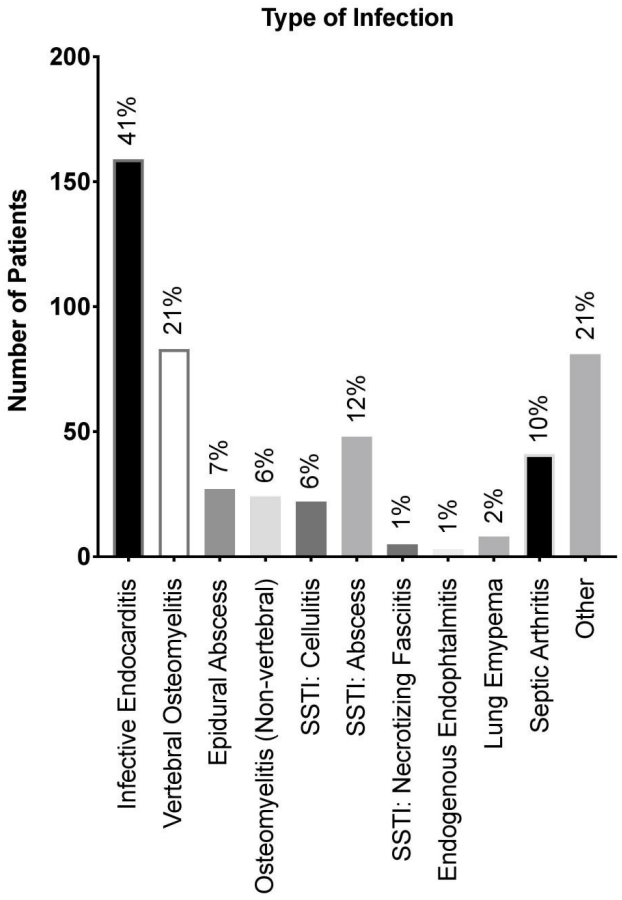
FIGURE 3: Types of Severe Infectious Complications



Conclusion. We report on a novel, comprehensive perspective on the serious infectious complications of IVDU in an attempt to measure its cumulative impact in an unbiased way. This preliminary analysis of a much larger dataset (2008-2019) reveals some sobering statistics about the impact of IVDU in the United States. While it confirms the well accepted mortality and morbidity associated with infective endocarditis and bacteremia, there is a significant unrecognized impact of other infectious etiologies. Additional analysis of this data set will be aimed at identifying key predictive factors in poor outcomes in hopes of mitigating them.

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

911. Assessment of Representativeness of IPD Surveillance Conducted by the National Microbiology Laboratory of Canada

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Session: P-43. HAI: Surveillance

Background. Understanding the evolving epidemiology of *Streptococcus pneumoniae* serotypes is important for assessing the current and potential future immunization programs. In Canada, Invasive pneumococcal disease (IPD) is mandatory reportable to provincial/territorial public health. Provinces and territories voluntarily submit annual IPD data to the Canadian Notifiable Disease Surveillance System (CNDSS), which publishes information on IPD cases and incidence rates, however serotype data are not available. Provinces/territories also voluntarily submit IPD isolates to the National Microbiology laboratory (NML) for serotyping; provinces that conduct their own serotyping submit this information. The NML produces comprehensive IPD surveillance reports including serotype distribution; due to lack of population denominator, no incidence rates are available. The two surveillance programs are not linked. The objective of the study is to assess the representativeness of the NML surveillance as compared to the CNDSS and provincial reportable diseases databases.

Methods. Over the study time period (2010-2017), we compared annual IPD case counts between the NML and CNDSS reports. Due to the difference in age grouping between CNDSS and NML, comparison was limited to these groups: all age, < 5, 5-14 and > 15 years. In addition, the IPD counts from NML were compared to data from four largest provinces.

Results. For < 5 group, NML reported 91% of CNDSS case count whereas for 5-14 and > 15 years of age, it was 81% and 79%, respectively. Compared to the corresponding provincial databases, NML reported 91%, 97%, and 93% case counts for Ontario, British Columbia, and Alberta, respectively, while it was only 47% for Quebec. Further analysis revealed that the discrepancy in Quebec is the result of under-representation of >5 populations.

Figure 1: Comparison of age stratified IPD case counts between CNDSS and NML

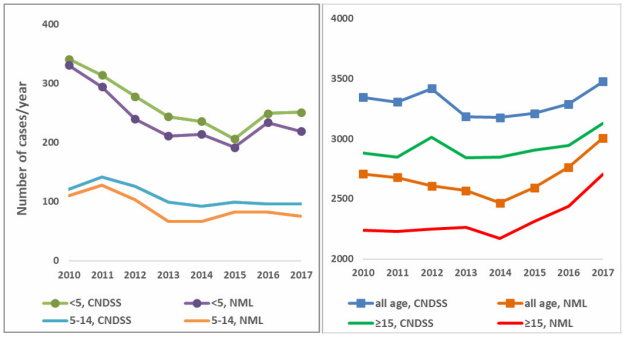
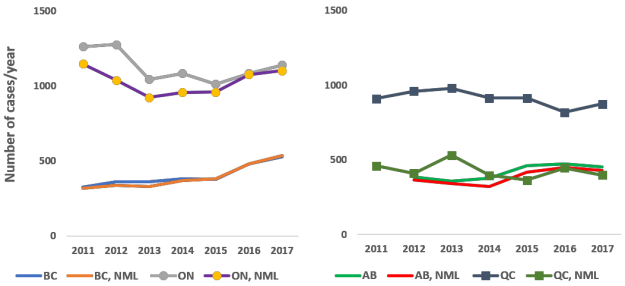


Figure 2. Comparison of all age IPD case counts between NML and provincial databases



Conclusion. IPD surveillance conducted by NML has been instrumental to gain insight into the evolving epidemiology of *S. pneumoniae* serotypes in Canada. Comparisons of IPD counts from NML surveillance reports with reportable disease databases revealed different levels of concordance across provinces and age groups. The limitations of NML surveillance including incomplete or inconsistent reporting should be taken into consideration when interpreting the data.

Disclosures. Rajeev M. Nepal, PhD, Pfizer (Employee) Stephane B. Dion, PhD, Pfizer (Employee) Ana Gabriela Grajales, MD, Pfizer (Employee) Maria Major, B.Sc., MPH, Pfizer (Employee) Alejandro Cane, MD, Pfizer (Employee) Jelena Vojicic, MD, Pfizer (Employee)

912. Beyond the Usual Suspects in Invasive Mold Infections: Public Health Surveillance Identifies Clinical Diversity

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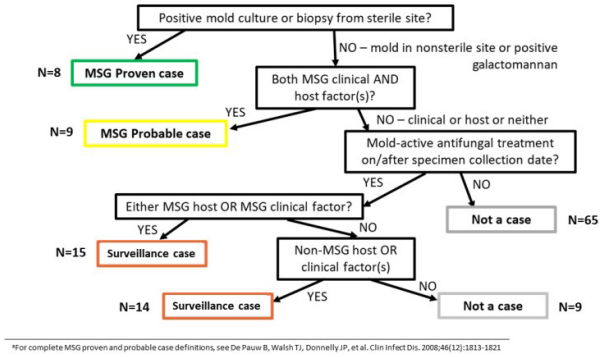
Session: P-43. HAI: Surveillance

Background. Invasive mold infections (IMI) such as aspergillosis and mucormycosis are often fatal among immunocompromised patients and cause high-profile outbreaks. Public health surveillance for IMI is challenging; most epidemiologic studies are limited to transplant and cancer patients at greatest risk of IMI. The established Mycoses Study Group (MSG) case definition is useful for clinical trials but lacks sensitivity. To address these challenges, we created IMI surveillance within the Georgia Emerging Infections Program. Here, we describe cases identified through this system, using both the MSG criteria and a novel, more sensitive surveillance case definition.

Methods. To identify potential IMI cases, we captured 2,363 positive fungal laboratory results, including cultures, histopathology, and galactomannan tests, within a 60-day window at three large Atlanta hospitals during April 2018–March 2019.

We excluded yeast and dimorphic fungi, hair and nail specimens, and cystic fibrosis patients. Potential cases underwent chart review and were classified by 2 physicians as proven, probable, or non-case according to MSG criteria. Cases that partially met MSG probable criteria and included antifungal treatment were classified as surveillance cases; definitions were mutually exclusive (Fig 1).

Figure 1: Case Classification Algorithm



Results. Of 120 potential IMI cases, 46 (38%) met an IMI case definition: 8 proven, 9 probable, and 29 surveillance cases (Fig 2). Of cases, 14 (30%) involved transplant or cancer in the previous year; 8 of these were proven or probable cases. IMI presented primarily as sinusitis among proven cases (50%), and pulmonary infections among probable (56%) and surveillance (45%) cases. Most surveillance cases were caused by *Aspergillus* spp. (72%) and accounted for all 5 cutaneous IMI (fig 3). Over 80% of cases vs. 10% of non-cases had antifungal treatment.

Figure 2: Invasive mold infection case classifications

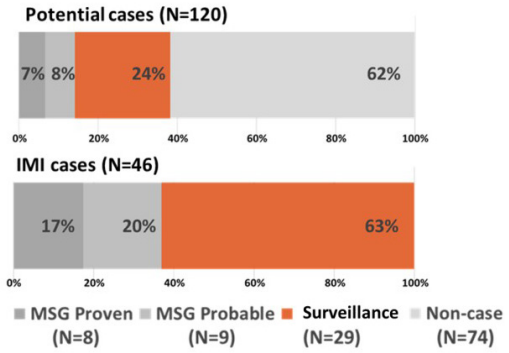
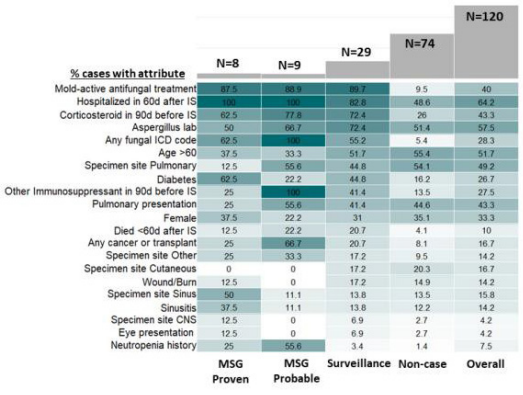


Figure 3: Attributes of IMI Cases and Non-cases from April 2018–March 2019 (N = 120)



% cases with attribute	N=8 MSG Proven	N=9 MSG Probable	N=29 Surveillance	N=74 Non-case	N=120 Overall
Mold-active antifungal treatment	87.5	88.9	89.7	9.5	40
Hospitalized in 60d after IS	100	100	82.8	48.6	64.2
Corticosteroid in 90d before IS	62.5	77.8	72.4	26	43.3
Aspergillus lab	50	66.7	72.4	51.4	57.5
Any fungal ICD code	62.5	33	55.2	5.4	28.3
Age >60	37.5	33.3	51.7	55.4	51.7
Specimen site Pulmonary	12.5	55.6	44.8	54.1	49.2
Diabetes	62.5	22.2	44.8	16.2	26.7
Other Immunosuppressant in 90d before IS	25	100	41.4	13.5	27.5
Pulmonary presentation	25	55.6	41.4	44.6	43.3
Female	37.5	22.2	31	35.1	33.3
Died <60d after IS	12.5	22.2	20.7	4.1	10
Any cancer or transplant	25	66.7	20.7	8.1	16.7
Specimen site Other	25	33.3	17.2	9.5	14.2
Specimen site Cutaneous	0	0	17.2	20.3	16.7
Wound/Burn	12.5	0	17.2	14.9	14.2
Specimen site Sinus	50	11.1	13.8	13.5	15.8
Sinusitis	37.5	11.1	13.8	12.2	14.2
Specimen site CNS	12.5	0	6.9	2.7	4.2
Eye presentation	12.5	0	6.9	2.7	4.2
Neutropenia history	25	55.6	3.4	1.4	7.5

Conclusion. Of IMI cases identified, nearly two thirds had evidence of infection but did not meet an MSG case definition. MSG captured over half of transplant and cancer-associated cases, but these were uncommon overall, revealing most IMI lack classical risk factors. A more sensitive surveillance case definition can capture a broader spectrum of IMI patients receiving antifungal treatment to help guide clinical and public health interventions.

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

913. Distribution of Respiratory Viral Pathogens in Infants Across Different Clinical Settings from December 2019 to April 2020

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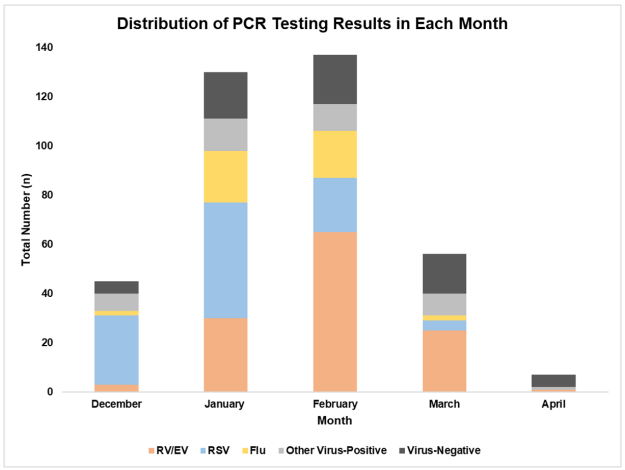
Session: P-43. HAI: Surveillance

Background. Acute respiratory infections (ARI) are a major cause of morbidity and mortality in young children, with viral pathogens being the most common etiologies. However, due to limited and inconsistent clinical diagnostic viral testing in the outpatient (OP) setting compared to the inpatient (IP) setting, the actual burden and distribution of viral pathogens across these clinical settings remain largely underreported. We aimed to evaluate the frequency of common respiratory viruses in medically attended ARI in infants.

Methods. We conducted a prospective viral surveillance study in Davidson County, TN. Eligible infants under one year presenting with fever and/or respiratory symptoms were enrolled from OP, emergency department (ED), or IP settings. Nasal swabs were collected and tested for common viral pathogens using Luminex® NxTAG Respiratory Pathogen Panel and for SARS-CoV-2 using Luminex® NxTAG CoV extended panel.

Results. From 12/16/2019 to 4/30/2020, 364 infants were enrolled, and 361 (99%) had nasal swabs collected and tested. Of those, 295 (82%) had at least one virus detected; rhinovirus/enterovirus (RV/EV) [124 (42%)], respiratory syncytial virus (RSV) [101 (32%)], and influenza (flu) [44 (15%)] were the three most common pathogens detected. No samples tested positive for SARS-CoV-2. Overall, the mean age was 6.1 months, 50% were male, 45% White and 27% Hispanic. **Figure 1** shows the total number of PCR viral testing results by month. RSV was the most frequent virus detected in the IP (63%) and ED (37%) settings, while RV/EV was the most common in the OP setting **(Figure 2). Figure 3** displays viral seasonality by clinical setting, showing an abrupt decrease in virus-positive cases following the implementation of a stay-at-home order on March 23, 2020 in Nashville, TN.



Distribution of Respiratory Viruses in Different Settings