admission were included in the analysis. cTnI above upper limit of normal (>0.03 ng/dL) was defined as elevated. Demographic and clinical data were abstracted from chart review. Outcomes were myocardial infarction (MI) on admission, 30- and 90-day re-admissions due to cardio-respiratory illness and 30- and 90-day all-cause mortality. For the univariable analysis of baseline factors and outcomes we used unpaired *t*-tests for continuous variables and $\chi^2$ or Fisher exact test for categorical variables as appropriate.

***Results.*** Ninety-four of 332 cases were vPCR positive and cTnI levels on admission were available in 86. Demographics and comorbidities were all similar for the high ($N = 42$) and normal ($N = 44$) cTnI groups. Compared with normal cTnI group, those with high cTnI had similar 30- and 90-day readmission rates (14% vs. 9%, $P = 0.4$ and 26% vs. 16%, respectively, $P = 0.2$). However, 30- and 90-day mortality rates were higher for high cTnI patients (10% vs. 0% and 19% vs. 5%, $P < 0.03$).

***Conclusion.*** Troponin elevation on patients with a documented viral respiratory infection is associated with higher 30- and 90-day mortality rates. Troponin leaks should not be dismissed as a trivial finding in this group of patients. Further work on its pathogenesis is warranted.

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**743. Severity and Costs of Respiratory Syncytial Virus and Bronchiolitis Hospitalization in Commercially Insured Preterm and Term Infants Before and After the 2014 American Academy of Pediatrics Guidance Change on Immunoprophylaxis**

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***Background.*** In 2014, the American Academy of Pediatrics (AAP) stopped recommending respiratory syncytial virus (RSV) immunoprophylaxis in infants 29–34 weeks gestational age (wGA) without chronic lung disease (CLD) or congenital heart disease (CHD). This study examined the impact of this guidance change on the severity and costs of first year of life RSV hospitalizations (RSVH) and all-cause bronchiolitis hospitalizations (BH) among preterm (PT) vs. term infants in the 2014–2016 seasonal years relative to the 2011–2014 seasonal years.

***Methods.*** Infants aged <1 year between July 1, 2011 and June 31, 2016 were identified from commercial insurance claims in the Optum Research Database. Diagnosis codes identified births of term and 29–34 wGA infants without CLD, CHD, or other health problems, RSVH, and BH. Length of stay (LOS), admission to the intensive care unit (ICU), and use of mechanical ventilation (MV) captured RSVH and BH severity. Costs were adjusted to 2015 USD.

***Results.*** A total of 362,382 births (29–34 wGA and term without major health problems) were identified, of which 13,666 (3.8%) were PT. RSVH and BH were more severe among PT infants in 2014–2016 vs. 2011–2014, with a greater mean LOS (RSVH: 6.8 vs. 4.7 days, $P = 0.008$; BH: 7.2 vs. 4.6, $P = 0.021$), a higher proportion of infants admitted to the ICU (RSVH: 42.4% vs. 25.3%, $P = 0.014$; BH: 39.1% vs. 23.7%, $P = 0.009$), and increased use of MV (RSVH: 14.1% vs. 6.1%, $P = 0.067$; BH: 14.8% vs. 5.3%, $P = 0.013$). Among term infants, LOS and ICU admissions were similar between 2014–2016 and 2011–2014 ($P > 0.05$), but there was an increased use of MV in the 2014–2016 season (RSVH: 6.9% vs. 4.2%, $P = 0.009$; BH: 6.3% vs. 3.7%, $P = 0.003$). Mean costs per hospitalization were greater for PT infants in 2014–2016 compared with 2011–2014 (RSVH: $29,382 vs. $16,572, $P = 0.059$; BH: $26,101 vs. $15,896, $P = 0.047$), whereas mean term hospitalization costs were similar (RSVH: $15,011 vs. $15,472, $P = 0.705$; BH: $14,555 vs. $14,603, $P = 0.957$).

***Conclusion.*** RSVH and BH severity and per-hospitalization costs (higher among PT infants relative to term infants) increased following the 2014 AAP immunoprophylaxis guidance change. The increases are likely explained by more frequent RSV hospitalizations among higher-risk 29–34 wGA infants in 2014–2016.

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**744. Effectiveness of 23-Valent Pneumococcal Polysaccharide Vaccine and Influenza Vaccine Against Pneumococcal Pneumonia Among Elderly Patients Aged 65 Years and Older in the Republic of Korea: A Case–Control Study**

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***Background.*** The national immunization program (NIP) of annual influenza vaccination to the elderly population (≥65 years of age) in the Republic of Korea (ROK) has been implemented since 1987. Recently, the 23-valent pneumococcal polysaccharide vaccine (PPV23) through the NIP has been provided to the elderly population in the ROK since May 2013. The aim of this study was to assess PPV23 and influenza vaccine (IV) effectiveness in preventing pneumococcal pneumonia (PP) among elderly patients ≥65 years of age.

***Methods.*** A case–control study using a hospital-based cohort was conducted. Cases of PP including bacteremic PP and nonbacteremic PP were collected from 14 hospitals in the pneumococcal diseases surveillance program from March 2013 to October 2015. Controls matched by age and sex in the same hospital were selected. Demographic, clinical information, and vaccination histories were collected. Previous immunization was categorized into "vaccinated" if a patient had received vaccines as follows: PPV23 (4 weeks to 5 years) and IV (2 weeks to 6 months) prior to the diagnosis of PP for case patients and prior to the hospital admission for control patients. Adjusted odds ratio (OR) was calculated, controlling for underlying medical conditions. Vaccine effectiveness was defined as (1 – OR) × 100.

***Results.*** During the study period, a total of 661 cases (104 bacteremic PP cases and 557 nonbacteremic PP cases) and 661 controls were enrolled for analyses. For overall patients ≥65 years of age, there was no significant vaccine effectiveness against PP. For young elderly patients with 65–74 years, IV alone (1.2%, [95% confidence interval (CI) −95.3% to 50.0%]) and PPV23 alone (21.9%, [95% CI −39.0% to 56.1%]) were not effective. However, significant vaccine effectiveness of PPV23 plus IV against PP was noted (54.4%, [95% CI 6.9–77.7%], $P = 0.031$). For older elderly patients ≥75 years of age, no significant vaccine effectiveness was observed.

***Conclusion.*** Our study indicates that PPV23 plus IV may be effective in preventing PP among young elderly patients with 65–74 years, suggesting additive benefits of influenza plus PPV23 vaccination. Further studies are required to confirm the persistent additive protective effectiveness.

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

**745. Surveillance for Oseltamivir-Resistant Influenza A(H1N1)pdm09 Virus Infections During 2016–2017 and 2017–2018, United States**

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***Background.*** Three neuraminidase inhibitors (NAIs) are approved and recommended for treatment of influenza in the United States; however, antiviral resistance can emerge during or after treatment, and sporadic resistant viruses unrelated to NAI exposure may occur, especially in influenza A(H1N1)pdm09 viruses. Limited transmission of oseltamivir-resistant A(H1N1)pdm09 viruses between persons has also occurred. Oseltamivir resistance is most commonly caused by an H275Y substitution in the neuraminidase (NA). We describe findings from surveillance for oseltamivir-resistant A(H1N1)pdm09 viruses.

***Methods.*** The CDC requested state public health laboratories to submit up to eight viruses (two of each subtype/lineage) every 2 weeks for virus sequencing and NA inhibition assay testing; up to five additional A(H1N1)pdm09 clinical specimens were requested for H275Y pyrosequencing. NA sequencing and functional phenotypic NA inhibition assays were performed on drug-resistant virus isolates. A standard case form was collected on persons infected with oseltamivir-resistant viruses.

***Results.*** From October 1, 16 to April 18, 18, 1,368 A(H1N1)pdm09 viruses were tested (median 89 specimens, range 20–328, tested/month during the influenza season). Overall, 12 (~0.9%) oseltamivir-resistant A(H1N1)pdm09 viruses were detected from nine states; all contained H275Y in the NA. All viruses were also resistant to peramivir, but none to zanamivir. The 12 patients had a median age of 34 years (range, 2 months–69 years). Eight (67%) had an immunosuppressive condition. Six (50%) reported no exposure to NAIs before specimen collection, two were taking