Estimation of the Public Health and Economic Impact of RSVPreF3 OA on Older Adults in Germany

Strong reductions in morbidity, mortality, and healthcare system burden can be achieved by recommending adjuvanted **RSVPreF3** vaccination for all individuals aged 60 years and above, as well as for those aged 50-59 years who are at increased risk.

Digital poster
Supplemental data

SCAN ME

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Background

- STIKO recommends vaccination against RSV for individuals 60-74 YOA at increased risk for severe RSV infection and all individuals ≥75 YOA[1].
- The indication of the adjuvanted RSVPreF3 vaccine targeting RSV has been expanded in August 2024 to individuals 50-59 YOA at increased risk[2].
- New data on adjuvanted RSVPreF3 efficacy over three RSV seasons have been recently presented[3].

Aims

To **analyze** the potential **public health impact (PHI)** and **cost-effectiveness** of the current recommendation for vaccination with adjuvanted RSVPreF3 and extended populations in Germany.

Study design

Multi-cohort Markov model[4] for medically attended cases

Age group cohorts: 50–54, 55–59, 60–64, 65–69, 70–74, 75–79, ≥80 YOA
Time horizon: 5 years
Cycle length: 1 month
Annual incidence: 3,03% (Average over 6 seasons: 2013/14 – 2018/19[5])
Perspective: Societal

Under-ascertainment factor: 2.19[6]

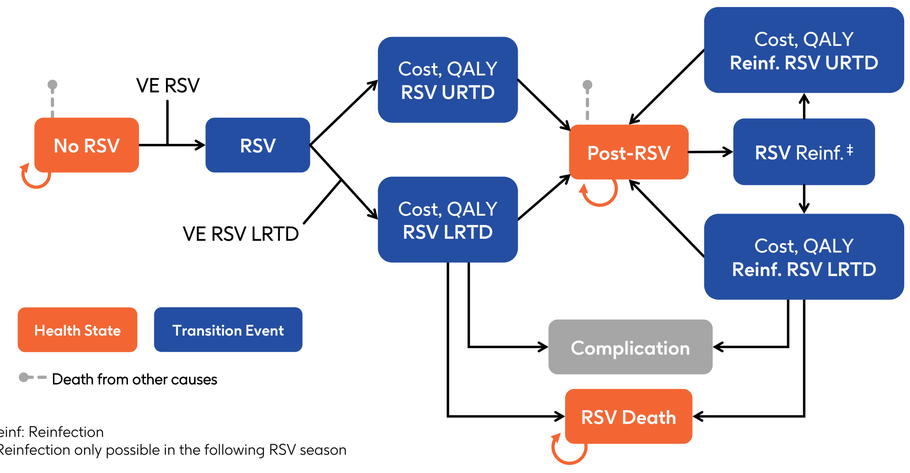
HCRU, complications, direct and indirect costs: Claims data analysis (4.5M individuals)

- RSV possible cohort: RSV diagnoses + non-specific respiratory tract infections
- At increased risk: Patients with underlying conditions and immunocompromised patients[7,8,9]

[*Wider definition than the current STIKO recommendation*]

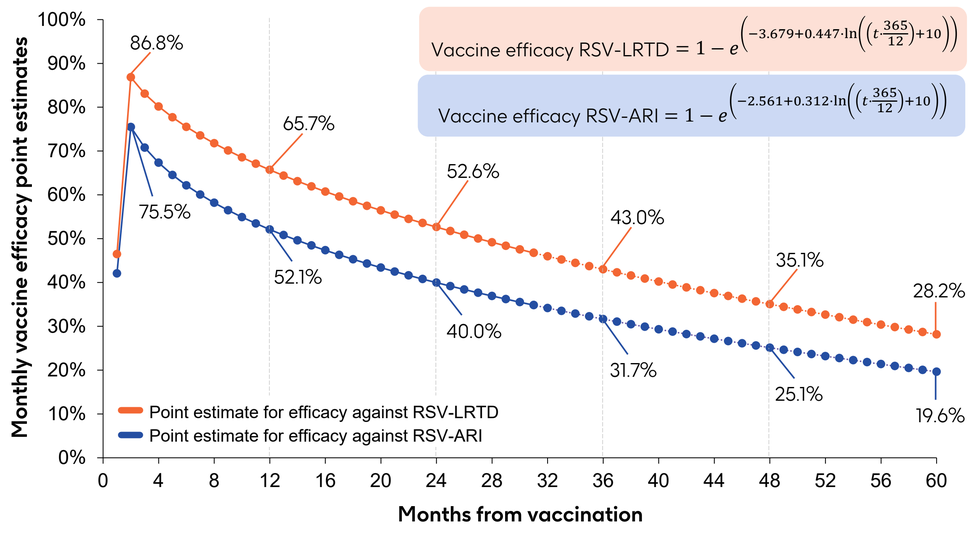
One-time vaccination†
Vaccination coverage[10]:
50-59 YOA: 24%
60-74 YOA: 43%
≥ 75 YOA: 53%
† Vaccination month: September

Sensitivity analysis: Probabilistic sensitivity analysis (1,000 Iterations)
Revaccination schedule is still to be determined.

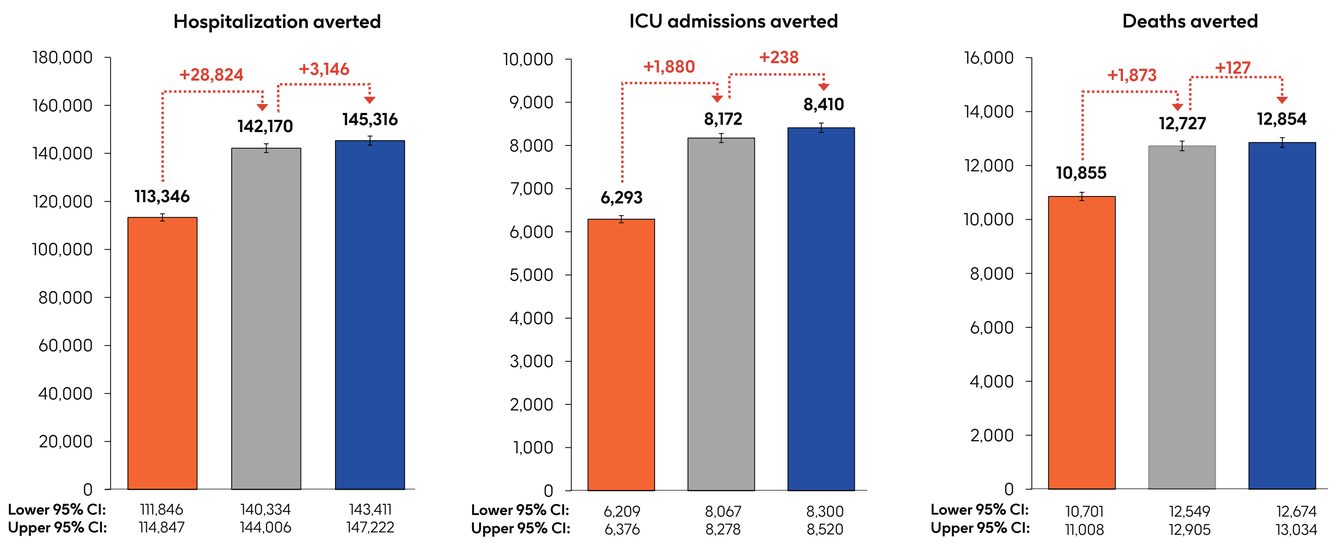


Reinf: Reinfection
‡ Reinfection only possible in the following RSV season

Vaccine efficacy (VE) is estimated using multivariable regression modeling



Results



NNV	60-74 YOA at increased risk and ≥75 YOA	≥60 YOA general population	50-59 YOA at increased risk and ≥60 YOA
Hospitalizations	66	82	84
ICU	1,187	1,432	1,449
Deaths	688	919	948

Prevented cases over 5 years

Vaccination recommendations for a broader age range (including individuals 50-59 at risk and 60+ all) **would lead to a lower PHI impact of RSV, with higher but still acceptable cost-effectiveness values.**

Conclusions

Taking into account the recently presented topline results, with a median follow up of efficacy over 30.6 months, adjuvanted RSVPreF3 is cost-effective in all scenarios.

Expanding recommendations to include individuals aged 50–59, in line with the current indication for adjuvanted RSVPreF3, and those aged 60 and above, helps prevent additional public health burden compared to the current recommendation.

Abbreviations

PHI: Public Health Impact, QALY: Quality Adjusted Life Year, RSV: Respiratory Syncytial Virus, STIKO: The Standing Committee On Vaccination, URTD: Upper Respiratory Tract Disease, LRTD: Lower Respiratory Tract Disease, CI: confidence interval, M: millions, Reinf: Reinfection, NNV: Number Needed to Vaccinate, YOA: Years of Age, HCRU: Healthcare Resource Utilization, VE: Vaccine Efficacy, ARI: Acute Respiratory Infections, ICU: Intensive Care Unit, ICER: Incremental Cost Effectiveness Ratio

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Acknowledgements

The authors would like to thank Frederik Verelst for his participation in the study. Business & Decision Life Sciences Medical Communication Service Center provided editorial assistance and publication coordination, on behalf of GSK (writer: Malack Abbas).

Disclosures

MW, PM, EZ, SP, DM and AM are employed by GSK. AM and EZ also hold financial equities in GSK. The authors declare no other financial and non-financial relationships and activities.
Funding: GSK (VEO-000578)

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