at a reduced risk of shingles. Alberta has a publicly funded healthcare system and added publicly funded varicella vaccine to the routine childhood vaccination schedule in 2001.

Methods. We used provincially held administrative health databases to examine the epidemiology of incident shingles cases in children under the age of 19. Incident shingles cases were defined as the earliest record of ICD-9-CM 053 or ICD-10-CM B02 coded physician claims, hospital, or emergency room visits between 1985 and 2016, with incident cases in this cohort occurring between January 1, 2016 and December 31, 2016. Varicella immunization was identified through Alberta's immunization repository and immunosuppressive comorbid conditions (neoplasms, HIV/AIDS, cistic fibrosis, and immune system disorders) were identified using ICD diagnostic codes from physician claims, hospital, or emergency room visits, and Alberta's Communicable Disease Control databases.

Results. 1,003 incident shingles cases were identified in children under the age of 19 in 2016, a crude rate of 0.98/1,000 persons. Females comprised 54% of cases. The largest proportion of cases occurred among those aged 15–19 years. About 39% of cases were prescribed antiviral medication, most commonly those aged 15–19 years. The crude rate per 1,000 population increased with age: 0.5 for children under the age of 1, 1.2 for those 1–4 years, 1.25 for children 5–9 years, 2.19 for children 10–14 years, and 3.7 for children aged 15–19 years. Crude rates were similar among both males and females. Less than 3% of the cases had ever been immunized against varicella. Shingles diagnosis codes were not validated, which likely led to an overestimation of the true rates of disease.

Conclusion. Additional studies are needed on pediatric shingles cases and factors that influence shingles in this group, as well as validation studies of ICD diagnostic coding in administrative data.

Disclosures. M. L. Russell, Novartis Pharmaceuticals Canada Inc.: Grant Investigator and Unconditional Research Grant, Grant recipient. Merck: Grant Investigator and Unconditional Research Grant, Grant recipient.

2515. Impact of Human Parainfluenza Virus Type 4 in Hospitalized Children in Korea

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Session: 255. Virology Potpourri Saturday, October 6, 2018: 12:30 PM

Background. Human Parainfluenza virus type 4 (hPIV4) was not thought as the important pathogen of respiratory tract infection so that the characteristics of hPIV4 has not thoroughly elucidated.

Methods. From 2013 to 2016, children who were admitted with respiratory tract infection at the department of pediatrics in Chung-Ang University hospital were enrolled in this study. Nasopharyngeal aspirates (NPAs) were obtained from patients with respiratory tract infection and tested for hPIV types by commercial multiplex reverse transcription polymerase chain reaction (mRT-PCR) assay. We retrospectively reviewed subjects’ medical records, focusing on their epidemiological and clinical characteristics.

Results. Of all NPAs, 943 were positive to hPIV. Of hPIV-positive NPAs, 220 were positive hPIV4. 107 patients (48.6%) were male and median age at admission was 2.1 ± 1.7 years (range, 0.2–12.7 years), 215 (97.7%) children did not have an underlying disease. Of 5 children who had underlying diseases, one had asthma, the other had ventilator septal defect, and others had epilepsy. 173 children (78.6%) had sputum (60.0%) and rhinorrhea (59.1%). Only six patients had fever and fever duration was 4.1 ± 2.4 days. Their peak temperature was checked as 39.0 ± 0.7. Of all patients, 34.3% had vomit. 24 patients (10.8%) had diarrhea. Admission height was 95.6 ± 15.2 cm (range, 68.0–127.0 cm). Admission weight was 11.2 ± 4.7 kg (range, 5.0–23.0 kg).

Conclusion. The prevalence of hPIV4 was common, compared with those of other hPIV types. Although hPIV4 was usually co-infected with other respiratory viruses, hPIV4 was the important pathogen of lower respiratory tract infection in pediatric patients. Thus, we considered that the detection of hPIV4 by mRT-PCR were not be computed for HCV and immunocompromised predictors.

Disclosures. All Authors: No reported disclosures.

2516. Predictors of Zika Virus Disease Severity Within Veterans Affairs (VA)

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Session: 255. Virology Potpourri Saturday, October 6, 2018: 12:30 PM

Background. Historically, Zika virus infection presented as a mild disease. However, more severe disease was reported during recent outbreaks in French Polynesia and more recently within southern regions of North America as well as Central and South America. It is still unclear what predicts more severe manifestations. Here we report on potential predictors of severe Zika virus infection within VA, selected for their role in immunological status.

Methods. We extracted the first positive Zika visit for a patient between February 9, 2016 and April 1, 2017. Each visit was classified by acuity (no ED visit, ED only, observation, ward, ICU [in this order of severity]). Diagnoses were extracted by ICD-9-CM and ICD-10-CM codes. Predictors included history of hepatitis C virus (HCV; a flavivirus) by laboratories, dengue diagnosis, immunocompromising condition diagnosis, gender, age, and history of exposure to dengue endemic region (either through birth, travel, or residency). These predictors were used in a generalized ordered logit model, relaxing the proportional odds assumption, to estimate odds ratios for a higher level of visit acuity over the current or lower levels of acuity. Robust covariance estimates were used.

Results. There were 748 unique patient visits meeting criteria. Distribution of predictors among the patient sample are shown in Table 1. As expected, most were males with a majority only visiting the ED. Wards and ICU were combined due to the small number of ICU visits. Table 2 shows results of model for predictors of higher acuity visits. Age was generally associated with higher levels of acuity. Odds ratios could not be computed for HCV and immunocompromised predictors.

Conclusion. There may be an increased risk of Zika disease severity based on age. We could not rule out associations with other predictors due to the size of our study. Further larger studies are needed to investigate these and other predictors.

Disclosures. No reported disclosures.
Results. 160 Veterans were diagnosed with INF from December 1, 2017 to April 26, 2018. 106 had INF A, 54 INF B. Of the 160 cases, 15 were in DEC, 61 in JAN, 69 in FEB, 13 in MAR, 2 in APRIL 10 INF A isolates subtyped as: 3 H1N1pdm09, 5 INF B isolates subtyped as Yamagata lineage. Demographics: Median age 63 years (23–93); Race: 79% Caucasian, 16% Black, 1% Asian, 1% Pacific Island, 3% Hispanic, 95% Medical History; 9% of heart disease, 9% of cancer, 1% of COPD, 1% of HTN, 24% DM, and 12% COPD. The median BMI was 29 (17.5–73.1). 101 tested in ER; 36 in clinics, 5 in our related adult and nursing homes, and 17 during their hospitalization. 56 (35%) had received the INF vaccine this season. The median duration from vaccination to diagnosis was 100.5 days (2–175 days). 25 required hospitalization with 5 of them in ICU; 40% of the hospitalized patients had received the INF vaccine. The median length of stay was 4.5 days. 139 received oseltami- vir (OS), 13 supportive treatment, 8 antibiotics alone, and 7 OS +E antibiotics. 5 patients expired (3 INF A, 2 INF B) 3 were not vaccinated; 1 patient developed NSTEMI and survived. Hospitalized patients were older 73 vs. 60, P:0.018, more likely to have COPD (P = 0.009), CHF (P = 0.066), and history of lung cancer. There was no difference in risk for hospitalization between vaccinated and unvacci- nated Veterans, P = 0.649.

Conclusion. The months of JAN and FEB had the highest flu activity, mirror- ing the INF activity in our nation as reported by the CDC. The majority of our patients were not vaccinated. 5 fatalities were noted. Not surprisingly, the vaccine incidence, NIV infections were more common than IV. Understanding the high- est part of this season’s Vaccine. Our data show need for improvement of both the effi- cacy of INF vaccination (universal) and vaccination rate for our Veterans.

Disclosures. All authors: No reported disclosures.

2518. The Role of Non-Influenza Viruses in the Seasonal Viral Influenza Epidemic. From October 2016–March 2017. Chelsea Dean, MD1; Lynn Firtighbons, MD2; Jeanne Li, MA2 and Jane Choe, MBA, CLS, MT (ASCP)3; 1Santa Barbara Cottage Hospital, Santa Barbara, California 2Cottage Health Research Institute, Santa Barbara, California; 3Pacific Diagnostic Labs, Santa Barbara, California

Session: 255. Virology Potpourri Saturday, October 6, 2018: 12:30 PM Background. Influenza virus (IV) is a leading cause of morbidity and mortality worldwide; however, understanding the contribution of non-influenza viruses (NIV) to the annual burden of respiratory illnesses (RI) is evolving. Improvements in diag- nostic techniques, including the increasing clinical use of respiratory viral PCR panels (vPCR), have markedly advanced our understanding of the contributions of NIV to the “influenza season.”

Methods. A retrospective analysis of all vPCR results from one hospital system, collected between October 1, 2016 and March 7, 2017, including inpatient and outpa- tient samples was performed. 2,047 vPCR tests were reviewed; after removing those with undetermined results and internal control samples, 1,924 were analysed. Data points abstracted included detection and identification of virus, and date of detect- ion. We compared the total and monthly rates of NIV with IV, throughout the study period.

Results. Of 1,924 vPCR results, 985 (51%) were positive for a respiratory virus. Of these, 302 (31%) were IV, and 683 (69%) were NIV. For every month studied, the ratio of NIV to IV exceeded 50%, including the height of the season. The most com- monly detected viruses were Influenza A (30%), Rhino/Enterovirus (24%), RSV (19%), Coronavirus OC43 (7%) and Metapneumovirus (5%). The peak influenza incidence temporarily coincided with the national peak months of January and February. The NIV incidence paralleled the trend in IV incidence, dominated by Rhino/Enterovirus and RSV, but without a specific virus driving the trend.

Conclusion. Non-influenza respiratory viruses cause substantial viral RI during the winter months. Many viral syndromes during the height of influenza season have traditionally been attributed to IV, including influenza-like illness (ILI); however, these can now be better characterized using patient-specific vPCR panels, leading to improved understanding of NIV epidemiology. Even during the period of highest IV activity, NIV infections were more common than IV. Understanding the high- est part of this season’s Vaccine. Our data show need for improvement of both the effi- cacy of INF vaccination (universal) and vaccination rate for our Veterans.

Disclosures. All authors: No reported disclosures.

2520. Epidemiology, Clinical Manifestations, and Outcomes of the 2017–2018 Influenza Season Among Hospitalized Patients at a Tertiary Care Center Rohini Ramamoorthy, MD1; Soujanya Thummathi, MD2; Bhavya Bahl, MD3 and Ali Ramamoorthy, MD3; 1University of Alabama School of Medicine - Huntsville campus, Huntsville, Alabama, 2University of Alabama School of Medicine - Huntsville campus, Huntsville, Alabama

Session: 255. Virology Potpourri Saturday, October 6, 2018: 12:30 PM Background. 2017–2018 Influenza season showed widespread activity and is expected to be of “high severity”.

Methods. Retrospective chart review of patients with Influenza admitted from September 1, 2017 to April 1, 2018. Diagnosis was confirmed by Rapid flu test (RIDT) or Target Enriched Multiplex PCR (TEM PCR). Demographic, clinical, lab, treatment, and outcomes data were obtained. Analysis included prevalence and rela- tive risk (RR).

Results. 220 patients were identified (47% males, 73% White). Median age was 70 years (range 18–99). 65% had Flu A and 27% Flu B. 81% came from home, 17% from a facility (nursing home, assisted living). 49% had flu vaccination (Figure 1). Flu strain and vaccination status had no association RR 1.31 (CI 0.85–2.01, P = 0.21). Common comorbidities were lung disease 44%, obesity 41%, DM 36%, CAD 34%, CHF 31% (Figure 2). Common presentations were respiratory 79% and constitu- tional 53%. 68% were hypoxic and 4% hypotensive on arrival. 42% had new CXR/ CT finding and 55% had pneumonia. Sensitivity of RIDT was 38%. 91% were treated with oseltamivir (21% within 48 hours of flu detection). Median treatment duration was 5 days. Hospitalizations peaked in January (Figure 3). Median length of hospital stay was 6 days. 23% had severe flu (needed NPPV 13%, intubation 12%, pressor 5%, ICU stay 16%) which showed significant association with arrival from facility RR 2.21 (CI 1.36–3.56, P = 0.001), lung disease RR 1.91 (95% CI 1.17–3.14, P = 0.001) and co-detection of respiratory pathogen (TEM PCR/sputum culture/serology) RR 2.65 (CI 1.60–4.38, P = 0.001), but none with age >65 RR 1.46 (95% 0.83–2.56, P = 0.18), flu type RR 1.59 (95% CI 0.85–2.98, P = 0.14), active smoking RR 1.40 (95% CI 0.79–2.74, P = 0.24) or vaccination RR 1.21 (95% CI 0.70–2.12, P = 0.48). Fatality rate was 6% with significant association with arrival from facility RR 4.56 (95% CI 1.55–13.40, P = 0.006).

Conclusion. 2017–2018 Influenza season among hospitalized patients involved more elderly and peaked in January; Sensitivity of flu swab was 38% calling for better utilization of TEM PCR in hospitalized patients. Severe flu had significant associ- ation with arrival from facility, lung disease and co-detection of respiratory patho- gen. Fatality had significant association with arrival from facility. Confounders not accounted.