

SURVEILLANCE & MONITORING

Invasive meningococcal disease

Annual Epidemiological Report for 2024

Key facts

- In 2024, 2 233 confirmed cases of invasive meningococcal disease (IMD), including 202 deaths, were reported in 30 European Union/European Economic Area (EU/EEA) countries.
- France, Germany and Spain accounted for 58% of all confirmed IMD cases in 2024.
- The notification rate of IMD rose from 0.4 in 2023 to 0.5 cases per 100 000 population in 2024, which is the highest for the last five years. Age-specific notification rates were highest in infants under one year, followed by 1–4-year-olds and 15–24-year-olds.
- Serogroup B remains the major cause of IMD. It accounted for 56% of cases with known serogroup and was the dominant serogroup in all age groups under 65 years.
- Serogroup Y was the second most reported overall (21% of cases with known serogroup) and the most reported in those aged 65 years and above.
- Serogroup W was the third most reported overall (15% of cases with known serogroup).
- It is essential to continue strengthening surveillance of IMD and regularly evaluating the impact of immunisation programmes to support decision-makers in implementing or adapting vaccination strategies to protect people across their entire lifespan.

Introduction

Invasive meningococcal disease (IMD) is a serious bacterial infection caused by the Gram-negative diplococcus *Neisseria meningitidis*. The bacterium is often detected in the nasopharynx without causing disease, described as asymptomatic carriage. It occasionally invades the body and causes meningococcal infection. IMD is a major cause of meningitis (occurring in 37–49% of cases) and septicaemia (18–33%) [1]. It is a concern for public health because of its severe morbidity and relatively high case fatality rate (8–15%). In the EU/EEA, vaccines are available for primary prevention of disease caused by serogroups A, B, C, W and Y. Antibiotics are administered for elimination of carriage and treatment of the disease.

Methods

This report is based on data for 2024 retrieved from EpiPulse Cases on 7 April 2026. EpiPulse Cases is a system for the collection, analysis and dissemination of data on communicable diseases; it replaced The European Surveillance System (TESSy) in October 2024.

For a detailed description of the methods used to produce this report, please refer to the Methods chapter in the 'Introduction to the Annual Epidemiological Report' [2]. An overview of the national surveillance systems is available online [3]. Additional and downloadable data on this disease are accessible from ECDC's online Surveillance Atlas of Infectious Diseases [4].

Thirty EU/EEA countries reported data on IMD to ECDC for 2024. Most countries used the EU case definition for confirmed cases [5] or a comparable case definition [3].

Most countries reported data from comprehensive, passive surveillance systems with national coverage. Belgium reported data from a sentinel surveillance system. Bulgaria reported aggregate data in 2024.

Epidemiology

In 2024, 30 EU/EEA countries reported 2 233 confirmed cases of IMD (Table 1). This is the highest since 2020. Three countries (France, Germany and Spain) accounted for 58% of all confirmed cases. Estonia and Liechtenstein reported zero cases.

The overall notification rate was 0.5 cases per 100 000 population, which was equal to the notification rates observed in 2019 (0.5 cases per 100 000 population). The notification rate by country ranged from ≤ 0.1 cases (Bulgaria, Estonia, Finland and Liechtenstein) to 1.2 cases per 100 000 population (Ireland) (Table 1, Figure 1). France and Slovakia reported the second highest notification rate (0.9 cases per 100 000 population) followed by Croatia, Cyprus, and the Netherlands, each reporting 0.8 cases per 100 000 population. Nearly all reporting countries experienced an increased or a stabilisation of their notification rate in 2024 compared with 2023, and are now back to their pre-pandemic rate. Estonia, Finland, Latvia and Lithuania experienced a decrease in the notification rate in 2024 compared to 2023.

Table 1. Confirmed invasive meningococcal disease cases and rates per 100 000 population by country and year, EU/EEA, 2020–2024

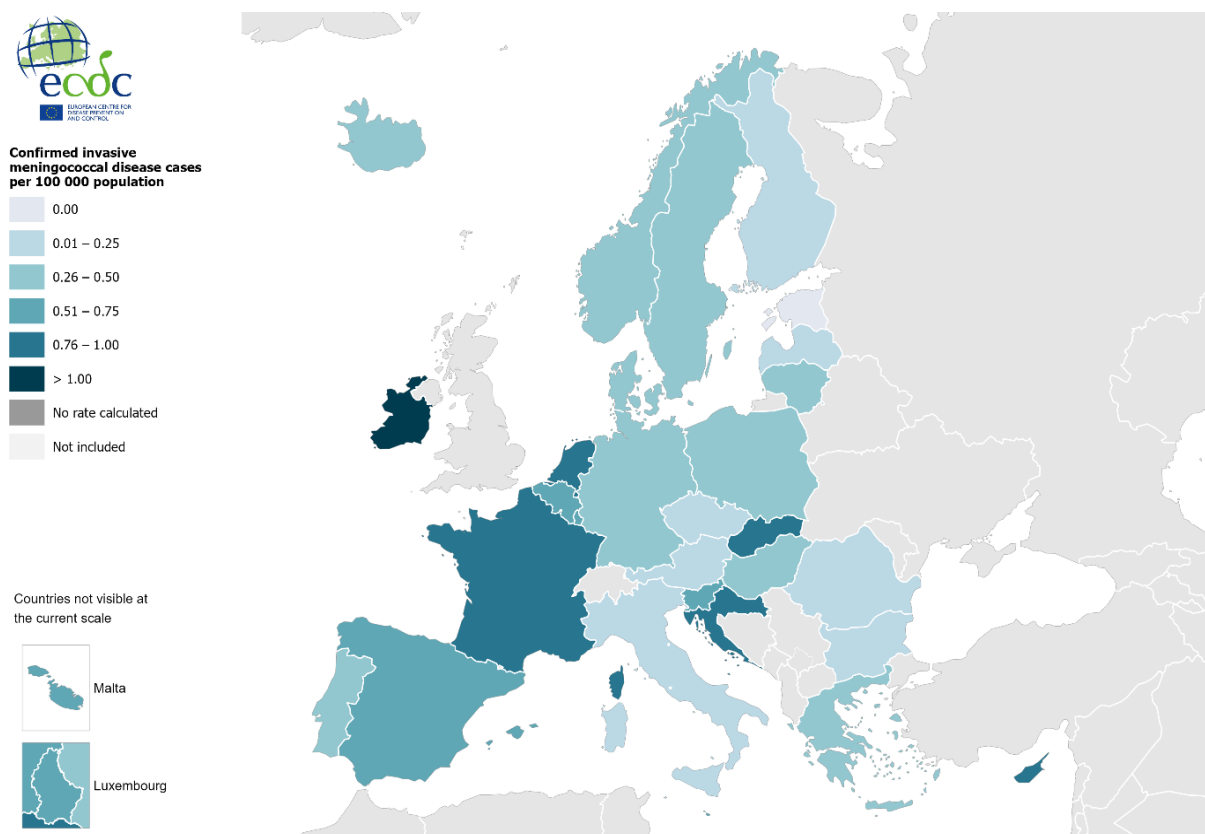
Country	2020		2021		2022		2023		2024		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	ASR
Austria	8	0.1	2	0.0	7	0.1	16	0.2	15	0.2	0.2
Belgium	55	0.5	24	0.2	43	0.4	83	0.7	77	0.7	0.6
Bulgaria	3	0.0	1	0.0	3	0.0	2	0.0	6	0.1	0.1
Croatia	14	0.4	6	0.2	17	0.4	19	0.5	30	0.8	0.8
Cyprus	0	0.0	0	0.0	0	0.0	2	0.2	8	0.8	0.8
Czechia	25	0.2	11	0.1	24	0.2	16	0.1	15	0.1	0.1
Denmark	16	0.3	9	0.2	15	0.3	25	0.4	24	0.4	0.4
Estonia	3	0.2	1	0.1	1	0.1	4	0.3	0	0.0	0.0
Finland	5	0.1	2	0.0	7	0.1	10	0.2	6	0.1	0.1
France	214	0.3	117	0.2	319	0.5	558	0.8	613	0.9	0.9
Germany	138	0.2	74	0.1	138	0.2	251	0.3	337	0.4	0.4
Greece	21	0.2	4	0.0	5	0.0	21	0.2	37	0.4	0.4
Hungary	32	0.3	30	0.3	24	0.2	33	0.3	33	0.3	0.4
Iceland	0	0.0	0	0.0	1	0.3	1	0.3	1	0.3	0.3
Ireland	20	0.4	10	0.2	29	0.6	41	0.8	63	1.2	1.2
Italy	73	0.1	25	0.0	57	0.1	85	0.1	115	0.2	0.2
Latvia	6	0.3	5	0.3	8	0.4	8	0.4	4	0.2	0.2
Liechtenstein	NDR	NRC	0	0.0	0	0.0	0	0.0	0	0.0	0.0
Lithuania	7	0.2	11	0.4	13	0.5	21	0.7	12	0.4	0.4
Luxembourg	4	0.6	1	0.2	4	0.6	4	0.6	4	0.6	0.7
Malta	17	3.3	8	1.6	2	0.4	1	0.2	3	0.5	0.6
Netherlands	68	0.4	37	0.2	79	0.4	127	0.7	138	0.8	0.8
Norway	5	0.1	5	0.1	10	0.2	16	0.3	14	0.3	0.3
Poland	106	0.3	107	0.3	117	0.3	154	0.4	153	0.4	0.4
Portugal	34	0.3	10	0.1	15	0.1	35	0.3	40	0.4	0.4
Romania	24	0.1	12	0.1	25	0.1	30	0.2	37	0.2	0.2
Slovakia	23	0.4	20	0.4	28	0.5	31	0.6	51	0.9	0.9
Slovenia	5	0.2	3	0.1	7	0.3	5	0.2	11	0.5	0.5
Spain	213	0.5	68	0.1	131	0.3	265	0.6	340	0.7	0.7
Sweden	28	0.3	9	0.1	21	0.2	32	0.3	46	0.4	0.4
EU/EEA (30 countries)	1 167	0.3	612	0.1	1 150	0.3	1 896	0.4	2 233	0.5	0.5
United Kingdom	NDR	NRC	NA	NA	NA	NA	NA	NA	NA	NA	NA
EU/EEA (31 countries)	1 167	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA

Source: Country reports

ASR: age-standardised rate; NA: not applicable; NDR: no data reported; NRC: no rate calculated.

The United Kingdom did not report any data between 2020 and 2023, due to its withdrawal from the EU on 31 January 2020.

Figure 1. Confirmed invasive meningococcal disease cases per 100 000 population by country, EU/EEA, 2023

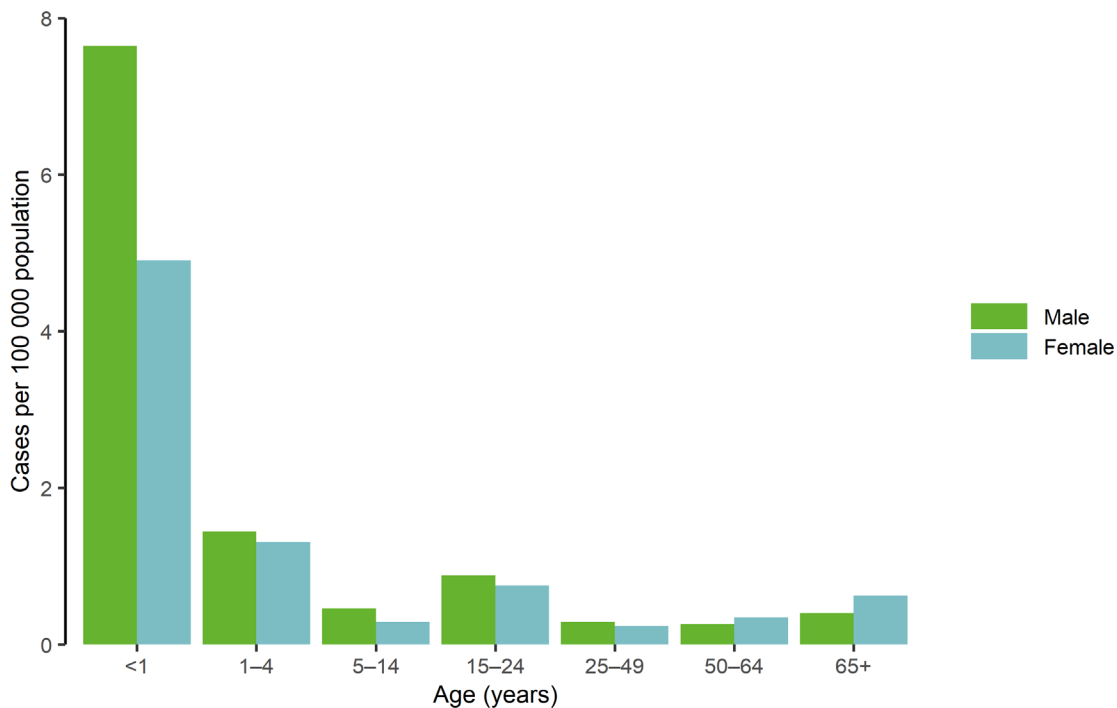


Age and gender

In 2024, the notification rate for IMD was highest among young children, with 6.3 confirmed cases per 100 000 population in infants under one year and 1.38 confirmed cases per 100 000 population in 1–4-year-olds (Figure 2). The notification rate in the age group 15–24 years (0.83 per 100 000 population) was the third highest, followed by adults aged 65 years and above (0.53 per 100 000 population) and those aged 5–14 years (0.38 per 100 000 population).

Notification rates in men were higher than, or equivalent to those in women in all age groups except older adults (50–64 years and 65 years and above), where notification rates in women were slightly higher than in men. Compared with other age groups, the notification rate was significantly higher in male infants (under one year) than female infants (male: 7.6 confirmed cases per 100 000 population; female: 4.9 per 100 000 population). The overall male-to-female ratio of cases was 0.99:1.

Figure 2. Confirmed invasive meningococcal disease cases per 100 000 population, by age and gender, EU/EEA, 2024

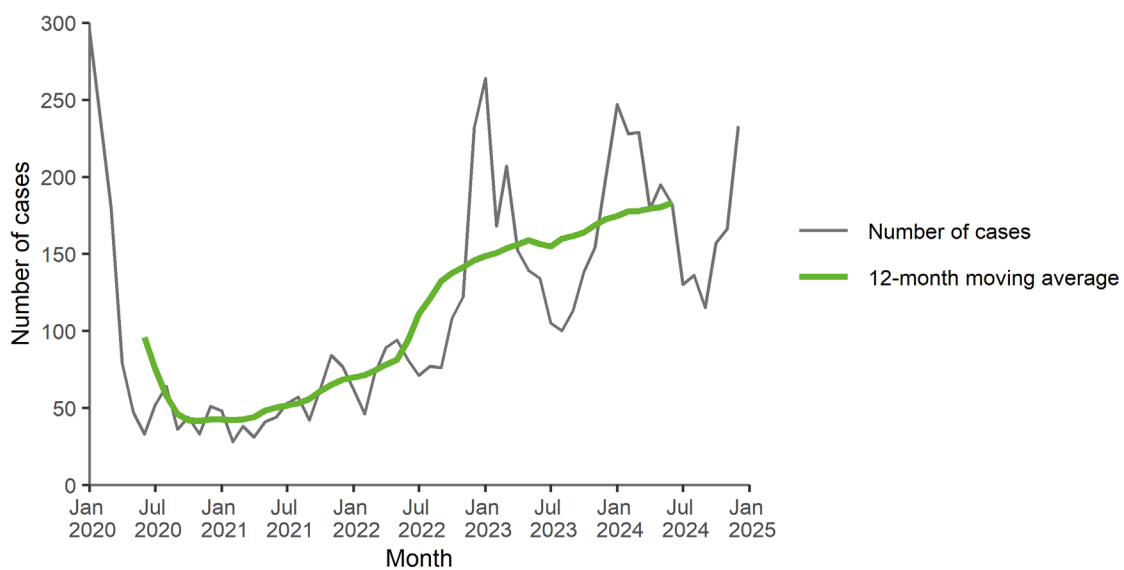


Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

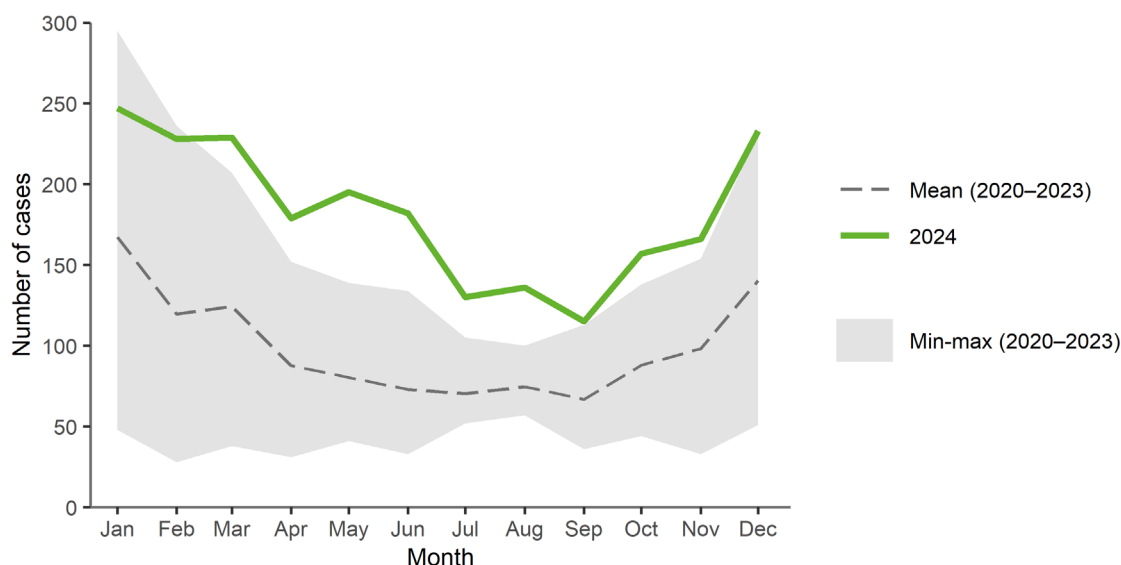
Seasonality and trends

IMD usually occurs primarily in the winter months and the number of cases is lowest in the summer. In 2024, the number of confirmed cases peaked in January, followed by December, March and February (Figure 4). Compared with the period (2020–2023), the number of confirmed cases rebounded in May, before declining and then rising again sharply in December (Figure 4).

Figure 3. Confirmed invasive meningococcal disease cases by month, EU/EEA, 2020–2024



Source: Country reports from Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

Figure 4. Confirmed invasive meningococcal disease cases by month, EU/EEA, 2024 and 2020–2023

Source: Country reports from Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, and Sweden.

Serogroup

Of the 2 233 confirmed IMD cases reported in 2024, 1 987 (89%) had a documented serogroup. Most of these belonged to serogroup B (56%), followed by serogroups Y (21%) and W (15%) (Table 2). The proportion of unknown serogroups (11%) increased in 2024 compared to 2023 (5%), but was lower than in 2022 (14%) and 2021 (16%).

Serogroup B was predominant in all age groups except for those aged 65 years and above where it was the second most common serogroup after serogroup Y. Serogroup B accounted for 74% of cases in infants under one year, 73% of cases in children aged one to four years and 72% of cases in children aged 5–14 years (Figure 5).

Serogroup Y was predominant in people aged 65 years and above, accounting for 39% of cases in this age group. The proportion of cases with serogroup Y was also high in those aged 50–64 years (23%), 15–24 years (22%), 25–49-years (15%) and 5–14 years (12%), making it the second most common serogroup identified in these age groups after serogroup B.

Serogroup W was predominant in people aged 65 years and above, accounting for 26% of cases in this age group. It was the third most common serogroup identified in this age group.

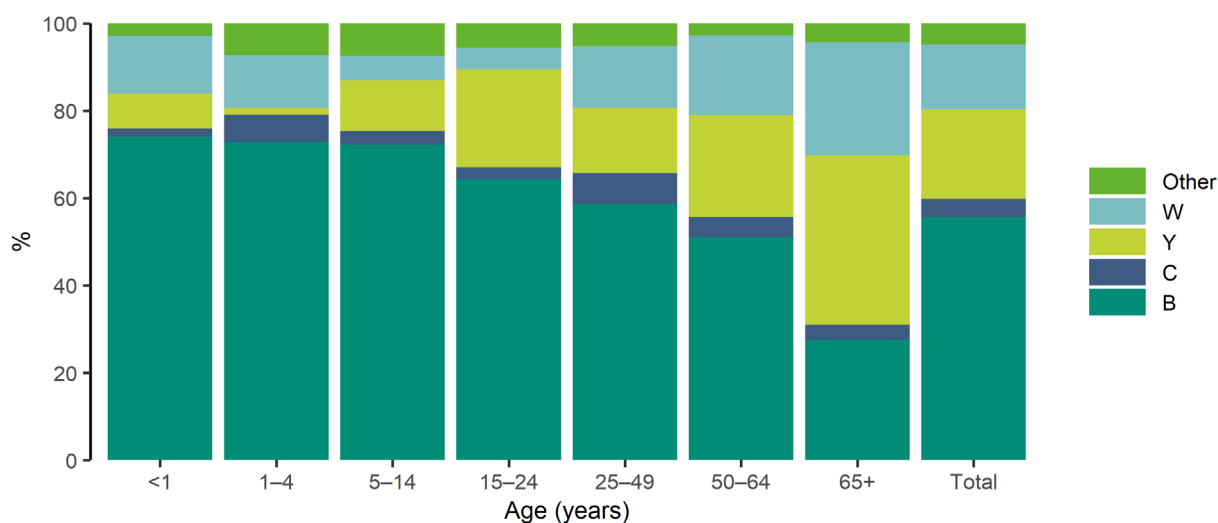
Serogroup C continued to represent a low proportion of cases in all age groups compared with other serogroups. It accounted for 7% in those aged 25–49-years and 6% in 1–4-year-olds. It was the least documented serogroup in 2024 overall, accounting for 4% of all identified cases.

Table 2. Confirmed cases of invasive meningococcal disease, EU/EEA, 2024

Serogroup	Cases	%
B	1 106	56
C	83	4
Y	408	20
W	293	15
Other	107	5
Total	1 997	100

'Other' refers to all cases reported as serogroups A, X, Z or 29E; non-groupable; or 'other'.

Figure 5. Serogroup distribution of confirmed cases of invasive meningococcal disease by age group, EU/EEA, 2024



'Other' refers to all cases reported as serogroups A, X, Z or 29E; non-groupable; or 'other'.

Among countries that reported serogroup data from 2020 to 2024, the overall notification rates increased slightly for serogroups B, W and Y, with level of incidence exceeding that observed in 2020. The notification rate for serogroup C remained low in 2024 and below that observed in 2020 (Figure 6).

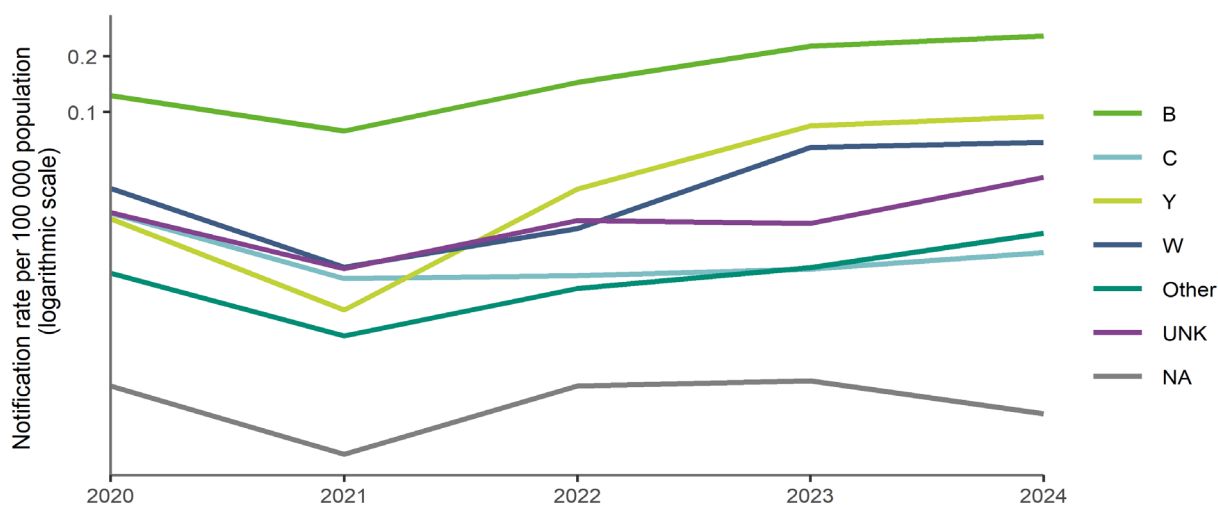
For serogroup B, when comparing notification rates for the period 2020 to 2024, increases were seen across all age groups except in infants aged <1 year; the most notable increase was seen in the age groups 5–14 years and 15–24 years. When comparing the 2024 notification rate against that for 2023, the rates were relatively stable. The highest notification rates were seen in children under five years for the five-year period. (Figure 8)

For serogroup W, during the period 2020 to 2024, rates increased in all age groups except those aged 15–24 years, with the most notable increase in those aged 5–14 years and the age group 65 years and over. The highest notification rates were seen in children under five years for the five year period. (Figure 9)

For serogroup Y, when comparing notifications rates for the period 2020–2024, moderate increases were observed, particularly in infants under one year and individuals aged over 65 years (Figures 10).

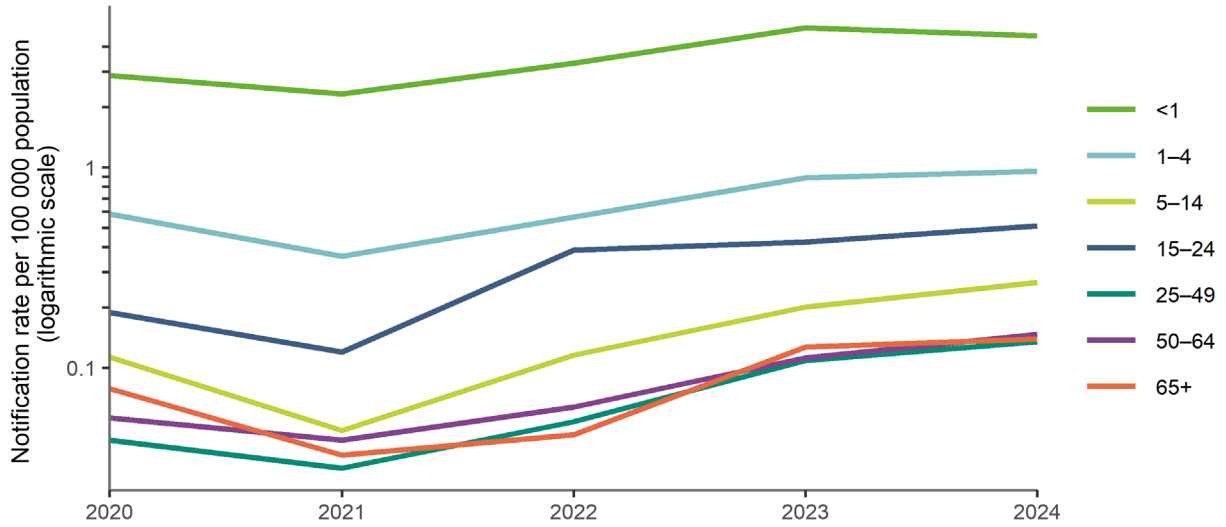
For serogroup C, notification rates in infants aged <1 year showed a consistent decline over the period 2020–2024 (Figure 8).

Figure 6. Notification rate of confirmed cases of invasive meningococcal disease by serogroup and year, EU/EEA, 2020–2024



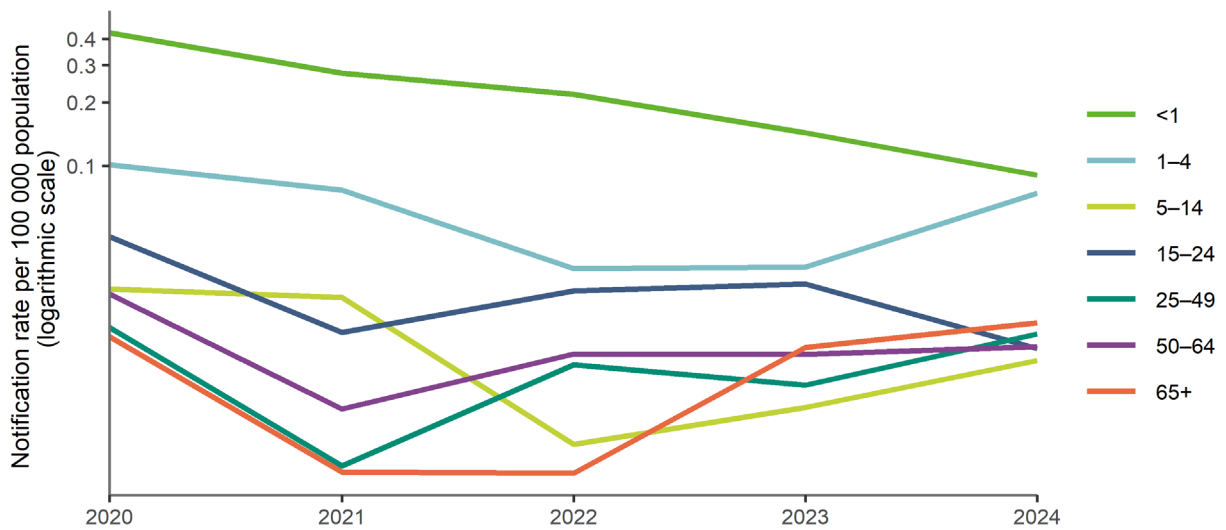
Source: Country reports from Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Figure 7. Notification rate of confirmed invasive meningococcal disease cases caused by serogroup B, by age group, EU/EEA, 2024



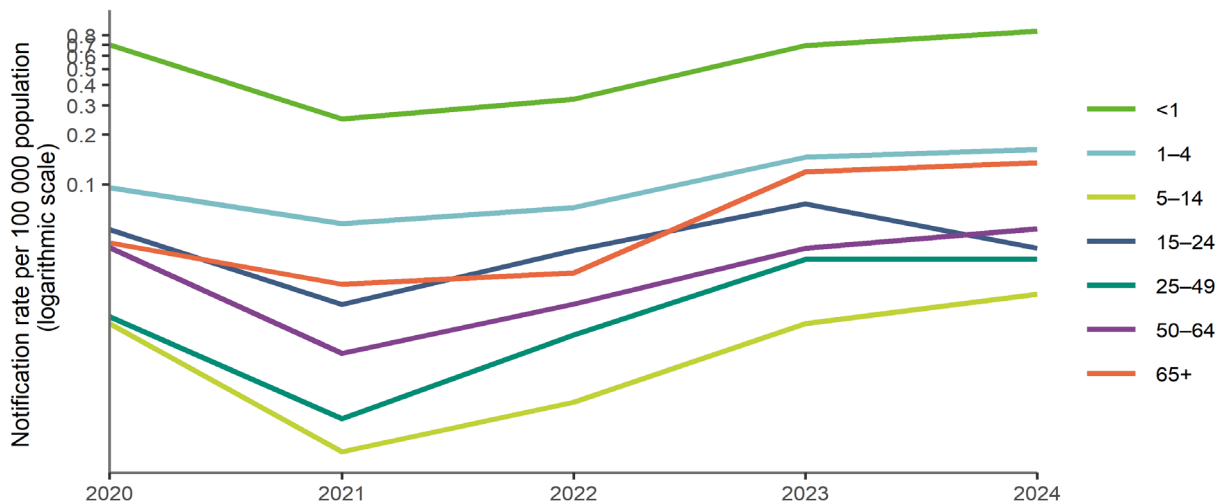
Source: Country reports from Austria, Belgium, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Figure 8. Notification rate of confirmed invasive meningococcal disease cases caused by serogroup C, by age group, EU/EEA, 2024



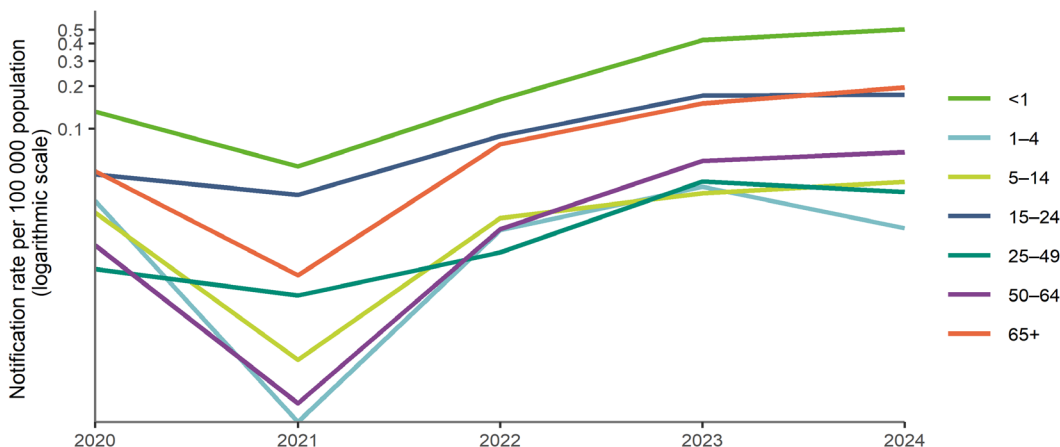
Source: Country reports from Austria, Belgium, Czechia, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Figure 9. Notification rate of confirmed invasive meningococcal disease cases caused by serogroup W, by age group, EU/EEA, 2024



Source: Country reports from Belgium, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Figure 10. Notification rate of confirmed invasive meningococcal disease cases caused by serogroup Y, by age group, EU/EEA, 2024



Source: Country reports from Austria, Belgium, Cyprus, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden.

Clinical presentation and outcome

Clinical presentation was reported for 1 869 (83%) of IMD cases in 2024. Among the cases with known clinical presentation, meningitis was the most commonly reported presentation (37%), and was associated with septicaemia (27%). Septicaemia alone was the second most common clinical pattern (28%). Pneumonia (1%) and other clinical presentations (7%) were also reported.

Outcome was reported for 2 084 (92%) of IMD cases in 2024. There were 202 fatal cases reported: a case fatality rate (CFR) of 10% among cases with known outcome. Serogroups B (51%), W (24%) and Y (20%) accounted for the highest proportions of reported deaths with known serotype. The case fatality rate by serogroup was as follows: B (9%), W (17%), Y (10%), C (5%) and B (9%).

The highest case fatality rates were reported among individuals aged 65 years and above (CFR: 16%), followed by infants under one year (12%) and then both aged groups 25–49 years and 50–64 years reported 7%. In those aged 5–14 years the reported CFR was 7% and in those aged 15–24 years and 1–4 years it was 4%. Individuals aged 65 years and above accounted for 43% of all deaths, followed by infants under one year (14%) and individuals aged 25–49 years (13%).

Vaccination status

Vaccination status was reported for 750 cases (33%) and most cases were unvaccinated (79%).

Discussion

Invasive meningococcal disease (IMD) remains rare in EU/EEA countries but is a severe and life-threatening disease in all age groups. The total number of cases has increased progressively since 2020. The trend indicates a return to pre-pandemic levels, although the overall notification rate remains below that reported in 2018 and 2019 [6,7]. Between 2023 and 2024, the notification rates for all serogroups remained relatively stable, with only marginal increases, and serogroup C was associated with the lowest notification rate overall. Immunisation programmes with serogroup C-containing vaccines continue to demonstrate long-lasting protection [8,9]. During the study period, serogroup B remained the dominant serogroup, returning to the level for 2018–2019. There was a sharp increase in IMD incidence for serogroup Y, exceeding the 2018–2019 level and a moderate increase in serogroup W incidence, although it did not reach the level observed in 2018–2019.

Since the outset of IMD monitoring in the EU/EEA, serogroup B has been responsible for most cases in infants and young children. Notification rates for this serogroup have declined since 2014, and even more so during the COVID-19 pandemic [7]. The highest notification rate was observed in infants under one year, followed by children under four years, justifying immunisation programmes that primarily target infants. Immunisation programmes with 4CMenB aim to confer direct individual protection against disease caused by serogroup B [10,11], as the vaccine does not prevent individuals from carrying bacteria of this serogroup and spreading it to others [12].

Infants are the primary target group for vaccine recommendation as this is the group mostly affected by IMD disease burden, irrespective of the serogroup. As of 2026, 17 countries have a funded vaccination programme against IMD in infants, covering one or more of the five vaccine-preventable serotypes. Among these countries, 10 have a booster vaccination programme with MCV4. Austria has a funded primary vaccination programme with MCV4 targeting adolescents but no funded programme for infants. Czechia has a funded primary vaccination programme against serogroup B for adolescents [13] (Annex 1, Annex 2 and Annex 3).

While serogroup B remains the predominant serogroup in younger age groups (Figure 5), a shift in the age distribution of serogroup B cases has been observed. During the three-year period from 2022 to 2024, young adults (15–24-years) accounted for the largest proportion of all reported serogroup B cases, whereas previously the highest proportion was observed mostly among children under five years [4]. Moreover, a recent IMD serogroup B outbreak among young adults in Kent, UK [14] highlighted the severe and unpredictable nature of IMD and prompted wider consideration of vaccination programmes based on local epidemiology. It is expected that forthcoming UK studies, including a seroprevalence survey and risk factor study [14], may provide important evidence to support public health decision-making across EU/EEA countries.

Notification rates for serogroups W and Y have also increased in most age groups and an increasing number of countries have introduced vaccination programmes to protect against these serogroups using quadrivalent vaccines in infant and/or in adolescents.

Careful monitoring of the increasing notification rates and epidemiology of IMD in adolescent and older age groups (50 years and above) remains critical. This can inform possible adjustments to vaccination strategies to include older age groups in addition to infants.

Early clinical signs of meningococcal disease often present as non-specific, flu-like symptoms and there may not be a rash, which can lead to missed diagnoses, delays in clinical management and high mortality [15]. Atypical presentations are more common in older adults who experience the highest fatality rates [16–18]. Despite this burden, there are currently no age-based programmes targeting older age groups in the EU/EEA. In this context, increasing awareness of atypical IMD presentations among healthcare practitioners may also improve diagnostic delays and poor disease outcomes, particularly in older age groups.

The unpredictable nature of meningococcal disease epidemiology highlights the need to maintain high-quality surveillance. It is crucial to incorporate molecular technologies such as polymerase chain reaction (PCR), real-time PCR (RT-PCR) and whole genome sequencing (WGS) into surveillance systems to accurately detect and monitor epidemiological trends, identify circulating serogroups, and assess the effectiveness of implemented vaccination strategies. ECDC has established a pilot for integrated genomic and epidemiological surveillance of IMD that aims to improve understanding of multi-country outbreaks and provide long-term monitoring to inform vaccination strategies.

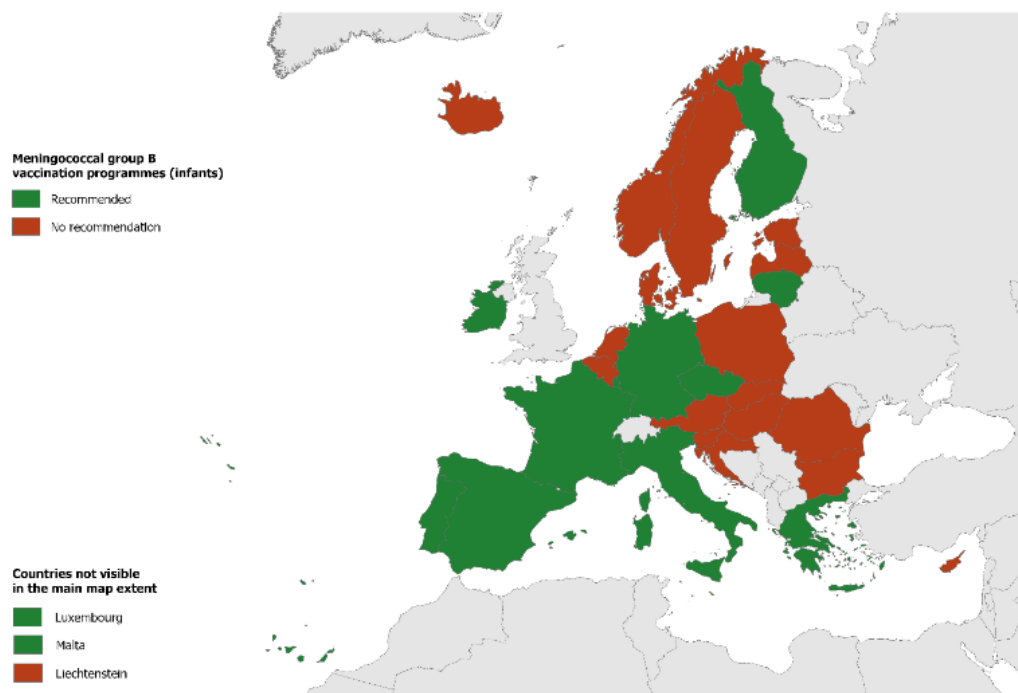
Public health implications

Several vaccines targeting different serogroups are available to prevent IMD. The decision on whether to introduce a vaccine into a country's national routine immunisation programme depends on multiple factors, such as disease burden and local seroepidemiology, vaccine effectiveness, cost effectiveness, and feasibility of implementation. In light of the increasing notification rates for serogroups B, W and Y in the EU/EEA, high quality surveillance is needed to continue to assess and adapt vaccination strategies.

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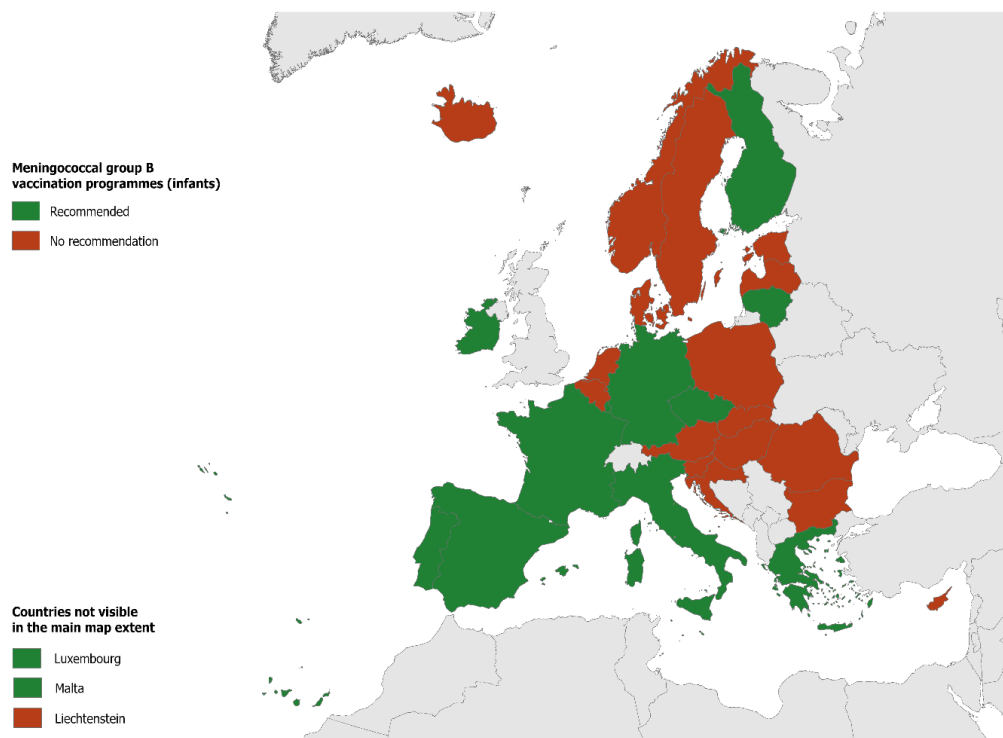
Annex 1. Meningococcal vaccination programmes against serogroup B in infants, EU/EEA, 2026



Map produced on: 21 Apr 2025. Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat. The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union.

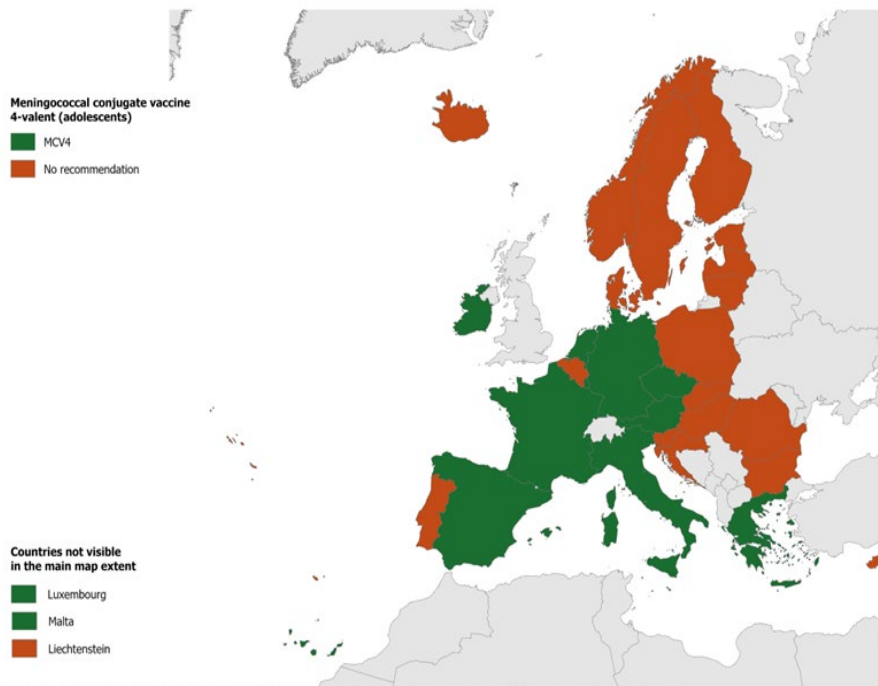
Note: In Austria, MenB vaccination is recommended as early as possible from the age of two months but the vaccination programme is not funded [13].

Annex 2. Meningococcal vaccination programmes against serogroup A, C, W and Y in infants, EU/EEA, 2026



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Annex 3. Meningococcal vaccination programmes against serogroups A, C, W and Y in adolescents, EU/EEA, 2026



MCV4: meningococcal conjugate vaccine (four serotypes: A, C, W, Y).