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-CA 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, cystic 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 diagnostic 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.

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

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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 ventricular septal defect, and others had epilepsy. 173 children (78.6%) had a fever and fever duration was 4.1 ± 2.4 days. Their peak temperature was checked as 39.0 ± 0.7℃. The most common symptom of hPIV4 infected patients was cough (80.9%) followed by sputum (60.0%) and rhinorrhea (59.1%). Only six patients had barking cough. Of 6 patients, two had hoarseness and only one patient had stridor with chest wall retraction. The most common diagnosis of hPIV4 was pneumonia (44.5%), followed by acute bronchiolitis (25.0%) and acute pharyngitis (22.3%). Only 2.3% patients were expressed as croup. The prevalence among hPIV types were the highest in hPIV3 (33.7%), followed by hPIV1 (32.4%) and hPIV4 (23.3%). As shown the temporal trends of hPIV types, the most common type was hPIV3 in 2013, hPIV1 in 2014, hPIV4 in 2015, and hPIV1 in 2016. Single infection rate of hPIV4 were 40.5% which were lowest among other parainfluenza virus types (61.1% for hPIV1, 57.6% for hPIV2, and 53.5% for hPIV3).

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 needed in pediatric patients

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

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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.

Table 1. Summary statistics for veterans with positive Zika tests.

Variables	No ED visit (N=284, 38.0%)			ED only (N=393, 52.5%)			Observation (N=14, 1.9%)			Wards (N=47, 6.3%)			ICU (N=10, 1.3%)			Total (N=748)	
	N	% Total	Mean (range)	N	% Total	Mean (range)	N	% Total	Mean (range)	N	% Total	Mean (range)	N	% Total	Mean (range)	N	% Total
Age (years)			58 (22-97)			58 (20-98)			70 (35-99)			74 (32-96)			80 (64-95)		
Male	253	89.1		353	89.8		13	92.9		45	95.7		10	100		674	90.1
Exposure to dengue endemic region	250	88.0		343	87.3		13	92.9		41	87.2		10	100		657	87.8
Dengue history	10	3.5		15	3.8		1	7.1		2	4.3		0	0		28	3.7
Immunocompromised	7	2.5		4	1.0		0	0		5	10.6		0	0		16	2.1
HCV history	10	3.5		15	3.8		0	0		2	4.3		1	10		28	3.7

Table 2. Generalized ordered logit model. Each clinical setting and those below it are compared to higher settings with an odds ratio for each predictor (e.g. "No ED Visit" vs. "ED Only", "Observation", "Wards/ICU"). "Wards" and "ICU" settings were combined due to small numbers for "ICU". Odds ratios could not be calculated for HCV and immunocompromised predictors.
ED = emergency department, HCV = hepatitis C.

Setting	Predictors	Odds Ratio	95% Confidence Interval	
No ED Visit	History of dengue	1.09	0.50	2.40
	History of HCV	0.85	0.37	1.95
	Immunocompromised	0.34	0.10	1.22
	Male	1.10	0.66	1.81
	High seroprevalent region exposure	0.94	0.59	1.49
	Age	1.01	1.00	1.02
ED Only	History of dengue	1.13	0.25	5.05
	History of HCV	0.00	.	.
	Immunocompromised	0.00	.	.
	Male	1.01	0.31	3.28
	High seroprevalent region exposure	0.93	0.35	2.50
	Age	1.07	1.05	1.09
Observation	History of dengue	0.73	0.09	6.01
	History of HCV	.	.	.
	Immunocompromised	.	.	.
	Male	1.21	0.31	4.77
	High seroprevalent region exposure	0.87	0.29	2.60
	Age	1.07	1.05	1.10

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

2517. Seasonal Influenza 2017–2018: Epidemiological Review and Experience at a Veterans Affairs Medical Center in New York

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Background. The 2017–2018 influenza (INF) season started early with widespread activity throughout the country which was covered extensively in the media. The season peaked in February and subsided nationally in March and April. The CDC reported decreased effectiveness of this season's vaccine. The latter had the B/Brisbane/60/2008-like (B/Victoria lineage) component for INF B. We report our hospital's experience of seasonal INF activity.

Methods. Retrospective chart review of every Veteran who tested positive for INF A or B at Northport Veterans Medical Center, Long Island New York.