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The burden of respiratory syncytial virus (RSV) disease in adult patients with underlying lung disease: interim analysis from a retrospective patient chart review

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Background: Currently, there are limited data demonstrating the burden of RSV disease in adult patients. At-risk groups include the elderly (≥ 65 years), patients with underlying lung disease and immunocompromised patients. This study aimed to quantify the burden of RSV infections in high-risk adult sub-populations and provide insights into the timing of RSV diagnostic testing.

Material/methods: A retrospective review of patient charts for the past two years (October, 2014 to October, 2016) was conducted in the United States. Data for adult patients (≥ 18 years) with a confirmed diagnosis of RSV were collected from physicians (hospitalists, infectious disease specialists, intensivists, oncologists, pulmonologists or geriatricians) working in a hospital setting. Each physician submitted up to three patient cases, at random, via an online survey, which included a customized and validated patient case report form. Respondents were assigned a letter in the alphabet and searched for cases with patients whose last name began with that letter. Patients for the following target sub-populations were identified: elderly (≥ 65 years), patients with underlying lung disease, immunocompromised patients and other adult patients. Results of an interim analysis of

patients with underlying lung disease, submitted by 49 physicians (63% part of an Integrated Delivery Network), are reported.

Results: To date, a total of 88 adult patients with underlying lung disease and confirmed RSV infection have been reviewed (median age 64.0 years [range: 22–95 years]; 60% male; 59.1% Caucasian; 27.3% African American; 10.2% Hispanic/Latino; 2.3% Asian). The majority of these patients (N=74; 84%) had chronic obstructive pulmonary disease (COPD), of whom 58 (78%) had mild or moderate COPD (stage I–II; Global Initiative for Chronic Obstructive Lung Disease classification). Other lung diseases were asthma (N=15), interstitial lung disease (N=5), bronchiectasis (N=5) and cystic fibrosis (N=3). The mean length of stay (LOS) of these patients in the hospital setting was 7.7 days (95% confidence interval: 6.4–9.0; N=85). Most patients were diagnosed with RSV in the emergency department (36%), hospital ward (48%), or the intensive care unit (14%). The most common methods for diagnosing RSV in these patients were: PCR-based viral respiratory panel, including RSV, (N=66; 75% of patients), rapid RT-PCR for RSV (N=13; 15%) and rapid antigen testing (N=9; 10%). Of those diagnosed with RSV via rapid antigen testing, the majority (N=8/9; 89%) were also tested by a PCR-based diagnostic, likely as a confirmatory test.

Conclusions: This study demonstrates that hospitalised adult patients with RSV and underlying lung disease, specifically COPD, may place a large burden on healthcare resources, due at least in part to long hospital stays. The majority of these patients were diagnosed with RSV in the hospital setting. Further studies are required to determine whether earlier diagnostic testing may have a role in the future management of these patients.