



**University of Antwerp**

Centre for the Evaluation of Vaccination  
Vaccine and Infectious Disease Institute

# Vaccine Hesitancy - Lessons learned in Europe

Prof. dr. ir. Alex Vorsters

Thanks to Greet Hendrickx, Emilie Karafillakis and Heidi Larson from the Vaccine Confidence Project.



**HPV** Prevention  
and Control Board

[www.hpvboard.org](http://www.hpvboard.org)

## Disclosure relevant to this presentation.

- The HPV Prevention and Control board and the Viral Hepatitis Prevention and Control boards are supported by in kind contributions and support from the involved international experts and their institutions. To set up the activities the secretariat does receive unrestricted grants from industry. All funds are handled according to the rules of the University of Antwerp. No remuneration for experts or speakers is provided.
- I received on my university funds speakers' fees and scientific advisory board fees from MSD, Janssen and Novosanis NV.
- I have received an unrestricted research grant from MSD.

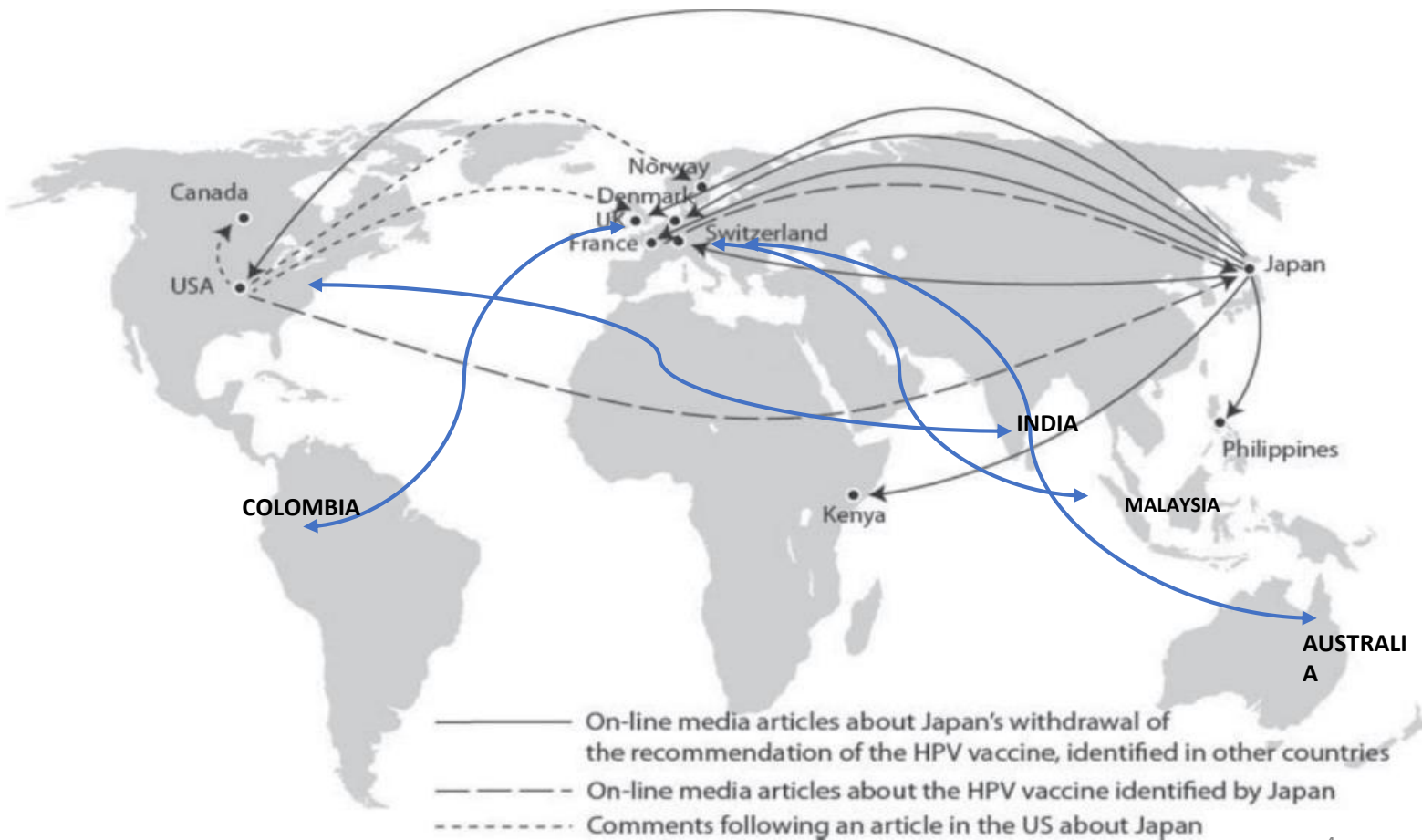


# Aim of this presentation

- Provide an overview of the components and mechanism of vaccine hesitancy.
- To show examples of the effect of vaccine hesitancy in Europe.
- Discuss the role of health care workers.
- Impact of introduction of mandatory vaccination in France.



## Vaccine hesitancy: A global problem, rapidly evolving



Heidi J. Larson et al: "Tracking the global spread of vaccine sentiments: The global response to Japan's suspension of its HPV vaccine recommendation". Human Vaccines & Immunotherapeutic 9, no 10 (2014):1-8

4



Vaccine hesitancy was put forward as threat to global health



# The vaccine hesitancy continuum

Accept all  
vaccines

Vaccine hesitancy

*Accept some,  
delay, refuse some*

Refuse all  
vaccines

*Accept but unsure*

*Refuse but unsure*

# Determinants of vaccine hesitancy (WHO SAGE, 2014)



## Vaccine & vaccination specific issues

- Scientific risk/benefit
- Vaccination schedule
- Mode administration or delivery
- Introduction new vaccine
- Vaccine supply
- Healthcare professionals
- Costs
- Tailoring vaccines



## Individual & social group influences

- Perceived risk/benefit
- Social norm, individual need
- Beliefs, attitudes and motivations about health
- Knowledge, awareness
- Trust in health system or provider
- Experience with past vaccination



## Contextual influences

- Influential individuals or leaders
- Politics, policies (mandates)
- Religion, culture
- Socio-economics
- Communication and media
- Pharmaceutical industry
- Historical influences
- Geographic barriers

# Europe: one of the region with the lowest confidence in vaccine safety in the world

## Overall results

Overall vaccine confidence is positive, though responses differ between countries

## European region

Lowest confidence in the safety of vaccines in the world  
7/10 countries in the world with lowest confidence levels in Europe, including France, Italy, Greece and Slovenia

## Education

Education increases confidence in vaccine importance and effectiveness but not safety

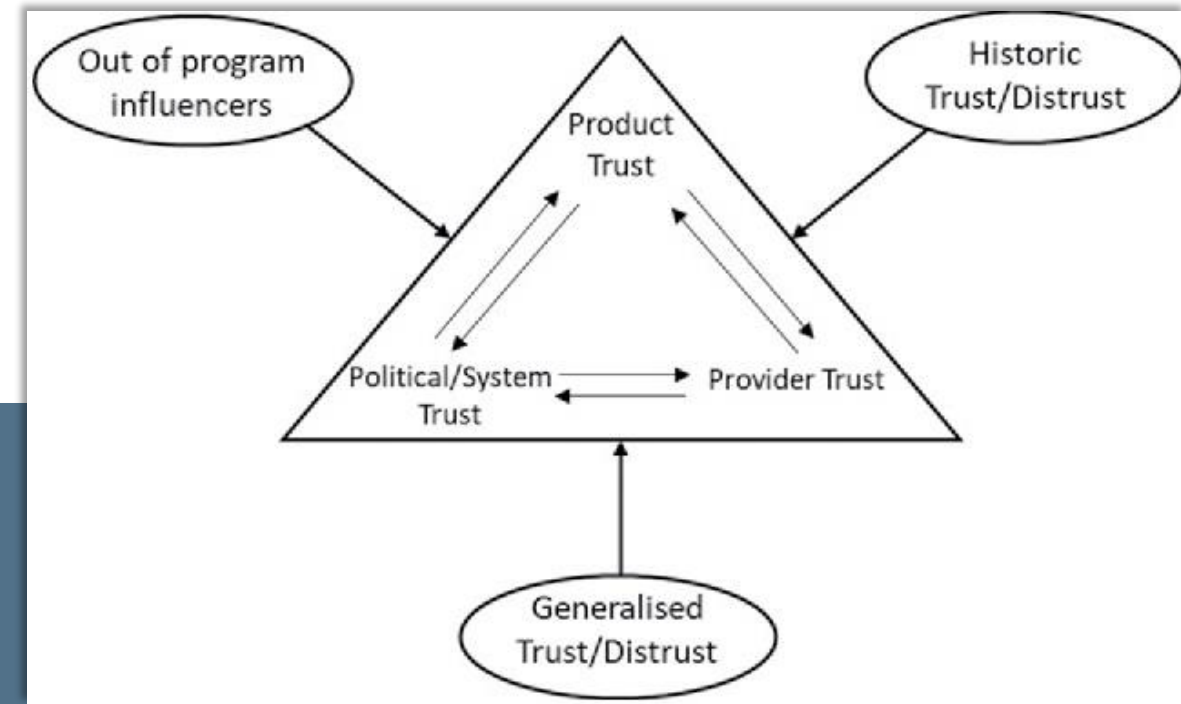
## France

Country with the lowest level of confidence in the safety of vaccines

# Trust and vaccination decision-making

**Trust expressed towards products** (i.e. vaccines), **providers** (i.e. health professionals) and **policy-makers** (i.e. health systems, governments, scientists) can constitute **levers of vaccine acceptance**

- Trust in information on vaccination depends on **those who produce and share it**
- Parents have traditionally placed their **trust in proximal sources** such as doctors rather than more distant ones such as health authorities.
- Individuals increasingly **questioning trustworthiness of scientific experts** and information, turning to **alternative sources of information** (i.e. peers, internet) and potentially **exposing themselves to information discouraging vaccination**



# Vaccine confidence is not only about vaccines

Journal of Public Health | pp. 1–11 | doi:10.1093/pubmed/fdab122

## Correlates of COVID-19 vaccine hesitancy in Austria: trust and the government

Eva Schernhammer<sup>1,2,3</sup>, Jakob Weitzer<sup>1</sup>, Manfred D. Laubichler<sup>2,4,5</sup>, Brenda M. Birmann<sup>3</sup>, Martin Bertau<sup>6</sup>, Lukas Zenk<sup>7</sup>, Guido Caniglia<sup>8</sup>, Carlo C. Jäger<sup>9</sup>, Gerald Steiner<sup>2,6</sup>

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<sup>8</sup>Konrad Lorenz Institute for Evolution and Cognition Research, 3400 Klosterneuburg, Austria

<sup>9</sup>Global Climate Forum, 10178 Berlin, Germany

Address correspondence to Gerald Steiner, E-mail: gerald.steiner@donau-uni.ac.at

### ABSTRACT

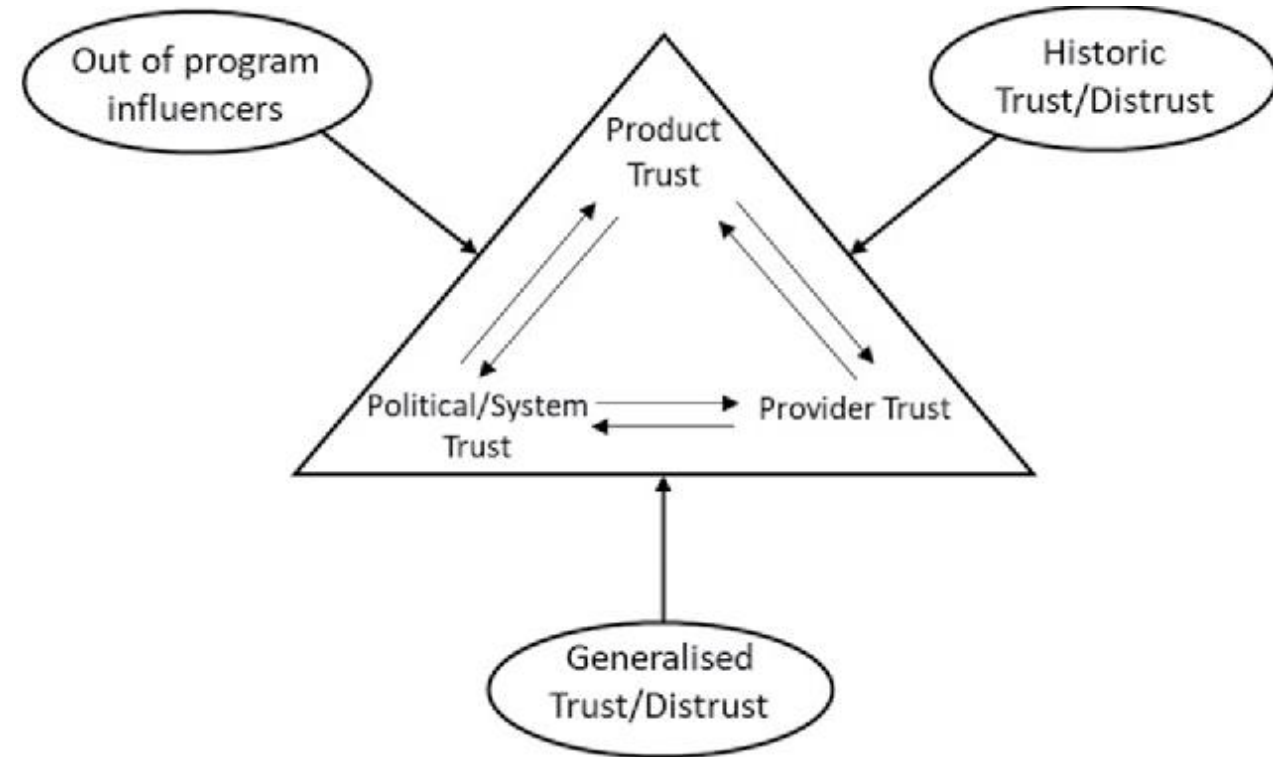
**Background** With the coronavirus disease 2019 (COVID-19) pandemic surging and new mutations evolving, trust in vaccines is essential.

**Methods** We explored correlates of vaccine hesitancy, considering political beliefs and psychosocial concepts, conducting a non-probability quota-sampled online survey with 1007 Austrians.

**Results** We identified several important correlates of vaccine hesitancy, ranging from demographics to complex factors such as voting behavior or trust in the government. Among those with hesitancy towards a COVID-19 vaccine, having voted for opposition parties (opp) or not voted (novote) were (95% Confidence Interval (CI))opp, 1.44–2.95) to 2.25-times (95%CI<sub>novote</sub>, 1.53–3.30) that of having voted for governing parties. Only 46.2% trusted the Austrian government to provide safe vaccines, and 80.7% requested independent scientific evaluations regarding vaccine safety to increase willingness to vaccine.

**Conclusions** Contrary to expected, psychosocial dimensions were only weakly correlated with vaccine hesitancy. However, the strong

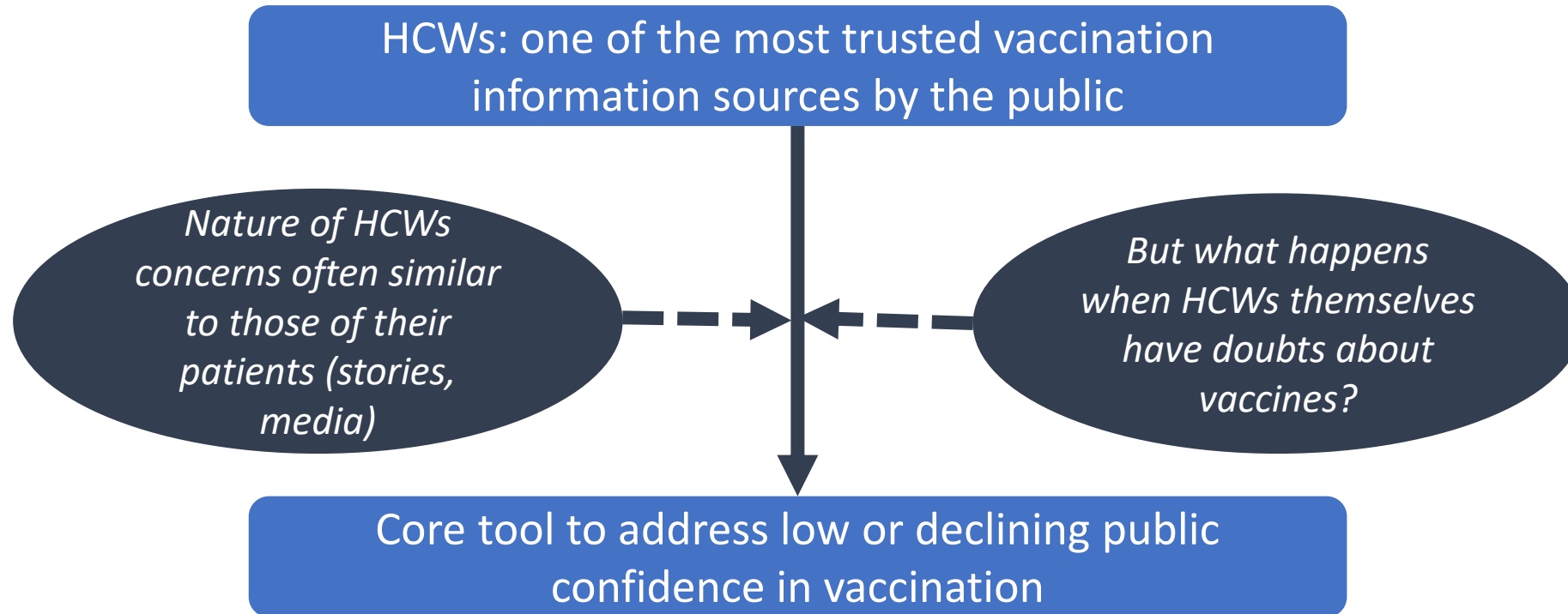
Strong correlation between distrust in the vaccine and distrust in the authorities



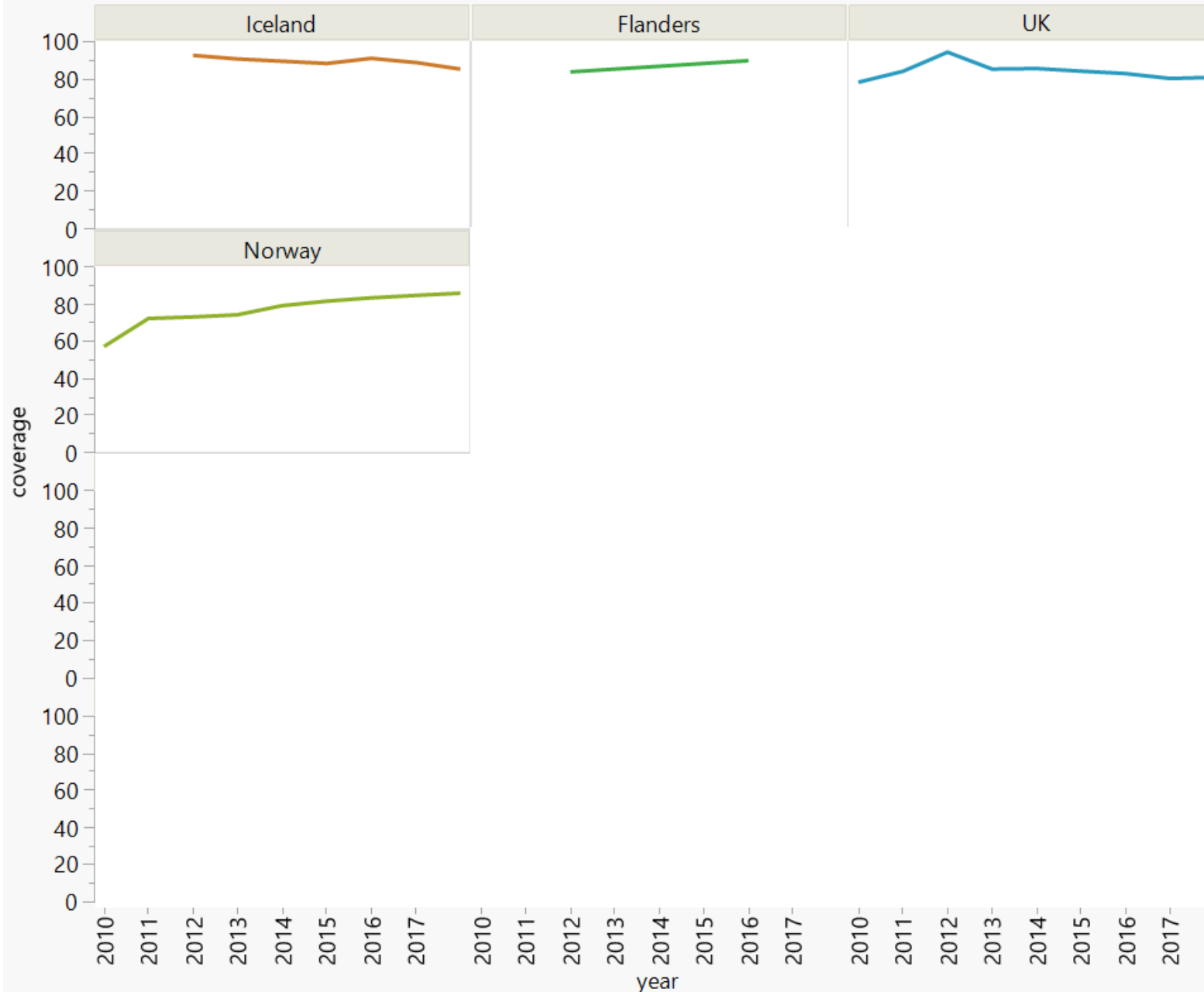
Larson HJ, Clarke RM, Jarrett C, Eckersberger E, Levine Z, Schulz WS, Paterson P. Measuring trust in vaccination: A systematic review. *Human vaccines & immunotherapeutics*. 2018 Jul 3;14(7):1599-609.

# Health Care Providers Play a Critical Role in Vaccine Confidence.

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## Evolution of HPV coverage in Europe.



Coverage based on HPVc F : HPV vaccination program coverage - last dose - females

Only countries where HPVc F coverage data was reported are shown.

Data sources:

[http://www.who.int/immunization/monitoring\\_surveillance/data/HPV\\_estimates.xls](http://www.who.int/immunization/monitoring_surveillance/data/HPV_estimates.xls) accessed 10/2021; Data Flanders based on "Vaccinatiegraad in Vlaanderen 2016" Only data for 2012 and 2016 shown.

*Unpublished data, do not copy or distribute*

# The story of the crisis in Denmark.



- Documentary showing girls in wheelchairs
- Researchers define new syndrome Postural Orthostatic Tachycardia Syndrome (POTS) POTS that may occur after (HPV) vaccination
- Government provides 1 M euro to investigate link between POTS and HPV vaccine
- First results show a potential link with high physical activities “Elite”.
- Meeting of the Global Advisory Committee on Vaccine Safety, 7–8 June 2017. *Wkly Epidemiol Rec* 2017;92:393–404. Confirms there is no data to support a causal relationship between HPV vaccination and POTS. Reconfirmed at all subsequent GACVS meetings.



[Global Map area](#)
[Country profile](#)
**Select country**


- ☐ Czechia
- ☐ Democratic People's...
- ☐ Democratic Republi...
- ☒ Denmark
- ☐ Djibouti
- ☐ Dominica
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- ☐ Ecuador
- ☐ Egypt
- ☐ El Salvador
- ☐ Equatorial Guinea
- ☐ Eritrea
- ☐ Estonia
- ☐ Eswatini
- ☐ Ethiopia
- ☐ Fiji
- ☐ Finland
- ☐ France


[Meta data](#)

This dashboard provides information about the status of HPV vaccine introduction in WHO Member States. As per the Global Strategy for Cervical Cancer Elimination, each country should introduce HPV in the national immunization schedule by 2030 and meet the target of 90% of girls fully vaccinated with HPV vaccine by age 15. Detailed information on the definition and data source of each indicator can be found in the Metadata page.

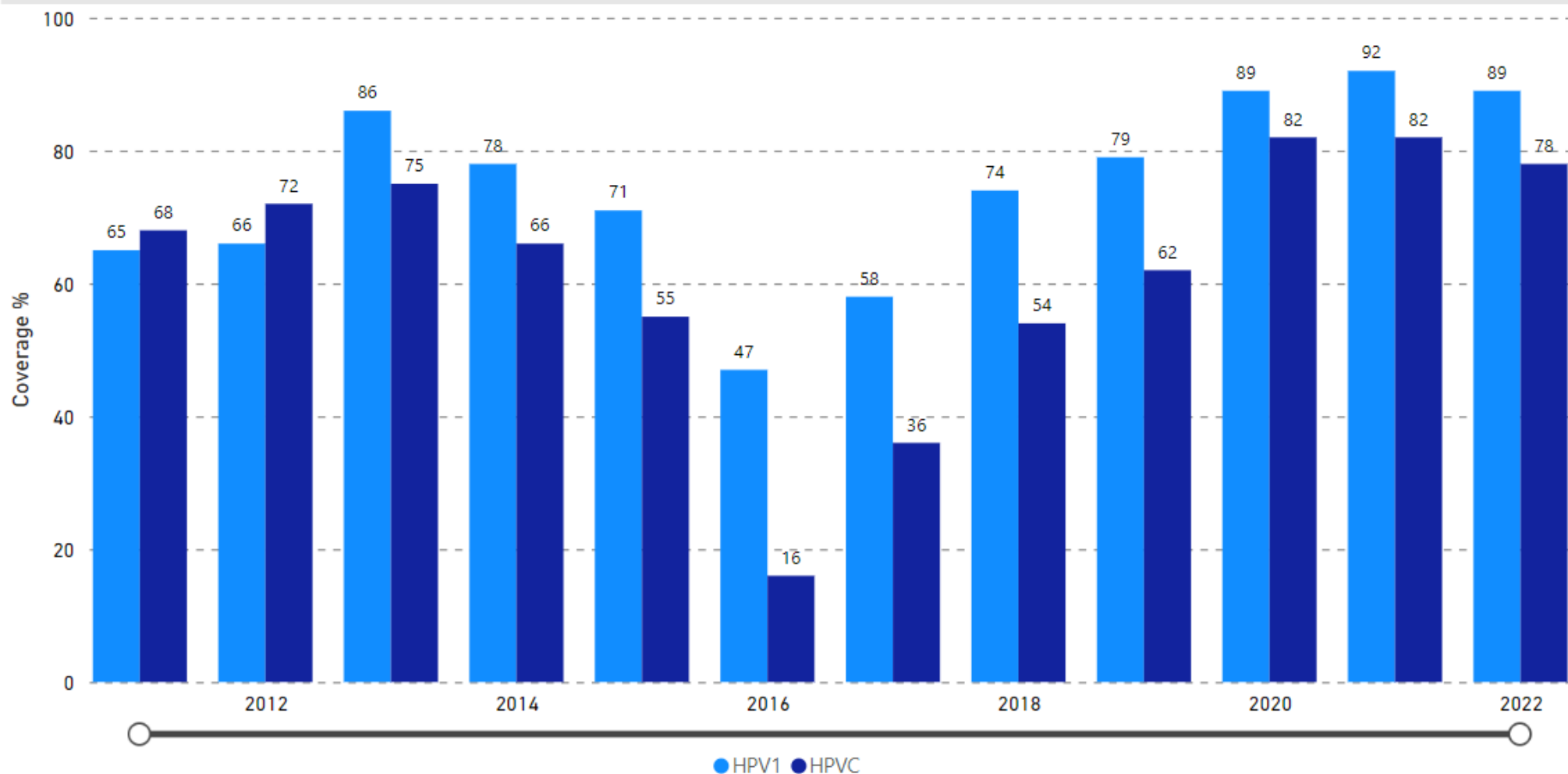


Denmark







National schedule	Year of introduction	Delivery strategy	Targeted Age	Targeted Sex	Schedule (interval between doses)
Yes	2007	Facility-based	12-14	Both sexes	2 doses (6 months)

### HPV vaccine, programme coverage in female



## Health Care Providers Play a Critical Role in Vaccine Confidence.

		HCPs	
Parents		Confident	Not Confident
	Confident		
	Not Confident		

Studies have shown that people who trust the health care system and HCP are more likely to be vaccinated (Bish A et al, Vaccine 2011; 29: 6472-84)

# HPV vaccination in France

- Young adolescents are vaccinated by private GPs against HPV in France
- May 2014, start of a controversy on HPV vaccine:
  - Doctors petition to the Health Ministry
  - Families filed lawsuits blaming HPV vaccine
- Decline in HPV vaccination coverage



Global Map area

Country profile

Select country

- Search
- ☐ Djibouti
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  - ☐ Dominican Republic
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  - ☐ Egypt
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  - ☐ Fiji
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  - ☐ Georgia
  - ☐ Germany



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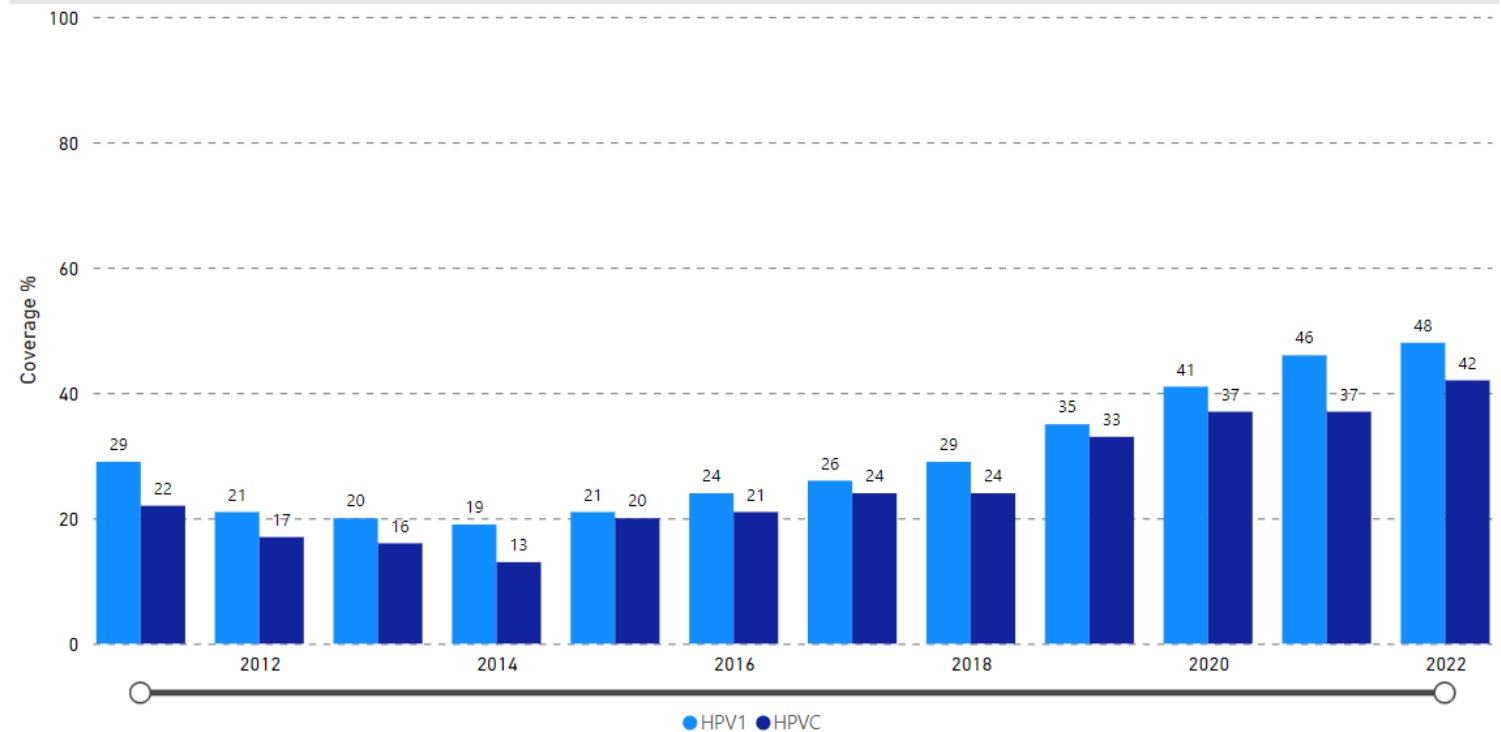


France



National schedule	Year of introduction	Delivery strategy	Targeted Age	Targeted Sex	Schedule (interval between doses)
Yes	2006	Facility-based	11-14	Both sexes	2 doses (6 months)

HPV vaccine, programme coverage in female



# Based on quantitative survey in 2014 on 1574 GPs, 76% would vaccinate his/her daughter against HPV (Verger et al, 2014)

INTERNATIONAL JOURNAL OF QUALITATIVE STUDIES ON HEALTH AND WELL-BEING  
2020, VOL. 15, NO. 1  
<https://doi.org/10.1080/17482631.2020.1757336>



## Vaccine hesitancy among general practitioners in Southern France and their reluctant trust in the health authorities

Rose Jane Isobel Wilson<sup>a,b,c</sup>, Chantal Vergélys<sup>a</sup>, Jeremy Ward<sup>a,d</sup>, Patrick Peretti-Watel<sup>a,b,c</sup>, and Pierre Verger<sup>a,b,c</sup>

In conclusion, if the state's role is not seen as legitimate and trustworthy with regards to vaccine recommendations, then not only patients distrust health interventions such as vaccination or certain vaccines, but HCPs can feel uncertain and unsupported. => negative consequences for trust in, and acceptance of vaccination.



Vaccine 39 (2021) 521–528



Contents lists available at ScienceDirect

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journal homepage: [www.elsevier.com/locate/vaccine](http://www.elsevier.com/locate/vaccine)



## Physicians' decision processes about the HPV vaccine: A qualitative study



Maité Bouchez<sup>a</sup>, Jeremy K. Ward<sup>b,c</sup>, Aurélie Bocquier<sup>d</sup>, Daniel Benamouzig<sup>e</sup>, Patrick Peretti-Watel<sup>c</sup>, Valérie Seror<sup>c</sup>, Pierre Verger<sup>d,\*</sup>

5 types of physicians: **dissidents** (mistrustful of the healthcare system and HPV vaccine), **hesitant** (finding it difficult to make up their minds about this vaccination), **laissez-faire** (letting patients decide by themselves, but very favorable to HPV vaccination), **educator** (very favorable), and **uncompromising vaccinators** (refusing debate).

Conclusions: Physicians' judgment was influenced by their trust in the stakeholders involved in designing and implementing the HPV vaccination strategy. In this sense, doctors did not differ substantially from laypeople.



Home

About us

Meetings

Resources

Vaccine safety

News

You are here: ... > [Prevention and control of HPV and HPV related cancers in Colombia: Lessons learnt and the way forward - November 2018](#)

## SESSION 5B: SUCCES AND CHALLENGES FROM OTHER COUNTRIES/REGIONS

### Meetings

> [Prevention and control of HPV and HPV related cancers in Colombia: Lessons learnt and the way forward - November 2018](#)

> [Videos \(EN\)](#)

> [Videos \(ES\)](#)

> [The role of HCP in HPV vaccination and screening programme implementation - Prevention and control of HPV and HPV related cancers in Romania - May 2018](#)

> [Prevention and control of HPV and HPV related cancers in Ireland and the UK: lessons learnt and the way forward - November 2017](#)



Overcoming a vaccine confidence crisis, the example of Ireland - Yvonne Morrissey - (EN)



Communicating about HPV vaccination lessons learnt from WHO/EURO (0:00 - 8:36) Robb Butler - (EN)

# Identify Stakeholders

Parents	Cancer Groups	Education	Medical
			

[www.hpv.ie](http://www.hpv.ie)

## Irish Cancer Society initiative

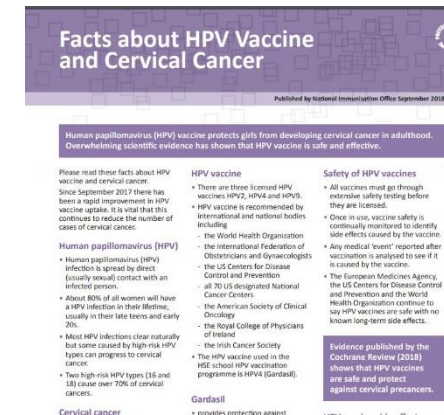
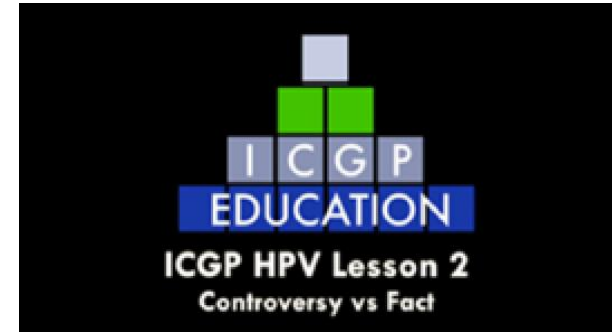
- HPV Vaccination Alliance launched August 2017



[www.hpv.ie](http://www.hpv.ie)

## Provide training to health professionals

- GP e-learning modules
- ICGP meetings
- RCPI faculty meetings
- Pharmacies
- Factsheets and articles in journals
- Delivered talks at training days
- Held national conferences



[www.hpv.ie](http://www.hpv.ie)



**Simon Harris TD** ✓

March 20, 2019 · 🌐



So saddened to hear of Laura Brennan's passing. An incredible woman and an amazing, passionate advocate for the HPV vaccine. Her courage and work will help save lives. Honoured to have known Laura. Always inspired by her. Thoughts with her family at this awful time.  
Simon



An Roinn Sláinte  
Department of Health

**Minister for Health Simon Harris has paid tribute to Laura Brennan, who has sadly passed away.**

*"I am deeply saddened to learn of Laura's passing. Laura was an incredible young woman and a powerful campaigner.*

*Despite her illness, she continued her advocacy and thanks in no small part to her sheer determination, the uptake of the HPV vaccine has increased among young women. The State owes her a debt of gratitude.*

*As a person, she was kind, funny and full of life. Her enthusiasm was infectious. Every time I met Laura or spoke with her, I was inspired by her. Amazing doesn't do justice to her or her courage. I want to extend my deepest condolences to her family and friends."*



# HPV-vaccin (Engelse ondertiteling)

Achtergrondartikel | 06-02-2017 | 0 reacties

Zorg.nu besteedde op 15 november 2016 aandacht aan het HPV-vaccin. Hieronder is het fragment te bekijken met Engelse ondertiteling.





HPV-vaccin (Engelse ondertiteling) (AVROTROS)

zorg.nu

What bothers me is that Cervarix is said to be the best cervical cancer vaccine.



Jannes Koetsier  
arts



HPV-vaccin (Engelse ondertiteling) (AVROTROS)

Zorg.nu

We've got some 1,400 reports  
of suspected side effects...

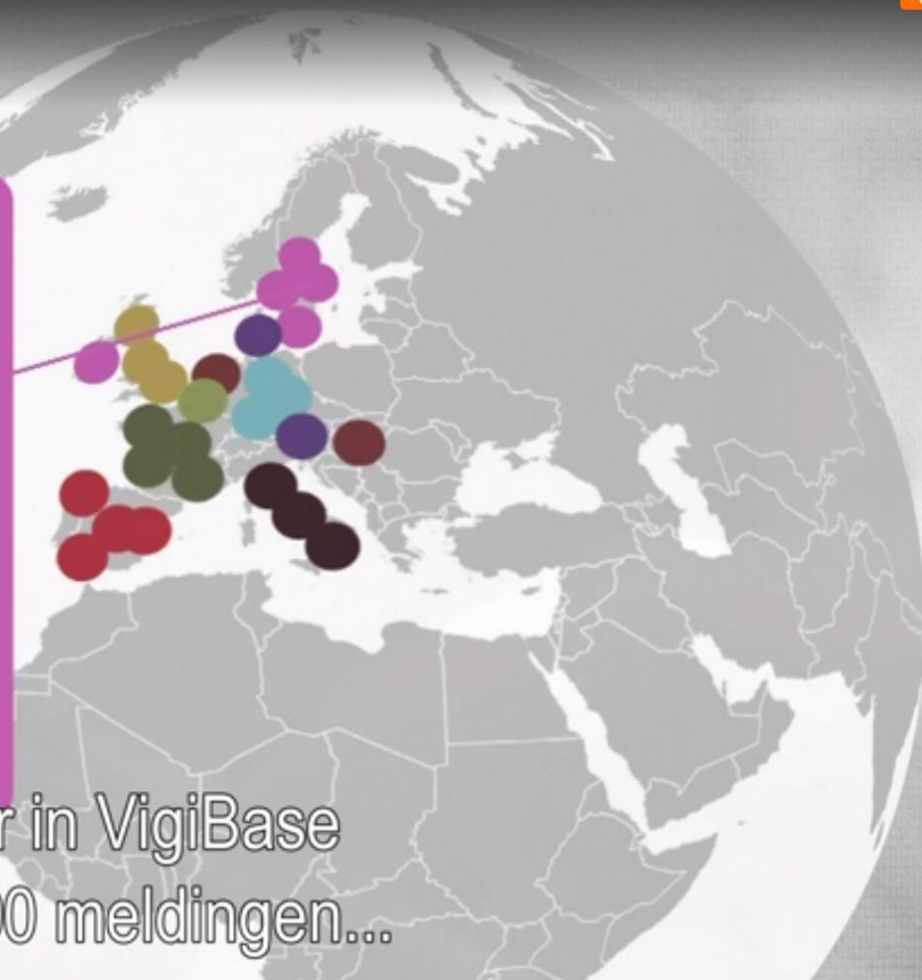


Agnes Kant  
directeur Lareb



Rebecca Chandler  
Zweden

...stonden er in VigiBase  
in totaal 71.090 meldingen...





## Onjuiste informatie in uitzending Zorg.nu

Publicatiedatum: 16 november 2016

Wijzigingsdatum: 06 december 2016

**Op dinsdag 15 november besteedde het programma Zorg.nu aandacht aan HPV-vaccinatie en chronische vermoeidheid, de uitzending bevatte helaas onjuiste informatie.**

Chronische vermoeidheid bij tienermeisjes is een sterk invaliderende aandoening (schattingen van het voorkomen lopen uiteen van 0,1-20%) die ook voorkwam voordat de HPV-vaccinatie werd ingevoerd. De oorzaak is helaas grotendeels onbekend en de behandeling is moeizaam. Het is begrijpelijk dat deze meisjes een oorzaak zoeken voor hun klachten, die vaak hun leven op de kop zetten. Hoewel er op dit moment geen aanwijzingen zijn dat er een relatie is tussen HPV-vaccinatie en chronische vermoeidheid, doet het RIVM momenteel een onderzoek hiernaar. Het RIVM onderzoekt in hoeverre er een verband is tussen de HPV-vaccinatie en langdurige vermoeidheidsklachten. Uit [Engels onderzoek](#) komt naar voren dat er geen verband is tussen de vaccinatie en de klachten. Om met zekerheid een uitspraak te kunnen doen over het ontbreken van een verband, is meer onderzoek nodig.

In de uitzending wordt ook getwijfeld over de werkzaamheid van het vaccin. Deze twijfel is onterecht. Het vaccin beschermt voor minimaal 70% tegen alle gevallen van baarmoederhalskanker.

Het RIVM benadrukt dat de veiligheid van het HPV-vaccin uitgebreid is beoordeeld voordat het op de markt kwam, net als bij andere geneesmiddelen. Zeldzame bijwerkingen kunnen pas ontdekt worden als een vaccin op grote schaal wordt toegepast. Daarom wordt de veiligheid standaard bewaakt aan de hand van wetenschappelijk onderzoek en meldingen van artsen, patiënten en ouders. Volgens de WHO zijn voor HPV-vaccinatie na meer dan 250 miljoen doses geen ernstige bijwerkingen vastgesteld. Zie [WHO - Safety of human papillomavirus vaccines](#).

In de uitzending vroeg een moeder zich af waarom er niet eerder met uitstrijkjes kon worden begonnen, want dan zou vaccineren mogelijk niet nodig zijn. Eerder beginnen met uitstrijkjes verbetert de effectiviteit van het bevolkingsonderzoek baarmoederhalskanker echter niet. Ondanks het bevolkingsonderzoek baarmoederhalskanker krijgen jaarlijks nog steeds 600 vrouwen baarmoederhalskanker en overlijden 200-250 vrouwen aan deze ziekte. Zonder bevolkingsonderzoek zouden ongeveer 400 vrouwen per jaar overlijden aan baarmoederhalskanker.

Zie ook [Kan de HPV-vaccinatie chronische vermoeidheid veroorzaken?](#)



### Zie ook

- > [Bivalent human papillomavirus vaccine and the risk of fatigue syndromes in girls in the UK](#)
- > [WHO - Safety of human papillomavirus vaccines](#)

### Meer informatie

- > [HPV-vaccinatie](#)
- > [Veelgestelde vragen HPV-vaccinatie](#)

# Checklist for countries to strengthen HPV immunization programme

Prior to introduction of HPV immunization program	Countries maintaining a program	In case of a crisis
Focus on positive effects and impact of vaccination		
Elaborate an action plan: <ul style="list-style-type: none"> <li>• Combine screening and vaccination</li> <li>• Include a communication budget</li> <li>• Document burden of disease</li> </ul>	Implement a monitoring, follow up and adjustment tool	Assign a focal point who deals with the media
Communication strategy with a focus on: <ul style="list-style-type: none"> <li>• One voice</li> <li>• Trustworthy websites</li> <li>• Use of social media</li> <li>• Train the media</li> </ul>		
Train HCP on HPV and on how to discuss the vaccine with the target audience <ul style="list-style-type: none"> <li>• Create political support and reach out to silent supporters of the vaccine</li> <li>• Develop and test a crisis prevention and mitigation plan</li> <li>• Develop a monitoring, follow up and adjustment tool</li> </ul>	Invest in/restore confidence among HCP and public health staff Engage professional networks and enhance political support	
Define the right age for vaccination	Take alleged side-effects seriously: <ul style="list-style-type: none"> <li>• Show empathy</li> <li>• Early response is essential</li> <li>• Don't be complacent</li> <li>• Do not think problems will go away by themselves, they may get worse</li> </ul>	



# Mandatory vaccination in France

- Until 2017 three vaccines were mandatory in France: Diphtheria, tetanus and poliomyelitis.
- Various scares and high suspicion on safety of vaccines there was a low uptake of non-mandatory vaccines. => Measles outbreaks and invasive meningococcal cases.
- Decision to increase number of mandatory vaccines strongly supported by medical societies.
- Implemented for infants born after January 1, 2018. With sanctions for those who refuse.
- Hexavalent vaccine 3<sup>rd</sup> dose increased 6.4% up to 90,5% for infants born Q1 2019\*
- Parents held a more favorable opinion about vaccination
- Also, GPs and pediatricians felt more confident as vaccination was easier to explain to parents.

\* <https://www.santepubliquefrance.fr/content/download/345373/3033326>

Press release: Semaine européenne de la vaccination du 17 au 21 mai 2021 : une forte adhésion des français à la vaccination, enjeu majeur de santé publique





Mission:  
Contribute to the control of  
HPV infection and HPV related  
cancers.



 **University of Antwerp**

Centre for the Evaluation of Vaccination  
Vaccine and Infectious Disease Institute