Respiratory Syncytial Virus and Human Metapneumovirus Disease Burden in Older Adults

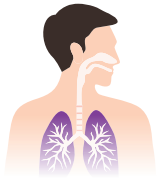
RSV and HMPV can pose a serious health risk to older adults

In the US (2024 estimates)[1]:

- **Older adults** are at an **increased risk of severe disease** from respiratory illnesses, including HMPV and RSV[2,3]
- **RSV** and **HMPV** are **important causes of hospitalization** in older adults[2-4]
- **RSV** and **HMPV** can lead to **severe outcomes** in **adults** with **chronic health conditions**. There is significant morbidity and mortality associated with increasing number of comorbidities[4]

RSV and HMPV have similar structure and clinical manifestations in adults

RSV and HMPV have similar clinical presentations[2,5-8]:



- **Upper respiratory tract infections** (nasal congestion, hoarseness)
- **Lower respiratory tract infections** (sputum, dyspnea, rales, rhonchi, wheezing)
- **Complications** (exacerbations of chronic diseases such as asthma, COPD)
- **Other symptoms** (fever, headache, fatigue, myalgia, chest pain)

These symptoms in most cases are mild but can lead to severe outcomes, especially in older adults and in adults with risk factors.[5,7,8]

Chronic conditions in older adults may exacerbate RSV and HMPV hospitalization and mortality

80-99% of hospitalized US adults with RSV or HMPV aged ≥50 have **at least one chronic condition**, such as[4,9]:

Chronic cardiac disease | Chronic respiratory diseases | Diabetes | Chronic renal disease

US adults aged ≥50 years with certain identified underlying chronic conditions had*:

	Up to
Higher risk of ICU admission[4†]	~2x ~3x
Higher risk of mortality[4§]	~4x ~12x

(vs without chronic conditions)

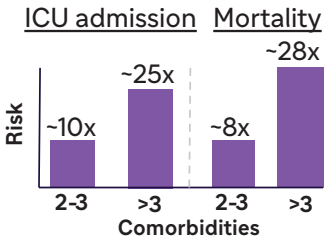
RSV HMPV

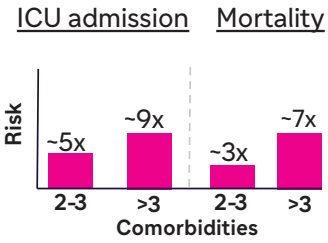
Many adults in the US live with multiple chronic conditions, which can potentially complicate RSV and HMPV infections

US adults with multiple chronic conditions[10]

35-64 years ≥65 years

US adults aged ≥50 years hospitalized with RSV and HMPV[4*]





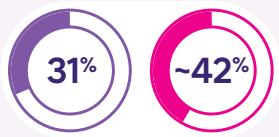
Risk assessed compared to those with 1 or no comorbidities

RSV and HMPV contribute to work and productivity loss in adults

In adults ≥18 years who contracted RSV or HMPV infection[11†]:

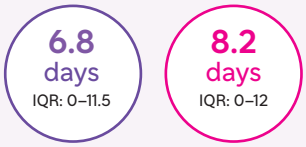
RSV: n=35
HMPV: n=33

Missed work



Of those who missed work

Median number of days missed due to illness



Abbreviations: COPD, chronic obstructive pulmonary disease; HMPV, human metapneumovirus; ICU, intensive care unit; IQR, interquartile range; RSV, respiratory syncytial virus; US, United States. *Retrospective cohort analysis of adults 50–88 years of age in 93 medical facilities in the Colorado Hospital Association database between 2016 and 2023.[4] †This study assessed burden of disease of RSV and HMPV in the HIVE cohort over 5 consecutive respiratory seasons, 2017–2018 to 2021–2022.[11] ‡Comorbidities with statistically significant risk for ICU admission: Chronic cardiac disease, chronic respiratory disease, diabetes (only for RSV), chronic renal disease, anemia, neurological/musculoskeletal diseases, dementia (only for RSV), obesity (only for HMPV), severe obesity, liver disease, and other metabolic and immune disorders (only for HMPV).[4] §Comorbidities with statistically significant risk for mortality: Chronic cardiac disease (only for RSV), chronic respiratory disease, chronic renal disease (only for RSV), anemia, neurological/musculoskeletal, dementia (only for HMPV), malignancies, obesity (only for RSV), liver disease and other metabolic and immune disorders (only for HMPV).[4]

References: 1. US Census Bureau [press release]. Older Adults Outnumber Children in 11 States and Nearly Half of U.S. Counties. Accessed September 8, 2025. https://www.census.gov/newsroom/press-releases/2025/older-adults-outnumber-children.html **2.** Jobe NB, et al. *MMWR Morb Mortal Wkly Rep.* 2025;74:182-187. **3.** CDC. RSV in adults. Accessed September 8, 2025. https://www.cdc.gov/rsv/adults/index.html **4.** Simões EAF, et al. *J Infect Dis.* 2025;232(Supplement_1):S19-S28. **5.** Falsey AR, et al. *Influenza Other Respir Viruses.* 2024;18(5):e13275. **6.** Falsey AR, et al. *Open Forum Infect Dis.* 2021;10.1093,ofab491. **7.** Kenmoe S, et al. *Curr Opin Infect Dis.* 2024;37(2):129-136. **8.** Kodama F, et al. *Infect Dis Clin North Am.* 2017;31(4):767-790. **9.** Pott H, et al. *J Infect Dis.* 2025;232(Supplement_1):S69-S77. **10.** Watson KB, et al. *Prev Chronic Dis* 2025;22:240539. **11.** Bassiouni SS, et al. *J Infect Dis.* 2025;232(Supplement_1):S101-S108.

Respiratory Syncytial Virus and Human Metapneumovirus Disease Burden in Older Adults

RSV and HMPV lead to a substantial hospitalization burden

US

RSV hospitalizations (95% CI) in patients aged ≥60 years[1]

108,834
(70,555–168,130)

Based on RSV-ARI and hospitalization data in adults aged ≥60 years from the US, Canda, European countries, Japan, and South Korea collected through systematic literature review (studies from 2000-2021) and other methods (eg, citation search, RSV-specific abstract booklet, etc). The data presented on the left are US-specific data.

US

HMPV hospitalizations (95% CI) in patients aged ≥65 years[2]

122,000
(41,000–398,000)

Based on literature review of 46 studies (20 from HICs, including 8 from the US, and 26 from LICs) that were conducted over ≥12 months in adults aged ≥60 years and reported HMPV-ARI, HMPV incidence estimates and hospitalization rates. The data presented on the left are from the US studies in adults aged ≥65 years.

RSV and HMPV can cause hospitalizations across adult age groups[3,4]

- **Majority** of the hospitalizations occur in **adults aged ≥65 years**
- **30%** of hospitalizations occur in **adults aged 50-64 years**

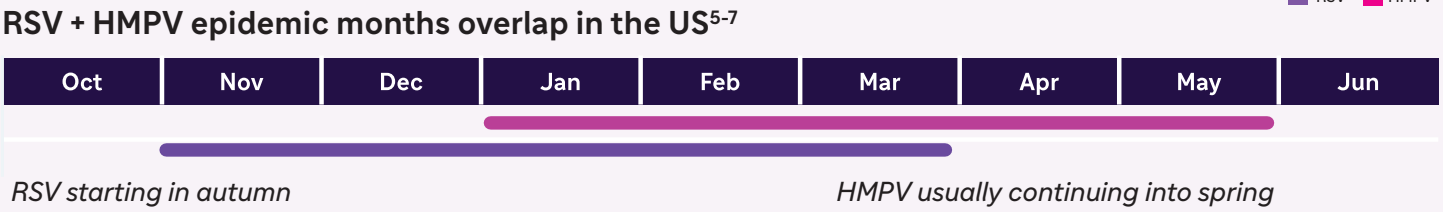
US adults aged ≥50 years hospitalized with RSV and HMPV

	RSV	HMPV
Median hospital stay (days)[4]* RSV: n=4619 HMPV: n=2308	4	4
ICU admission (%)[4]* RSV: n=4619 HMPV: n=2308	32%	29.9%
Mortality (%)[4]* RSV: n=4619 HMPV: n=2308	6.9%	4.8%

RSV and HMPV have overlapping seasonality

Seasonality

RSV + HMPV epidemic months overlap in the US[5-7]



Often overlooked, RSV and HMPV drive significant severe respiratory disease in older adults, especially those with chronic conditions[5,7-9]:

- **Impact on clinical management and limited testing leads to underreported burden**
- **Both viruses significantly impact older adults during peak respiratory virus seasons**
- **Greater awareness, diagnostics, and prevention are urgently needed**

Abbreviations: ARI, acute respiratory infection; CI, confidence interval; HIC, high-income country; HMPV, human metapneumovirus; ICU, intensive care unit; LIC, low-income country; RSV, respiratory syncytial virus; US, United States. *Retrospective cohort analysis of adults 50–88 years of age in 93 medical facilities in the Colorado Hospital Association database between 2016 and 2023.[4] **References: 1.** Savic M, et al. *Influenza Other Respir Viruses*. 2023;17(1):e13031. **2.** Kulkarni D, et al. *Lancet Healthy Longev*. 2025;6(2):100679. **3.** Sieling WD, et al. *Influenza Other Respir Viruses*. 2021;15(5):670-677. **4.** Simões EAF, et al. *J Infect Dis*. 2025;232(Supplement_1):S19-S28. **5.** Jobe NB, et al. *MMWR Morb Mortal Wkly Rep*. 2025;74:182-187. **6.** Li Y, et al. *Lancet Glob Health*. 2019;7(8):e1031-e1045. **7.** WHO. Disease Outbreaks News. Accessed September 8, 2025. https://www.who.int/emergencies/disease-outbreak-news/item/2025-DON550 **8.** Lee N, et al. *J Infect Dis*. 2019;220(6):969-979. **9.** Davido B, Loubet P. *Int J Infect Dis*. Published online August 5, 2025. doi: 10.1016/j.ijid.2025.108006

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