 months or 24–35 months. Survey results are considered for the appropriate birth cohort based on the period of data collection. Coverage information is based on the combination of vaccination history from documented evidence or caregiver recall.

Vaccine Schedule

		Dose number and age administered		
Level	**Vaccine**	**1**	**2**	**3**
National	DTP	**8 weeks**	**12 weeks**	**16 weeks**
National	DTAPIPV (booster)	**40 months**		
National	HPV (females and males)	**12 to 13 years**		
National	MCV	**1 year**	**40 months**	
National	PCV	**16 weeks**	**1 year**	
National	RotaC	**8 weeks**	**12 weeks**	

This table shows the 2025 national immunization schedule for routine services in United Kingdom, reported through the WUENIC Joint Reporting Form on Immunization (JRF).

Each row corresponds to a vaccine or combination vaccine, indicating whether it is delivered at the national or subnational level. The schedule outlines the number of doses and the recommended ages for administration. Only childhood and adolescent vaccines relevant to WUENIC are included.

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Vaccine Introductions

Vaccine	National introduction	Risk groups
HPV (Human papillomavirus) vaccine	2008	
HepB birth dose	Not introduced	2009
Hepatitis B vaccine	2017	2002
Hib (Haemophilus influenzae type B) vaccine	1992	
IPV (Inactivated polio vaccine)	2004	
IPV (Inactivated polio vaccine) 2nd dose	2004	
Malaria vaccine	Not introduced	
Measles-containing vaccine 2nd dose	1996	
Meningococcal meningitis vaccines (any strain)	1999	
Mumps vaccine	1995	
PCV (Pneumococcal conjugate vaccine)	2006	
RSV (Respiratory syncytial virus) immunization strategy	2024	
Rotavirus vaccine	2013	
Rubella vaccine	1970	
Typhoid conjugate vaccine	Not introduced	
YF (Yellow fever) vaccine	Not introduced	

Year in which each vaccine was introduced nationally, partially, for risk groups, or risk areas.

We present the vaccination introductions table here to contextualize the data availability heatmap on the following slide.

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Admin Data Availability Heatmap by Vaccine, United Kingdom, 2010–2025



Heatmap showing whether admin data are present (green), missing (red), or not applicable because the vaccine had not yet been introduced or reporting had not started (white), by vaccine and year.

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Admin Data Comments Summary: 2025

Comment Type	Comment
Denominator Accuracy	No comment provided
Denominator Source	No comment provided
Numerator Accuracy	No comment provided

Summary of all admin data comment fields for the most recent year with available data (2025).

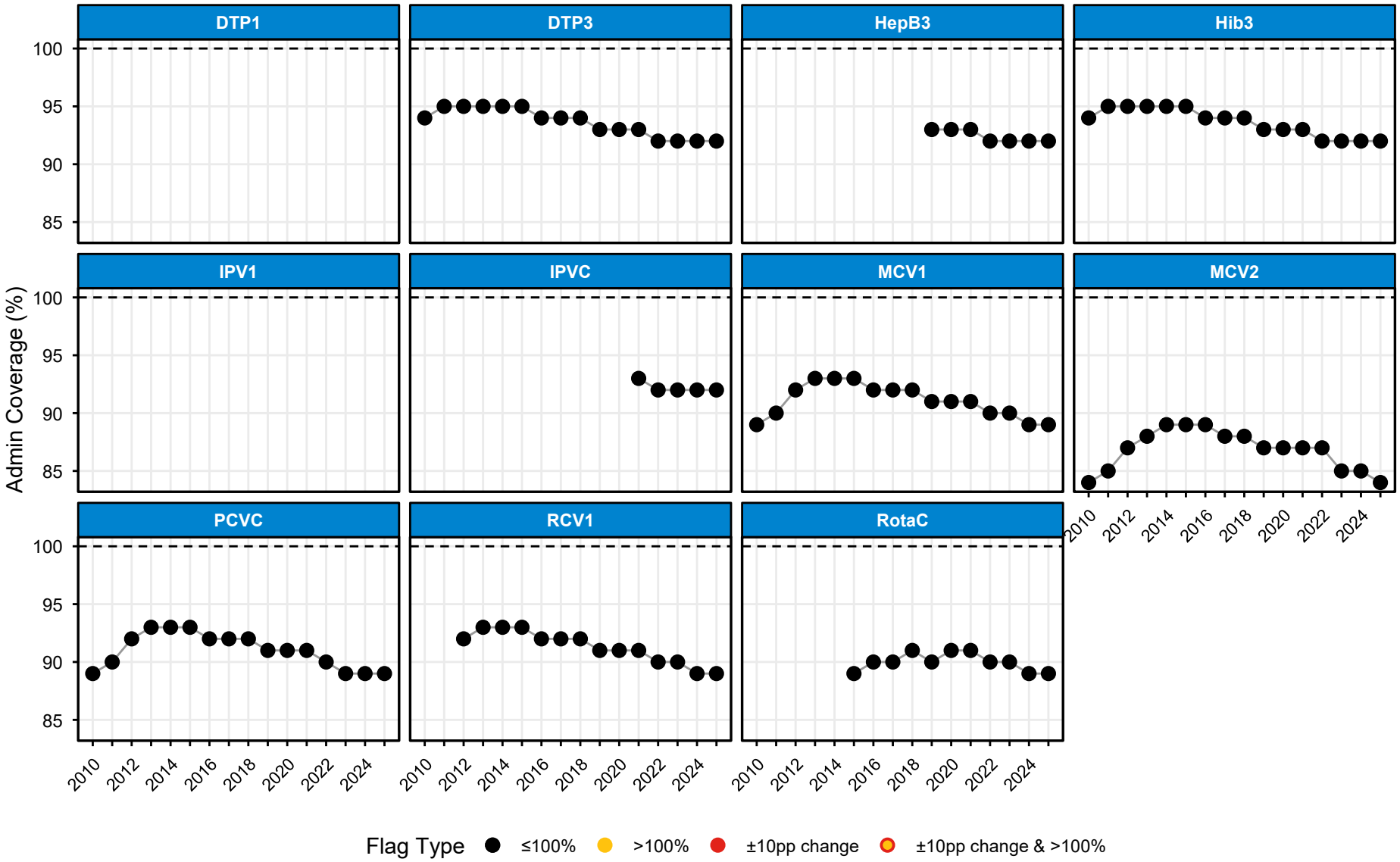
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Admin Coverage Flags

Admin Coverage Flags by Vaccine and Year, United Kingdom, 2010–2025

Orange = coverage > 100% | Red = ± 10pp



Gaps in line indicate missing admin data for that year.

Admin coverage flagged where values exceed 100% (orange) or change by more than ±10 percentage points from the previous year (red), 2010–2025.

Two types of data quality issues are highlighted: coverage values above 100%, which suggest errors in the reported number of vaccinations or the denominator used, and year-on-year changes greater than 10 percentage points, which may reflect inconsistent reporting rather than true changes in vaccination coverage.

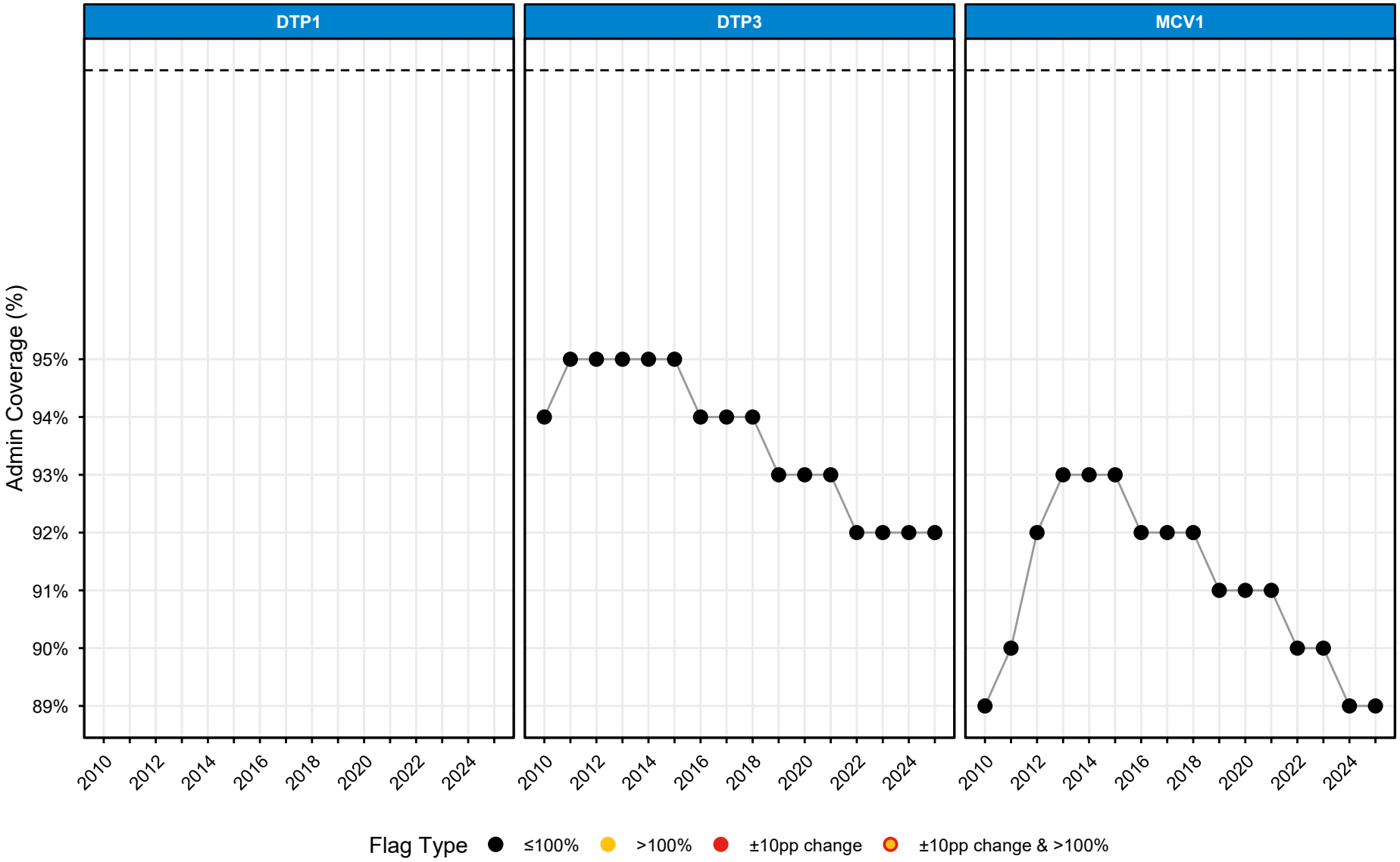
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DTP1, DTP3, and MCV1 Admin Coverage Flags by Year, United Kingdom, 2010–2025

Orange = coverage > 100% | Red = ± 10pp



Gaps in line indicate missing admin data for that year.

Same flag logic applied to DTP1, DTP3, and MCV1 only, 2010–2025.

Two types of data quality issues are highlighted: coverage values above 100%, which suggest errors in the reported number of vaccinations or the denominator used, and year-on-year changes greater than 10 percentage points, which may reflect inconsistent reporting rather than true changes in vaccination coverage.

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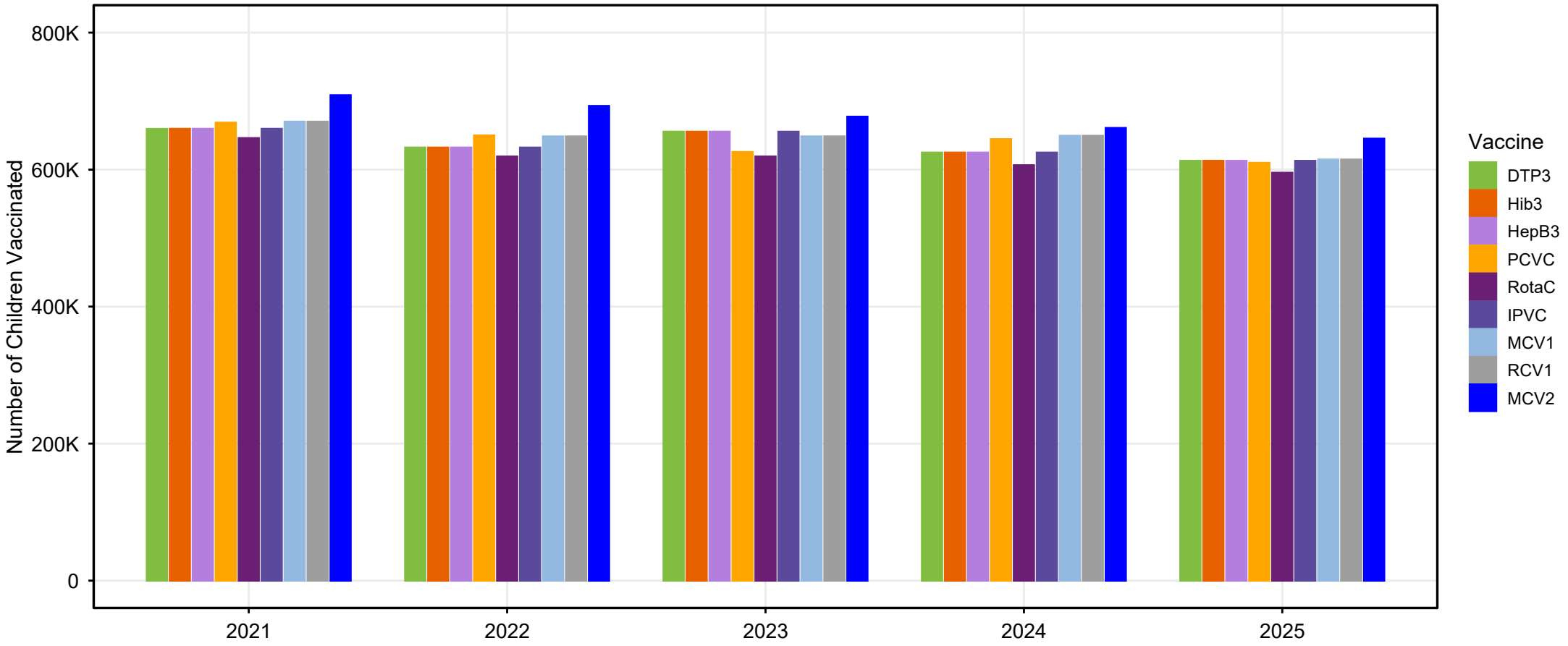
Numerator Checks

Admin Data Comments:
Numerator Accuracy (2021–2025)

Year	Comment
2025	No comment provided
2024	N/A
2023	HPV Coverage (of 1 and/or 2 doses) may be over or under-estimated for some local authorities due to movement of students in and out of schools during the academic year not being accurately reflected in the denominators and/or numerators for some data providers.
2022	Figures represent coverage for the fiscal year 2021/22 (ending 31/3/2022). Studies show that population-based coverage data generated from computerised child health information systems (CHISs) under-estimate the numerator due to not all information being shared between systems.
2021	Figures represent coverage for the fiscal year 2020/21 (ending 31/3/2021). Studies show that population-based coverage data generated from computerised child health information systems (CHISs) under-estimate the numerator due to not all information being shared between systems.

Factors limiting the accuracy of the numerator as reported by United Kingdom.

Number of Children Vaccinated by Vaccine and Year, United Kingdom, 2021–2025



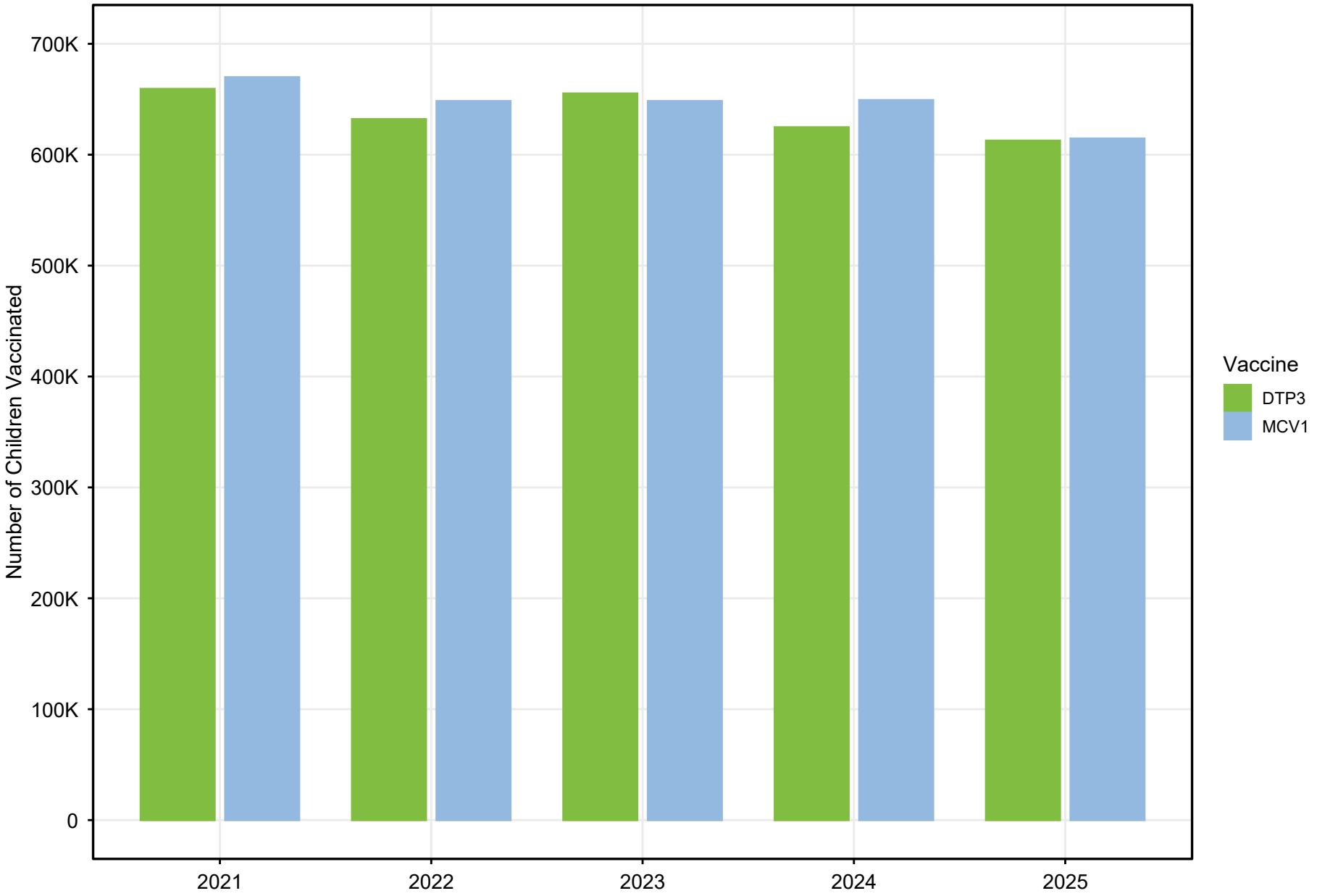
This chart shows number of children vaccinated (numerator) by vaccine and year.

Black diagonal lines indicate years with a national- or subnational-level vaccine stockout, which may explain any drops in the number of children vaccinated.

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Number of Children Vaccinated by Vaccine and Year (DTP1, DTP3, MCV1), United Kingdom, 2021–2025



Number of children vaccinated (numerator) by vaccine (DTP1, DTP3, and MCV1 only) and year.

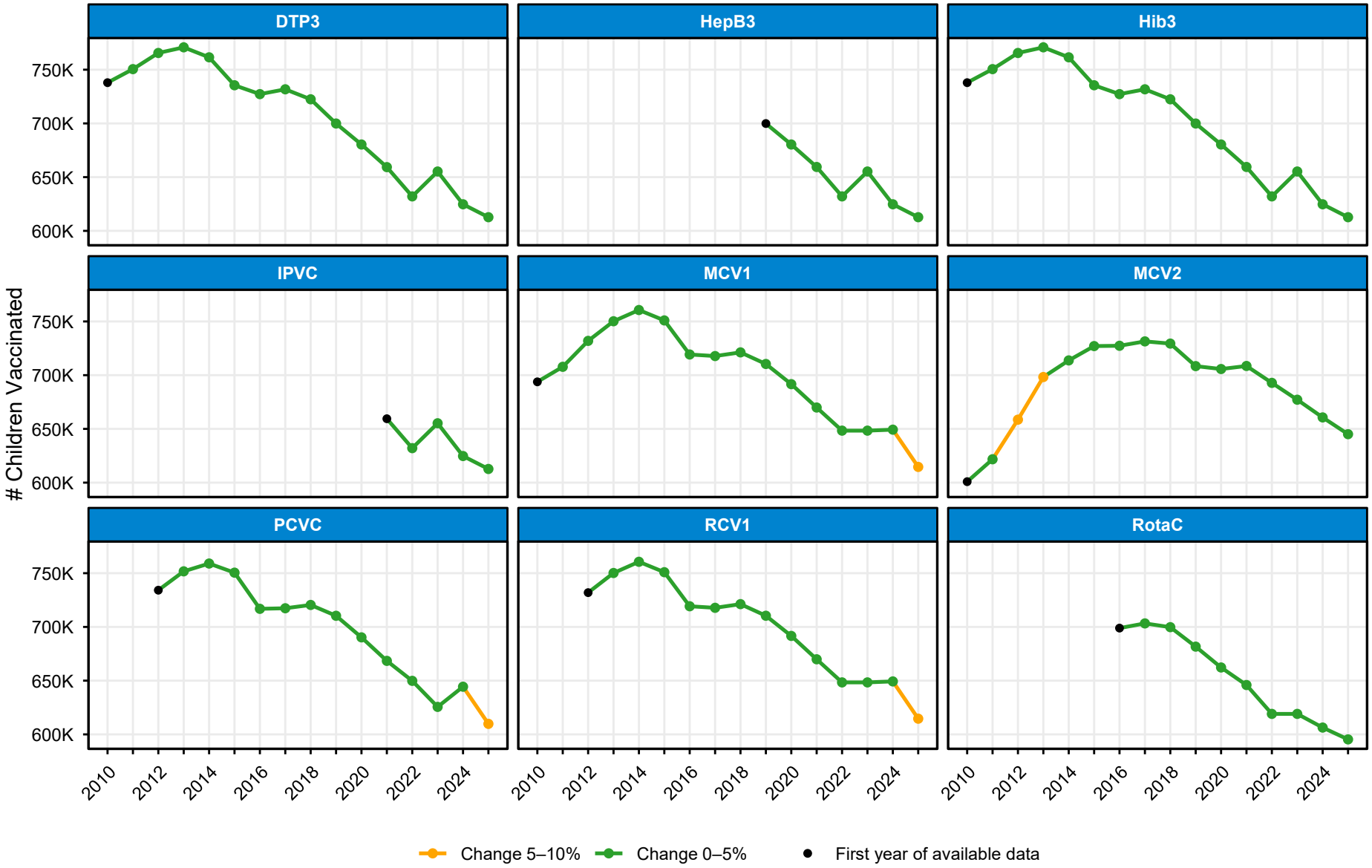
Black diagonal lines indicate years with a vaccine stockout, which may explain any drops in the number of children vaccinated.

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WUENIC 2025 revision

Number of Children Vaccinated by Vaccine and Year, United Kingdom, 2010–2025



NOTE: No numerator data: DTP1, IPV1

Raw counts of children vaccinated (numerator) by vaccine and year. Points are colored by the percent change from previous year in the number of children vaccinated.

Green point = stable year-to-year count of children vaccinated.

Orange/red point = high fluctuation in number of children vaccinated, which may indicate data quality issues.

Black point = first year of available numerator data for that vaccine.

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Denominator Checks

Admin Data Comments: Denominator Source (2022–2025)

Year	Comment
2025	No comment provided
2024	"Most of the vaccination data used in this report are collected annually from Child Health Record Departments (CHRDs) and NHS England local teams. Data are extracted from Child Health Information Systems (CHISs), computerised systems storing clinical records supporting health promotion and prevention activities for children, including immunisation. These CHISs are increasingly consolidating over time as larger CHIS hubs, leading to a decrease in the number of CHISs over time."
2023	"COVER Data: Data was received from all Health Boards (HBs) in Scotland, Northern Ireland and Wales. In England, local teams (LTs) and Child Health Record Departments (CHRDs) provided data for all upper tier local authorities (LAs) and the associated General Practices (GP). All English data was collected through NHS Digital's Strategic Data Collection Service (SDCS). Adolescent vaccines: Data providers must use updated data sources (that is, school rolls for all types of schools or units, plus children schooled at home, or Child Health Information Systems (CHIS)) to identify all eligible females and males in the locality for the academic year. The 2022 to 2023 HPV vaccine coverage was calculated based on the total number of eligible females or males in the target population who had received dose 1 and/or dose 2 of the HPV vaccine for the academic year. Historical annual HPV vaccine coverage reports from academic year 2008 to 2009 to academic year 2021 to 2022 and associated data tables can be found on the UK Health Security Agency (UKHSA) website. 2022 to 2023 was the second year that the data collection tool had the capability to capture dose 1 and dose 2 vaccine coverage for both males and females in all of the year 8, year 9 and year 10 birth cohorts. In 2022 to 2023, the birth cohorts which coverage data was collected for are as follows: school year 8: males (cohort 4) and females (cohort 20) born between 1 September 2009 to 31 August 2010 school year 9: males (cohort 3) and females (cohort 19) born between 1 September 2008 to 31 August 2009 school year 10: males (cohort 2) and females (cohort 18) born between 1 September 2007 to 31 August 2008 The aim of including the year 10 data collection was to update the coverage reported for children in school year 9 in the 2021 to 2022 academic year and to assess any impact that catch-up activities have had on improving the low vaccine coverage reported in some areas in the preceding 2019 to 2020 to 2021 to 2022 academic years as a result of the COVID-19 pandemic. Local authority level HPV vaccine coverage data up to 31 August 2023 was manually uploaded by data providers to the ImmForm (4) website retrospectively, from 1 September 2023 to 1 October 2023. For the purpose of this report, City of London and Hackney local authorities are counted as one local authority because their data is submitted together on ImmForm."
2022	Denominators include all children recorded in Child Health Information Systems.

Explanation of how the denominators (target population) are obtained.

Admin Data Comments:
Denominator Accuracy (2021–2025)

Year	Comment
2025	No comment provided
2024	N/A
2023	"For 49 of 151 local authorities, provisional denominators (the number of children eligible for HPV vaccination) were used to calculate vaccine coverage of one and/or 2 doses of HPV vaccine in year 8, year 9 or year 10. This was due to a fault in the submission form for data which retained these provisional denominator figures rather than the updated actual denominators. Each year, provisional denominators are estimated based on cohort numbers recorded in the previous school year. Therefore, for year 10 students, provisional numbers are based on year 9 student numbers from 2021 to 2022 and for year 9 students, numbers are based on year 8 student numbers from 2021 to 2022. During the data submission process, the data is usually updated to an actual denominator to reflect changes in the school rolls, including movers into and out of areas. These provisional figures do not therefore account for changes in the size of school cohorts from one year to the next. Based on submitted data, the margin of expected change from provisional to actual denominators is on average 5.4%. Numerators (the number of children vaccinated) are not affected by this issue but, as a result, there may be small under or overestimates in coverage in the 49 affected local authorities"
2021	No comment provided

Factors limiting the accuracy of the denominator as reported by United Kingdom.

Number of Children in Target Population by Vaccine and Year, United Kingdom, 2010–2025



NOTE: Not enough denominator data to calculate percent change for: DTP1, IPV1

Target population (denominator) by vaccine and year. Points are colored by the magnitude of year-on-year change: green for less than 5%, orange for 5–10%, and red for greater than 10%. Black points indicate there was no denominator data in the previous year (unable to calculate percent change). Light blue shading highlights years where the direction of change switches unexpectedly.

Target populations should follow a smooth, steady trajectory. Sudden directional switches are demographically unnatural and typically indicate administrative errors, shifting census boundaries, or changes in reporting sources.

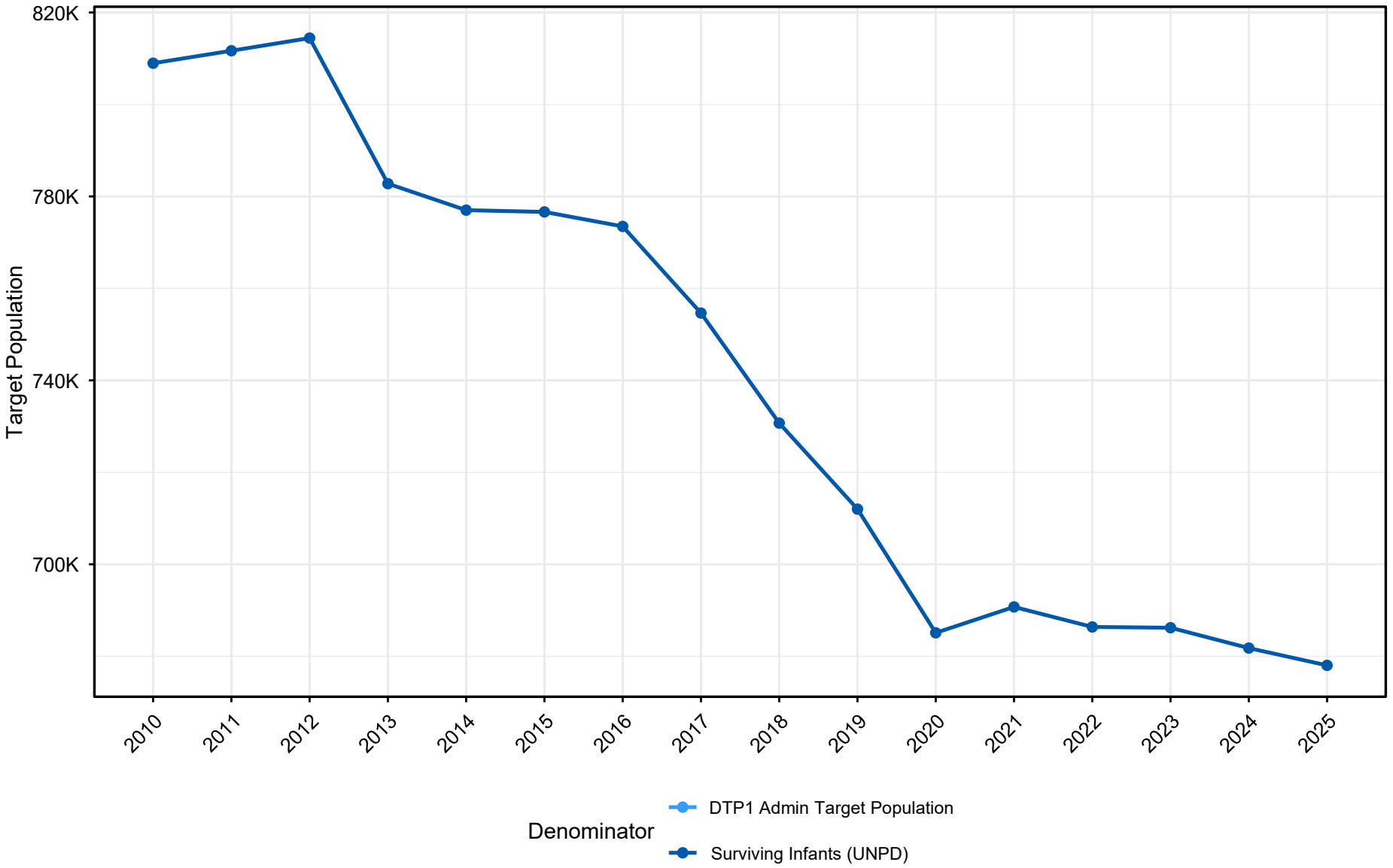
Genuine switches are rare and generally limited to extreme disruptions such as humanitarian crises, cross-border migrations, or very small island populations.

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Live Births & Surviving Infants (UNPD) vs. Admin Denominators, United Kingdom, 2010–2025



NOTE: BCG is not in United Kingdom's current schedule; no Live Births data available.
Data from 2024 World Population Prospects (WPP) revision.

Comparison of trends in live births and surviving infants, 2010–2025.

Live births is used is the denominator for BCG and HepBB.

Surviving infants is used as the denominator for other vaccines given in the first year of life.

Admin target populations are reported by the country, while the United Nations Population Division (UNPD) produces the World Population Prospects (WPP) data.

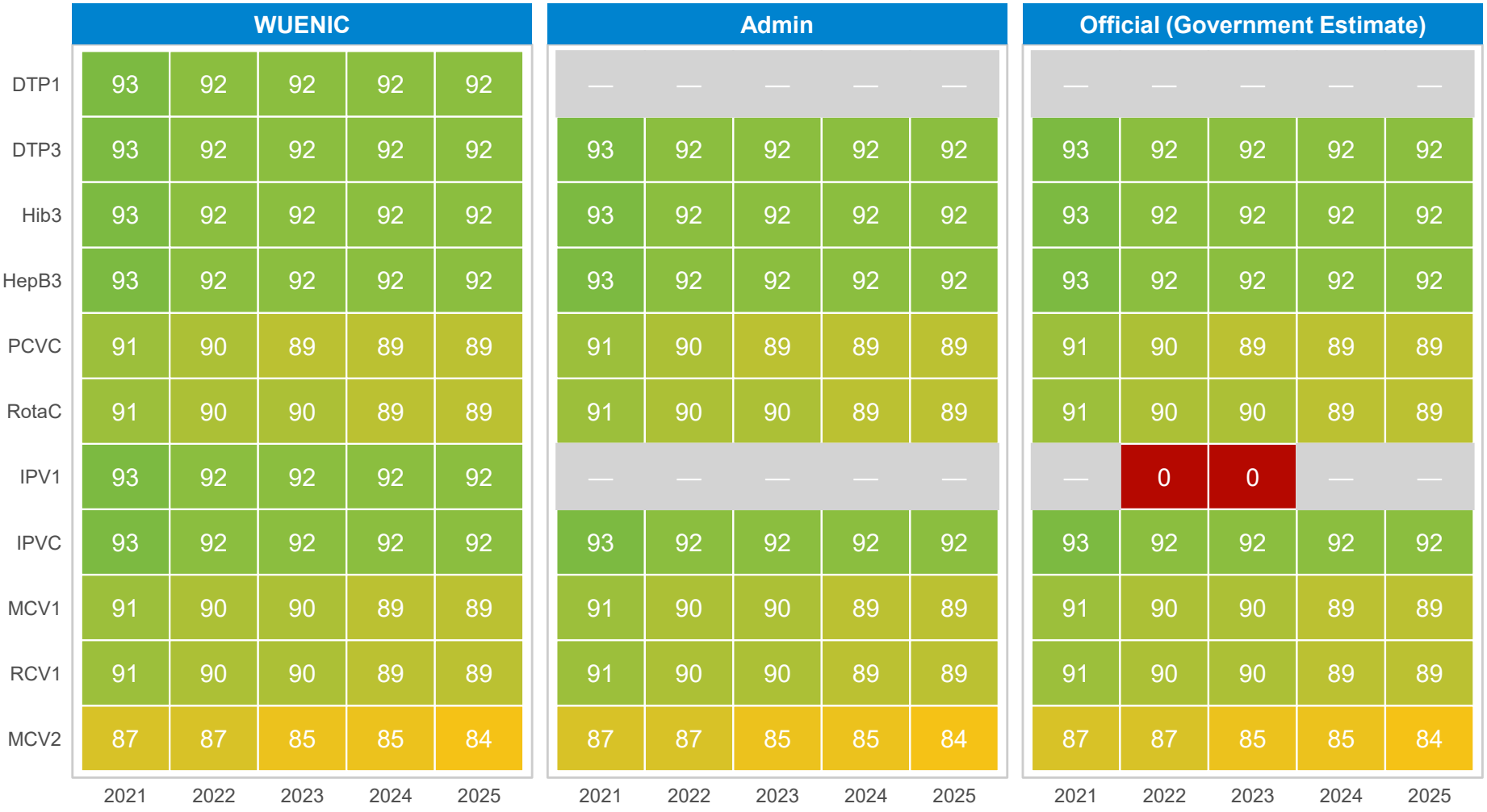
UNPD is the United Nations Population Division.

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WUENIC 2025 revision

Coverage Comparison Between WUENIC, Admin, and Official Estimates

Coverage Trends by Vaccine and Source, United Kingdom, 2021–2025





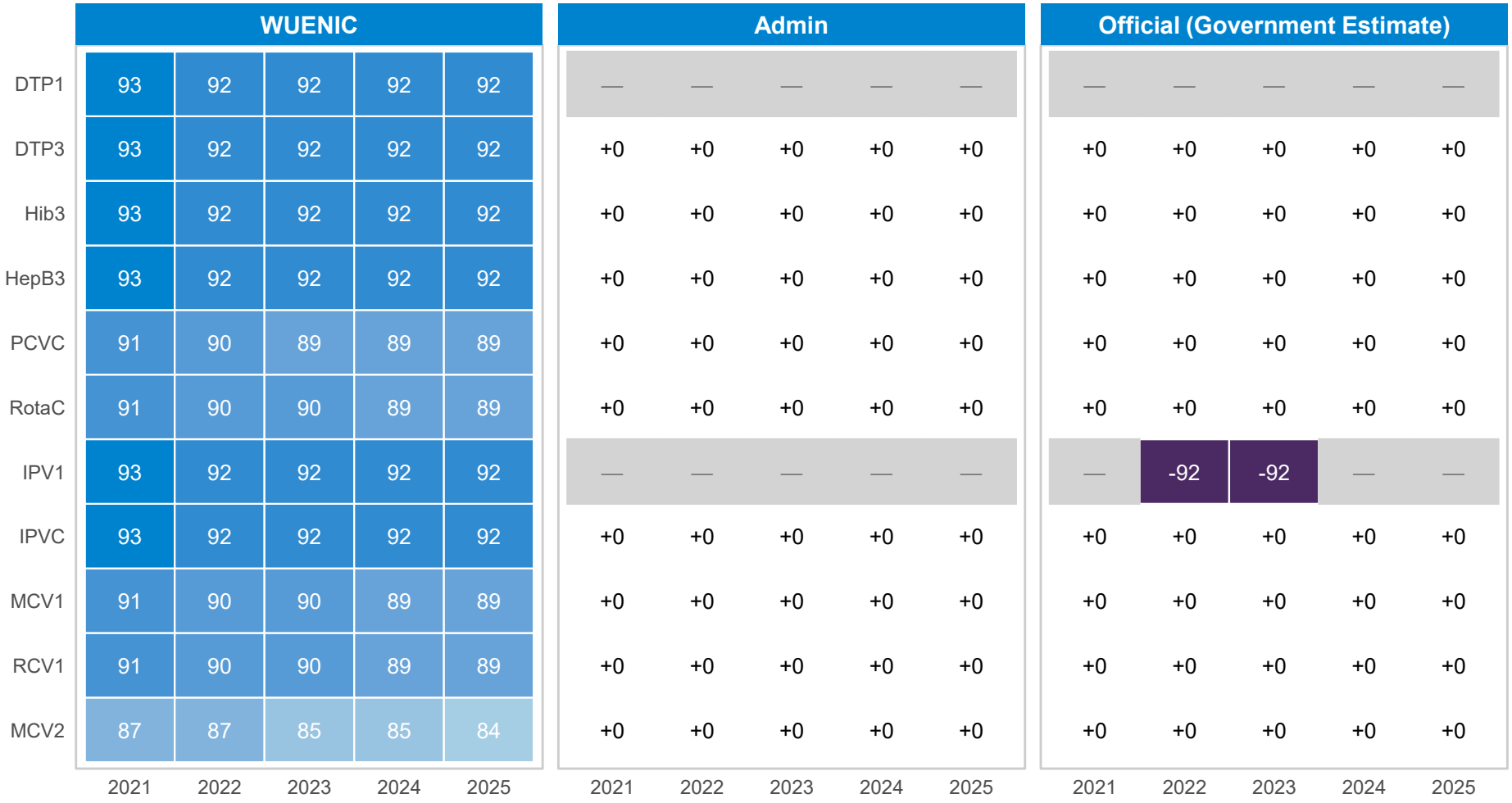
WUENIC HPV coverage estimates not included.
White = not yet introduced or not reported. Grey = missing data.
Survey panel not presented as United Kingdom of Great Britain and Northern Ireland reported no survey data.

Coverage by vaccine and data source (WUENIC, Admin, Official, Survey) for the most recent 5 years.

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Coverage vs. WUENIC Estimates by Source, United Kingdom, 2021–2025



WUENIC panel shows absolute coverage. All other panels show percentage point difference vs. WUENIC estimate.

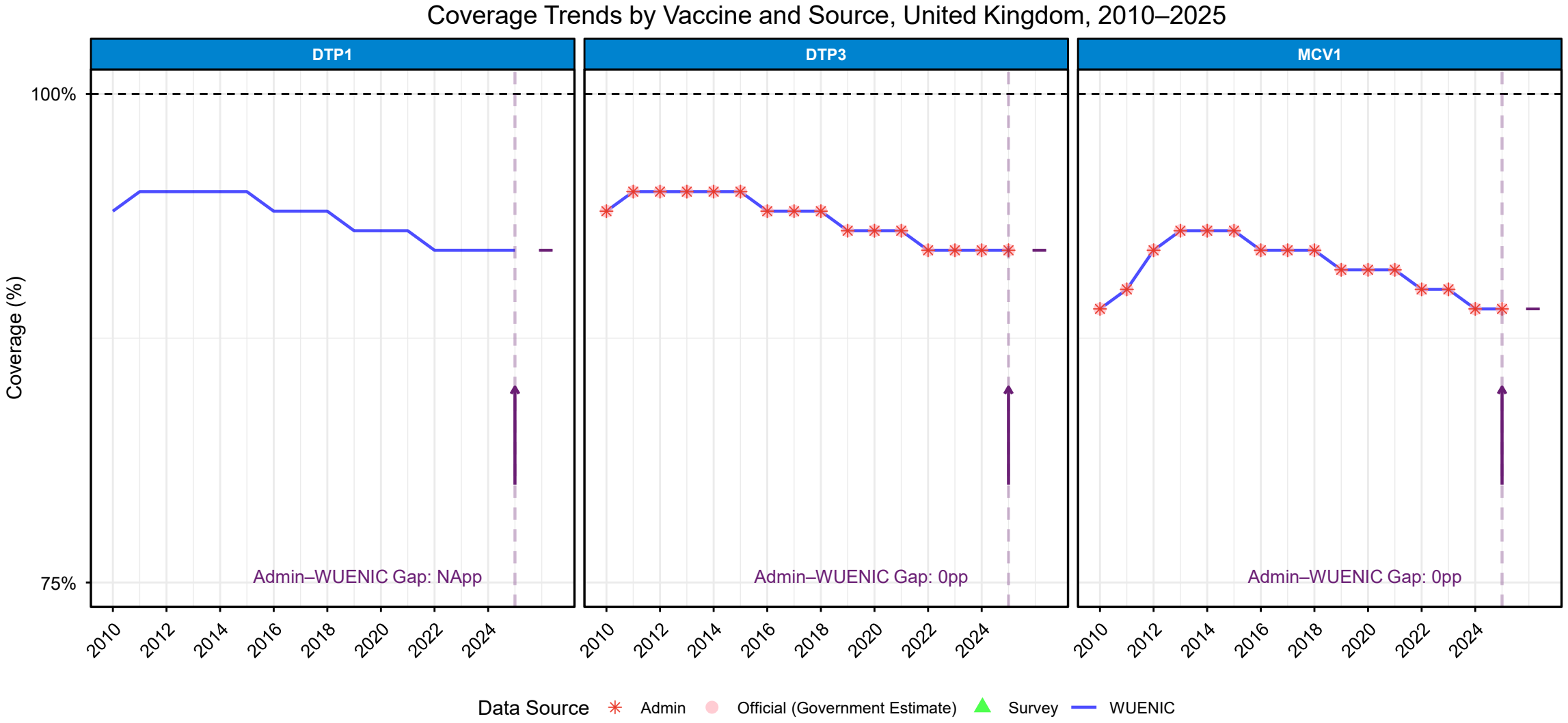
White = not yet introduced or not reported. Grey = missing data.
Survey panel not presented as United Kingdom of Great Britain and Northern Ireland reported no survey data.

Difference in percentage points between administrative, official, and survey coverage and WUENIC estimates (e.g., Admin - WUENIC) for the most recent 5 years.

A difference of zero indicates that the coverage source and WUENIC estimate are identical, usually indicating that source informed the WUENIC estimate.

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WUENIC 2025 revision



Coverage trends for DTP1, DTP3, and MCV1 by data source, 2010–2025.

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Actionable Health Analytics for Decision-making (AHEAD)

AHEAD is a UNICEF initiative that strengthens the quality and use of routine immunization data by working closely with Ministries of Health and national Expanded Programme on Immunization (EPI) teams.

AHEAD begins with a systematic review of routine immunization data to identify and address data quality issues, including missing or inconsistent reporting, internal inconsistencies, implausible year-to-year fluctuations, and inaccuracies in target population denominators. Through a collaborative process with national teams, reported data are reviewed, cleaned, and validated, while alternative denominator sources are assessed to improve the accuracy and interpretation of vaccination coverage estimates.

Building on these strengthened data, AHEAD produces timely subnational immunization analytics at regional, district, and health facility levels to identify priority areas, monitor trends, and support evidence-based planning and targeted interventions.

Please contact UNICEF for more information at: data@unicef.org

AHEAD





