TACKLING INVASIVE MENINGOCOCCAL DISEASES WITH LIFE COURSE IMMUNISATION

POLICY BRIEF

Coalition for Life Course Immunisation

1. Introduction & Purpose

Among invasive bacterial diseases at any age, meningococci are responsible for the most severe cases (notably meningitis with or without septicaemia) occurring mostly in healthy individuals, with rapid onset- most often unpredictable-, high case fatality and substantial long-term disability among survivors.[1–3]

In spite of as early as possible diagnosis and adapted treatment, case fatality for invasive meningococcal disease (IMD) in high-income settings remains around **8–15%**, and **20–40%** of survivors experience long-term sequelae such as hearing loss, neurocognitive impairment, limb loss or psychological disorders.[2–5]

In 2023, there were 2.53 million global meningitis cases, resulting in an estimated 259,000 deaths worldwide.[6] The **WHO Defeating Meningitis by 2030 global roadmap** sets ambitious goals to eliminate bacterial meningitis epidemics, reduce vaccine-preventable bacterial meningitis cases by 50% and deaths by 70%, and reduce disability and improve quality of life after meningitis by 2030.[6,7]

In parallel, the **Immunisation Agenda 2030 (IA2030)** and the **European Immunization Agenda 2030 (EIA2030)** promote a **life-course approach** to immunisation, with protection "for everyone, everywhere, at every age", emphasising equity, surveillance, and tailored strategies.[8–11]

Purpose

To outline how EU institutions and Member States can **strengthen life-course meningitis prevention** — from infancy to older age — through enhanced surveillance, evidence-informed vaccination strategies and more equitable access, consistent with IA2030/EIA2030 and the WHO meningitis roadmap.

2. Burden of Invasive Meningococcal Disease in Europe

2.1 Overall epidemiology

ECDC's **Report for 2022** reported **1,149 confirmed IMD cases** and **110 deaths** across 30 EU/EEA countries, a notification rate of **0.3 per 100,000**.[12] Incidence remains highest in **infants <1 year**, followed by **children 1–4 years**, with a second peak in **adolescents/young adults 15–24 years.** [3,12,13]

2.2 Serogroup distribution and recent trends

Across Europe, **serogroup B** remains the leading cause of IMD in most age groups under 65 years. [3,14]

However, recent surveillance points to:

- **Rising serogroup Y**: around **359 reported IMD cases due to serogroup Y in 2023** across all ages, with concentrations in France, Germany and Spain.
- **Sharp increase in serogroup W**: approximately **273 cases in 2023**, compared with **~99 cases** the previous year.

These age- and serogroup-specific patterns are drawn from **ECDC's Surveillance Atlas of Infectious Diseases**, which aggregates Member State surveillance data.[4] The long-term success against **serogroup C (MenC)** — with only **a few dozen cases EU-wide in recent years** — shows what can be achieved through vaccination routine strategies during infancy, well-designed catch-up and adolescent booster strategies.[3,15]

2.3 Adults and older adults (50+ years)

While infants and young children remain the highest-incidence groups, adults aged ≥50 years are increasingly accounting for a growing share of the IMD burden. Recent EU data indicate around **629 IMD cases in adults 50+ in 2023,** with particularly **high absolute numbers in France (~218) and Spain (~102).** [4,5] **Case fatality is highest in over- 65s (18%),** followed by 50-64-year-olds (15%).[3]

Serogroup Y is especially prominent in older adults, and W is increasingly implicated in severe sepsis and meningitis in this age group.[4,5,16]

2.4 Economic and societal burden

IMD generates **very high health-care costs**, driven by:

- ICU and hospital care for the first acute episodes
- Long-term management of sequelae (hearing aids, rehabilitation, psychological support, disability care)[5,17–20]
- Across European economic evaluations, **acute hospital costs** per IMD case often exceed **€10,000–€50,000**, and **sequelae account for ~80% of lifetime direct costs** in some analyses.[17,18,20]

In addition, survivors and their families experience:

- Long-term **productivity losses**, missed school days and caregiver burden
- Reduced quality of life, with substantial **DALYs and YLDs** attributed to IMD in global burden estimates.[5,21]

Implication for policymakers: IMD is low-incidence but **high-impact** and warrants prioritisation in life-course immunisation policy.

3. Vaccination Across the Life Course

3.1 Available vaccines

The EU has a mature toolbox of vaccines that prevent invasive bacterial diseases and in particular IMD, including meningitis

- **Hib** and **pneumococcal conjugate vaccines (PCV)** in infant schedules, with demonstrated impact on meningitis and invasive disease related across childhood and beyond.[22–24]
- **MenB** vaccines licensed from early infancy upwards, with real-world evidence of impact in infant and adolescent programmes and modelling suggesting substantial added benefit when adolescent schedules are included.[25–27]
- **MenACWY** conjugate vaccines, more widely used in adolescents and young adults, and also increasingly used in infant and toddler programs in some countries, in replacement of MenC vaccines[15,26]

3.2 Heterogeneity of national schedules

The **ECDC Vaccine Scheduler** reveals significant differences between vaccination strategies of EU/EEA countries in the following areas:

- age of first meningococcal dose
- use of MenC versus MenACWY
- use of MenB
- catch-up vaccination
- funding/mandatory status.[28]

Across many Member States, **catch-up provisions** for adolescents or young adults exist but are often **under-implemented**, and adult schedules (including for 50+ risk groups) remain fragmented.[15,24,28]

France – MenB introduced in 2022 and made **mandatory from January 2025 for children under two years of age**; monovalent MenC during infancy and at adolescence replaced by **MenACWY** with catch-up options for older children/adolescents up to 24 years of age.

Germany – Long-standing routine MenC in childhood; **national MenB recommendation** introduced in 2024/2025 with focus on infant/toddler protection.[15]

Spain – Routine infant MenB, regional variation in MenB–MenC combinations in childhood, and MenACWY for adolescents and catch-up groups.

3.3 Risk groups and serogroups

Evidence and expert opinion emphasise that **risk groups** (e.g. asplenia, complement deficiency, immunosuppression, certain occupational or travel exposures) face **comparable risk across MenB, MenC, MenW and MenY**, and that **limiting risk-group vaccination to MenB alone is not evidence-based.**[14,15,29]

The **success of MenC programmes** (UK, Italy, Netherlands) demonstrates the value of:

- Early roll-out with **mass catch-up** in adolescents/young adults
- **Strategic transition** from monovalent MenC to broader MenACWY in adolescence and infancy
- Maintaining **high coverage** to preserve herd protection.[3,15]

4. Integration & Life-Course Approach

The life-course vision in **IA2030/EIA2030** stresses immunisation opportunities beyond infancy — through adolescence, adulthood and older age.[8–11]

4.1 Key risk periods

- **Adolescents/young adults (15–24 years)**: second peak of incidence; key carriers of N. meningitidis; high social mixing and close-contact settings (schools, universities, dormitories). [2,18,30]
- **Adults ≥50 years**: growing share of severe IMD, especially serogroups Y and W, with higher rates of sepsis, ICU admission and death, and in whom bacteremic meningococcal pneumonia — likely underdiagnosed — should be actively considered. [4,5,16,21,31]

4.2 Missed opportunities for integration

Although infant coverage for Hib, PCV and primary MenC/MenB doses is generally high, many Member States underuse:

- **Adolescent health visits and school-based programmes** for MenACWY/MenB and catch-up
- **Pharmacy-based vaccination** and **nurse-led programmes**
- **Chronic disease / older-adult clinics** to integrate meningococcal vaccination into co-morbidities care (e.g. chronic conditions such as cardiovascular and diabetes)
- **Travel medicine** settings for pilgrims and travellers to high-risk regions (e.g. serogroup W outbreaks linked to Hajj/Umrah).[16,31]

Lack of systematically used **electronic immunisation records** and **centralised medical dossiers** contributes to missed vaccination opportunities across the life course.

5. Policy Landscape & Gaps

5.1 Surveillance and data

Key gaps include:

- Incomplete **serogroup data** in some Member States and delays (2-year lag) in EU-level reporting.
- Absence of an **EU-wide database for meningococcal vaccination coverage**, with only national-level or age-stratified data in some countries.
- Limited **systematic data on long-term sequelae**, quality-of-life and indirect costs in EU surveillance frameworks.[3,4,5,17–20]

5.2 Heterogeneous immunisation policies

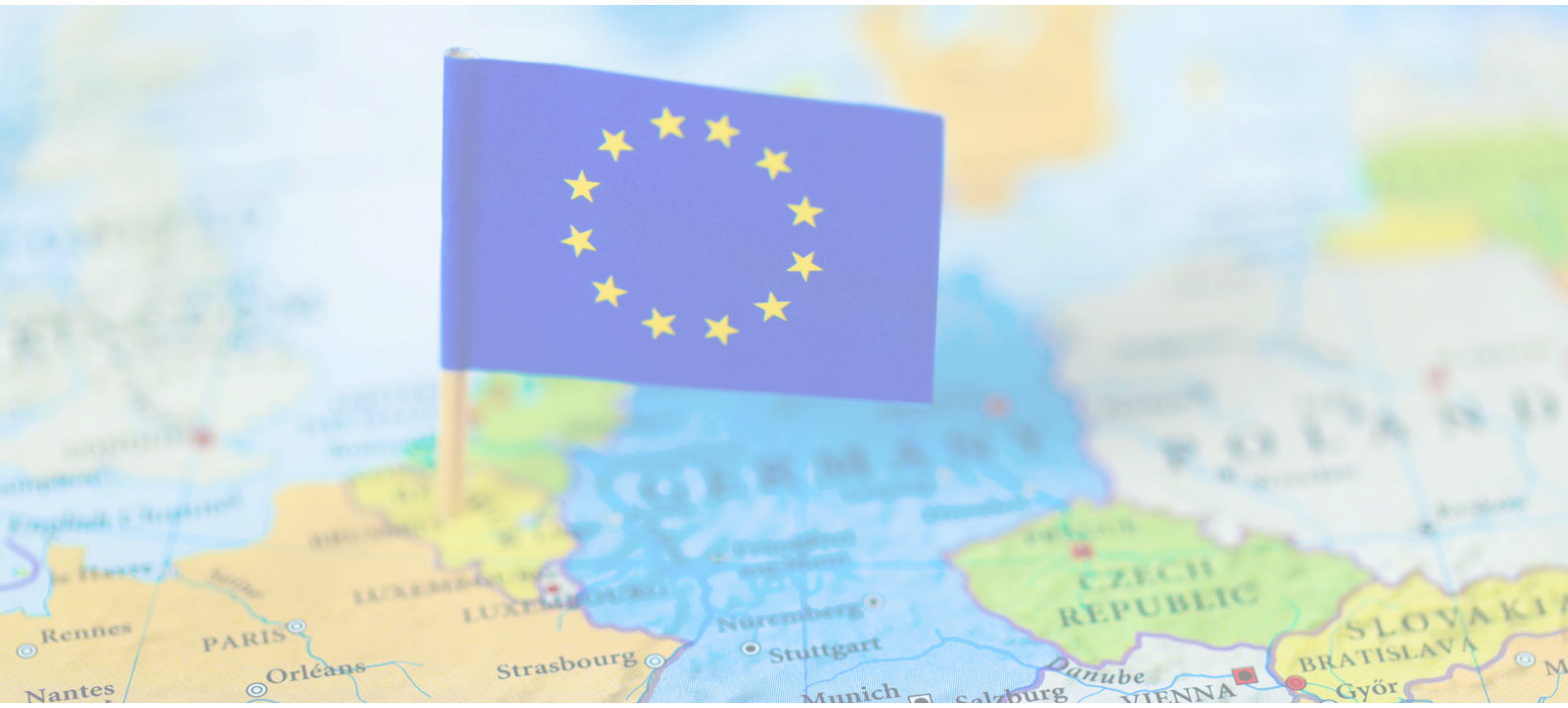
Under the **principle of subsidiarity**, vaccination strategies remain national competencies. This results in:

- Divergent use of **MenB and MenACWY** in infancy, adolescence and adulthood
- Variation in **funding and recommended vs mandatory status**, particularly for Men ACWY and adult doses
- Unequal access for socio-economically disadvantaged groups, migrants and marginalised populations.[13,15,21,28]

5.3 Missed "success learning"

Despite near-elimination of **MenC-IMD** in several countries following comprehensive infant plus catch-up/adolescent strategies, there is no formal EU mechanism to **capture and share lessons** from these programmes to inform future MenB/MenACWY strategies.[3,15]

6. EU-Level Guidance for Life-Course IMD Prevention



Recognising that **full harmonisation of national schedules is unrealistic**, EU action should focus on **equity, surveillance quality, shared evidence and preparedness** rather than prescriptive schedules.

6.1 Strengthen IMD and, more specifically, meningitis surveillance and data systems

- Improve **timeliness, completeness and granularity** of IMD reporting via ECDC, including:
  - Systematic reporting of **age, serogroup (including Y and W), clinical presentation and outcomes**.
- Establish a **pan-European sequelae registry** for meningitis/IMD to quantify long-term health, social and economic impact.

6.2 Promote equity in access and uptake

- Support **joint procurement / common-market mechanisms** among willing countries to reduce vaccine prices and improve sustainable supply.
- Prioritise **adolescents, young adults and adults 50+** for targeted outreach and catch-up, focusing on post-pandemic gaps, "zero-dose" and under-vaccinated groups.
- Develop on site vaccination take-up (schools, colleges, work places, nursing homes…)

6.3 Embed a life-course immunisation approach

- Promote **multi-age strategies** (infants + adolescents + risk-group and older adults) where epidemiology and cost-effectiveness justify them.
- Encourage use of **pharmacies, nurses and occupational health services** as vaccinators, supported by **interoperable electronic vaccination records** to reduce missed opportunities.

6.4 Support evidence-based national vaccination strategies

- Make available to HCPs and the public regular safety data as well as efficacy/effectiveness data

- Develop **non-binding EU guidance** on life-course meningococcal vaccination that:
  - Provides evidence-based options for **infant, adolescent and adult (50+) strategies** using MenB and MenACWY.
  - Emphasises **risk-group protection** across serogroups.

- Support Member States to **expand and sustain catch-up and adolescent programmes**, building on:
  - Experience from successful **MenC** and **MenACWY** programmes.
  - Evidence on **herd protection achieved with polysaccharide conjugate vaccines**
  - Evidence on **cost-effectiveness**.

6.5 Create a shared learning and communication agenda

- Establish **formal EU platforms enhanced with AI** (e.g. under ECDC/WHO Europe) for real-time analysis and exchange on:
  - IMD epidemiology and outbreaks,
  - Vaccination strategies and programme changes,
  - Lessons from MenC, MenB and MenACWY implementation.

- Integrate meningitis messaging into broader **IA2030/EIA2030 communication** (equity, resilience, zero-dose) and leverage:
  - **European Immunisation Week**
  - **World Meningitis Day**

6.6 Establish a shared information

- (infographics, short videos…) for the public targeting adolescents, young adults, any risk group, and older adults.
- Translated into their own language and renewed from time to time.

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