racial and ethnic groups. Race and ethnicity are determined by patient self-report in the EHR. Univariable and multivariable regression analyses will be used to assess the association of these outcomes with sociodemographic factors. Potential confounders that will be adjusted for include Charlson Co-morbidity Index, disease severity and likelihood of readmission. Using chi-square tests, we will assess differences in the race/ethnicity distributions between this cohort and those from the 2009 H1N1 Pandemic and the 2018-19 influenza season. RESULTS/ANTICIPATED RESULTS: Of the first 459 patients hospitalized for COVID-19 in March and April 2020, race/ethnicity were: 194 Hispanic (42.3%), 104 non-Hispanic Black (22.6%), 83 non-Hispanic white (18.1%), 43 Asian (9.4%), and 35 other or unknown race (7.6%). There were significant differences in the race/ethnicity distribution compared to the cohort of patients hospitalized for viral respiratory infection during the 2018-19 influenza season (n=254, p <0.001): 58 Hispanic (22.8%), 52 non-Hispanic black (20.4%), 116 non-Hispanic white (45.7%), 15 Asian (6%), and 13 other or unknown race (5.1%). Our anticipated results include further adjusted analyses and comparisons to the 2009 pandemic. We will compare COVID-19 prevalence and outcomes by race/ethnicity with other viral infection outbreaks, adjusting for confounders. DISCUSSION/SIGNIFICANCE OF FINDINGS: Initial hospitalizations for COVID-19 at our institution are notable for a high proportion of Hispanic patients and smaller proportion of non-Hispanic whites, in contrast to the prior year. Our study will demonstrate the extent to which racial and ethnic disparities are typical in viral respiratory outbreaks, which can guide future interventions.

Translational Science, Policy, & Health Outcomes Science

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Antibiotic Use for Respiratory Syncytial Virus in the Middle East: A Surveillance Study in Hospitalized Jordanian Children

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ABSTRACT IMPACT: Antibiotic stewardship guidelines should consider the barriers clinicians in low- and middle-income countries face due to limited biomarkers for determining the etiologic pathogen for viral infections like respiratory syncytial virus (RSV) that have a similar presentation to bacterial infections. OBJECTIVES/GOALS: We aimed to evaluate antibiotic administration practices in children who were hospitalized at a government-run hospital in Amman, Jordan, where point-of-care testing is limited. We hypothesized those with RSV are more likely to be administered antibiotics during their hospitalization than children without RSV. METHODS/STUDY POPULATION: We conducted a cross-sectional cohort study in Jordanian children hospitalized with history of acute respiratory symptoms and/or fever from 2010 to 2013. Admitting diagnoses were dichotomized into suspected viral-(e.g., bronchiolitis) and bacterial-like infection (e.g., sepsis, pneumonia). Stratifying by sex, we performed a polytomous logistic regression adjusting for age, underlying medical condition, maternal education, and region of residence to estimate prevalence odds ratios (PORs) and 95% confidence intervals for macrolides, broad-, and narrow-spectrum antibiotics during hospitalization. Sensitivity and specificity of admission diagnoses and laboratory results were compared. RESULTS/ANTICIPATED RESULTS: Children with a suspected viral-like admission diagnosis, compared to those with suspected bacterial-like, were 89% less likely to be administered a narrow-spectrum antibiotic (POR: 0.11; p<0.001). There were slight differences by sex with males having a lower prevalence than females of narrow-spectrum or broad-spectrum antibiotic administration; but they had a higher prevalence of macrolide administration. Overall, children with RSV had a 30% probability (sensitivity) of being assigned to a suspected viral infection; whereas RSV-negative children had an 85% probability (specificity) of being assigned to a suspected bacterial infection. DISCUSSION/SIGNIFICANCE OF FINDINGS: Children with a suspected viral-like infection were less likely to receive an antibiotic; however, when evaluating the accuracy of admission diagnosis to RSV-laboratory results there were considerable misclassifications. These results highlight the need for developing antibiotic interventions for Jordan and the rest of the Middle East.

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The diagnostic accuracy of procalcitonin for urinary tract infection in hospitalized older adults

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ABSTRACT IMPACT: This work seeks to improve the diagnostic accuracy of urinary tract infection among hospitalized older adults and mitigate antibiotic overuse in this population. OBJECTIVES/GOALS: Primary objective: To determine the diagnostic accuracy of serum procalcitonin (PCT) for the diagnosis of symptomatic urinary tract infection (UTI) in hospitalized older adults. Secondary objectives: (1) To develop a predictive model for the diagnosis of UTI; (2) To determine the ability of PCT in discriminating between lower and upper UTI. METHODS/STUDY POPULATION: We performed a prospective observational cohort study of 228 participants from a single institution. The study population included older adults (age 65 or older) who were hospitalized on the general medicine wards with a possible or suspected urinary tract infection (UTI). Upon obtaining informed consent, serum procalcitonin (PCT) was processed on remnant blood samples collected from the emergency department. We performed additional data collection through the electronic health record to obtain demographic information, clinical characteristics, and other laboratory and imaging results. Clinicians were surveyed for the diagnosis of UTI and charts were adjudicated by independent reviews of the medical record by infectious diseases experts to determine the primary endpoint of symptomatic UTI. RESULTS/ANTICIPATED RESULTS: We anticipate that serum procalcitonin predicts the presence of symptomatic urinary tract infection (UTI) by demonstrating an area under the receiver operating characteristic curve of at least 0.85. A predictive model developed in our cohort for the diagnosis of symptomatic UTI will be improved by the addition of serum PCT to the prediction model. Finally, we anticipate the serum PCT will accurately discriminate between upper and lower UTI. DISCUSSION/SIGNIFICANCE OF FINDINGS: Diagnosis of symptomatic UTI in hospitalized older adults is challenging and may lead to overuse of antibiotics and the development of antibiotic resistance in this vulnerable patient population. Serum procalcitonin offers a novel diagnostic strategy