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The epidemiology of invasive meningococcal disease after the withdrawal of COVID-19 control measures in England

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Background

After the first COVID-19 national lockdown from March 2020, invasive meningococcal disease (IMD) incidence in England fell from 0.95 per 100,000 population in 2018-19 to 0.74 per 100,000 in 2019-20 (1). IMD incidence was 75% lower (IRR 0.25, 95% CI 0.18–0.35) during April–August 2020 than during April–August 2019, with most cases caused by group B meningococci (MenB).

Aim/Methods

This study reviews the epidemiology of IMD in England before and after COVID-19 containment measures were withdrawn in July 2021, based on academic year (running from September to August). The UK Health Security Agency (UKHSA) conducts enhanced national IMD surveillance in England. Hospitals routinely submit invasive isolates to the UKHSA Meningococcal Reference Unit (MRU) for confirmation, grouping and whole genome sequencing. The MRU also offers free PCR testing for suspected IMD cases. Each confirmed case is followed up by the UKHSA Immunisation Division for further clinical and epidemiological data.

Results

IMD cases declined after the 2015 introduction of MenB infant and MenACWY teenage national immunisation programmes, from 825 cases in 2015-16 to 534 (35% reduction) in 2018-19, before SARS-CoV-2 emerged. Case-numbers fell to 420 in 2019-20 and 79 in 2020-21. After containment measures ceased, IMD cases increased to 219 cases in 2021-22, still lower than pre-pandemic years. This increase was driven mainly by the re-emergence of MenB (194/219, 89%) particularly in 15-24 year-olds (91/194, 47%). MenB cases continued to increase in 2022-23 extending across all age groups and exceeding recent pre-COVID-19 years in the 10–45-year age groups. Cases remained relatively low in < 10 year-olds. MenCWY cases remain very low across all ages.

Conclusions

Cases of IMD re-emerged in England when COVID-19 measures were withdrawn. MenB cases increased initially in in teenagers and young adults who have the highest carriage rates (2). MenB increases then spread across all age groups except young children, who remain protected through the national infant MenB immunisation programme. MenACWY vaccination in teenagers appears to continue to offer direct and indirect protection against MenCWY disease which remains rare.