Evaluating the Cost-Effectiveness of an **Adjuvanted Influenza Vaccine** in the Older Adult Population in **the Netherlands**

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CSL Seqirus

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Objective

To evaluate the cost-effectiveness of the implementation of an adjuvanted influenza vaccine (aIV) instead of a standard influenza vaccine (sIV) in adults aged ≥60 years and in high-risk adults aged 50–59 years in the Dutch national vaccination program.

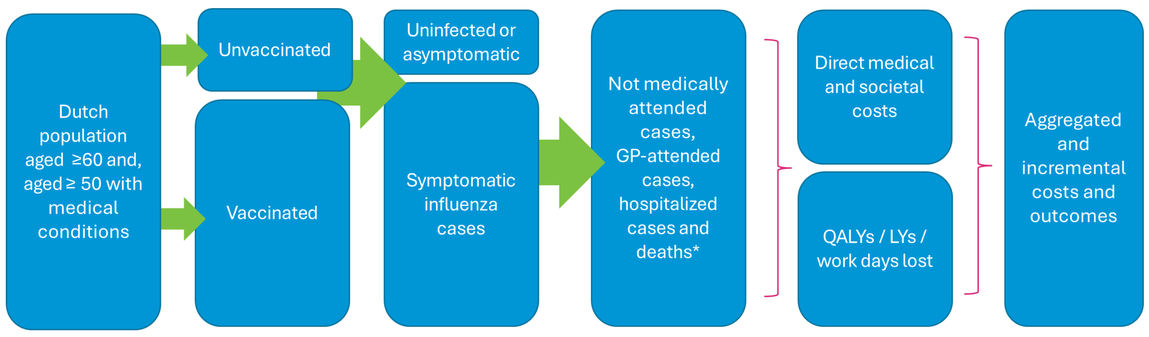
Background

- Influenza is a common seasonal virus that continues to pose a significant public health burden, despite vaccination[1].
- In the Netherlands, the sIV vaccine is offered to adults aged ≥60 years and to adults with medical conditions.
- The Health Council of the Netherlands recommends aIV for high-risk adults aged 50–59 years, and either aIV or high-dose vaccines for adults aged ≥60 years, to improve protection against influenza complications[2].

Methods

- A static decision tree model, developed for Spain, was adapted and populated with Dutch data (*see* **Figure 1**).
- The model simulated a single average influenza season (2013–2020) from a societal perspective[3,4].

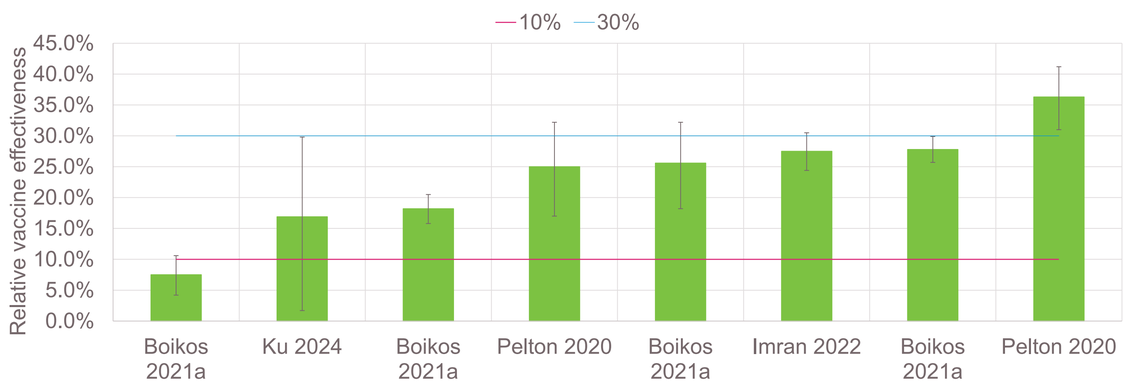
Figure 1. Model overview



GP: general practitioner, QALY: quality adjusted life year, LY = life year. *These are not mutually exclusive health states; their sum does not equal the total number of symptomatic influenza cases.

- Influenza-specific data were used to calculate symptomatic incidence, general practitioner visits, hospitalizations and excess mortality[3-6].
- Relative vaccine effectiveness (rVE) of aIV versus sIV was varied over a range of 10–30%, based on studies that met the following criteria: conducted in outpatient or unspecified (any) healthcare settings, included influenza of any type, and enrolled a sizeable population (defined as >10,000 individuals) (*see* **Figure 2**).
- This range is consistent with recommendations by the Dutch Health Council[2].

Figure 2. Relative vaccine effectiveness of aIV vs sIV[7-10]



Conclusions

Replacing sIV with aIV is likely to be cost-effective at a threshold of €50,000 per QALY.

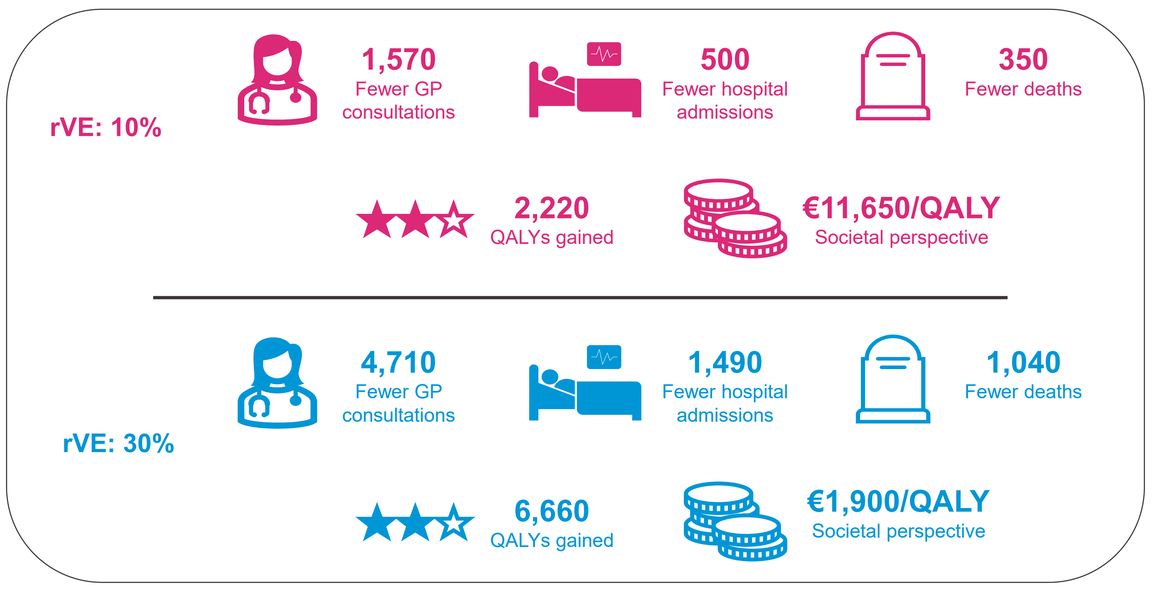
ICERs range from €1,896 to €11,654 per QALY gained, based on rVE values between 10–30%.

Probabilistic sensitivity analysis confirms a 100% probability of cost-effectiveness at a threshold of €50,000/QALY.

Results

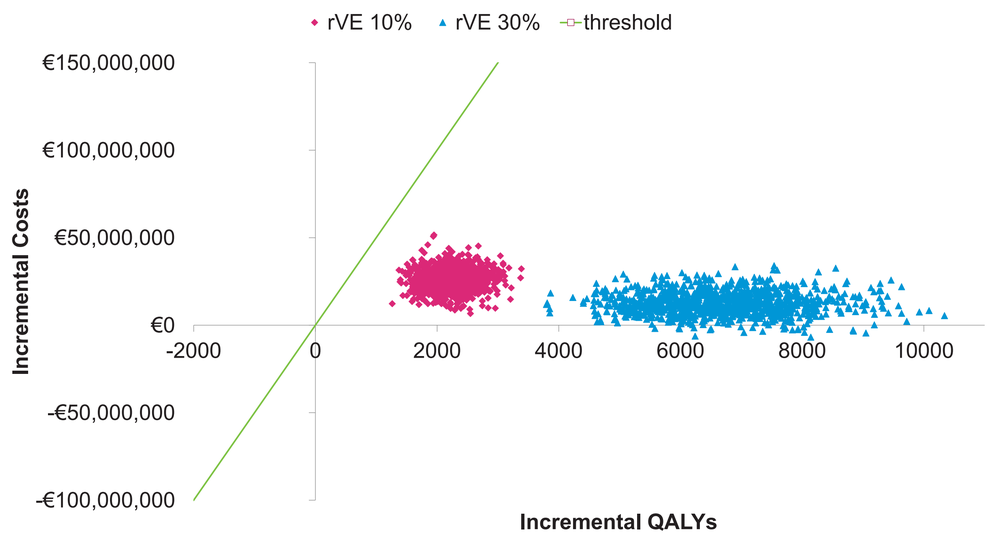
- Base case results are shown in **Figure 3**.
- Model robustness: all 2,000 simulations fell below the cost-effectiveness threshold of €50,000/QALY (**Figure 4**).
- Key drivers of the ICER were identified in the sensitivity analysis (**Figure 5**).

Figure 3. aIV versus sIV



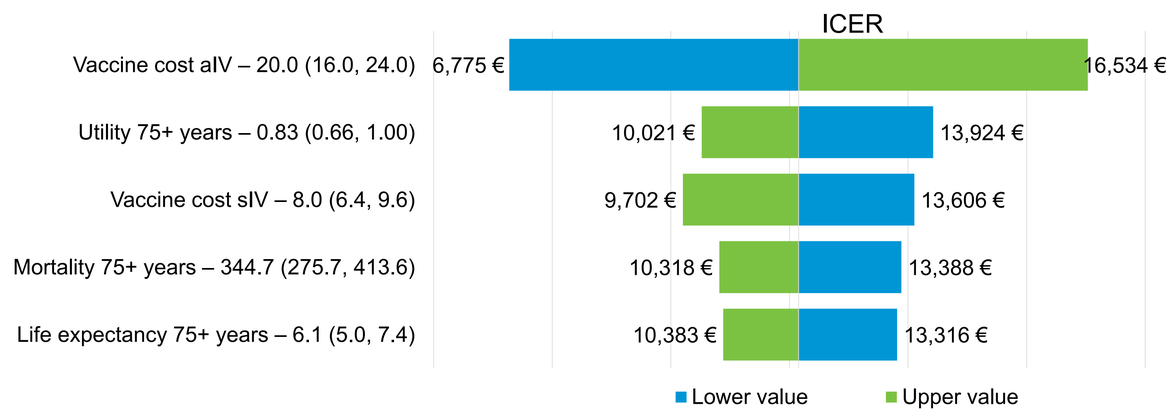
GP: general practitioner, rVE: relative vaccine effectiveness.

Figure 4. Cost-effectiveness plane



Threshold of € 50,000 per QALY gained. QALY: quality adjusted life year, rVE: relative vaccine effectiveness.

Figure 5. Deterministic sensitivity analysis



Relative vaccine effectiveness is 10% of aIV versus sIV. ICER: incremental cost-effectiveness ratio

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References

1. Bos J, de Boer P, Franz E. *Staat van infectieziekten in Nederland, 2023*. Rijksinstituut voor Volksgezondheid en Milieu RIVM; 2024. doi:10.21945/RIVM-2024-0135
2. Ministerie van Volksgezondheid Welzijn en Sport. Advies Inzet van vernieuwde typen griepvaccins in het NPG - Advies - Gezondheidsraad. December 17, 2024. Accessed July 11, 2025. https://www.gezondheidsraad.nl/documenten/adviezen/2024/12/17/advies-inzet-van-vernieuwde-typen-griepvaccins-in-het-np
3. Teirlinck AC, Gier B de, Meijer A, et al. The incidence of symptomatic infection with influenza virus in the Netherlands 2011/2012 through 2016/2017, estimated using Bayesian evidence synthesis. *Epidemiol Infect*. 2019;147. doi:10.1017/S095026881800273X
4. Reukers DFM, van Asten L, Brandsema PS, et al. *Annual Report Surveillance of Influenza and Other Respiratory Infections in the Netherlands: Winter 2019/2020*. Rijksinstituut voor Volksgezondheid en Milieu RIVM; 2021. Accessed December 17, 2021. https://rivm.openrepository.com/handle/10029/624659
5. Dolk FCK, de Boer PT, Nagy L, et al. Consultations for Influenza-Like Illness in Primary Care in The Netherlands: A Regression Approach. *Value Health*. 2021;24(1):11-18. doi:10.1016/j.jval.2020.10.013
6. Backer JA, Wallinga J, Meijer A, Donker GA, van der Hoek W, van Boven M. The impact of influenza vaccination on infection, hospitalisation and mortality in the Netherlands between 2003 and 2015. *Epidemics*. 2019;26:77-85. doi:10.1016/j.epidem.2018.10.001
7. Boikos C, Fischer L, O'Brien D, Vasey J, Sylvester GC, Mansi JA. Relative Effectiveness of Adjuvanted Trivalent Inactivated Influenza Vaccine Versus Egg-derived Quadrivalent Inactivated Influenza Vaccines and High-dose Trivalent Influenza Vaccine in Preventing Influenza-related Medical Encounters in US Adults ≥ 65 Years During the 2017–2018 and 2018–2019 Influenza Seasons. *Clin Infect Dis Off Publ Infect Dis Soc Am*. 2021;73(5):816-823. doi:10.1093/cid/ciab152
8. Ku JH, Rayens E, Sy LS, et al. Comparative Effectiveness of Licensed Influenza Vaccines in Preventing Influenza-related Medical Encounters and Hospitalizations in the 2022–2023 Influenza Season Among Adults ≥65 Years of Age. *Clin Infect Dis Off Publ Infect Dis Soc Am*. 2024;79(5):1283-1292. doi:10.1093/cid/ciae375
9. Pelton SI, Divino V, Shah D, et al. Evaluating the Relative Vaccine Effectiveness of Adjuvanted Trivalent Influenza Vaccine Compared to High-Dose Trivalent and Other Egg-Based Influenza Vaccines among Older Adults in the US during the 2017–2018 Influenza Season. *Vaccines*. 2020;8(3):446. doi:10.3390/vaccines8030446
10. Imran M, Puig-Barbera J, Ortiz JR, et al. Relative Effectiveness of MF59 Adjuvanted Trivalent Influenza Vaccine vs Nonadjuvanted Vaccines During the 2019–2020 Influenza Season. *Open Forum Infect Dis*. 2022;9(5). doi:10.1093/ofid/ofac167

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