

## Severe Respiratory Viral Infections (RVIs) The clinical need in treating and preventing progression

New therapies to manage the wide range of respiratory viruses and variants that hospitalise patients each year are urgently needed. Currently, there are no broad-spectrum treatments approved for use in the hospital setting to treat respiratory viral pathogens.

- Severe Respiratory Viral Infections (RVIs) in the post-pandemic world remain a leading cause of hospitalization and are expected to be more prevalent than in pre-pandemic years.<sup>1</sup>
- It is projected that from 2022 onward there will be more than 3M hospitalizations per year in the US alone due to RVIs – marking a 20% increase from pre-pandemic years.<sup>1</sup>
  - Prior to the pandemic (2017-2019) RVIs caused ~2.5M hospitalizations per year.<sup>2</sup>
  - People older than 60 years account for 40-50% of adult patients hospitalised for rhinovirus, respiratory syncytial virus (RSV), parainfluenza virus (PIV) and human metapneumovirus HMPV.<sup>1</sup>
- RVIs, including Influenza, Rhinovirus, RSV, COVID-19, Non-COVID Coronavirus, HMPV, Parainfluenza and Adenovirus, have similar length of stay in hospital for admitted patients (4-5 days) representing ~\$50B in provider costs.<sup>3</sup>
  - Potentially adding to costs, across all (RVIs) patients in the US have a near 15% progression to ICU<sup>4</sup>
  - In the US, the cost of disease progression to ICU hospital stays is about \$20K among COVID-19 patients covering a median of 6-day stay at \$3.33K per day, placing a large burden on healthcare systems<sup>5</sup>
- In the US, there are more than 7M immunocompromised people, representing a patient population at significant risk for severe RVIs.<sup>6</sup>
  - Rhinovirus, Influenza and RSV are commonly associated with viral infection hospitalisations among immunocompromised patients.<sup>7</sup>
  - Among adults hospitalized for acute respiratory illnesses, ~32% of patients have immunosuppressive conditions.<sup>8</sup>
- RVIs are associated with more than 500K annual US patient hospitalisations with acute Chronic Obstructive Pulmonary Disease (COPD) exacerbations.<sup>9</sup>
  - RVI patients with acute COPD experience higher rates of progression, ventilation, and mortality, and may stay in hospital one week longer than patients without acute COPD.<sup>1</sup>
- Synairgen is developing a near pH-neutral formulation of interferon-beta (IFN-beta) for inhalation that is delivered directly into the lungs using a mesh nebulizer as a potential broad-spectrum antiviral to help reduce the progression to more severe disease or death.<sup>10</sup>



For more information, please visit [www.synairgen.com](http://www.synairgen.com)

### Source: SNG001 RVI Landscape Report Deck

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