

# CAN HPV COVERAGE RATES OF OVER 90% BE REACHED WITH THE CURRENT VACCINES?

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## BACKGROUND AND AIMS

Some types of human papillomavirus (HPV) causes cervical cancer, which is the 4<sup>th</sup> most prevalent cancer in women worldwide. Safe and effective vaccines have been developed and implemented in vaccination programs in most Western countries. Since 2010 HPV vaccines have been offered free-of-charge through a school-based system to all girls in the 1<sup>st</sup> year of secondary school in Flanders.

In 2016 the HPV vaccination coverage was measured in girls (born in 2000) who were vaccinated with a 3-dose scheme 4 years ago.

## METHODS

### Randomized 2016 EPI-based survey

- Selection in 111 municipalities - Flanders
- Parents interviewed at home
- Socio-demographic characteristics
- Vaccination history: documented data, Flemish vaccination-registry (Vaccinnet) or data from school health services or GP



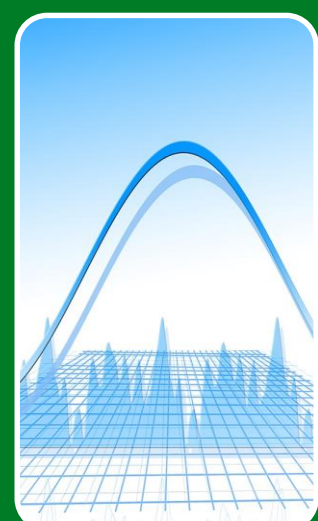
### HPV vaccination

- Offered in 1<sup>st</sup> year of secondary school
- Vaccination offered in 2012
- Three dose schedule: 0-1/2-6 months



### Statistical analysis

- Complete vaccination = received 3 doses of HPV vaccine
- Descriptive statistics
- Univariate and multivariate analysis



## RESULTS

Data from 477 girls (born in 2000) of 488 interviewed (97.7%)

HPV vaccination coverage (proportion and 95%CI)

- Dose 1: 92.9 (90.4-95.4)
- Dose 2: 92.8 (90.2-95.3)
- **Dose 3: 89.6 (86.4-92.8)**

Sociodemographic profile similar to entire groups and similar to Flemish census data.

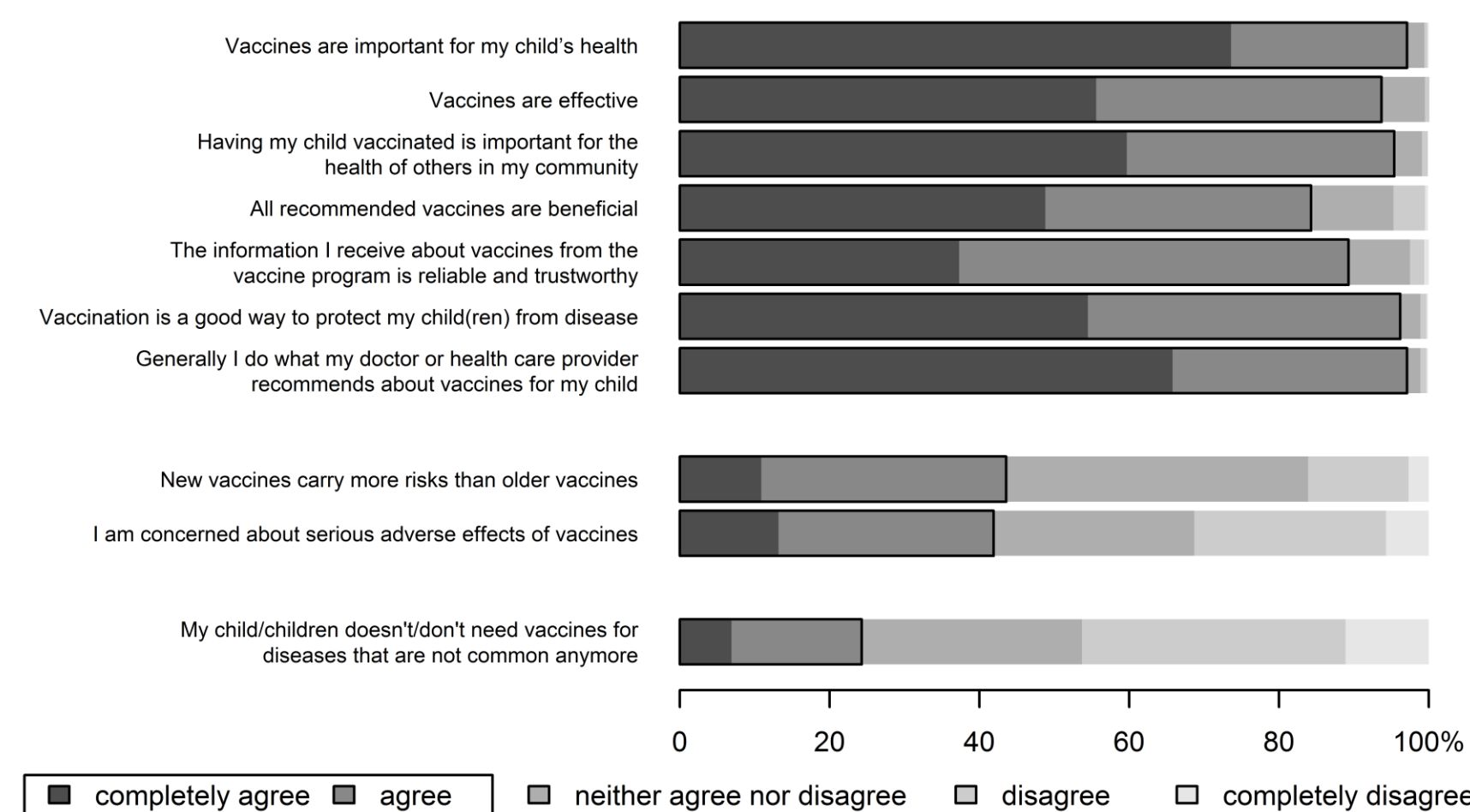


Figure: Attitude of Flemish parents of girls regarding vaccination

Factors associated with incomplete vaccination are parent with age >50 years, non-core family and non-Belgian origin.

Factors associated with higher tendency to disagree with statements on vaccination in general were scarce and associated with only one or two statements, except for parents of non-Belgian origin.

Parents from girls who had an incomplete or no HPV-vaccination had a significant higher tendency to disagree with most statements on vaccination, but not regarding adverse events following vaccination.

## DISCUSSION

In comparison to other industrialized countries in which HPV vaccination programs in girls have been established, the coverage rate is very high in Flanders and almost 90% of the girls in the survey received three doses of HPV vaccination as recommended.

	1 <sup>st</sup> dose	3 <sup>rd</sup> dose
- UK:	91.1%	86.7%
- The Netherlands	61%	58%
- Germany:	63.4%	55.6%
- Denmark:	84%	63%
- Canada	72.3%	

A lot of epidemiological studies have proven the positive effect of HPV vaccination on infection and pre-cancerous lesions in women of HPV-vaccine-related serotypes (Mesher et al. 2016; Drolet et al. 2015). Additionally it was shown that a vaccination coverage of >70% decreases circulation of vaccine types in vaccinees, but also in boys/men of the same age (Chow et al. 2014). This last observation implies the development of herd immunity. Nevertheless, men who have sex with men will not be able to profit from this herd immunity (Chow et al. 2014).

Regarding trust in vaccination in general, it was shown that refusal of HPV vaccination was less common in parents who had high confidence in adolescent vaccination (Gilkey et al. 2016, Gilbert et al. 2016). This is confirmed by our data since general trust in vaccination in our population is high and parents of girls with incomplete vaccination have lower trust in general as well.

## CONCLUSION

- In Flanders the HPV vaccination program in girls seems consolidated as almost 90% of the girls born in 2000 received all recommended doses.
- Parents of these girls seem to have high trust in vaccination in general. Nevertheless, parents of girls with an incomplete schedule more often had lower trust in vaccination in general.
- Given the anti-HPV vaccine message which circulate on social media, it is important to consolidate the trust in this vaccine.