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)

Disclosures. **All authors:** No reported disclosures.

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.

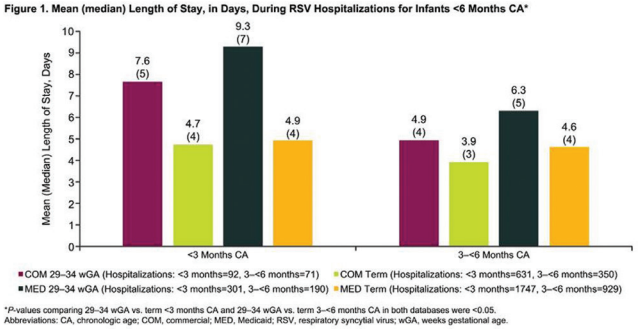
Methods. Births were identified in the MarketScan Commercial (COM) and Multistate Medicaid (MED) databases. Term and 29–34 wGA infants without CLD/BPD or CHD were selected using DRG and ICD-9/10-CM diagnosis codes. RSVH occurring from Julu 1, 2014 to June 30, 2016 while infants were <6 months CA (the 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*

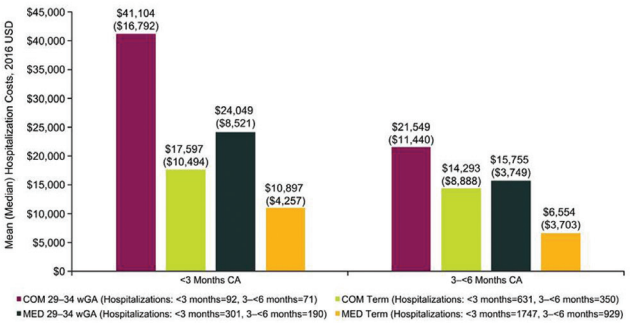


*P-values comparing 29–34 wGA vs. term <3 months CA and 29–34 wGA vs. term 3–<6 months CA in both databases were <0.05.
Abbreviations: CA, chronologic age; COM, commercial; MED, Medicaid; RSV, respiratory syncytial virus; wGA, weeks gestational age.

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

*P-values comparing 29–34 wGA vs. term <3 months CA in both databases and 29–34 wGA vs. term 3–<6 months CA in MED were <0.01. The *P*-value comparing 29–34 wGA vs. term 3–<6 months CA in COM was 0.095.
Abbreviations: CA, chronologic age; COM, commercial; ICU, intensive care unit; MED, Medicaid; RSV, respiratory syncytial virus; wGA, weeks gestational age.

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.

Disclosures. **All authors:** No reported disclosures.

737. The Prevalence of Diagnosed Chronic Lung Disease in US Infants by Gestational Age: Implications for RSV Policy

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Background. Perinatal chronic lung disease (CLD), previously referred to as bronchopulmonary dysplasia (BPD), is associated with preterm birth and occurs rarely among term infants. Children with CLD are at elevated risk for severe RSV disease in the first 2 years of life. Definitions of CLD/BPD identify infants who require supplemental oxygen at 28 days of life or 36 weeks postmenstrual age, with no restriction by gestational age (GA) at birth. However, the AAP Committee on Infectious Disease guidance does not recommend RSV immunoprophylaxis for infants with CLD born at ≥32 weeks gestational age (wGA), even though infants with CLD/BPD up to 41 wGA were included in pivotal efficacy studies. This study determined the prevalence of diagnosed CLD in US infants as a function of wGA at birth and the number of infants with CLD born at ≥32 wGA.

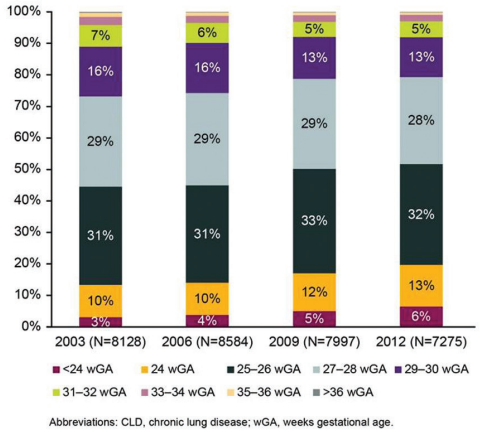
Methods. The Kids' Inpatient Database (KID) is a nationally representative survey conducted every 3 years in the United States. Birth hospitalization data from KID were utilized to estimate the prevalence of CLD (ICD-9 = 770.7) among US infants in 2003–2012 overall and as a function of coincident codes for GA (ICD-9 = 765.21–765.29, reported in 2-week intervals). The prevalence of CLD among 32 wGA infants was imputed based on the distribution of CLD cases as a function of wGA. KID data from 2015 were not available due to the transition to ICD-10 coding.

Results. A total of 31,984 infants had a CLD diagnosis across the 4 years, representing 0.2% of US births. The prevalence of CLD declined from 20.8 to 19.5 per 10,000 between 2003 and 2012. Of those, 25,554 infants with CLD (80%) had GA coded in the database. The percentage of CLD infants born at <27 wGA increased from 44% in 2003 to 52% in 2012, whereas the percentage at ≥29 wGA decreased from 27% to 21% (figure). Overall, the percentages born at 31–32, 33–34, and >34 wGA were 5.7%, 2.2%, and 1.2%, respectively. An estimated 5.7% of infants with CLD were born at ≥32 wGA, representing 0.9 of every 10,000 US births or ~350 infants annually.

Conclusion. Fewer than 400 infants are born at ≥32 wGA and diagnosed with CLD annually in the United States. The rationale for excluding this small but high-risk group of infants from the population recommended for RSV immunoprophylaxis is not clear.

Funded by AstraZeneca

Figure. Distribution of US Infants Diagnosed with CLD by Gestational Age by Year



Abbreviations: CLD, chronic lung disease; wGA, weeks gestational age.

:Disclosures. **C. S. Ambrose**, AstraZeneca: Employee, Salary and Stocks. **X. Jiang**, EpiStat Institute: Employee, Consulting fee and Salary. AstraZeneca: Consultant, Consulting fee. **K. Mavunda**, AstraZeneca: Speaker's Bureau, Speaker honorarium.

738. Role of Respiratory Syncytial Virus and *Mycoplasma pneumoniae* in Pediatric Community-Acquired Lower Respiratory Tract Infections

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Background. Respiratory syncytial virus (RSV) infection is a major cause of serious lower respiratory disease in infancy and early childhood and *Mycoplasma pneumoniae* (*M. pneumoniae*) is a common cause of respiratory tract infections in all age groups. This study was conducted to determine the role of RSV and *M. pneumoniae and* in pediatric lower respiratory tract infections employing serological tests, polymerase chain reaction (PCR) and reverse transcriptase PCR analysis.

Methods. In this prospective study, 75 children aged 1 month to 5 years with acute lower respiratory tract infections (LRTIs) were investigated. Paired serum samples were obtained on admission and after 4–6 weeks to assay for *M. pneumonia* antibodies. Nasopharyngeal aspirates were obtained for the detection of RSV antigen by using the immunochromatographic test, reverse transcriptase-polymerase chain reaction (RT-PCR) for RSV and *M. pneumoniae by PCR.*

Results. RSV infection was positive in 20(60.60%) children aged <1 year and 13 (39.40%) aged 2–5 years, the difference being statistically insignificant ($P = 0.360$). *M. pneumoniae* infection was documented in a 15(57.6%) children aged <1 year age and 11(42.4%) in age 2–5 years which was statistically significant($P = 0.026$). Clinical and radiological features among RSV and *M. pnemoniae* positive and negative cases were comparable. Thirty (40%) children were positive for RSV antigen and by RT-PCR and 3(12%) only by RT-PCR. Serological evidence of *M pneumoniae* infection was documented in 24(32%) children. *M. pnemoniae* PCR was positive in 8 (10.66%) patients. Together, serology and PCR detected *M. pneumoniae* in 26(34.66%) children. Considering RT-PCR as a diagnostic standard, the sensitivity of RSV antigen by immunochromatography was 90.90%, specificity 100%, positive predictive value 100% and a negative predictive value of 93.3%.The sensitivity of *M. pneumoniae* serology was 75%, specificity 73.3%, positive predictive value 25% and a negative predictive value of 96% considering PCR as a diagnostic standard,.

Conclusion. Our data underline the role of RSV and *M. pneumoniae* as the major cause of community-acquired lower respiratory tract infections in children aged <5 years.

Disclosures. **All authors:** No reported disclosures.

739. Middle East Respiratory Syndrome Coronavirus Infection Profile in Qatar: A 7-Year Retrospective Study

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Background. A deadly zoonotic *Middle East respiratory syndrome coronavirus* (*MERS-CoV*) had emerged over the last 7 years in the Arabian Peninsula. As of February 28, 2018, 2,182 cases of *MERS-CoV* infection (with 779 deaths) in 27 countries were reported to WHO worldwide. The objectives of this study were to identify the clinical and epidemiological characteristics of *MERS-CoV* infection as well as determine its clinical outcome.

Methods. This was a retrospective-observational study of all laboratory confirmed cases of *MERS-CoV* infection conducted at the main seven hospitals in the State of Qatar from January, 2012 to April 2018. We used the Fast Track diagnostics real-time reverse-transcription polymerase chain reaction (rRT-PCR), targeting the upE and ORF1a genes respectively. Demographics, clinical information, potential contacts and probable risk factors were collected and analyzed by standard statistical methods.

Results. The mean annual incidence was 1.7 per 100,0000 person-years. Among the 24 confirmed cases of of *MERS-CoV*, males constituted the vast majority of cases (23 males) with a median age of 52 years (range 22–74). Fifty percent of the cases were Qatari and 42% reside in the same region. 67% of the cases had contact with camels, and 21% had contact with *MERS-CoV*-infected patient. Thirty-eight had travel history within 2 weeks of symptoms onset to the Kingdom of Saudi Arabia. Fifty percent were smokers and 42% had comorbidities.

The median symptoms duration was 4.5 days. Most of the patient presented with flu-like symptoms, were fever was the most common presentation, followed by cough, SOB, diarrhea, abdominal pain and headache, 96%, 83%, 33%, 8%, 8% and 4%, respectively. All patients were admitted to a tertiary hospital with a median hospital stay 41 days (8–97). Forty-five percent patients developed severe sepsis with multi-organ failure and needed ICU admission. Fifty percent patients developed acute kidney injury, 29% patients were on hemodialysis and 16% needed extra-corporeal membrane oxygenation. Thirty-three percent patients died. The rest of patients had recovered from the infection and discharged home. Among those who died all had one or more comorbidities.

Conclusion. *MERS-CoV* infection is a rare infection in the State of Qatar, seen in both Qataris and expatriates with and without travel history. The infection in patients with comorbidities carries high mortality.

Disclosures. **All authors:** No reported disclosures.

740. Impact of the 2014 American Academy of Pediatrics Guidance on Respiratory Syncytial Virus Hospitalization Rates for Preterm Infants <29 Weeks Gestational Age at Birth: 2012–2016

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