Table 1. Macronutrient concentrations in children with RSV infection

| Sample Type | Mean (SD) or Median (IQR) | p-value |
|-------------|--------------------------|---------|
| RSV-OPIC | 13.5 (2.4) | <0.0001 |
| RSV-IP | 12.9 (2.3) | <0.0001 |
| RSV-W | 12.5 (2.2) | <0.0001 |
| RSV-OCU | 12.1 (2.1) | <0.0001 |

**Methods:** We reviewed data from 2003–2018 from the Foodborne Diseases Active Surveillance Network to determine the incidence and epidemiology of infections in 10 sites under surveillance; PulseNet to determine pulsed-field gel electrophoresis (PFGE) patterns; and National Antimicrobial Resistance Monitoring System (NARMS) to determine antimicrobial susceptibility testing (AST) results and resistance genes of isolates identified by whole genome sequencing (WGS). We defined MDR Infantis as having ceftriaxone resistance by AST and either the blaCTX-M-65 gene emerged among returned travelers from Peru in 2012 and then spread to the US. During the past decade, the incidence of Infantis infections increased 2-fold higher than the average during 2003–2009. During 2012–2018, 85% (88%) of 970 NARMS isolates had PFGE patterns indicating ESBL production.

**Conclusion:** Infants with mild RSV infection had higher RSV VL and higher conc. of IP-10 and type-I IFN than infants with severe disease. These findings suggest that IP-10 and mucosal IFNs are associated with protection against severe RSV disease and could be used as biomarkers for patient stratification in the clinical setting.

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**References:**

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**Session:** O-25. Hot Topics in Bacteria and Viral Infections

**Background:** Infants re-emerged as a leading Salmonella serotype when a multidrug-resistant (MDR) strain with a rare extended spectrum β-lactamase (ESBL) gene emerged among returned travelers from Peru in 2012 and then spread domestically. This strain was isolated from chicken at slaughter and retail, and humans in outbreaks traced to chicken. We reviewed national surveillance data to determine incidence trends and antibiotic resistance among infants infections.

**Methods:** We reviewed data from 2003–2018 from the Foodborne Diseases Active Surveillance Network to determine the incidence and epidemiology of infections in 10 sites under surveillance; PulseNet to determine pulsed-field gel electrophoresis (PFGE) patterns; and National Antimicrobial Resistance Monitoring System (NARMS) to determine antimicrobial susceptibility testing (AST) results and resistance genes of isolates identified by whole genome sequencing (WGS). We defined MDR Infantis as having ceftriaxone resistance by AST and either the blaCTX-M-65 gene or one of 18 PFGE patterns linked to that gene with WGS.

**Results:** The 2,154 patients with Infantis infection had a median age of 36 years and 57% were female; 63% were female; 86% had isolates from stool, 9% from urine, and 3% from blood. Only 10% reported foreign travel and 27% were hospitalized. The incidence of infections began increasing in 2010 and by 2017–2018 was 17% during 2003–2016. During 2012–2010, 2% of isolates were MDR Infantis; this increased to 17% during 2017–2018 (Figure).

**Conclusion:** During the past decade, the incidence of Infantis infections markedly increased. This was likely driven by the emergence of an ESBL-producing strain that was initially associated with travel, and is now mostly domestically acquired and associated with consuming chicken. MDR Infantis now accounts for 1 in 5 Infantis infections. Public health strategies to reduce Salmonella contamination of chicken could help prevent these infections.

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**References:**

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**Session:** O-25. Hot Topics in Bacteria and Viral Infections

**Background:** We recently developed a global respiratory severity score (GRSS) as a research tool from (n=139) infants with primary respiratory syncytial virus (RSV) infection enrolled prospectively in the Assessing Predictors of Infant RSV Effects and Severity (AsPIRES) study. The objective of the present study was to validate our original findings that the GRSS correlates well with clinical outcomes including hospitalization and length of stay (LOS) utilizing an independent cohort.

**Methods:** Clinical and demographic data on infants with primary RSV infection were abstracted from the electronic medical record. The GRSS was calculated by applying the original training data formula to the new data set. We compared the mean GRSS between the hospitalized and non-hospitalized group with Welch two sample t-test, and correlated it with hospitalization and LOS using Pearson’s correlation test.

**Results:** A total of 184 (98 hospitalized and 86 non-hospitalized) subjects were enrolled. The hospitalized and non-hospitalized infants were different in general appearance, the percentage with rales, retractions, lethargy, respiratory rate and oxygen saturation. The hospitalized group had a significantly (t=9.334, p< 0.0001) higher GRSS (4.20±2.10) than the non-hospitalized group (1.76±1.41). Using GRSS as a research tool from (n=139) infants with primary respiratory syncytial virus (RSV) infection enrolled prospectively in the Assessing Predictors of Infant RSV Effects and Severity (AsPIRES) study. The objective of the present study was to validate our original findings that the GRSS correlates well with clinical outcomes including hospitalization and length of stay (LOS) utilizing an independent cohort.

**Conclusion:** The GRSS was calculated by applying the original training data formula to the new data set. We compared the mean GRSS between the hospitalized and non-hospitalized group with Welch two sample t-test, and correlated it with hospitalization and LOS using Pearson’s correlation test.