

HARP-RSV: Hospitalisation and RSV Patterns in Irish Infants: A Retrospective Three-Season Epidemiological Analysis

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Key Takeaways

Implementation of an RSV immunisation programme in Ireland led to substantial reductions in RSV cases and hospitalisations among infants and children observed over three RSV seasons.

OBJECTIVE

- To analyse RSV hospitalisations and case trends in Ireland for the 2023/24, 2024/25, and 2025/26 seasons using Health Protection Surveillance Centre (HPSC) data, aiming to enhance understanding of seasonal variations and support effective healthcare planning.

BACKGROUND

- Respiratory Syncytial Virus (RSV) is a leading cause of paediatric hospitalisation¹. Between 2013 and 2023, infants <1 year accounted for **approximately two-thirds of RSV-cases, -emergency department visits and -hospital admissions**, among children aged 0-4 years in Ireland².
- The HSE introduced a **pilot** RSV prevention programme for Season 2024/25, eligible to infants born from September 2024 to February 2025³. This programme was **expanded** for Season 2025/26, to include all infants born in- and out-of-season⁴.
- This work aims to **examine RSV hospitalisation and case trends in Ireland** over three seasons using HPSC data. Understanding these trends essential to accurately forecast healthcare system burden and to inform **evidence-based decision making** for public health and policy planning.

METHODS

- Data Extraction:** Confirmed RSV cases and corresponding hospital data among infants and children were obtained from the HPSC public surveillance database⁵, covering the three seasons, 2023/24 to 2025/26.
- Data Compilation:** Weekly caseload data were compiled for the entirety of the typical Irish RSV Season, from Week 40 to Week 8 (October to February). Additionally, RSV caseload and hospitalisation incidence data were specifically compiled for the <1 year age group.
- Data Analysis:** Retrospective analysis was conducted to identify variations in mean incidence rates, hospitalisation impacts, and overall disease burden. This analysis aimed to elucidate temporal trends and potential epidemiological shifts within the specified age cohorts.

RESULTS

RSV **seasonality varied** across the three seasons, with a later start to the season observed in 2024/25 and 2025/26

Overall RSV incidence in infants <1 year **declined by 45.6%** during Season 2023/24 **and by 61.4%** during Season 2025/26, compared to baseline season

The mean incidence of **RSV-related hospitalisations** in the <1 year group was **reduced by 60.7%** in Season 2024/25, compared to baseline season.

The mean incidence of **RSV-related hospitalisations** in the <1 year group was **reduced by 72.8%** in Season 2025/26, compared to baseline season,

Figure 1. Overall Incidence of RSV Cases and Hospitalisations in Infants <1 Year, over three seasons ^{5,6}

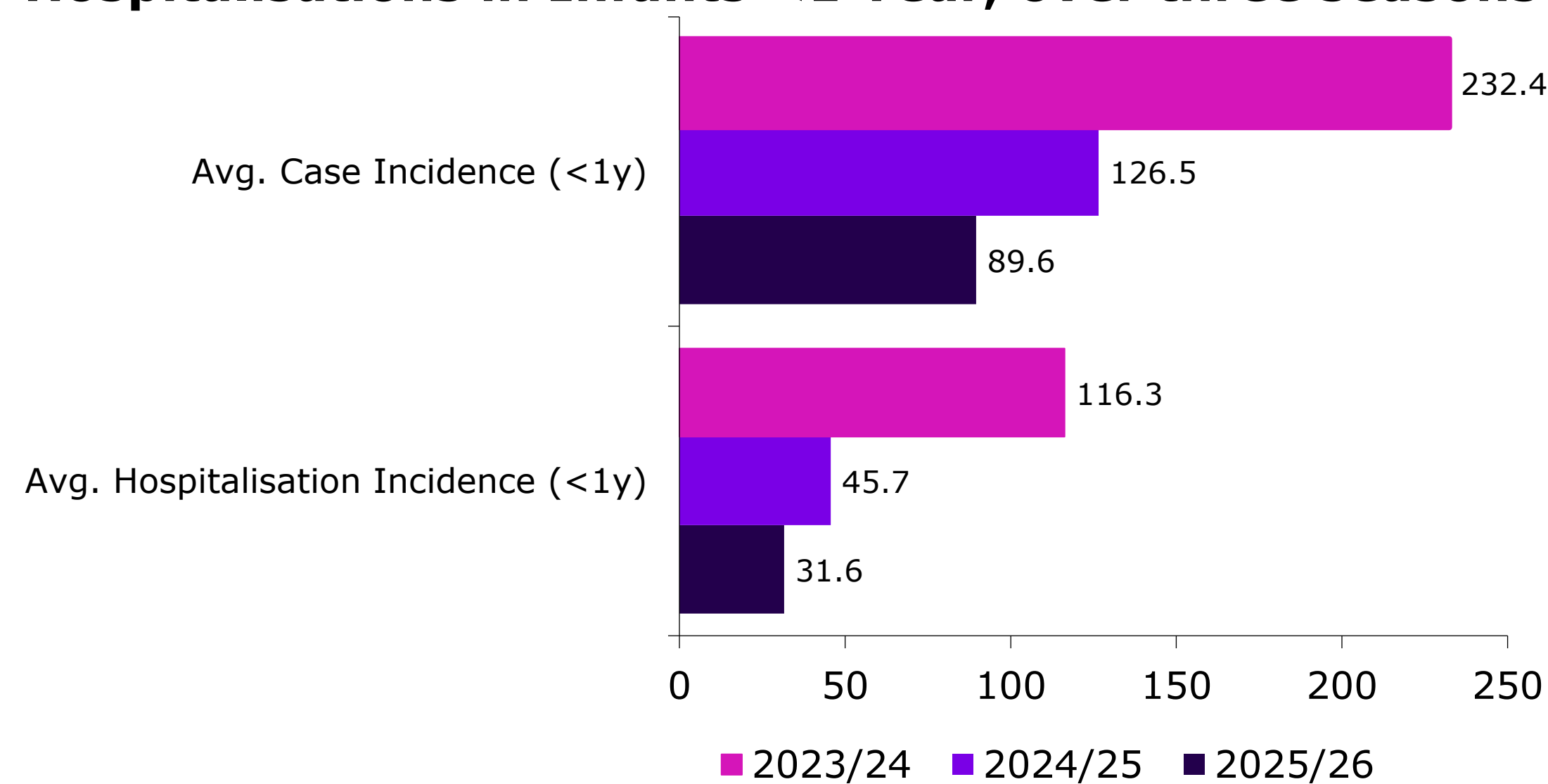


Figure 2. Monthly Incidence of RSV Cases in Infants <1 Year, over three seasons ^{5,6}

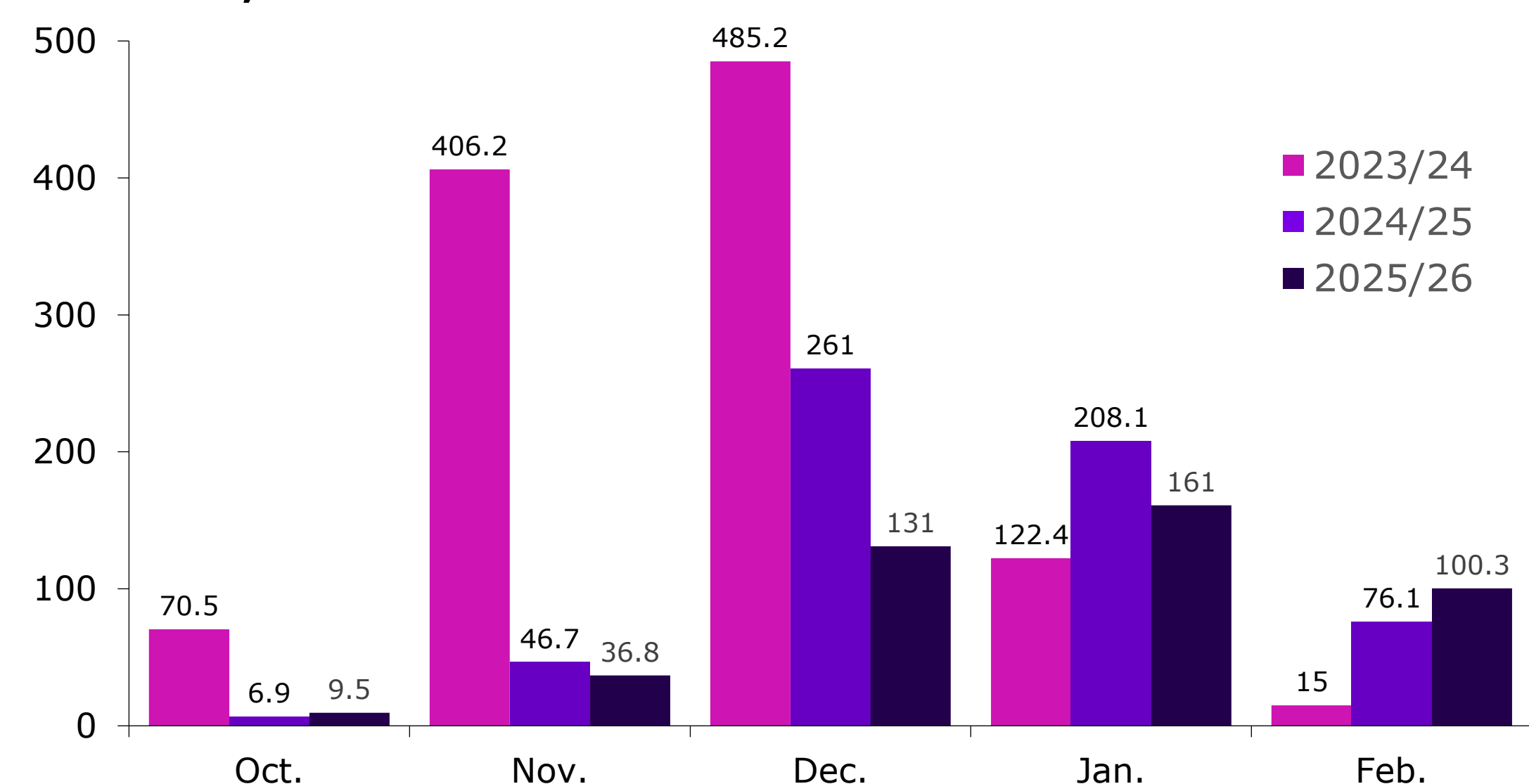
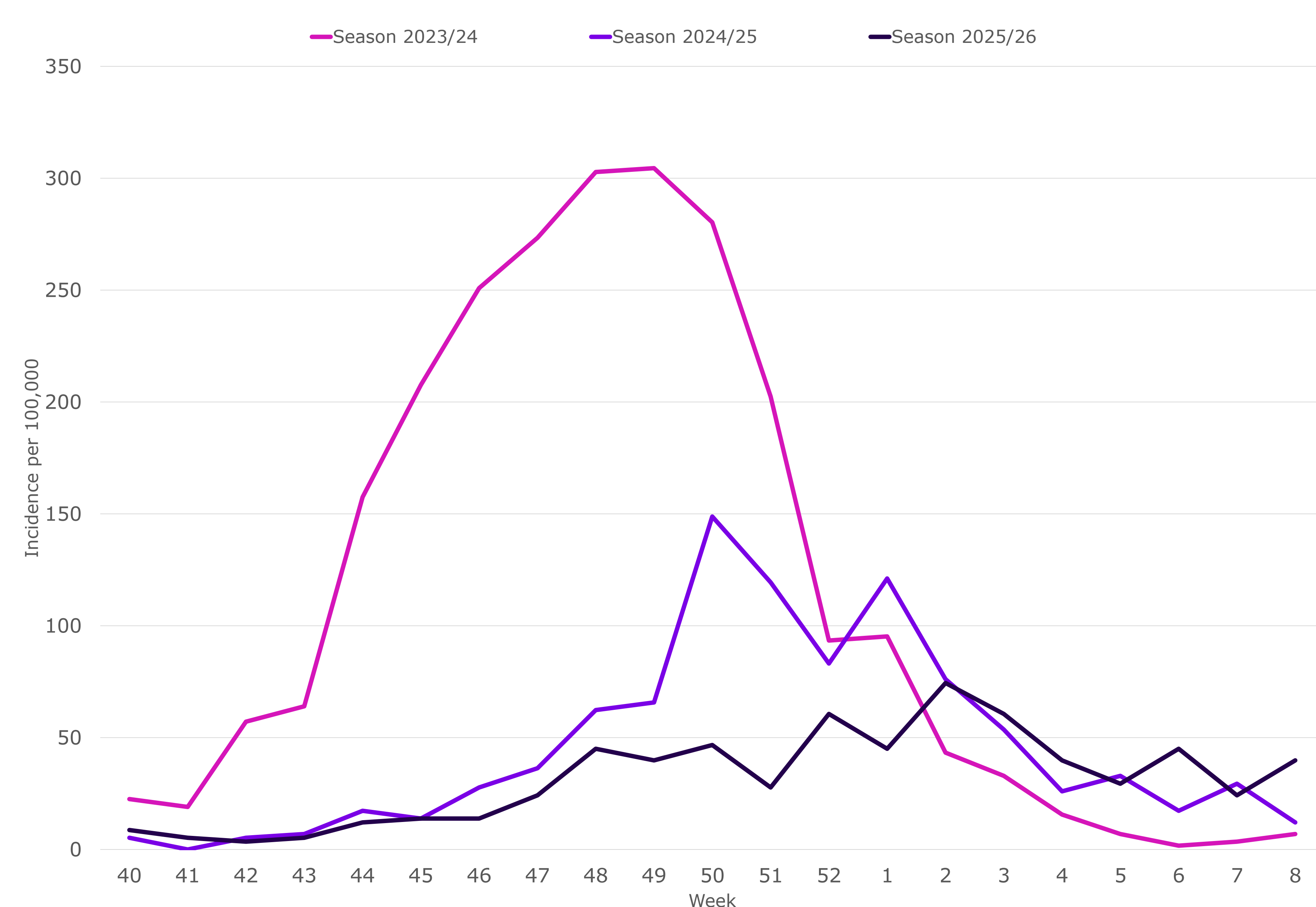


Figure 3. Weekly Incidence of Hospitalised Cases of RSV in Infants <1 Year, over three seasons ^{5,6}



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