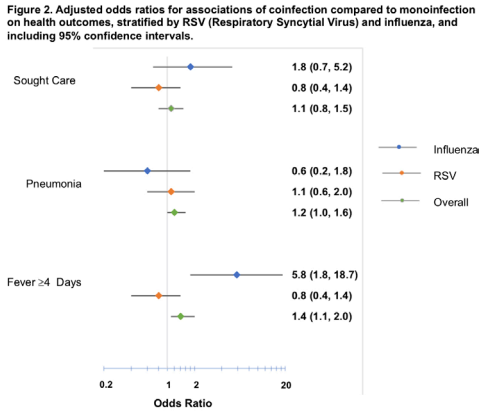

Figure 2. Adjusted odds ratios for associations of coinfection compared to monoinfection on health outcomes, stratified by RSV (Respiratory Syncytial Virus) and influenza, and including 95% confidence intervals.

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

2325. Relationship Between Neighborhood Census-Tract-Level Poverty and Respiratory Syncytial Virus Infection in hospitalized Adults in the San Francisco Bay area, CA 2015–2017

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Background. In the United States, respiratory syncytial virus (RSV) is a leading cause of admission for adults with respiratory illness. In adults > 50 years of age, it accounts for up to 12% of medically-attended acute respiratory illnesses and has a case fatality proportion of ~6–8%. Poverty can have an important influence on health. Few studies have evaluated the relationship of RSV incidence and poverty level, and no identified studies have evaluated this relationship among adults. We evaluated the incidence of RSV-associated hospitalizations in adults in the San Francisco Bay Area, CA by census-tract-level poverty.

Methods. Medical record data abstraction was conducted for all adults with a laboratory-confirmed RSV infection who were admitted to a hospital within the 3 counties comprising the catchment area (Alameda, Contra Costa, and San Francisco counties) during the 2015–2016 and 2016–2017 RSV seasons. Patient addresses were geocoded to their corresponding census-tract (CT). Census tracts were divided into four levels of poverty based on American Community Survey data of percentage of people living below the poverty level: 0–4.9%, 5–9.9%, 10-–9.9%, and ³20%. Incidence rates were calculated by dividing the number of RSV cases in each CT poverty-level (numerator) by the number of adults living in each CT poverty level (denominator), as determined from the 2010 US census, and standardized for age.

Results. There were 526 RSV case-patients with demographic characteristics as outlined in Table 1. The highest incidence of RSV-associated hospitalization was in CTs associated with the highest levels of poverty (>20%). However, the second highest incidence of RSV-associated hospitalization occurred among adults living in CTs with <5% poverty (Figure 1 and Table 2).

Conclusion. The incidence rate of RSV-associated hospitalization in adults appears to be positively correlated with highest census-tract level of poverty; however, there is a high incidence among adults living in the lowest poverty census-tracts.

Demographic characteristics (n=256)	Number (%)
Sex - male	250 (47.5)
Sex - female	276 (52.4)
Race/Ethnicity	
White	281 (53.4)
Black	69 (13.1)
Asian/Pacific Islander	108 (20.5)
Other/not-reported	67 (13)
Ethnicity - Hispanic	49 (9.3)
Insurance type	
Medicare	344 (65.4)
Medicaid	105 (20)
Private insurance	159 (30.2)
Uninsured	1 (0.2)
Other/not-reported	54 (10.5)
Poverty level	
1 (0-4.9%)	173 (33.4)
2 (5-9.9%)	138 (26.6)
3 (10-19.9%)	135 (26.1)
4 (≥20%)	72 (13.9)
Age category (years)	
18-49	35 (6.7)
50-65	89 (16.9)
>65	402 (76.4)

Table 1: Demographic characteristics of RSV-associated hospitalized adult cases in the San Francisco Bay Area, CA 2015-2017.

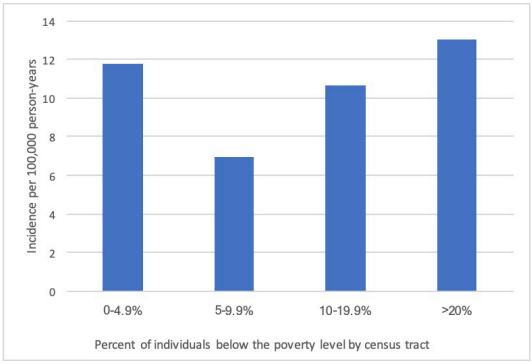

Figure 1: Incidence of RSV-associated hospitalizations of adults by census-tract poverty level in participating San Francisco Bay area counties, CA 2015-2017.

Poverty levels (Northern CA Bay area)	Incidence rate ratio using poverty level 2 as base	Confidence interval
0-4.9%	1.69	1.35, 2.11
5-9.9%	1	--
10-19.9%	1.54	1.22, 1.95
≥20%	1.88	1.41, 2.50

Table 2. Incidence rate ratios for RSV-associated hospitalizations of adults by census-tract poverty level in participating Northern California Bay Area counties, 2015-2017, using poverty level 2 (5-9.9% poverty) for denominator of rate ratio.

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2326. Enterovirus-Associated Acute Flaccid Myelitis. Argentina´s Nationwide Surveillance of Acute Flaccid Paralysis 2016–2018

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Background. Acute flaccid paralysis (AFP) surveillance is carried out in Argentina in the frame of the Polio Eradication Program. Acute flaccid myelitis (AFM) is a type of AFP and can be detected in the frame of AFP surveillance. Although many case series of AFM associated to enterovirus (EV) were released since 2014 in many countries, there were no notifications of this entity from Argentina until 2016.

Methods. Descriptive-observational study. AFP cases reported to the National Surveillance System (NSS) between 2016 and 2018 were included.

Results. From January 1, 2016 to December 31, 2018, 610 cases of AFP in children under 15 years old were registered (207 in 2016, 205 in 2017 and 198 in 2018). In 2016, from epidemiological weeks (EWs) 14 to 28, 23 cases of AFM were notified (median age 36 months; range: 3 months to 13 years). No special clustering was observed, and the number of AFM cases did not correlate with an increase in the annual rate of AFP notifications. Main prodromal were respiratory symptoms in 21 cases (91.3%) and fever in 18 (78.2%). One or two limbs were affected in 65%; in 35% mechanical ventilation was required. More than 90% had sequelae at discharge. Stool (ST), nasopharyngeal aspirate (NPA) and cerebrospinal fluid (CSF) samples were processed at the Regional Reference Laboratory facilities. RT nested PCR was employed. All detections are shown in Table 1. To note, In 12 cases (53%), EV D68 was detected (11, out of 16 NPA and 3, out of 11 ST samples). As for 2017, only one case of AFM was detected. Attempt of viral detection was unsuccessful. In 2018, 3 cases of AFM were detected, one EV C105, one Coxsackie B and one case without viral detection.

Conclusion. The occurrence of AFM cases in Argentina since 2016 is similar to the findings in other countries. An association with EV D68 is apparent, notwithstanding the finding of other EV, finding that further points to the causal association between EV D68 and AFM. As NPA is the sample of choice for AFM diagnosis, from 2019 the work-out of every case of AFP includes this sample as mandatory when AFM is suspected. Given the severity and the high rate of permanent sequelae, a high sensitivity of the health team must be sustained to keep with adequate surveillance, which allows prompt outbreak detection of other agents that can cause AFP in the last phase of polio eradication.

Table 1: EVs detecten in AFM cases in 2016 in Argentina			
Virus	**ST**	**NPA**	**CSF**
EV D68 (13)	1	11	1
EV A 19 (1)	1	0	0
EV B (3)	0	2	1
EV C (3)	3	0	0
Coxsackie A 13 (1)	1	0	0
Echovirus 6 (2)	2	0	0
Echovirus 9 (1)	1	0	0
Echovirus 13 (1)	1	0	0
NPEV (3)	3	0	0
Total (28)	13	13	2
EV: Enterovirus. NPEV: Non-Polio Enterovirus			

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2327. 2018–2019 Seasonal Epidemiology of Infections Caused by Influenza Viruses and RSV in Ecuadorean Children Less than 5 Years of Age Residing at Opposite Extremes of Elevation

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Background. The epidemiology of ambulatory acute respiratory tract infections (ARTI) caused by influenza viruses and respiratory syncytial virus (RSV) in young children is not well described in Ecuador. The seasonality of these infections vary across and within tropical countries experiencing different climates. Understanding trends that differ from one region to the next is needed to optimize implementation of effective preventive measures.

Methods. This 5-year prospective study compares the epidemiology of ARTI caused by influenza and RSV in children from Machala (6 m) and Quito (2,832 m), Ecuador. Children < 5 years presenting with ARTI for ≤7 days are eligible. Demographic and clinical data are gathered and a nasopharyngeal sample is collected for diagnostic testing using the Biofire FilmArray® respiratory panel platform that allows for the detection of 17 viruses.

Results. Between July 2018 and March 2019, we enrolled 446 subjects; 322 from Machala and 124 from Quito. Eighteen percent of the samples from Quito and 9% from Machala were positive for influenza viruses, while RSV accounted for 4% of the samples from Quito and 5% of those from Machala. The influenza B season at both elevations lasted 14 weeks, but started 5 weeks earlier in Machala (weeks 29–42 vs. weeks 34–47). Influenza B seasonal activity preceded influenza A at both sites. In Machala, the influenza A season began 6 weeks after the influenza B season (weeks 48–4), but overlapped with the influenza B season in Quito (weeks 45–2). In Machala, RSV was detected during the first week of surveillance (2018, week 29) but did not re-emerge to cause sustained activity until 2019, week 6. The RSV season began in Quito in 2018 during week 47, with sustained activity through the time of this report, 2019, week 12.

Conclusion. The 2018–2019 seasonal epidemiology of ARTI caused by influenza viruses and RSV differed between Ecuadorean children living close to sea level and those living at high elevation. Patterns of seasonal activity observed throughout the 5-year study period will facilitate decision-making regarding the optimal timing and duration for implementing existing and emerging prevention measures.

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2328. Human Respiratory Syncytial Virus Subgroups among Hospitalized Infants in the United States, 2015–2016

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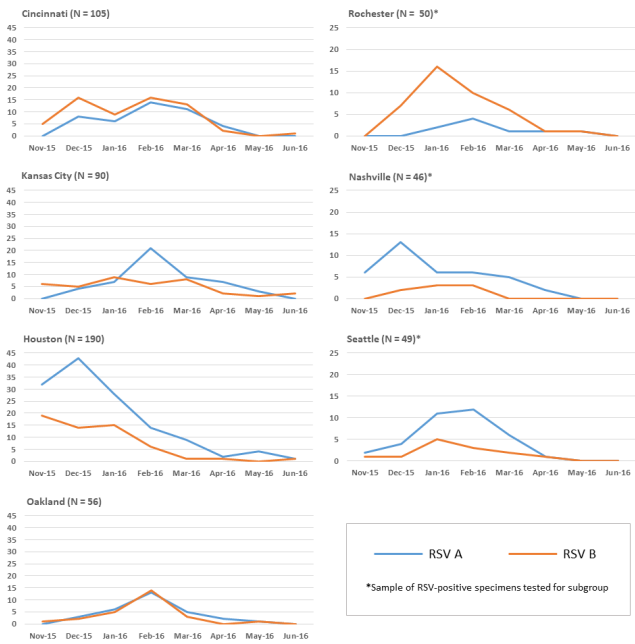
Background. Respiratory syncytial virus (RSV) is a major cause of severe acute respiratory illnesses (ARI) in young children. Circulation of RSV subgroups A and B can vary by season and geographic location, and may have implications for disease susceptibility, outcomes, and prevention measures. We investigated RSV subgroup distribution among samples collected in the New Vaccine Surveillance Network.

Methods. Prospective active surveillance for hospitalized ARI was conducted from November 1, 2015 to June 30, 2016 among children < 12 months of age at seven pediatric hospital sites. Mid-turbinate nasal and throat flocked swabs (combined when both available) and/or tracheal aspirates were collected and tested for RSV at each site using real-time reverse transcription polymerase chain reaction (rRT–PCR) assays; RSV A/B subgroup results were available from four sites that did their own subgroup testing (Cincinnati, Kansas City, Houston, and Oakland). At three sites (Rochester, Nashville, Seattle), approximately 50 RSV-positive specimens were sampled based on the monthly distribution for each site and 1:1 distribution by gender, and then assayed for subgroup at CDC. Patient information was obtained from medical records; chi-square tests were used to compare the distribution of A and B subgroups by site.

Results. Of 704 RSV-positive hospitalized infants, subgroup data from 586 were analyzed; 340 (58%) were RSV A and 246 (42%) were RSV B. The median age for both RSV A and RSV B patients was 2 months. Subgroup distribution varied by geographic location, with the overall proportion of RSV A ranging from 18–83% across sites ($P < 0.01$). Peak RSV A and B detections by month varied by site, occurring from November–February (figure).

Conclusion. During the 2015–2016 season, RSV A and B subgroups co-circulated among hospitalized infants enrolled at seven US sites. The predominance of RSV subgroup varied by geographic location. Continued surveillance and additional subgroup testing over multiple seasons should improve understanding of the epidemiologic significance of RSV infections by subgroup.

Figure. Number of RSV subtype detections by enrollment site location and month



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