

Cost-Effectiveness Analysis of RSVPreF3 OA Vaccine in Sweden for Adults Aged ≥ 60 Years

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Vaccinating adults ≥75 years and adults 60-74 with underlying medical conditions with the adjuvanted RSVPreF3 vaccine is cost-effective and can reduce the RSV burden in Sweden.

Digital poster
Supplemental data

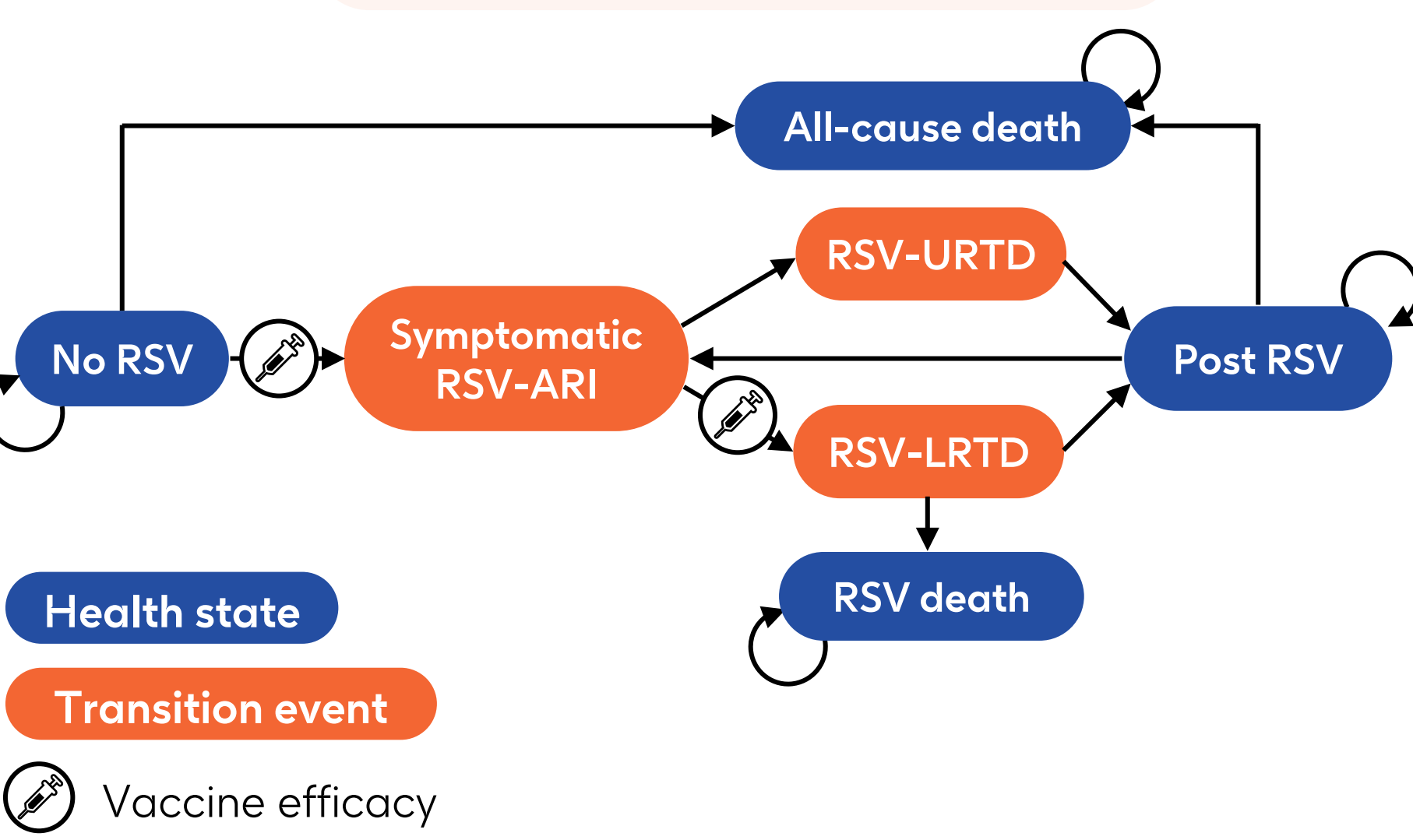


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Aims

This study aims to assess the cost-effectiveness of the adjuvanted RSVPreF3 vaccine, the first approved preventive intervention for RSV in older adults aged ≥60 years in Sweden.

Study design



Static Markov model design

Health state: No RSV, Symptomatic RSV-ARI, RSV-URTD, RSV-LRTD, Post RSV, All-cause death, RSV death.

Transition event: Vaccine efficacy.

A monthly-cycle static Markov model

- Adults aged 60-74 years who have underlying medical conditions
- Adults aged ≥75 years from general population

Strategies vaccination vs. no vaccination

Healthcare system perspective

Time horizon: 5 years

Cost per dose: 2,311 kr

Vaccination coverage:
Adults from general population, 75-84y: 74%
≥85y: 75%
Underlying medical conditions 60-74y: 20%

Discount rates: 3% for costs and utilities

Willingness to pay: 500,000 kr/QALY

Results

Vaccinating population aged ≥75 years as well as 60-74 years with underlying medical conditions averts significant RSV burden, is a cost-effective strategy and provides QALY gains

	Averted ARI cases	Averted LRTD cases	Averted hospitalisations	Averted ICU	Averted deaths	Doses administered
General 75+	77,305	68,815	13,638	1,500	1,500	839,257
60-74 with underlying medical conditions	20,130	15,021	1,909	100	210	217,618

	Vaccination costs (kr)	Averted direct costs (kr)	QALYs gained	ICER (kr/QALY)
General 75+	2,142,622,764	960,276,332	8,505	139,017
60-74 with underlying medical conditions	555,579,775	137,670,129	2,440	171,287

Number needed to vaccinate (NNV) to prevent one case of each outcome for both age groups

	ARI cases	LRTD cases	Hospitalisations	ICU	Deaths
General 75+	11	15	150	559	559
60-74 with underlying medical conditions	11	14	114	2,166	1,036

Annual incidence rate of first ARI and proportion of RSV LRTD drive the impact on ICER in univariate sensitivity analysis of the adjuvanted RSVPreF3 vaccine vs no vaccination

	General 75+	60-74 with underlying medical conditions
Average annual incidence of first RSV ARI event	97,129 kr (Low) / 201,849 kr (High)	133,424 kr (Low) / 228,081 kr (High)
Proportion RSV LRTD within first RSV ARI event	97,867 kr (Low) / 199,437 kr (High)	134,379 kr (Low) / 225,587 kr (High)
Vaccination purchase costs per dose	93,408 kr (Low) / 184,626 kr (High)	130,061 kr (Low) / 212,513 kr (High)
Probability of death given RSV LRTD	117,710 kr (Low) / 169,742 kr (High)	144,820 kr (Low) / 209,593 kr (High)
Baseline utilities – General population	117,710 kr (Low) / 169,742 kr (High)	144,820 kr (Low) / 209,593 kr (High)
HCRU direct costs	116,447 kr (Low) / 161,598 kr (High)	160,007 kr (Low) / 182,572 kr (High)
Vaccination administration costs per dose	134,241 kr (Low) / 143,793 kr (High)	166,970 kr (Low) / 175,604 kr (High)
Disutility due to RSV LRTD at first infection	136,045 kr (Low) / 142,122 kr (High)	167,956 kr (Low) / 174,753 kr (High)

Background

- ✓ Respiratory syncytial virus (RSV) infections pose a significant health burden among adults aged ≥60 years in high income countries¹.
- ✓ International data show an annual incidence of 3-7% in healthy older adults, and 4-10% for risk groups, such as those with underlying cardiopulmonary diseases².
- ✓ The adjuvanted RSVPreF3 vaccine has been approved for the prevention of RSV-LRTD in individuals 50 years of age and older in Europe³.

Conclusions

- ✓ A **substantial health burden** could be **avoided by vaccinating Swedish adults ≥75 years** and adults 60-74 with underlying medical conditions with the adjuvanted RSVPreF3 vaccine.
- ✓ This intervention is **cost-effective** for both considered populations.