Results. KT detected NHPH in 23 patients among 11 unique institutions in the span of 5 years, including 10 (43%) pediatric patients (Table 1). Nine of ten detections were quantified (Median 110; range 48-20932, MPM). The reference interval of mcDNA abundance for all NHPH species (defined by the 97.5th %ile) in a cohort of 684 healthy subjects is 0 MPM (for comparison the reference interval for H. pylori is 1400 MPM). The highest level of mcDNA was in the bronchiolitis patient. Serial testing in the bronchiolitis patient showed a dramatic decrease of NHPH mcDNA from 27970 MPM to 1079 MPM over a 6-day span. Serial testing in a second patient showed a decrease of the NHPH mcDNA from 134 MPM to undetectable mcDNA levels.

Conclusion. These cases highlight the potential use of rapid, non-invasive, plasma mcDNA to diagnose and potentially monitor the response to treatment of infections caused by NHPH, especially in patients with primary immunodeficiency. NHPH are difficult to detect and identify using conventional microbiological methods and plasma mcDNA NGS may play an important role in detecting these fastidious microorganisms and serial testing.

#18 Declining Influenza Vaccination Rates in an Underserved Pediatric Primary Care Center During the COVID-19 Pandemic

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Background. Influenza vaccine hesitancy rates are increasing in the United States, even as influenza infection accounts for significant pediatric morbidity and mortality. Disinformation and controversy surrounding COVID-related public health protections and SARS-CoV-2 vaccine roll-out may have unintended consequences that impact pediatric influenza vaccination. We sought to assess influenza vaccination rates before and during the COVID-19 pandemic in one pediatric primary care center (PPCC), which serves a predominantly Medicaid-insured, minoritized population. We evaluated trends in influenza and inactivated poliovirus vaccine rates for children aged 6 months to 12 years (≥17,000 patient visits) over influenza seasons (September-March): 1) 2018-19 and 2019-20 (pre-pandemic), and 2) 2020-21 and 2021-22 (intra-pandemic rates). Demographic characteristics and social risk questionnaires (e.g., food and housing insecurity, transportation and public benefit issues, etc.) were pulled from PPCC electronic medical record data. Total tetanus vaccinations during each influenza season were used as a comparison for general vaccination rates, as clinic visits varied due to COVID-related shutdowns. Generalized linear regression models with robust standard errors (SEs) evaluated differences in demographics, social factors, and influenza vaccination rates by influenza season by specifying an appropriate distribution and link function for each factor. In a subgroup of patients with clinic visits in 2018-19 and 2020-21, influenza vaccine rates were compared using the McNemar test. Multivariable logistic regression with robust SEs evaluated associations between influenza season, demographic characteristics, reported social risks, and influenza vaccination.

Results. The percentages of patients receiving influenza vaccinations by influenza season are depicted in Table 1. Pre-pandemic, 42% of patients with a clinic visit were vaccinated (2018-19), and this rate decreased to 30% by 2021-22 during the pandemic. Both influenza and tetanus vaccinations significantly differed across influenza seasons, and there was a lower uptake during the COVID-19 pandemic (p < 0.01, Table 1). Both mean age and influenza vaccination rates by influenza season by specifying an appropriate distribution and link function for each factor. In a subgroup of patients with clinic visits in both 2018-19 and 2021-22 seasons, 42% received the influenza vaccine in 2018-19, and only 30% have received the vaccine since the COVID-19 pandemic (p < 0.01). In a multivariable regression model, the 2021-22 (OR 0.88 [0.82-0.94]) and 2021-22 (OR 0.68 [0.62-0.74]) influenza seasons, age (OR 0.98 [0.97-0.99]), black race (OR 0.58 [0.54-0.62]), and self-pay (OR 0.84 [0.72-0.99]) were associated with influenza vaccine refusal (p < 0.05).

Conclusion. Influenza vaccination rates within one PPCC decreased over the years of the COVID-19 pandemic and have not rebounded. New interventions to promote influenza and possibly other vaccines are needed to improve evidence-based child health measures.

#19 Viral DNAemia and Viral Seroreactivity are Associated with Mortality in Pediatric Patients with Severe Sepsis

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Background. Sepsis remains the leading cause of pediatric mortality worldwide. While sepsis recognition campaigns have improved early mortality, current contributors to mortality are unclear. Little attention has been paid to the incidence of latent viral infection in septic pediatric patients, but resultant immune remodeling may affect future host response to acute illness. We report a large multi-center study of viral DNAemia and viral seroreactivity in pediatric patients with severe sepsis.

Method. DNAemia was assessed by 9 Pediatric Intensive Care Units (PICUs) in the Emucode Kennedy Shriver National Institutes of Child Health and Human Development Collaborative Pediatric Critical Care Research Network were enrolled. Enrollment criteria included severe sepsis, indwelling central venous or arterial catheter, and age between 14 weeks gestation and 18 years. Blood samples were collected twice per week up to 14 days. A subset of patients (age <21 years) was identified from this cohort. Available clinical information was extracted from the test request form.

Results. A total of 40 PICUs completed DNAemia assessments; 1,079 MPM over a 6-day span. Serial testing in a second patient showed a decrease of the NHPH mcDNA from 134 MPM to undetectable mcDNA levels.