Cost-Effectiveness Analysis of RSVPreF3 OA Vaccine for Adults 60 Years or Older in Austria

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Aims

 This study aims to assess the cost-effectiveness and public health impact (PHI) of the GSK adjuvanted RSVPreF3 vaccine, one of the approved preventive interventions for respiratory syncytial virus (RSV) for ≥60 years population in Austria.

Results

Adjuvanted RSVPreF3 vaccine would substantially reduce the burden of RSV among Austrian adults aged ≥60 years by preventing RSV-LRTD events, ARI, hospitalizations, and deaths. Cost-effective outcomes are provided over 5 years



Dose

Vaccinating adults aged 75+ and those aged 60-74 with underlying medical conditions with adjuvanted RSVPreF3 is a cost-effective strategy that significantly reduces RSV's burden in Austria. Digital poster Supplemental data



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1,765



A monthly-cycle static Markov model

- adults aged 60-74 years with underlying medical conditions
- adults aged ≥75 years from general population

Healthcare system perspective analyzing



Number needed to vaccinate (NNV) to prevent one case of: ARI, LRTD, hospitalization, ICU, and death for both age groups





\$

costs and benefits of vaccination from a healthcare system's viewpoint only



Time Horizon: 5 years

Cost per dose: €165

Vaccination Coverage:
One-time seasonal vaccination
60-74: 43%, ≥ 75+: 53%

(€)

Discount rates: 3% for costs and utilities

Willingness to pay: €49,500

Scenario: Vaccination vs No vaccination

High-Risk 60-74** 24 538

*adults aged ≥70 years from general population; **adults aged 60-69 years with underlying medical conditions

Vaccine efficacy (VE) against LRTD and vaccination costs per administered dose drive the impact on ICER in univariate sensitivity analysis of adjuvanted RSVPreF3 vaccine



Background

Conclusions



Respiratory syncytial virus (RSV) infections pose a significant health burden among adults aged ≥ 60 years in Austria.¹

US data estimates an annual RSV incidence of 3-7% in healthy older adults, compared to 4-10% in risk groups.² In adults aged \geq 65 years, the U.S. sees an estimated 159,000 RSV-related hospitalizations annually, similar to over 145,000 in the same age group across the EU.³

The vaccine has been approved for the prevention of RSV-LRTD in individuals 50 years of age and older in Europe⁴.

4.

When comparing RSVPreF3 ICER in Austria to the WHO's cost-effectiveness threshold of €49,500 per QALY (Austrian GDP per capita), vaccinating adults aged 75+ or those aged 60-74 with underlying medical conditions with adjuvanted RSVPreF3 is a cost-effective strategies to reduce the RSV burden in Austria.

Abbreviations

RSV: Respiratory syncytial virus, PHI: Public health impact, LRTD: Lower respiratory tract disease, URTD: Upper respiratory tract disease, ARI: Acute respiratory illness, NNV: Number needed to vaccinate, QALY: Quality adjusted life year, ICER: Incremental cost effectiveness ratio, Hosp: Hospitalizations, VE: Vaccine efficacy, ICU: Intensive care unit, WHO: World health organization.

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Disclosures

Conflict of interest: EZ, GU and HR are employed by GSK. EZ also holds financial equities in GSK. These authors declare no other financial and non-financial relationships and activities. Funding: GSK (study identifier: VEO-000930).

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Supplementary Material

Assumptions used in the RSV model for inputs

General

| 60-64 years | 5.67 |
|--------------|------|
| 65-69 years | 5.67 |
| 70-74 years | 5.67 |
| 75-79 years | 5.67 |
| 80-84 years | 5.67 |
| 85-89 years | 5.67 |
| 90-109 years | 5.67 |
| Reference | [1] |

| RSV LRTD (%) within first RSV ARI event | General |
|---|---------|
| 60-64 years | 50.23 |
| 65-69 years | 50.23 |
| 70-74 years | 50.23 |
| 75-79 years | 50.23 |
| 80-84 years | 50.23 |
| 85-89 years | 50.23 |
| 90-109 years | 50.23 |
| Reference | [2] |

| Hospitalizations (%) per RSV LRTD event | General |
|---|---------|
| 60-64 years | 4% |
| 65-69 years | 11% |
| 70-74 years | 11% |
| 75-79 years | 18% |
| 80-84 years | 18% |
| 85-89 years | 18% |
| 90-109 years | 18% |
| Reference | [3,4] |

Waning of 1st dose of adjuvanted RSVPreF3 VE Against RSV LRTD



| General population - Coverage (%) | General |
|-----------------------------------|---------|
| First Dose, 60-64 years | 49% |
| First Dose, 65-69 years | 49% |
| First Dose, 70-74 years | 49% |
| First Dose, 75-79 years | 49% |
| First Dose, 80-84 years | 52% |
| First Dose, 85-89 years | 52% |
| First Dose, 90-109 years | 52% |
| Reference | [5] |

| Case Fatality rate (%) | General |
|------------------------|---------|
| 60-64 years | 4% |
| 65-69 years | 5% |
| 70-74 years | 5% |
| 75-79 years | 9% |
| 80-84 years | 15% |
| 85-89 years | 15% |
| 90-94 years | 15% |
| 95-99 years | 15% |
| 100+ years | 15% |
| Reference | [6] |

Months from Vaccination

Abbreviations

RSV: Respiratory syncytial virus, **ARI**: Acute respiratory illness, **LRTD**: Lower respiratory tract disease, VE: Vaccine efficacy

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