Digital poster

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Systematic Literature Review on the Burden and Economic Impact of Invasive Meningococcal Disease in Adolescents and Young Adults in the UK

Pavo Marijic[1], Nana Opoku-Ansah[2], Paul Alli[2], William Hickey[2], Ginita Jutlla[2], Thierry Oliver Schaffner[3], Elise Kuylen[4], Gaurav Mathur[5], Nicola Clarke[6], Andy Easton[6], Thatiana Pinto[4], Zeki Kocaata[1]

[1]GSK, Munich, Germany; [2]GSK, London, UK; [3]GSK, Baar, Switzerland; [4]GSK, Wavre, Belgium; [5]GSK, US; [6]Health Economics & Outcomes Research Ltd, Cardiff, UK

Invasive meningococcal disease, particularly MenB, continues to cause an **important disease burden with severe complications and high costs** among UK adolescents and young adults, highlighting the **importance of sustained prevention strategies**.

Background

- **Invasive meningococcal disease (IMD) is a serious and unpredictable illness. While IMD incidence is highest in** infants, a second peak occurs in adolescents and young adults, who are also at risk of severe complications, contributing to a significant economic burden.[1]
- **In the UK, since 2015**, the MenB vaccine has been offered to infants, while the MenACWY vaccine is provided to adolescents.[1]
- This systematic literature review assessed the epidemiology, disease burden, and economic burden of IMD in the UK, **focusing on adolescents and young adults (10-24-year-olds)**.

Study design

Searches in March 2025 included peer-reviewed literature from MEDLINE and Embase (past 10 years), conference proceedings (past 3 years), and relevant websites and governmental/non-governmental organisations.

Outcomes included **epidemiological** and **disease burden, acute** and **long-term healthcare resource utilisation,** and **costs**.

Results

Data were extracted from **35 sources**

Figure 1: **Overall incidence of IMD by serogroup in the UK.**

⇨ Serogroup B accounted for most of the observed cases each year.

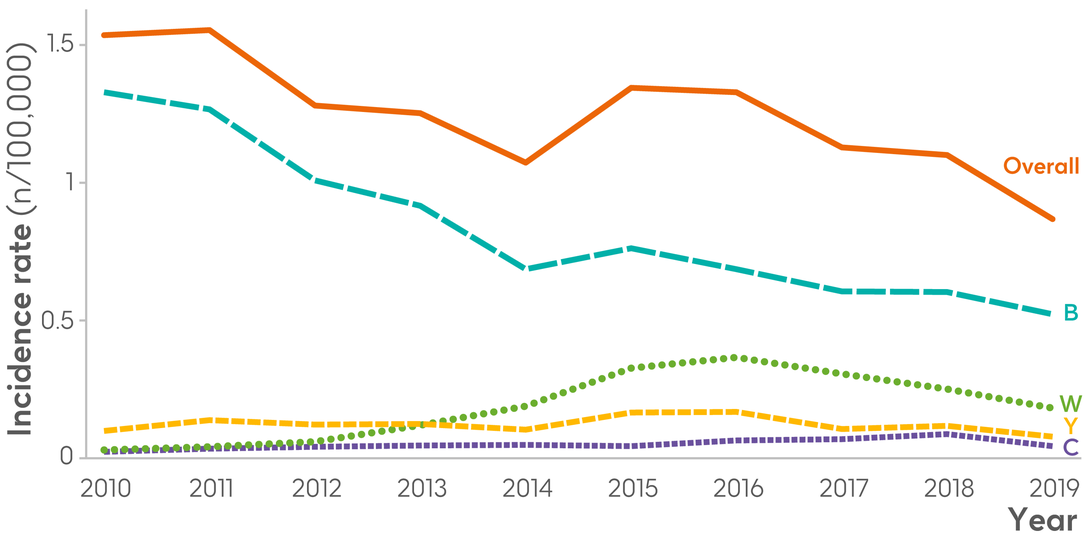


Figure 2: **Incidence of IMD cases due to MenB.**

⇨ Two peaks are observed, in infants and adolescents and young adults.

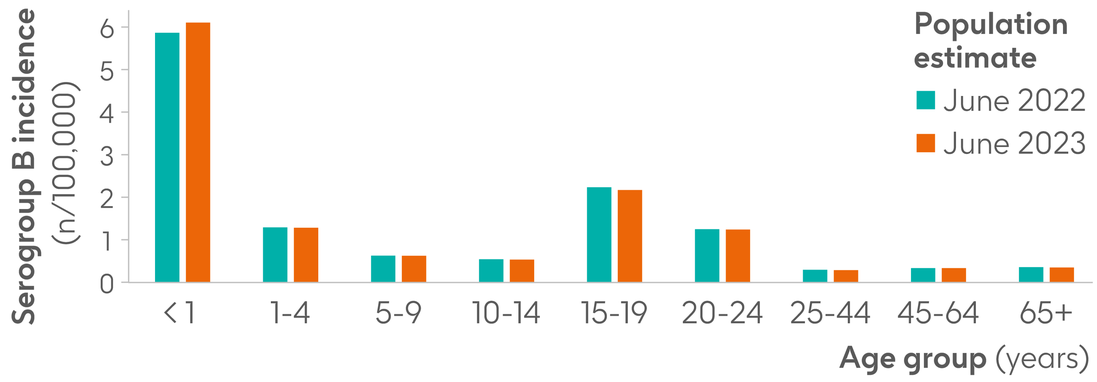
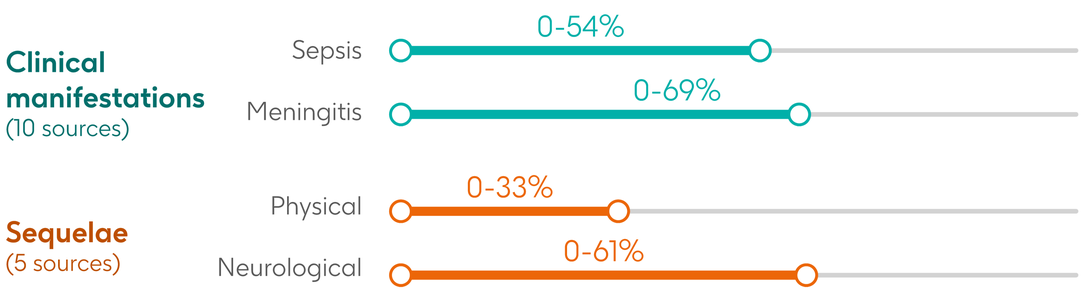


Figure 3: **Overall rates of clinical manifestations and sequelae in IMD cases.**

⇨ Sepsis, meningitis, and physical/neurological sequelae were frequent in the overall population.



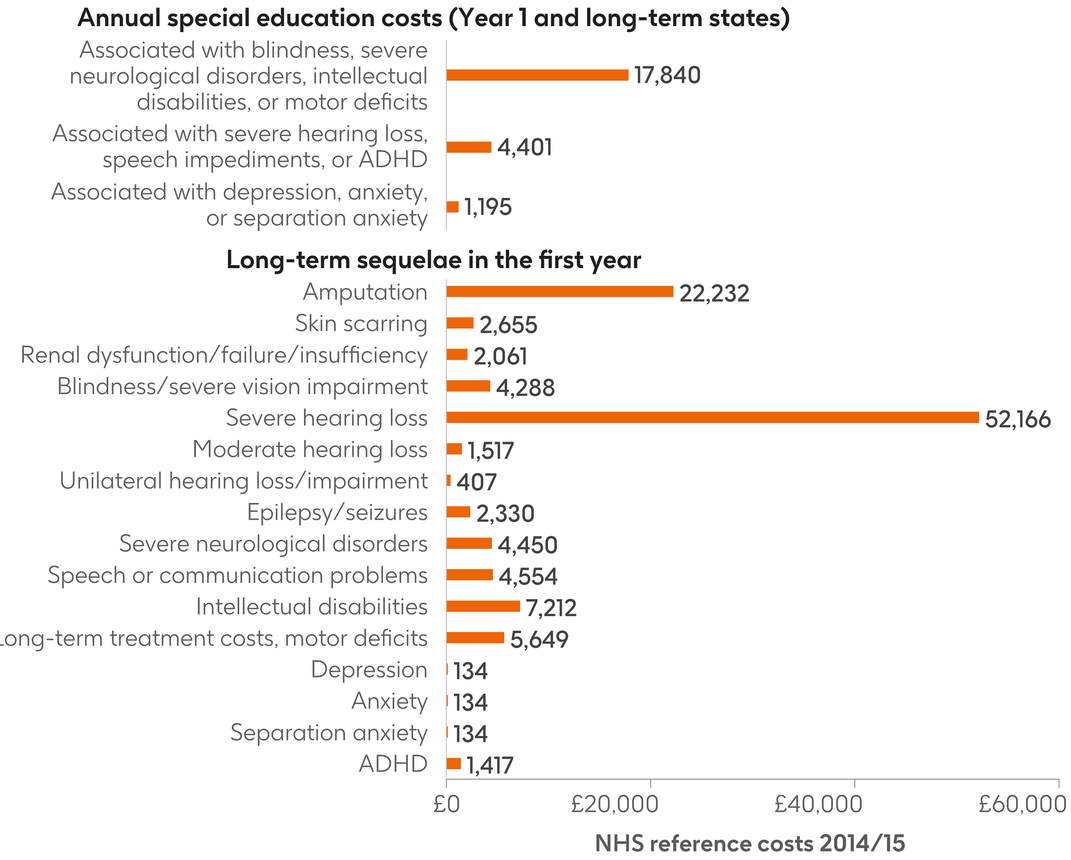
Definitions and reporting periods may vary by study.

Median length of hospitalisation was **6 days** and median length of ICU was **4 days** in the overall population.

Intensive care unit admissions were reported for **33-38%** of 5-24-year-olds diagnosed with IMD.[2]

Figure 4: **Overall annual IMD-related costs in reviewed studies.**

⇨ Severe hearing loss (£52,165.87) was the costliest long-term sequelae identified.



Acute phase treatment costs are for young adults. Other costs were overall (all ages)
Data updated post-abstract submission

Conclusions

Although routine MenB and MenACWY vaccinations have reduced IMD incidence, **IMD is associated with severe complications and high costs.**

MenB remains dominant, with a second incidence peak in those **aged 15-24 years**.

These findings underscore the importance of prevention and can help to inform health strategies and economic planning for better disease prevention and management.

Abbreviations

ADHD: attention-deficit/hyperactivity disorder; **ICU**: intensive care units; **IMD**: invasive meningococcal disease; **MenB**: meningococcal serogroup B; **NHS**: National Health Service; **UK**: United Kingdom

References

1. Parikh SR et al. J Infect. 2020;81(4):483-498. doi: 10.1016/j.jinf.2020.05.079
2. Parikh SR et al. Vaccine. 2018;36(26):3876-81. doi: 10.1016/j.vaccine.2018.02.038

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Presenting author: Zeki Kocaata, zeki.x.kocaata@gsk.com