

Results. Out of 64 patients exposed, five (8%) developed influenza (table). Baseline testing was done in 51 (80%); none with overlap of <4 days were symptomatic or tested positive; 2/12 with overlap >4 days tested positive. Attack rate for those with exposure time <4 days who did not receive prophylaxis was 2.6%. No breakthrough infection occurred in the prophylaxis group. Post exposure follow-up revealed two more cases for those overlapping >4 days; a single case of breakthrough infection developed at 7 days, resistance testing was not performed, and patient responded to therapeutic doses of NI without persistent shedding.

Conclusion. Duration of overlap in semi-private rooms correlates with secondary cases of influenza. Prophylactic doses of NI are safe and effective for asymptomatic individuals with exposure <4 days to index case. For patients with spatial overlap >4 days, baseline testing is recommended to recognize cases early and interrupt nosocomial transmission.

Overlap Duration, days	Exposed Number	Prophylaxis Administered	Tested at Baseline	Attack Rate % (Prophylaxis Group)	Attack Rate % (No Prophylaxis Group)
<2	34	9 (26%)	28 (82%)	0	4% (1)
2-4	18	5 (28%)	15 (83%)	0	0
>4	12	6 (50%)	8 (67%)	16% (1)	50% (3)

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735. Severity and Healthcare Costs of Respiratory Syncytial Virus Hospitalizations in US Preterm Infants Born at 29–34 Weeks Gestation: 2014–2016

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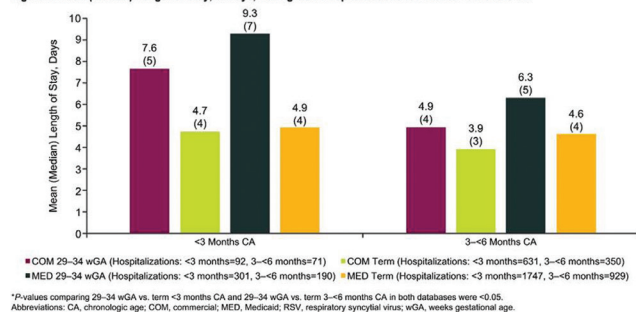
Background. In 2014, the American Academy of Pediatrics recommended against the use of respiratory syncytial virus (RSV) immunoprophylaxis in infants 29–34 weeks gestational age (wGA) at birth without chronic lung disease/bronchopulmonary dysplasia (CLD/BPD) or congenital heart disease (CHD). To inform discussions of the clinical and economic value of RSV immunoprophylaxis in these infants, we compared RSV hospitalization (RSVH) severity and costs incurred by infants hospitalized from 2014–2016 at <6 months chronologic age (CA) for two groups: 29–34 wGA infants without CLD/BPD or CHD and term infants (≥37 wGA) without major health problems.

Methods. Births were identified in the MarketScan Commercial (COM) and Multistate Medicaid (MED) databases. Term and 29–34 wGA infants without CLD/BPD or CHD were selected using DRG and ICD-9/10-CM diagnosis codes. RSVH occurring from July 1, 2014 to June 30, 2016 while infants were <6 months CA (the period of highest RSVH incidence) were identified by ICD-9/10-CM diagnosis codes. Severity measures were length of stay (LOS) in days, intensive care unit (ICU) admissions, and healthcare costs (paid amounts on reimbursed hospital claims in 2016 US\$). Comparisons between term and 29–34 wGA infants were made with *t*-tests and chi-squared tests.

Results. There were 1,114 RSVH in the COM data and 3,167 RSVH in the MED data during the study period. Mean LOS was longer for 29–34 wGA infants than term infants for each age category ($P < 0.05$) and tended to be longer for MED infants vs. COM infants (Figure 1). Thirty-eight percent of COM 29–34 wGA infants and 52% of MED 29–34 wGA infants hospitalized for RSV at <3 months CA were admitted to the ICU (Figure 2). RSVH costs for 29–34 wGA infants were greater than term RSVH costs for each age category ($P < 0.05$) and were greatest among 29–34 wGA infants hospitalized at <3 months CA: \$41,104 for 29–34 wGA COM infants and \$24,049 for 29–34 wGA MED infants (Figure 3).

Conclusion. RSVH severity and costs were significantly higher for 29–34 wGA infants without CLD/BPD or CHD relative to term infants. Infants hospitalized at <3 months CA experienced the most severe hospitalizations and incurred the highest costs. This study was funded by AstraZeneca.

Figure 1. Mean (median) Length of Stay, in Days, During RSV Hospitalizations for Infants <6 Months CA*



*P-values comparing 29–34 wGA vs. term <3 months CA and 29–34 wGA vs. term 3–6 months CA in both databases were <0.05. Abbreviations: CA, chronologic age; COM, commercial; MED, Medicaid; RSV, respiratory syncytial virus; wGA, weeks gestational age.

Figure 2. Proportion of Infants Admitted to the ICU During RSV Hospitalizations for Infants <6 Months CA*

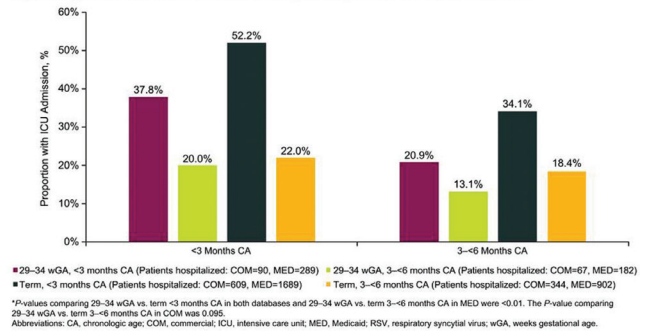
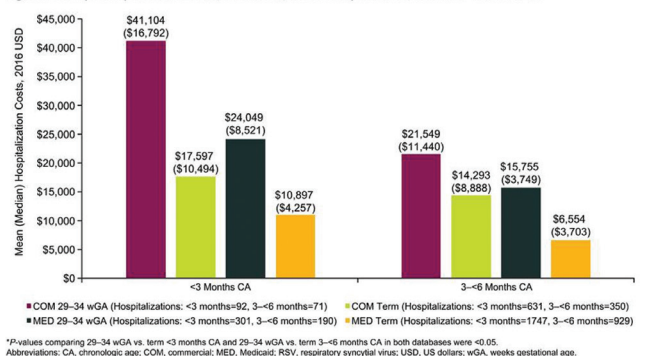


Figure 3. Mean (median) Healthcare Costs, in 2016 US\$, for RSV Hospitalizations for Infants <6 Months CA*



*P-values comparing 29–34 wGA vs. term <3 months CA and 29–34 wGA vs. term 3–6 months CA in both databases were <0.05. Abbreviations: CA, chronologic age; COM, commercial; MED, Medicaid; RSV, respiratory syncytial virus; USD, US dollars; wGA, weeks gestational age.

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736. Incidence and Etiology of Community-Acquired Pneumonia Requiring Hospitalization Among American Indian/Alaskan Native Adults

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Background. A leading infectious cause of hospitalization among adults in the United States is community-acquired pneumonia (CAP). The etiology and incidence of CAP in American Indians/Alaskan Natives (AI/AN) has not been described.

Methods. We conducted a retrospective study by reviewing the medical records of all AI/AN patients 18 years or older admitted to W.W. Hastings Hospital in Tahlequah, Oklahoma with a diagnosis of a respiratory infection from January 1, 2016 to December 31, 2016. Only patients with a radiographically confirmed CAP were included and those with a recent hospitalization or immunosuppressed were excluded. Patient demographics, comorbidities and results of molecular tests, antigen detection, high quality sputum culture and blood culture were reviewed. Population-based incidence rates of CAP requiring hospitalization were calculated according to age.

Results. From January 2016 through December 2016, 763 patients were admitted with a diagnosis of a respiratory infection, of which 193 (25%) met the inclusion criteria. Of this group, 103 (53%) had at least one pathogen detected: one or more viruses were detected in 47 (24%), one or more bacteria were detected in 63 (33%). The most common pathogens were *Streptococcus pneumoniae* (12% of patients), rhinovirus/enterovirus (11% of patients), respiratory syncytial virus (5% of patients), legionella pneumophila (4% of patients), and human metapneumovirus (4% of patients). The annual incidence of CAP was 13.6 cases (95% confidence interval, 11.9, 15.7) per 10,000 adults, with the highest incidence among adults ages 65–79 (43 cases per 10,000 adults) and those 80 years of age or older (102 cases per 10,000 adults). Seventy-five percent of patients had an underlying medical condition, 47% had diabetes mellitus (DM), followed by chronic obstructive lung disease (38%) and chronic heart disease (32%).

Conclusion. In this AI/AN population, a respiratory pathogen was identified in 53% of the cases despite the use of cutting edge diagnostic tests in most patients. Bacteria were detected more often than viruses. Compared with recent publications of CAP affecting non-Hispanic whites, non-Hispanic blacks and Hispanics, the population described in this study was older and had higher prevalence of DM.

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