

# Morbidity of Respiratory Syncytial Virus in Sligo University Hospital

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## Background

Respiratory Syncytial Virus (RSV) primarily affects those at extremes of age – younger than one year and older than 65. A vaccine has recently become available in Ireland and has been incorporated in the childhood vaccination schedule for those born between September 2024 and February 2025, free of charge. This has resulted in a significant decrease in paediatric admissions secondary to RSV. However, the vaccine is not available through public means for the adult population, costing upwards of €200 for potentially vulnerable patients. A 2024 HIQA analysis determined potential cost of a national vaccination scheme for RSV targeting those aged over 65 to be approximately €146 million, while a vaccination scheme for those over 75 would cost an estimated €76 million.

## Methods

Retrospective chart review of patients admitted to Sligo University Hospital (SUH) between September 2023 and February 2024.

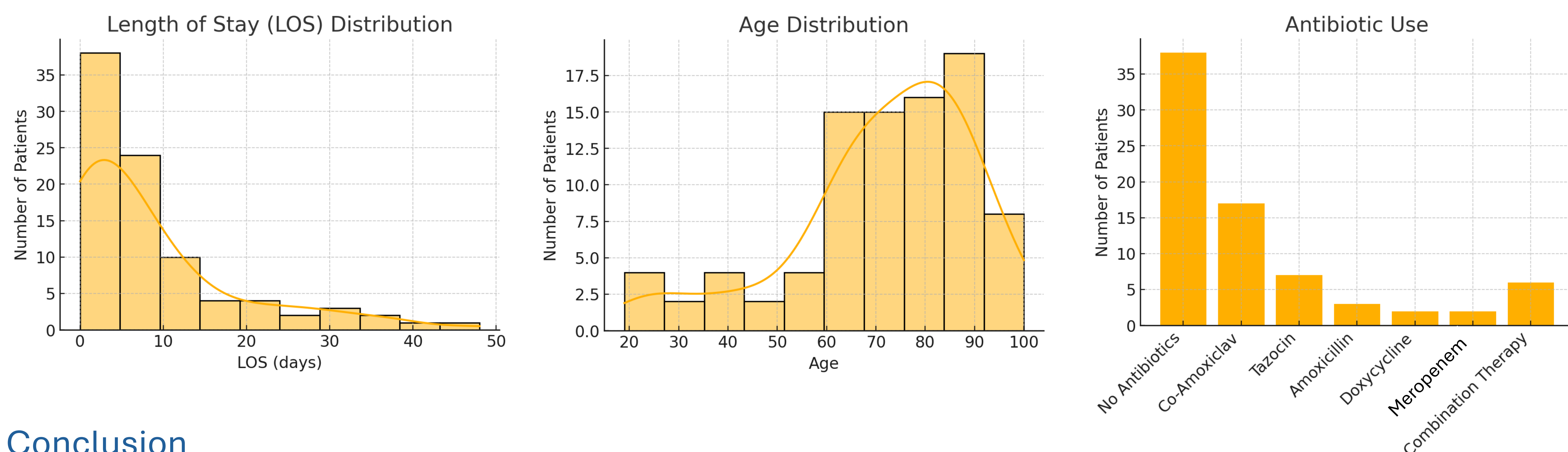
Patients were included through nasal viral swabs positive for RSV. Patients under 18 years of age were excluded from this analysis.

Information regarding admissions, including age, gender, length of stay (LOS), antibiotic use, previous respiratory disease, respiratory support, ICU admission, readmission at up to 60 days and mortality at up to 90 days was collected. These data were collected from discharge letters, ED Triage information, medical admissions handover documents and PiMS. Patients for whom this information was not available were excluded from this analysis.

## Results

243 patients were identified as having RSV during September 2023 and February 2024. 120 patients were excluded as they were younger than 18 years. Insufficient data were available for 31 patients. 89 patients were suitable to be included in this analysis. The age range of this cohort was 19 to 100 years, with a median age of 75 years. Range of LOS was 0 to 48 days, with a mean LOS of 8.4 days and a median of 5.0 days. Of the 89 patients included, only 2 patients required admission to ICU during their stay. 62 patients (69.6%) did not require and ventilator support, with fewer patients requiring supplementary oxygenation (15 patients, 16.9%), High Flow Oxygen delivery (6 patients, 6.7%), or non-invasive ventilation (6 patients, 6.7%).

Antibiotics were given to 51 patients (57.3). Most common antibiotics used included amoxicillin/clavulanic Acid (17 patients, 19.1%) and piperacillin/tazobactam (7 patients, 7.9%), with fewer patients receiving doxycycline, meropenem, or combination therapies. 70 patients (79.8%) were not readmitted to SUH, with 10 patients (11.2%) being readmitted within 60 days, and 8 patients (9.0%) still being inpatients at 30 days. 30-Day mortality was 2.2%, increasing to 6.1% at 90 days following admission.



## Conclusion

Through this analysis of 89 patients we can see that the adult burden of RSV in SUH is weighted towards those over the age of 70, with a mean age of 75. A median LOS of 5 days for this cohort demonstrates a significant use of inpatient bed days secondary to RSV infection, with a total of more than 700 bed days utilised. Furthermore, antibiotics were utilised in the majority of patients in this analysis, and patients who received antibiotics had longer LOS on average. This could signify concurrent bacterial infection in the setting of RSV, but for some patients could be example of inappropriate antibiotics usage, and thus a potential anti-microbial stewardship issue.

While this cohort had low mortality, we have demonstrated a significant inpatient burden secondary to RSV infections. Increased education of the public regarding the availability of the RSV vaccine may be beneficial, but significant cost to the individual may be a further deterrent towards vaccination. Further information regarding the burden of RSV-related presentations to other healthcare facilities may be beneficial towards the justification of a larger RSV vaccination scheme for vulnerable adults.

## References

- HSE. (16<sup>th</sup> December 2024). *New HSE RSV immunisation programme significantly reduced infections, serious illness and hospitalisations in babies* [Press Release]. <https://about.hse.ie/news/new-hse-rsv-immunisation-programme-significantly-reduces-infections-serious-illness-and-hospitalisations-in-babies/>
- HIQA. (13<sup>th</sup> August 2024). *HIQA publishes rapid assessment of immunisation against respiratory syncytial virus (RSV) in Ireland* [Press Release]. <https://www.hiqa.ie/hiqa-news-updates/hiqa-publishes-rapid-assessment-immunisation-against-respiratory-syncytial-virus>