

# Unveiling the Hidden Burden: Respiratory Syncytial Virus in the Dutch Older Adult Population and the Imperative for Vaccination

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## BACKGROUND

- Respiratory syncytial virus (RSV) significantly impacts older adults, often leading to severe health complications and increased healthcare utilization
- Since 2023, new and highly effective vaccines against RSV have been available. All vaccines showed high efficacy against RSV-related disease, including acute respiratory disease and lower respiratory tract disease with 2 or more symptoms
- The Dutch Ministry of Health requested the Dutch Health Council to advise on the need to include RSV vaccination in the public vaccination program. One of the requirements is that the vaccine provide protection against a common and severe disease

## OBJECTIVE

- To elucidate the impact of RSV on the Dutch older adult population and discuss the implications for vaccination policy, particularly considering recent advances in vaccine development for older adults

## METHODS

- An extensive literature review was conducted, focusing on peer-reviewed studies from the Netherlands. To capture the full spectrum of RSV disease burden, the data were categorized as follows:
  - Symptomatic infections
  - Primary care management
  - Hospitalizations and intensive care unit (ICU) admissions
  - Mortality
- Relevant epidemiological and healthcare data were sourced from national databases, including CBS, RIVM, and Dutch hospital data, to provide a comprehensive analysis of the impact of RSV on the Dutch population aged 60 years and older

## RESULTS

- Various studies on the burden of RSV were identified and critically reviewed. Burden of disease data were extracted from the different publications and categorized into the following main areas:<sup>1-12</sup>

### Symptomatic Infections:

- Four studies were identified that addressed symptomatic RSV infections in older adults (**Figure 1**)
  - Korsten *et al.* reported that 4.2% to 7.2% of acute respiratory tract infections (ARTIs) in individuals aged 60 years and older were RSV-related, translating to 201,096 to 344,736 cases annually<sup>5</sup>
  - Jansen *et al.* and Friesema *et al.* provided similar estimates for RSV-like illness, confirming that RSV is a substantial contributor to the respiratory disease burden in this population<sup>2,3</sup>

### Primary Care Management:

- Five publications focused on primary care utilization, particularly general practitioner (GP) consultations for RSV-related illness (**Figure 1**)
  - Korsten *et al.* estimated that 31% of RSV-ARTI cases required GP consultation, equivalent to 47,250 to 106,868 consultations per year<sup>5</sup>
  - Jansen *et al.* confirmed similar figures, ranging from 47,250 to 98,921 consultations annually, highlighting the burden on outpatient healthcare services<sup>3</sup>

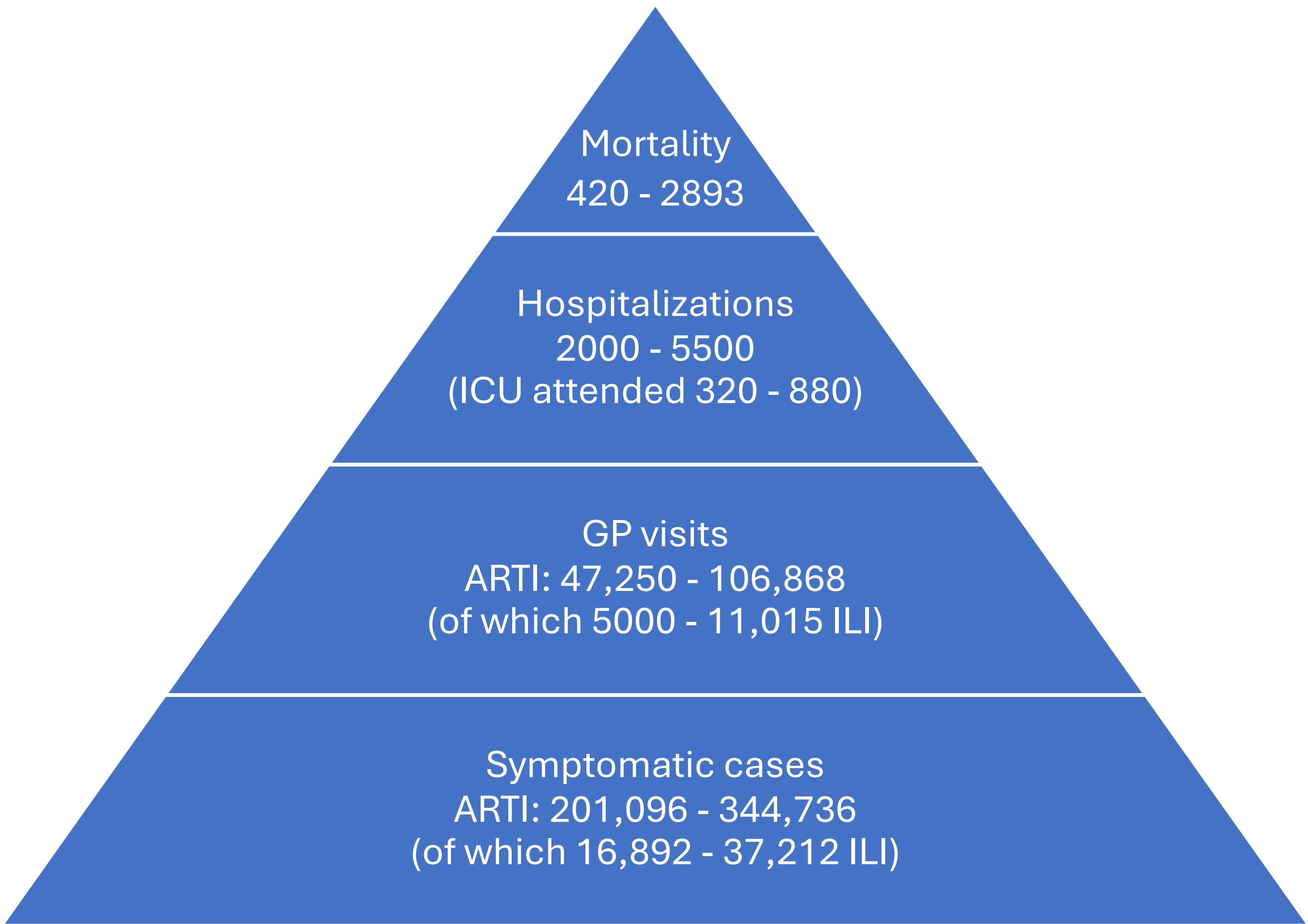
### Hospitalizations and ICU Admissions:

- Three studies examined RSV-related hospitalizations (**Figure 1**)
  - Jansen *et al.* reported annual RSV hospitalization rates of 1900 to 5340 cases among adults aged 60 years and older, with higher rates in older age groups and high-risk populations<sup>3</sup>
  - Osei-Yeboah *et al.* provided consistent estimates, with approximately 4428 hospitalizations annually in this age group<sup>10</sup>
  - Furthermore, Vos *et al.* found that 16% of hospitalized RSV cases in adults 18 years or older required ICU admission<sup>9</sup>

### Mortality:

- Two studies specifically addressed RSV-related mortality in the Dutch hospitalized older adult population (**Figure 1**)
  - Vos *et al.* and Boon *et al.* reported in-hospital mortality rates of 8% to 10%, while based on McDonald *et al.*, it was estimated that 1353 to 2320 RSV-related deaths occur annually in individuals aged 60 years and older<sup>9</sup>
  - Asten *et al.* further suggested that excess winter mortality from RSV could exceed 2893 deaths annually<sup>7</sup>

Figure 1. Burden of RSV Disease



ARTI, acute respiratory tract infection; GP, general practitioner; ICU, intensive care unit; ILI, RSV-like illness.

## CONCLUSIONS

- RSV imposes a significant burden on older adults, with an impact comparable to that of influenza<sup>11</sup>
- Presented incidence numbers likely still underestimate the true burden of RSV, as many studies have a relatively small sample size and RSV diagnostic tests have suboptimal sensitivity. An underreporting factor ranging up to 2.4 could be considered to correct for underreporting<sup>11</sup>
- The burden of RSV among older adults remains underappreciated due to diagnostic challenges and symptom overlap with other respiratory infections. Improved diagnostic practices and stronger surveillance are critical to fully capture RSV-related morbidity and mortality
- The high disease burden, combined with promising results from recent vaccine trials, supports the implementation of RSV vaccination in a public program in the Netherlands, which could reduce healthcare utilization and improve health outcomes for the aging population
- Further research should focus on capturing the indirect burden of RSV disease. For example, 8.7% of chronic obstructive pulmonary disease exacerbations have been attributed by RSV infection<sup>12</sup>

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