

Poster number: P1.35

Respiratory virus admissions in children under five years of age during three consecutive seasons. Valencia Hospital Network for the Study of Influenza and other Respiratory Viruses

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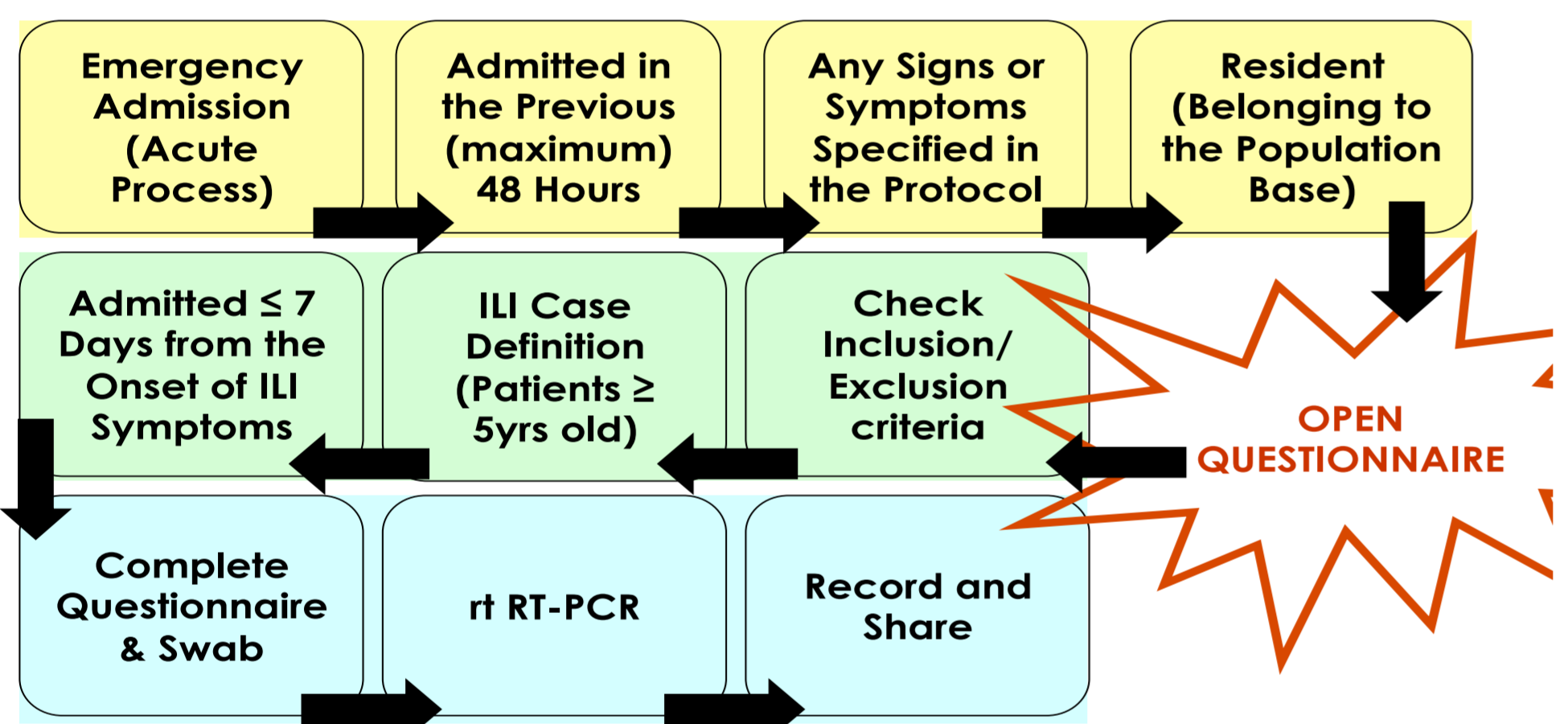
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Background

Respiratory viruses cause significant morbidity and mortality in early life. The relative burden of major respiratory viruses, in either single or dual infections, on hospital services, in children under 5 years of age, and over several seasons has not been well established.

Methods

We conducted a prospective, hospital-based surveillance for respiratory illness among inpatients less than 5 years of age in Valencia (Spain) from 2011-2012 through 2013-2014 winter seasons. Clinical and demographic data were obtained from parents and medical records, 14 major respiratory viruses were detected from patients' flopped nasal swabs by means of RT-PCR. We estimated virus-specific associated hospitalisations, evaluated age and temporal trends in these hospitalizations and examined risk factors for hospitalization from respiratory viral infection.



Results

Eligible: 2.753 admissions in <5 yoa

Excluded: 685

No consent: 344

No resident: 37

Hospitalized within 30 days current admission: 34

Symptoms onset > 7 days of admission: 243

Included: 2.086

Negative:
1.225 (59%)

Included with valid results:
2.068
(18 inadequate samples)

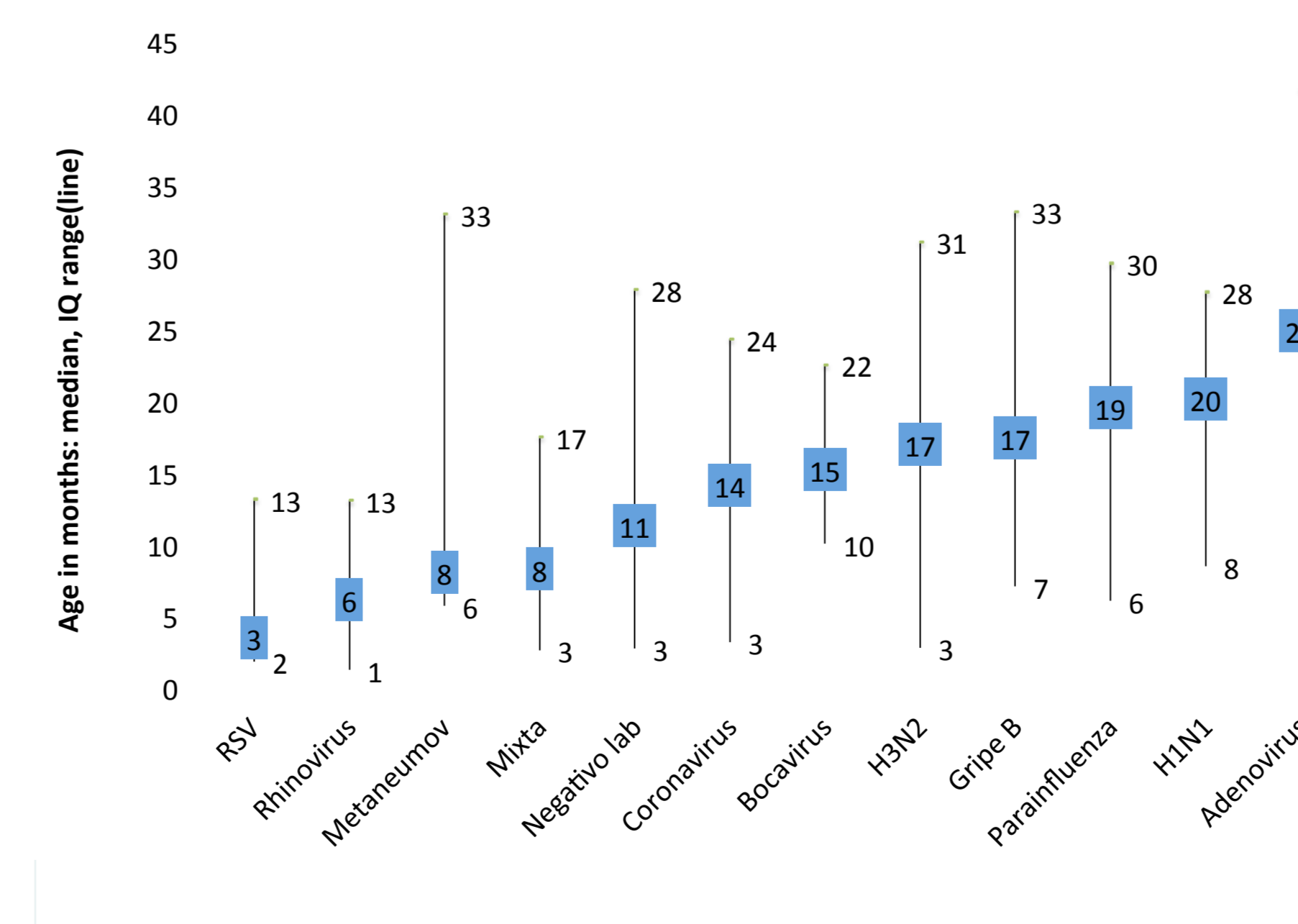
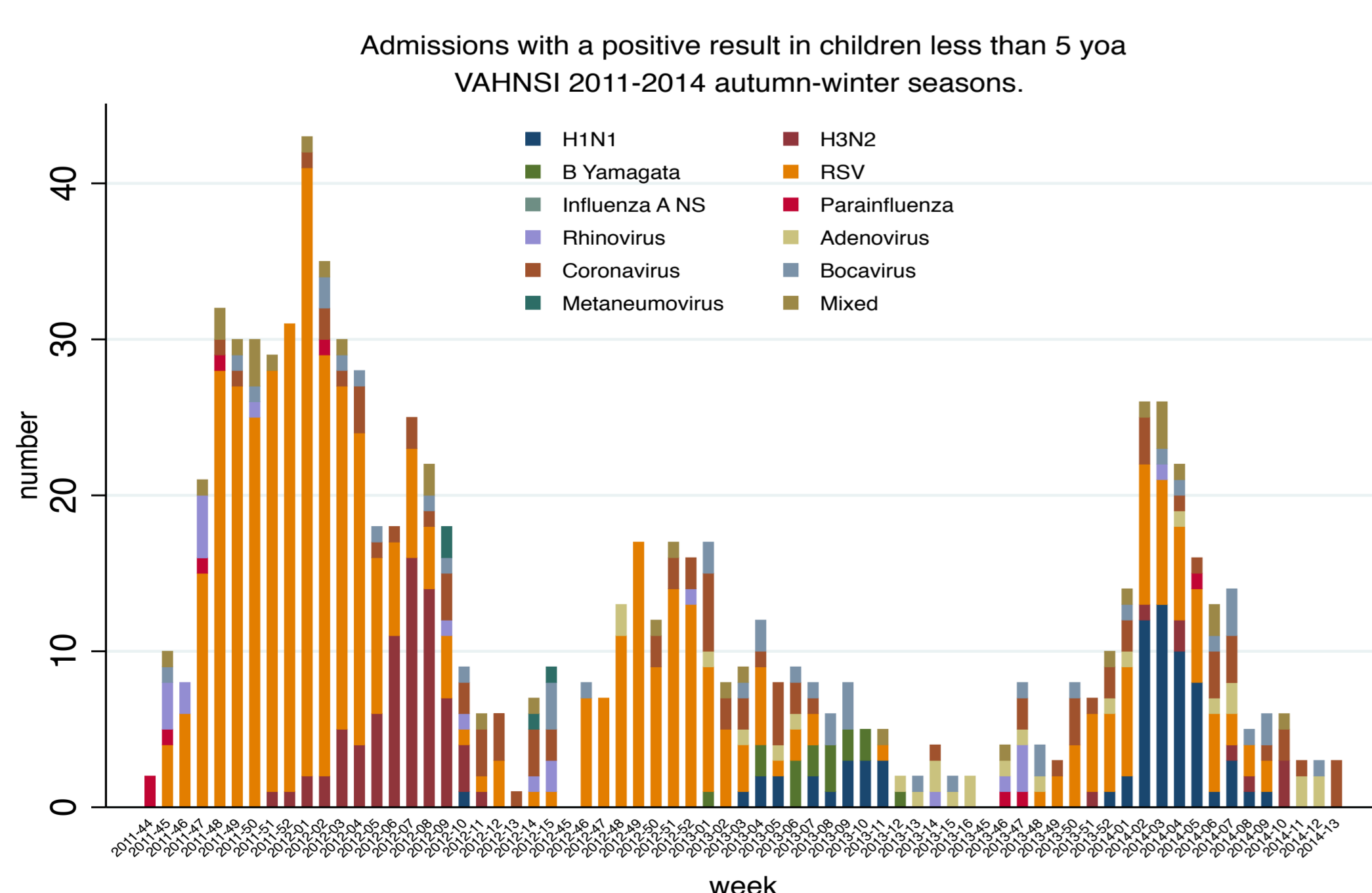
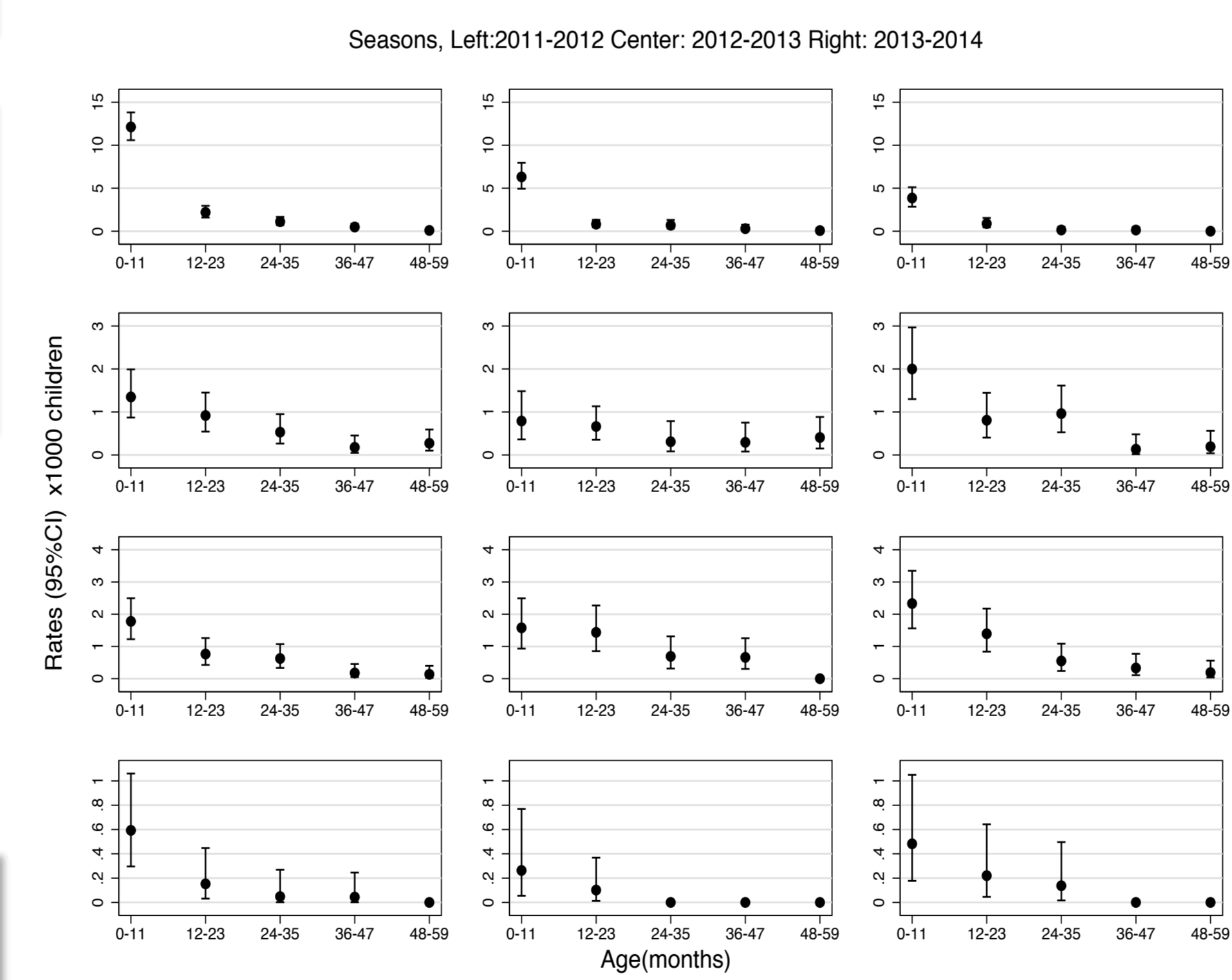
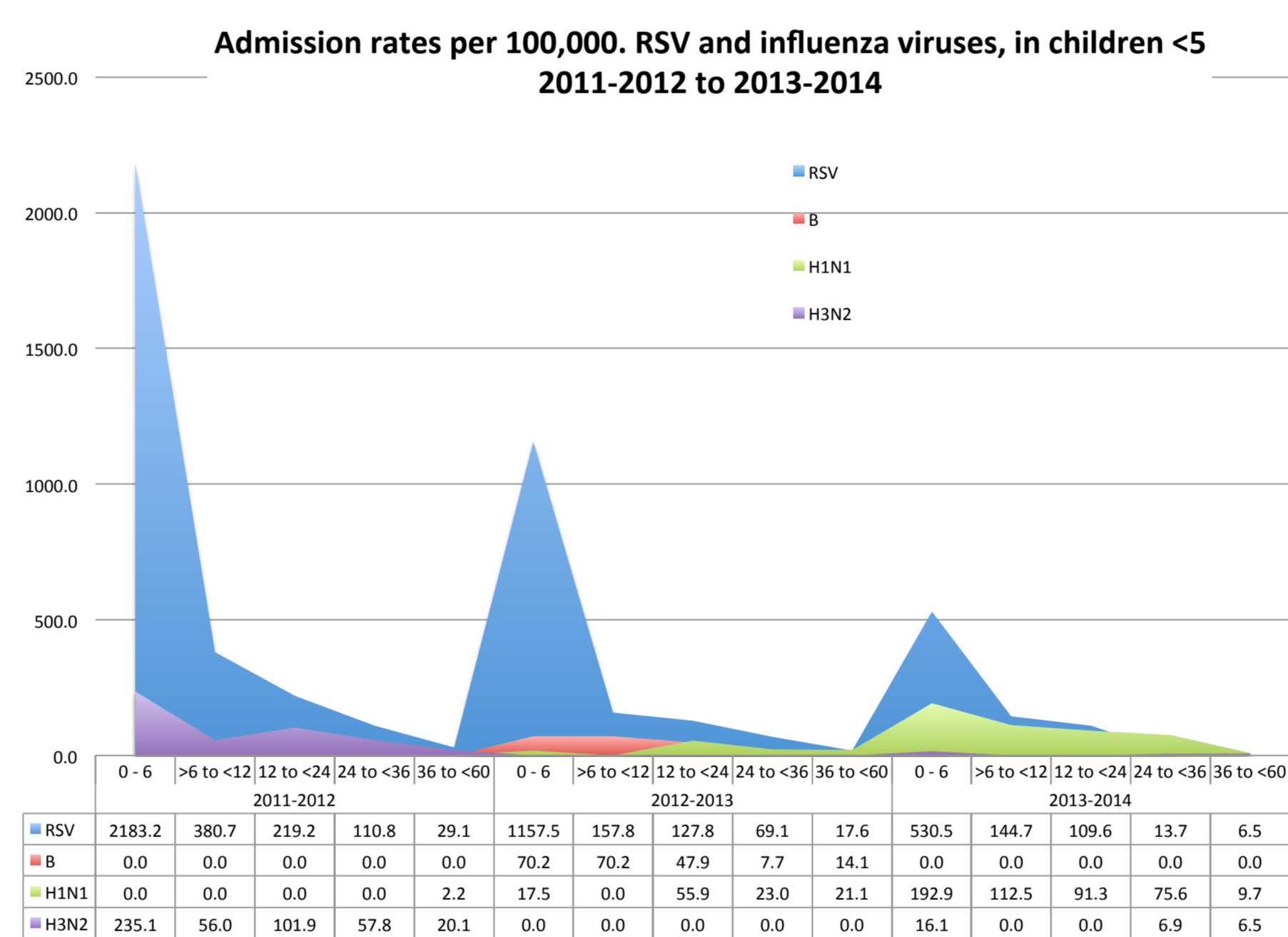
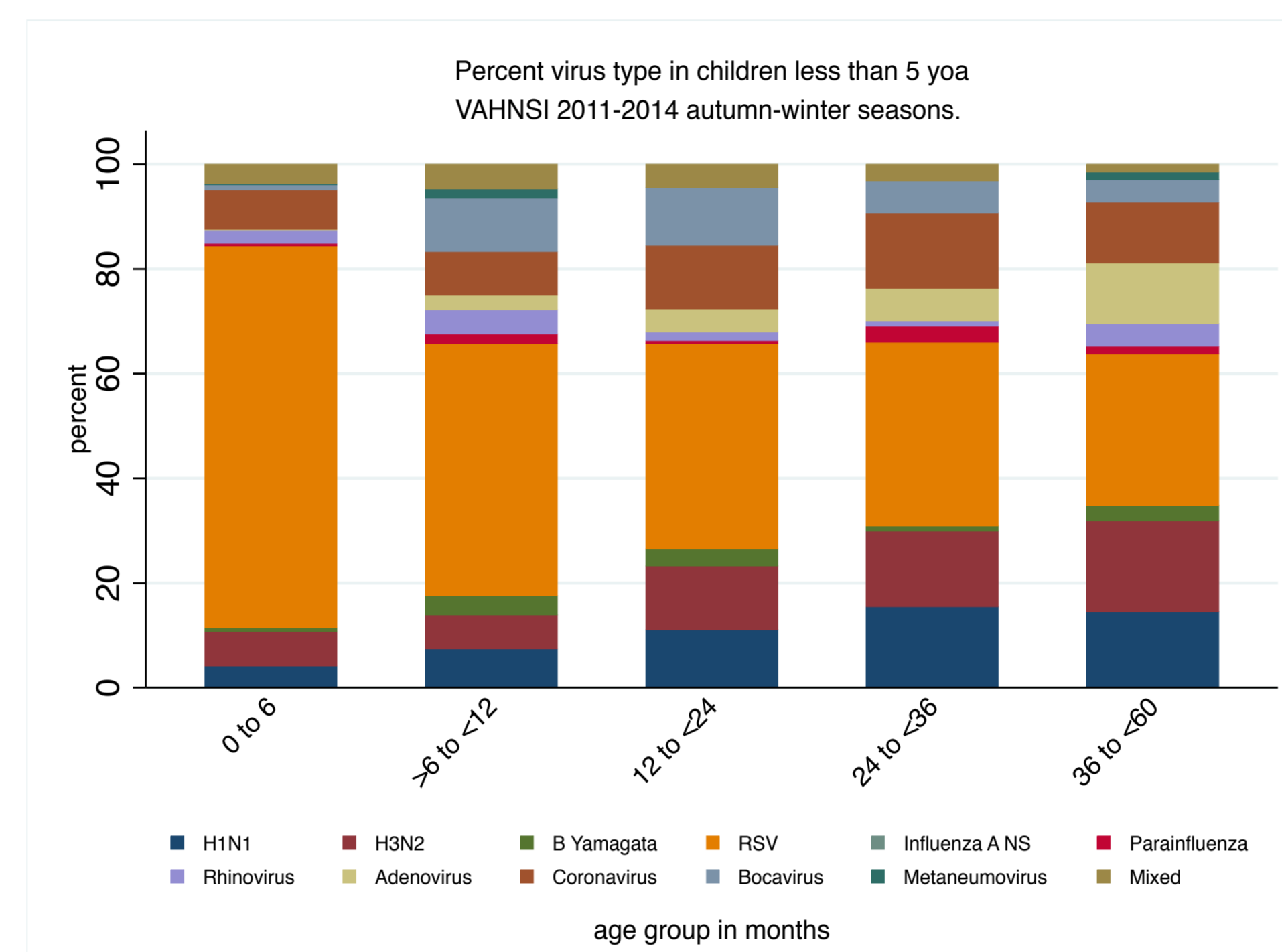
Positive:
843 (41%)

RSV:
470 (56%)

Influenza:
155 (18%)

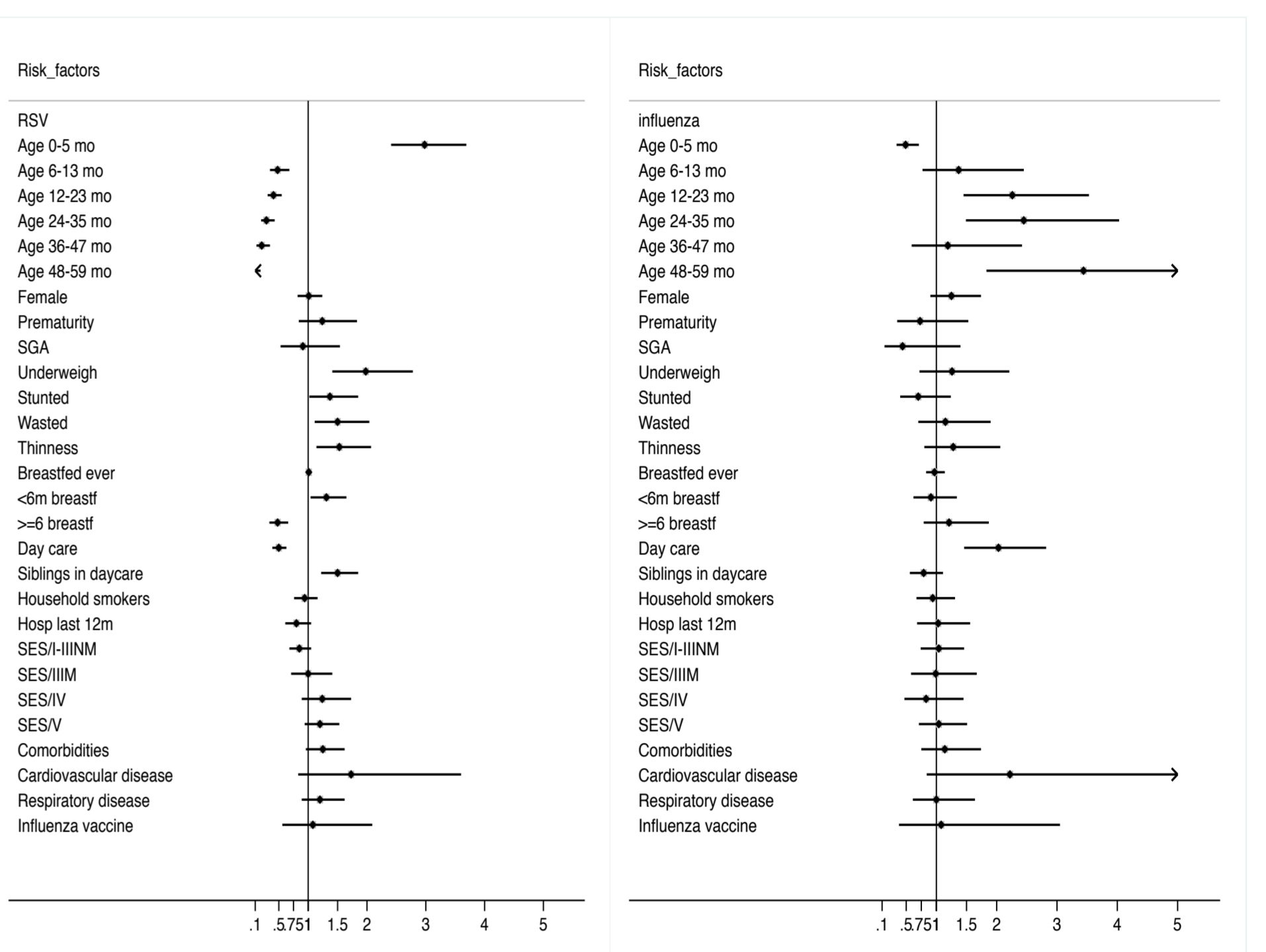
Other RV:
186 (22%)

Mixed:
32 (4%)

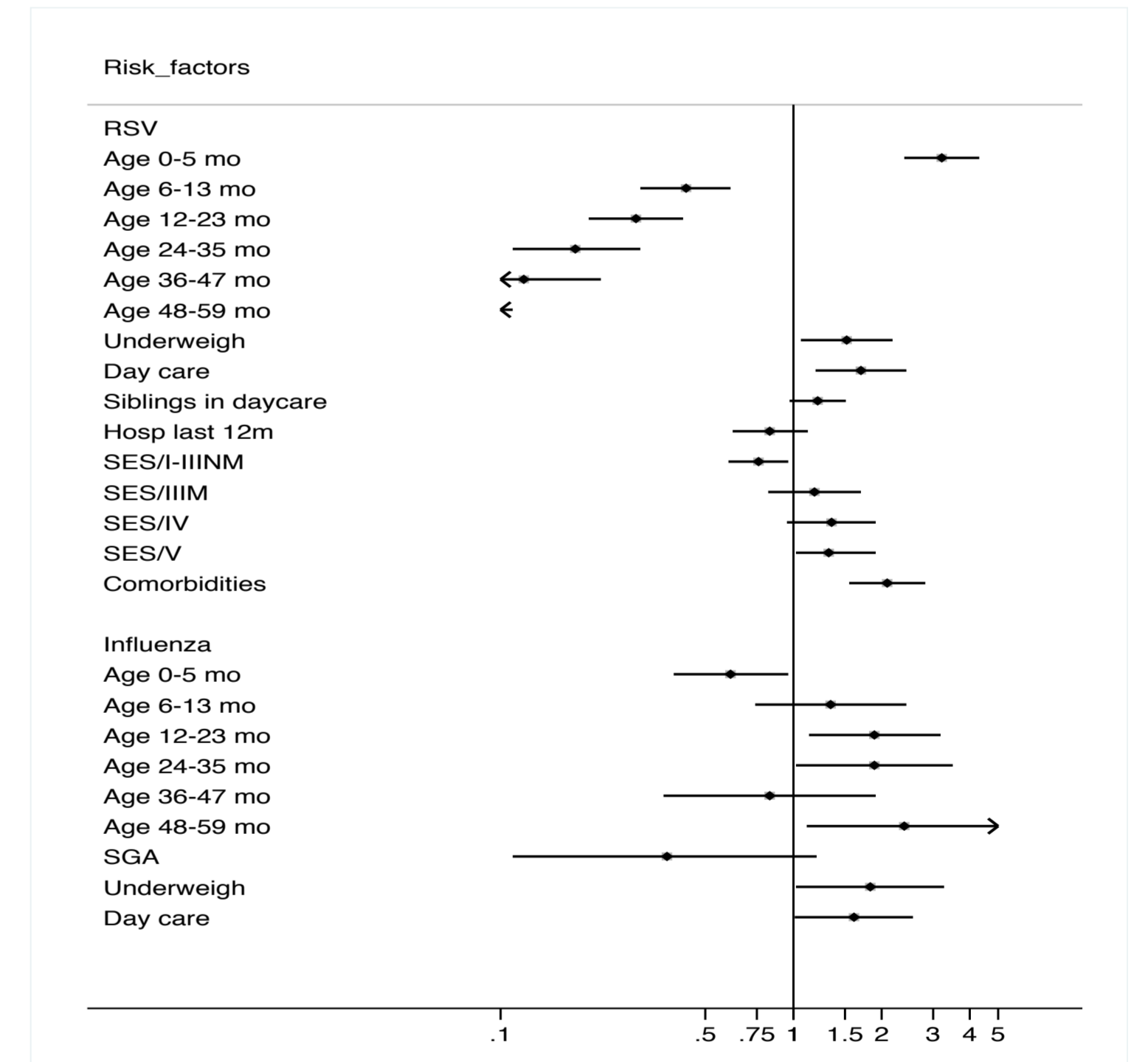


Abbreviations used across text, tables and figures:
RT-PCR. Reverse transcription polymerase chain reaction. RV, respiratory virus (or viruses). rt, real time. RSV: respiratory syncytial virus.

Risk factors related to admission with RSV or influenza (crude)



Risk factors related to admission with RSV or influenza (adjusted)



Conclusions

The combined effect of 14 major respiratory viruses on rates of hospital admissions during winter seasons was substantial.

RSV burden in the hospital setting was higher than that of the rest of respiratory virus tested during the first 3 years of life.

Chronic illnesses is a risk factor for admissions associated to viral infection, but only 18% of children admitted with respiratory viral infection had records of underlying disease.

Onset, duration and intensity of virus detection among admissions vary by season, underscoring the strength of a multiyear study in defining the epidemiological features of respiratory viral infections.

Our results support the recent WHO recommendation to consider children 6 to 59 months of age as a target group for vaccination and the immunization of pregnant women to protect children 0 to 6 months.

A RSV vaccine that can be administered to young children and pregnant women is to be considered of high priority to reduce the burden of disease due to RV

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