



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport

How well does the flu vaccine work?

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Diseases



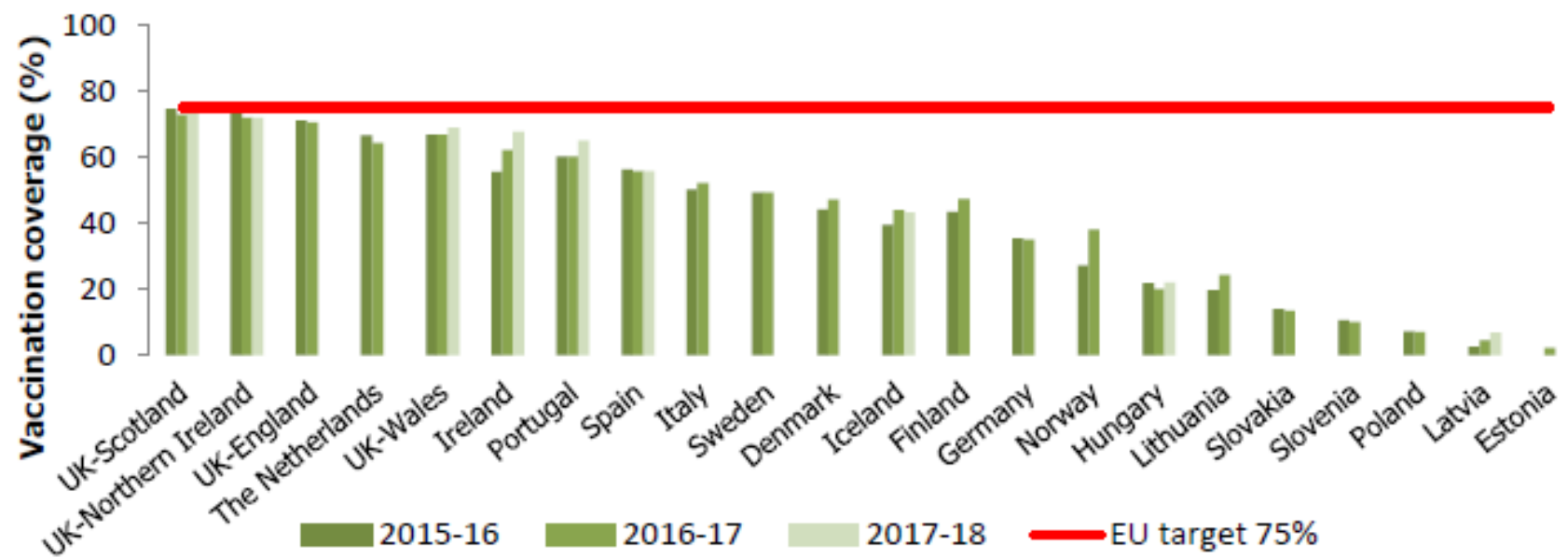
Target groups National Influenza Prevention Program (NPG)

- Persons aged 60 or over
- Children and adults with certain conditions, such as:
 - asthma or other chronic lung disease
 - chronic heart disorder
 - diabetes mellitus
 - chronic kidney disease
 - infection with HIV
 - immune compromised
- Persons with a mental handicap living in residential homes

Total ~37% of Dutch population



Figure 4. Seasonal influenza vaccination coverage rates in older age groups, 19 EU/EEA Member States, influenza seasons 2015–2016; 2016–2017 and, if available, 2017–2018*



From: **ECDC (November 2018). Influenza vaccination and antiviral use in EU/EEA Member States**

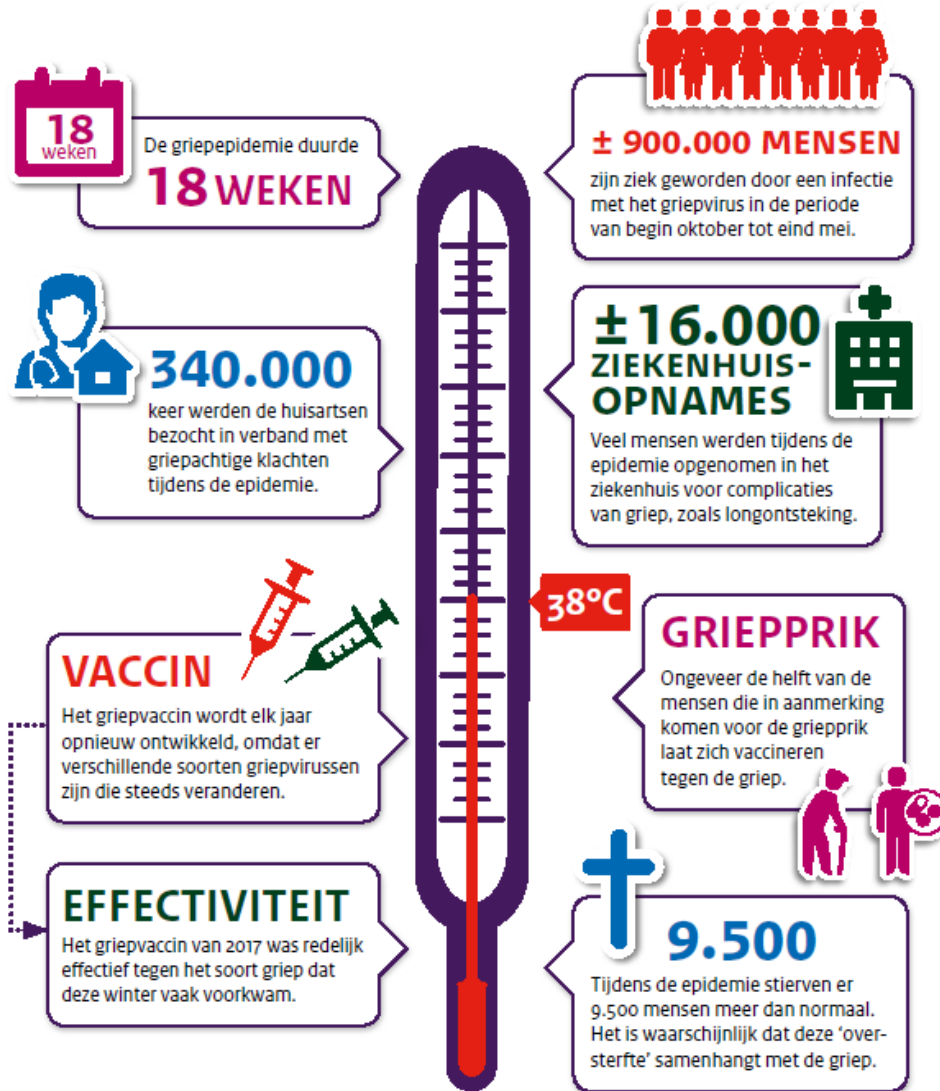


Facts and fables

- Facts:
 - Influenza vaccines are reformulated each year to optimize the match between the vaccine and circulating viruses
 - VE can fluctuate over the years and is generally moderate
- Misconceptions:
 - Flu is not a serious problem
 - The vaccine is useless or does more harm than good

Feiten en cijfers *griep in Nederland*

Winter van 2017/2018



- 900,000 people had a symptomatic infection caused by the influenza virus
- 16,000 hospital admissions for complications (pneumonia) of influenza
- 9,500 excess deaths in epidemic period



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'(Rational) believers' versus '(rational) non-believers'



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Contents lists available at [ScienceDirect](#)

Vaccine

journal homepage: www.elsevier.com/locate/vaccine



Influenza vaccination in the elderly: Is a trial on mortality ethically acceptable?



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NTvG: 6 September 2018

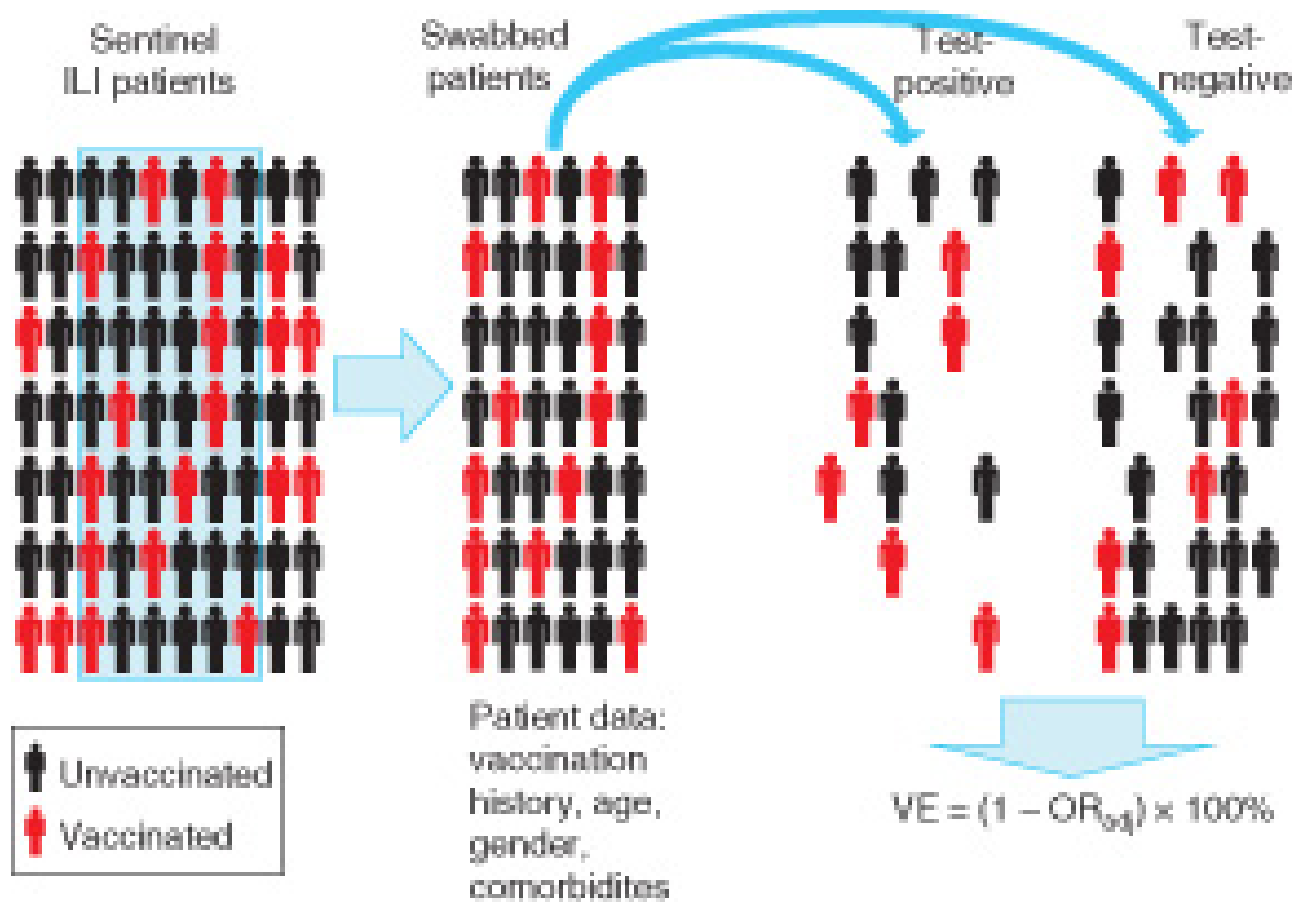
A trial to study the effect of influenza vaccination in the elderly: ethical, feasible and badly needed

Miquel B. Ekkelenkamp, C.H. (Henri) van Werkhoven,
Patricia C.J. Bruijning-Verhagen en Marc J.M. Bonten



Estimating influenza VE with TND

(from Sullivan et al. Expert Rev Vaccines, 2014)





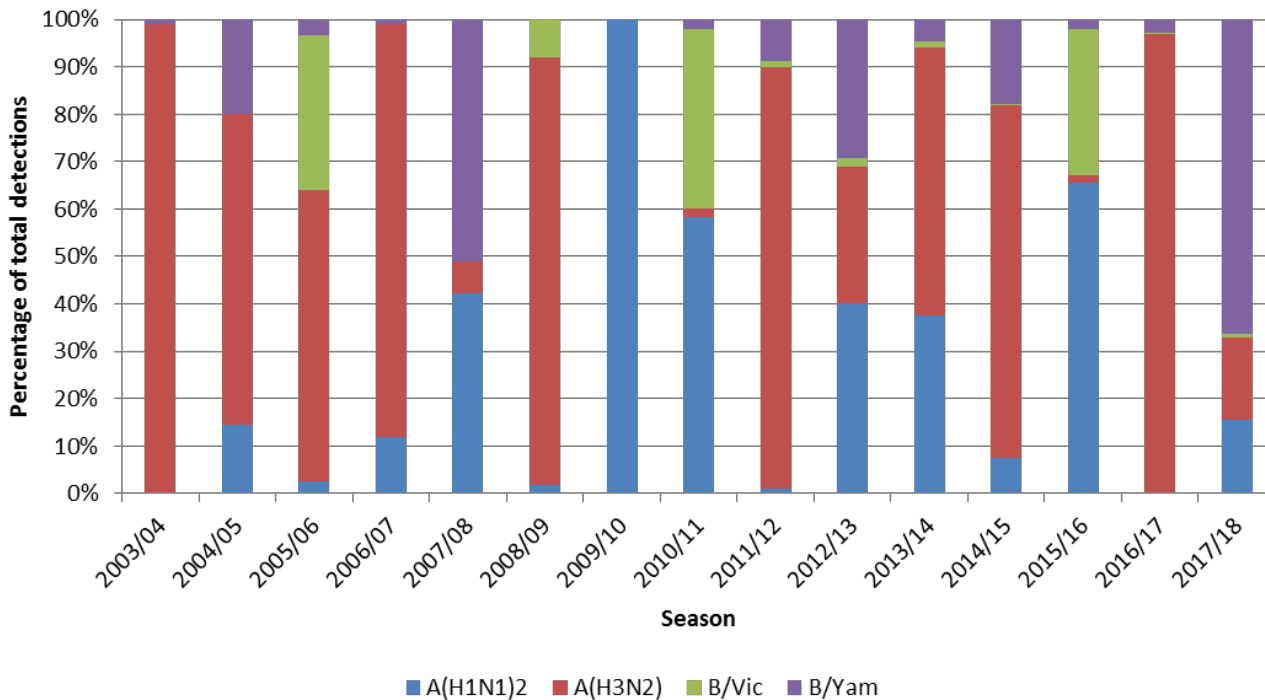
I-MOVE (Influenza Monitoring Vaccine Effectiveness)

- Development of validated methodologies for observational studies
- VE estimates every year, as early in the influenza season as possible based on existing surveillance systems

10-year average (2008/09 to 2017/18): VE 40%



B circulation in The Netherlands, 15 seasons



%B	1	20	36	1	51	8	0	40	10	31	6	18	33	3	67
Lineage in vaccine	Vic	Yam	Yam	Vic	Vic	Yam	Vic	Vic	Vic	Yam	Yam	Yam	Yam	Vic	Vic
Lineage mismatch															

**9/15 seasons
lineage
mismatch**



Conclusion

- Influenza is an important public health problem with highest burden of disease compared to other infectious diseases
- Main preventive measure is an imperfect vaccine – better vaccines are needed
- In 2019 QIV instead of TIV