

# Vaccine Acceptance and Demand in the European Region

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## WHO Region of Europe

- 53 Member States
- 15 time zones  
(capital cities -2 to +5 hr from Copenhagen)
- 4 official languages
- Population 900 Million  
Infants 11 Million  
< 5yr 55 Million  
<15yr 157 Million

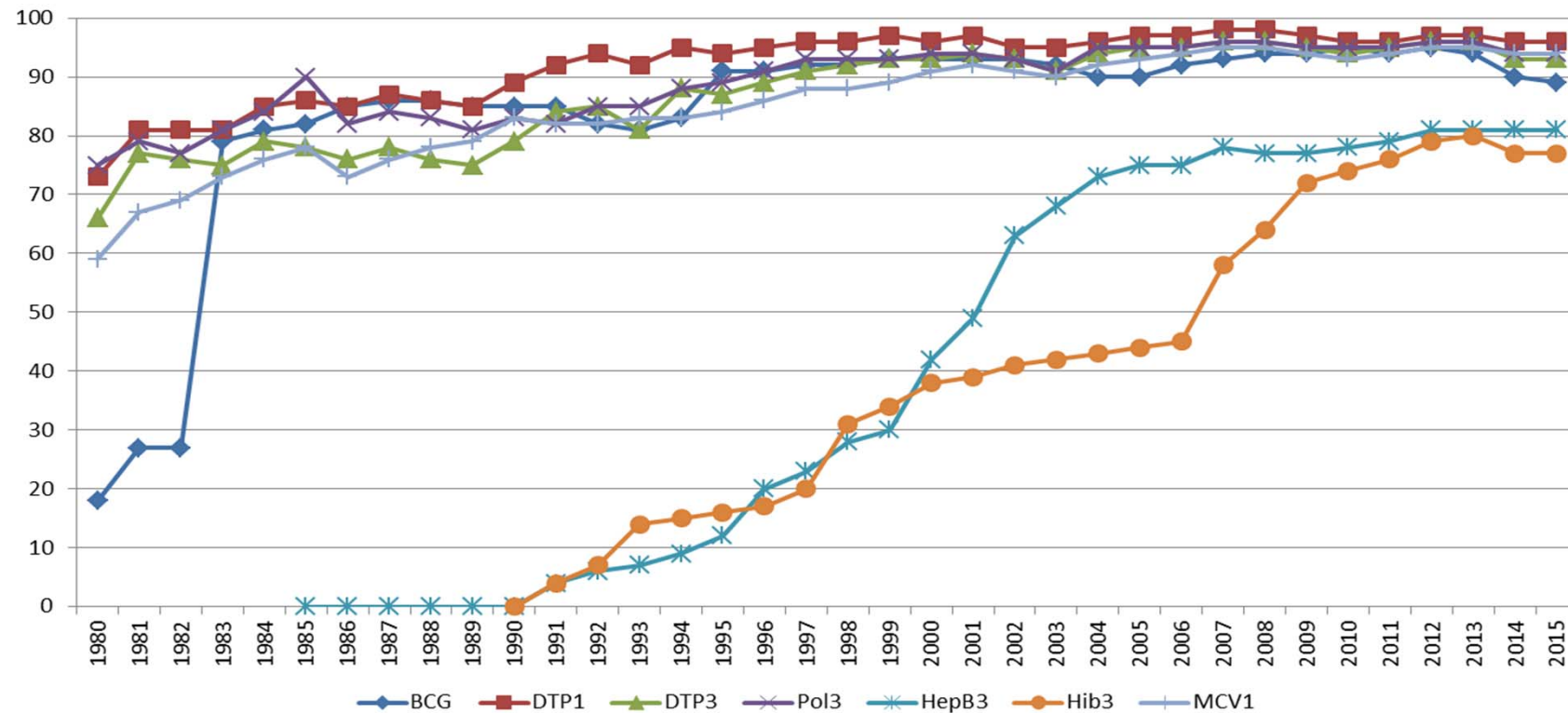




# European Vaccine Action Plan

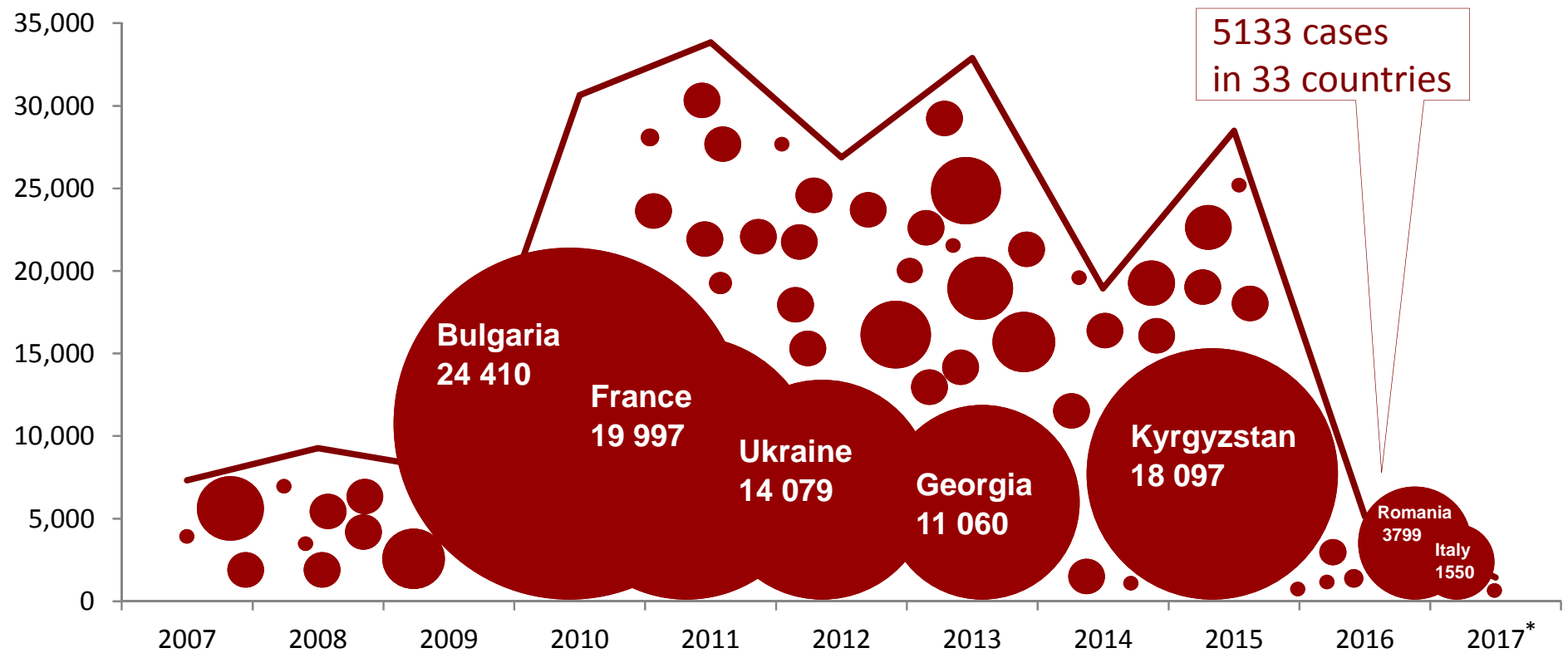
2015-2020

# Trends of Immunization Coverage of Major Antigens in European Region, 1980-2016\*



\*Data source: WHO/UNICEF Estimates (WUENIC)

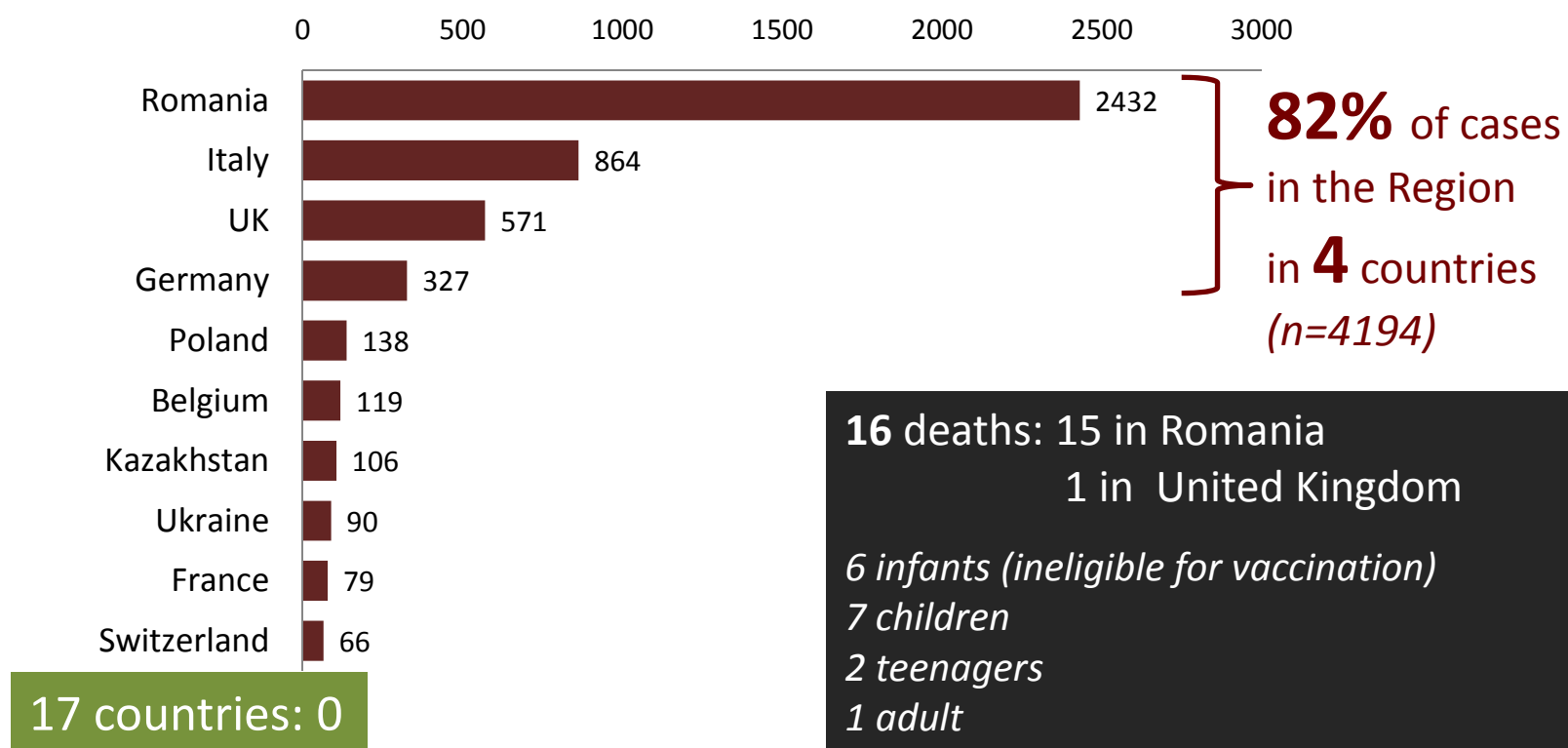
## Number of measles in the WHO European Region, 2007-2017\*



Data source: CISID, extracted 31 March 2017

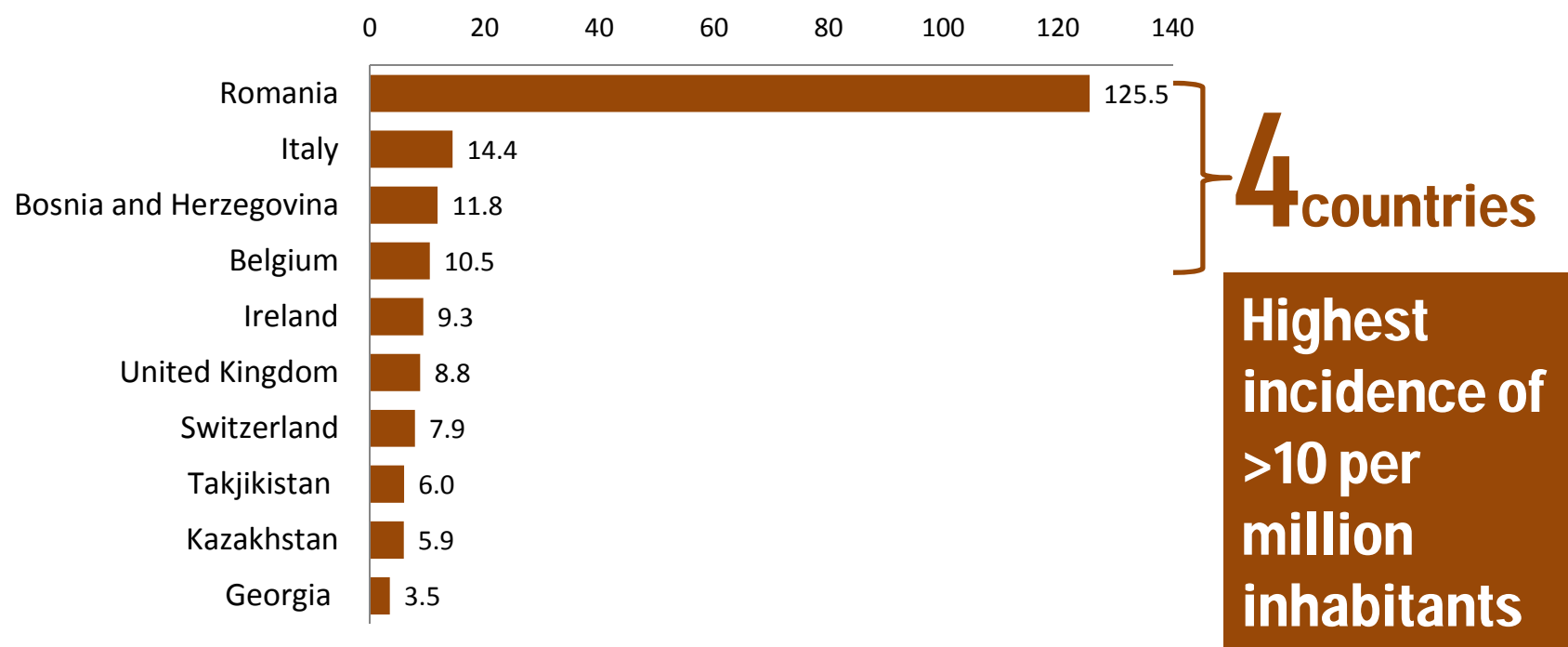
\* Jan-Feb 2017

## Top 10 countries with measles cases, WHO European Region, 2016



Data source: CISID, extracted 31 March 2017

## Highest incidence countries for measles per million inhabitants WHO European Region, 2016



Data source: CISID, extracted 31 March 2017

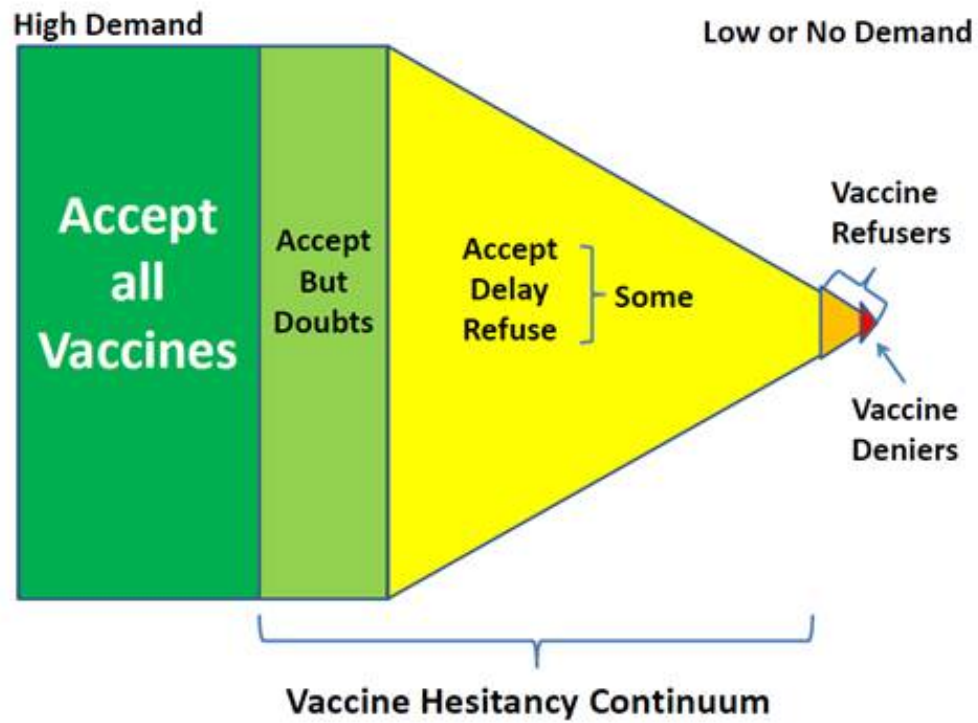
## Can resurgence be attributed to vaccine ‘hesitancy’?

- Service delivery and programmatic weaknesses, now and historically
- Social determinants are not so helpful
- Low quality surveillance:
  - Inadequate reporting of suspected cases
  - Sub-optimal laboratory testing rate
- False Contraindications
- Vaccine safety management and response capacity
- Hesitant parents today or those of yesteryear ?
- Resilient communities: how do they come about? Education; whose responsibility? The narrow window of opportunity and untapped potential of inter-sectoral collaboration.







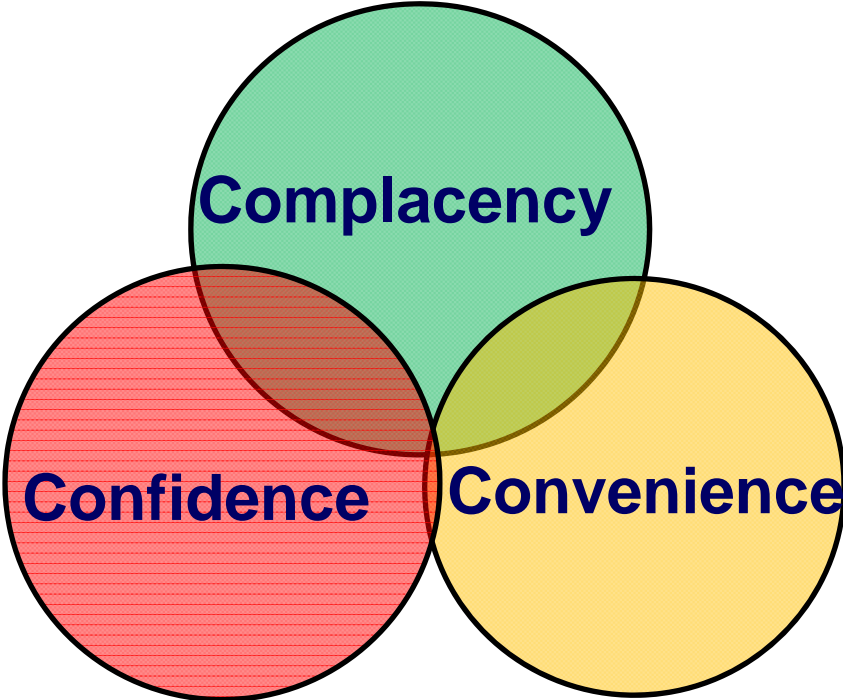


## Vaccine Hesitancy

- Refers to delay in acceptance or refusal of vaccines despite availability of vaccine services.
- Is complex and context specific varying across time, place and vaccines.
- Is influenced by factors such as complacency, convenience and confidence.



# Vaccine Hesitancy Model









## HCWs: Key- role in Acceptance

“For all vaccines, the *attitude of the physician* .....is very influential in the decision to vaccinate a child..”

*Swennen B et al. Vaccine 2002;20 S5-S7. Ansari M et al.. JRSH 2007;127:276-9.*

*Favin et al . International Health 2012; 4:229-238*

Parents received vaccine information from MDs: < vac concerns vs from friends/family/books

*Wheeler M, Buttenheim A. Human Vaccines & Immunotherapeutics2013; 9:1782–1789*

HCP information or assurances - main reason why parents who planned to delay or refuse a vaccine for their child changed their minds

*Gust, D.A., et al., Parents with doubts about vaccines: which vaccines and reasons why.*

*Pediatrics, 2008. 122(4): p. 718-25*

Beware: Health Care Professional’s Imm Status program uptake. If HCP not up to date: patients less likely to be up to date

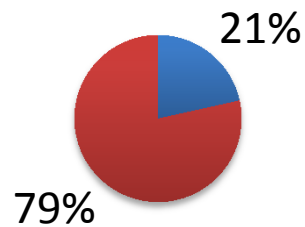
*Zhang J., While AE, Norman IJ. Vaccine 2010, 28:7207-14*





# Influence of HCW

## Influence of Providers

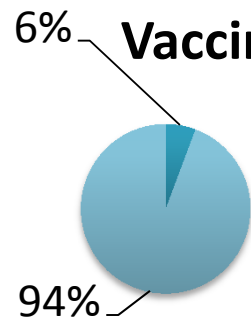


■ HCW are not influential



Twice as likely: “vaccines safe”

## Vaccine Safety



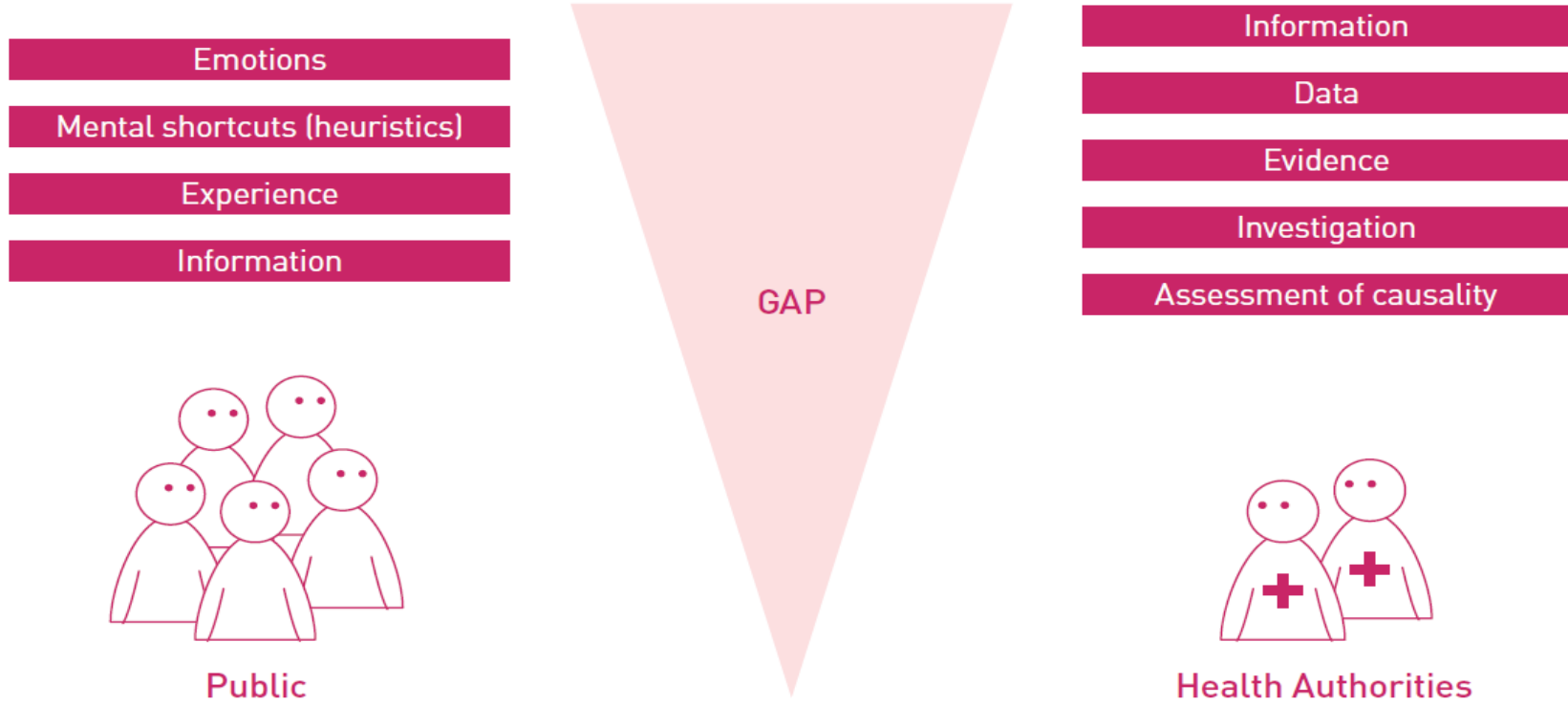
■ Vaccines unsafe



74.4 % vs. 50.3% coverage

*Smith, P. J., Kennedy, A. M., Wooten, K., Gust, D. A., & Pickering, L. K. (2006). Association between health care providers' influence on parents who have concerns about vaccine safety and vaccination coverage. Pediatrics, 118(5), e1287-e1292.*

# Risk perception gap



Ref: Kasperson et al., 1988; Kasperson, Kasperson, Pidgeon, & Slovic, 2003.

**So, 12 points for you to consider:**

# 1. Be educated on Best Immunization Practices

HCW's own immunization status :

- reflects onto their patients' status

HCW vaccine beliefs:

- influences whether families will come forward and accept immunization

For optimal outcome patients need to hear *from all HCW*:

- consistent, accurate information: vaccine preventable disease risks, vaccine safety & benefits
- given in a respectful, positive manner

NB Alt HCW may undermine vax uptake

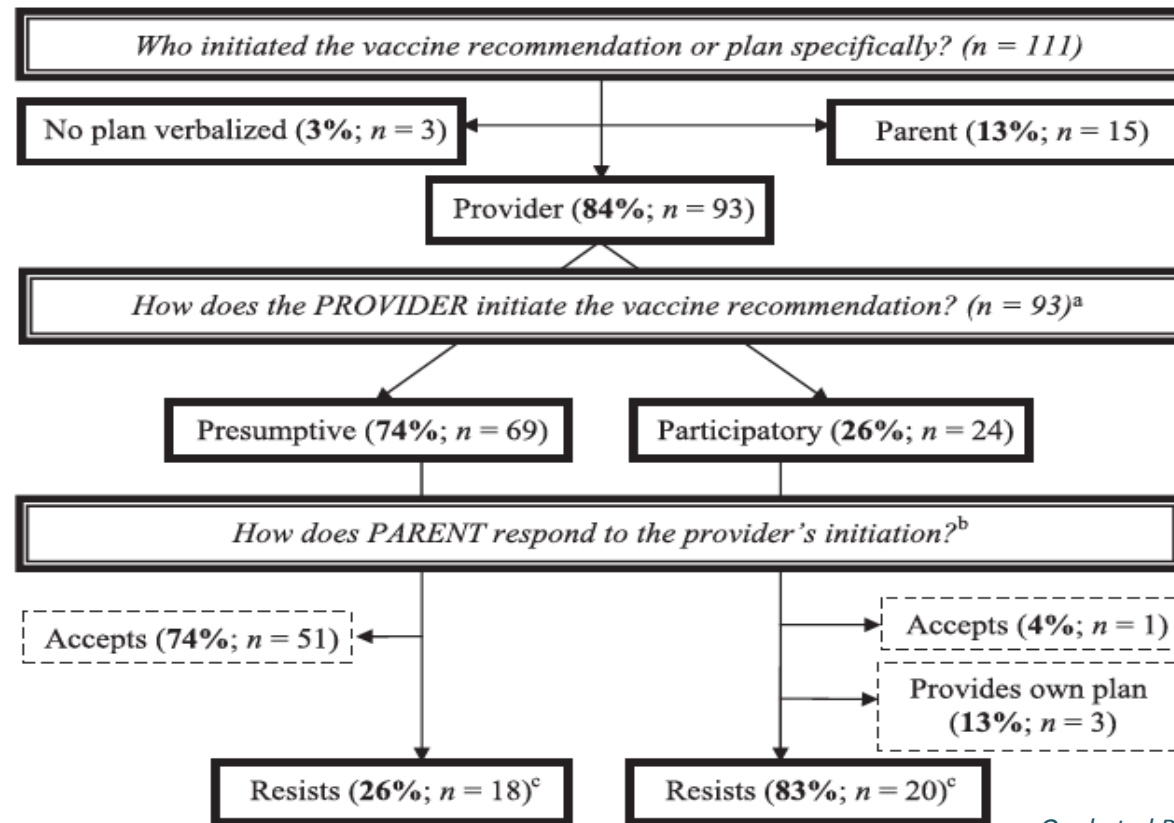
Never dismiss, always be their first choice

**HCW immunization  
education key**

Zhang J et al Vaccine 2010, 28:7207-14; Collange F et al Hum Vac & Imm 2016; 12:1282-92

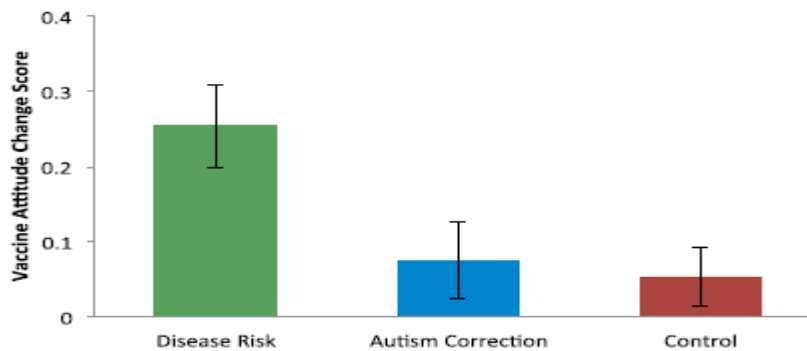
Favin M, et al International Health 2012; 4:229-238. Corace K et al Vaccine 2016; 34: 3235–3242; Bleser et al Pediatrics.2016;138(5):e20154664

## 2. Tell - Don't Ask: Vaccine Hesitancy Study



Opel et al Pediatrics 2013; 132: 1037-46.

### 3. Focus on Dangers of VPD more effective than refuting Vaccine Myths



3 VPD messages

a) mother's perspective on her child contacting measles

b) Picture child with measles

c) 3 short warning about how imp to immunize against measles

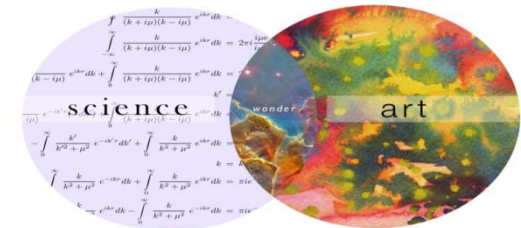
vs CDC summary

studies MMR not cause autism

vs control – other non-vax scientific information

*Vaccine attitude pretest scores condition, Horne et al PNAS 2015*

### 3.1 Identify 'gateway' to beliefs



Knowledge may NOT be enough

Research on climate change beliefs:

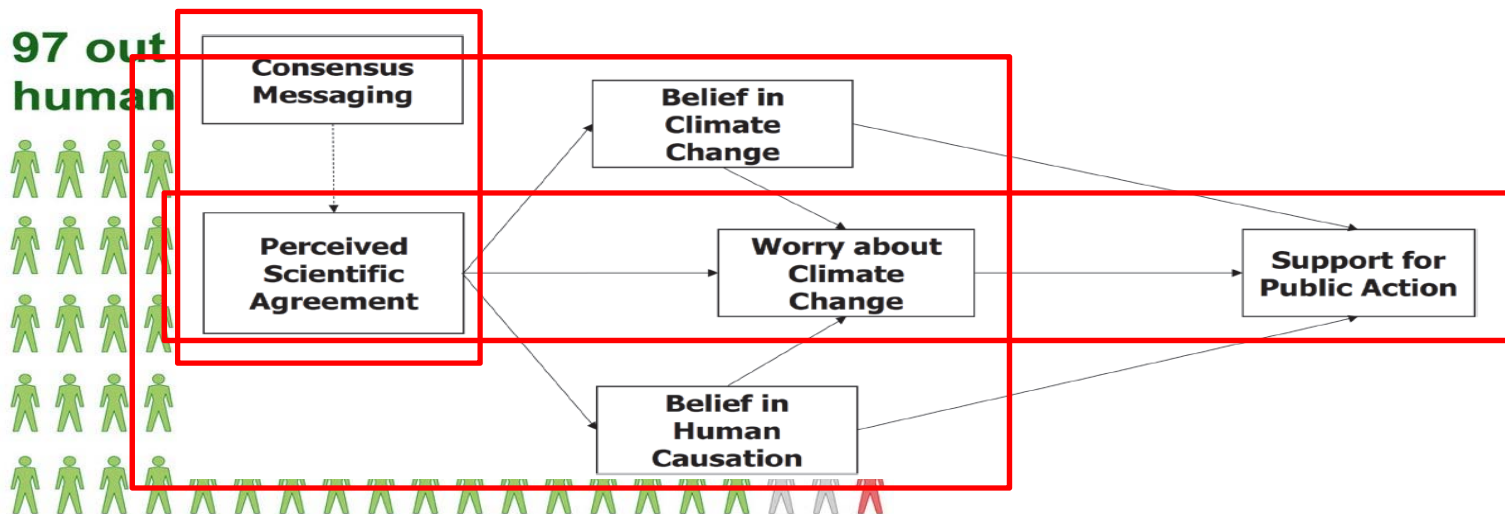
**Belief in a scientific fact increases when consensus is highlighted**

*Van der Linden, S et al How to communicate the scientific consensus on climate change: plain facts, pie charts or metaphors?. Climatic Change 2014 126; 255-262.*

Underlining the scientific consensus on vaccine safety and efficacy maybe gateway to change or shape belief



# 3.1 Communicate scientific consensus

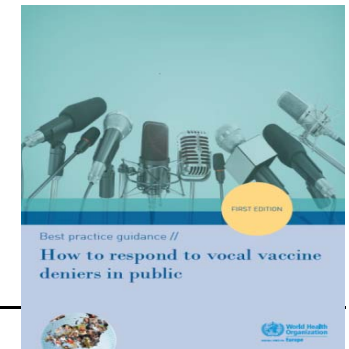


Doran, P. T., & Zimmerman, M. K. (2009). Examining the scientific consensus on climate change. *Eos, Transactions American Geophysical Union*, 90(3), 22-23.

Van der Linden, S., Leiserowitz, A. A., Feinberg, G. D., & Maibach, E. W. (2015). The scientific consensus on climate change as a gateway belief: Experimental evidence. *PLoS one*, 10(2), e0118489.

## 3.2 Understand the tactics of vaccine deniers

Tactics used by the anti-vaccination movement (i.e. actions undertaken to spread their message)



Tactics	Description
<b>Skewing the science</b>	Denigrating and rejecting science that fails to support anti-vaccine positions; endorsing poorly-conducted studies that promote anti-vaccine agendas.
<b>Shifting hypotheses</b>	Continually proposing new theories for vaccines causing harm; moving targets when evidence fails to support such ideas.
<b>Censorship</b>	Suppressing dissenting opinions; shuttering down critics.
<b>Attacking the opposition</b>	Attacking critics, via both personal insults and filing legal actions.

*Kata, A. (2012). Anti-vaccine activists, Web 2.0, and the postmodern paradigm—An overview of tactics and tropes used online by the anti-vaccination movement. Vaccine, 30(25), 3778-3789.*





## 4. Risk: Numbers matter!

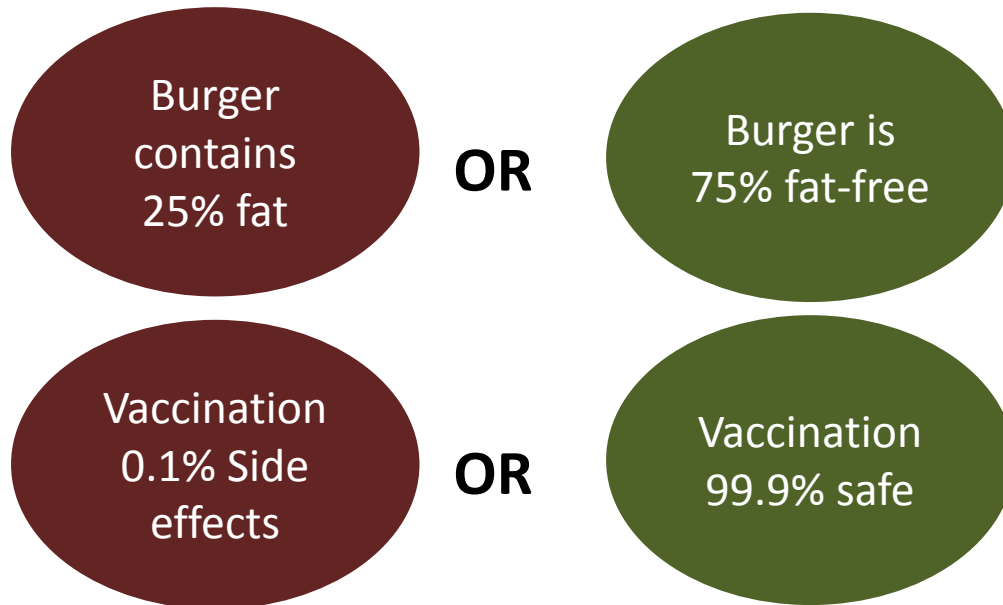
Possible Adverse events:  
out of 100,000 people

14,000	Very common	dry mouth
7,000	Common	constipation, headache
400	Uncommon	stomach upset
50	Rare	dizziness
1	Very rare	muscle damage leading to a very serious condition called rhabdomyolysis

Less numerate More numerate

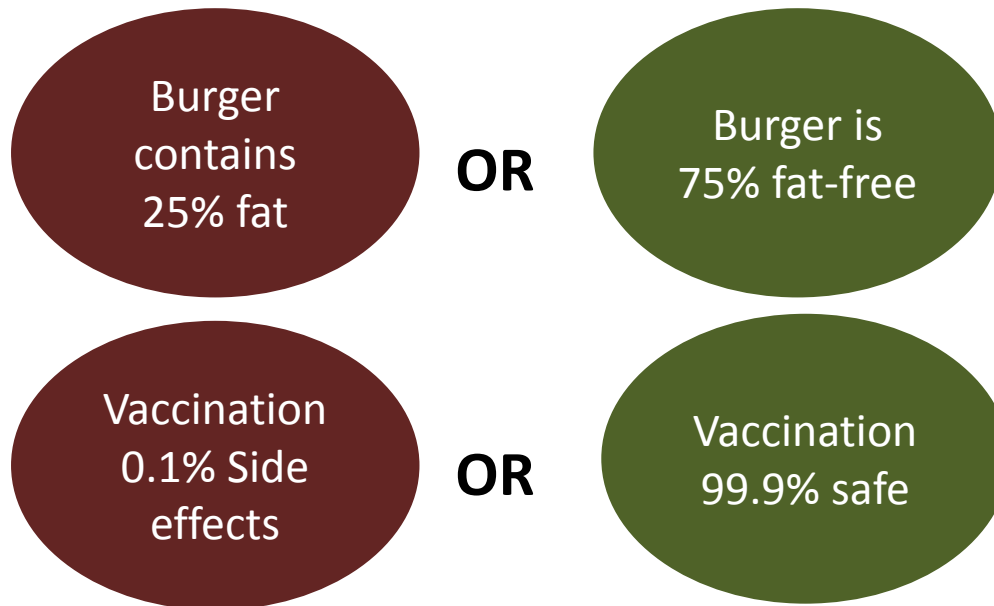
*Peters, E., Hart, S., Tusler, M., & Fraenkel, L. (2014). Numbers matter to informed patient choices: The effects of age and numeracy. Medical Decision Making.*

## 5. Risk: Framing



*Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. Science, 211(4481), 453-458.*

## 5. Risk: Framing



**Often HCP focus discussions on side effects  
not emphasize safety!**

*Gerend MA, Shepherd MA, Shepherd JE Health Psychol. 2011;32:361-9.*

*Sandell T et al Scandinavian Journal of Public Health, 2013; 41: 860–865*

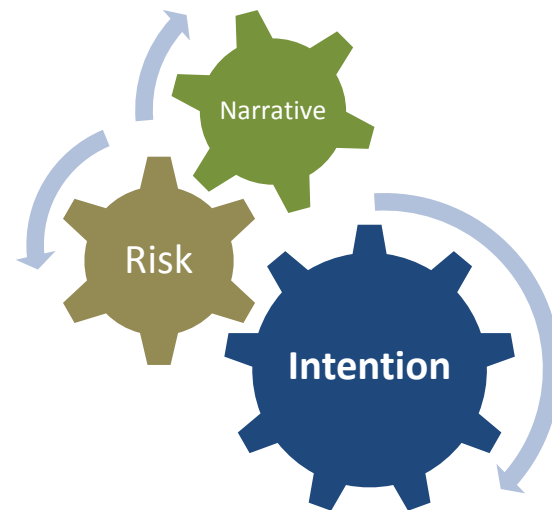
*NACI Canada. Canadian Immunization Guide*

<http://www.phac-aspc.gc.ca/publicat/ciq-qci/p04-meni-eng.php#a9>

*Tversky, A., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. Science, 211(4481), 453-458.*

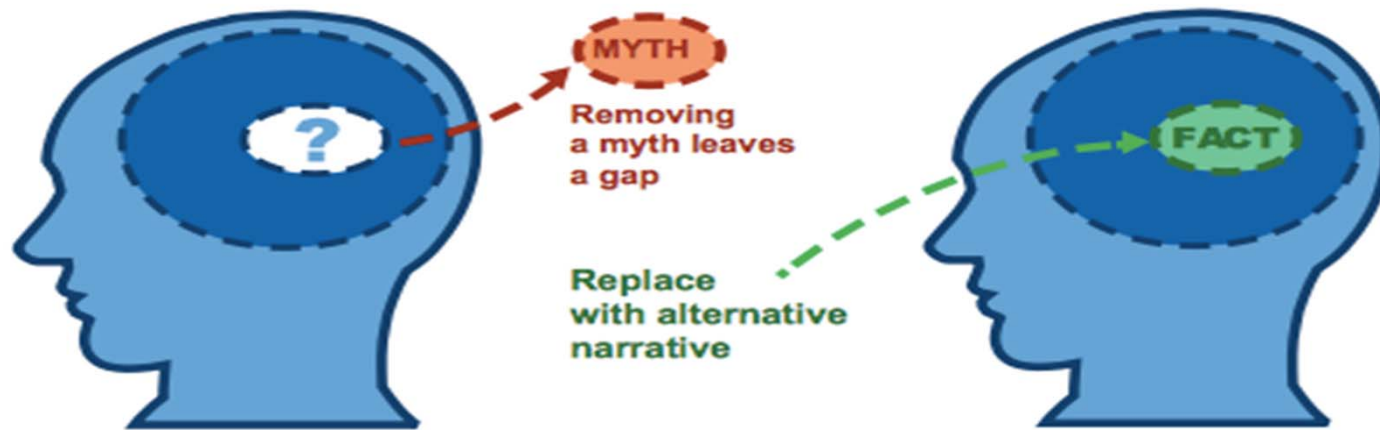
## 6. Narrative Bias

“The more narratives people read, the higher is their perception of risk, regardless of the information contained in simultaneously presented statistical information on the base rate of vaccine adverse events (VAE).”



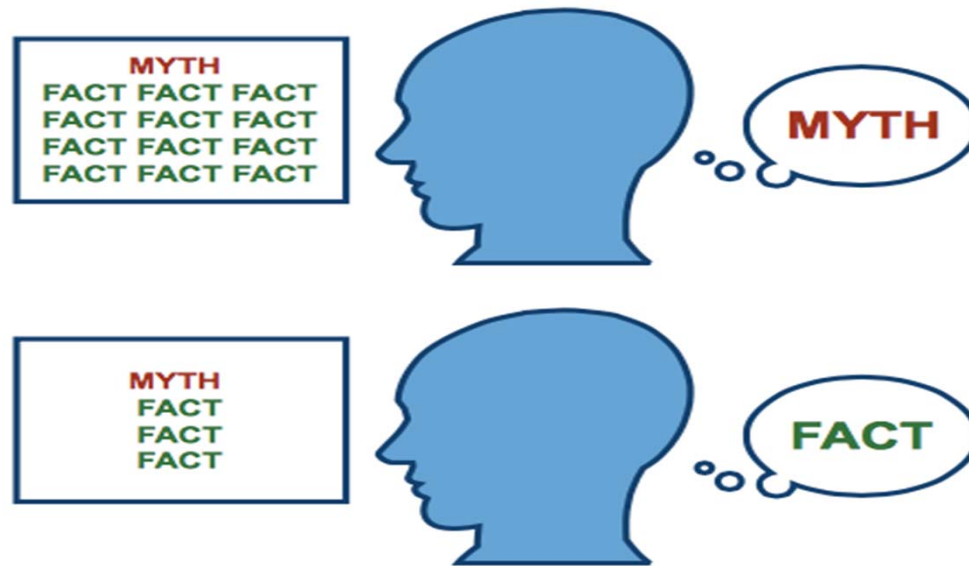
*Betsch, C., Ulshöfer, C., Renkewitz, F., & Betsch, T. (2011). The influence of narrative v. statistical information on perceiving vaccination risks. Medical Decision Making, 31(5), 742-753.*

## 7. Debunking



Cook, J., & Lewandowsky, S. (2011). *The debunking handbook*. Seivoid Art.

## 8. Backfire effect: Debunking



Cook, J., & Lewandowsky, S. (2011). *The debunking handbook*. Seivloid Art.

## Backfire effect



Strong negotiations of risk

Weak negotiations of risk

- 
- It is recommended to use moderate formulations rather than “no risk” statements.

*Betsch, C., & Sachse, K. (2013). Debunking vaccination myths: Strong risk negations can increase perceived vaccination risks. Health psychology, 32(2), 146.*



**Јер пред девојчицама**

мораш да будеш јак



## 9. Pain and Distress with Immunization

- 35%-45% of parents are concerned with pain during childhood vaccinations
- 70% of parents would be less anxious if vaccines were given in a non-painful way
- 85% of parents say doctors/nurses should make vaccinations less painful
- 95% of parents want to learn about reducing pain in their children

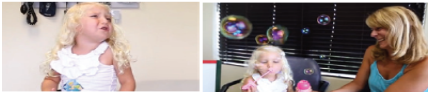
*Kennedy et al. Pediatrics 2011;127 suppl S92-99,  
Taddio et al. Vaccine 2012 Jul 6;30(32):4807-12.*

<http://pediatricpain.ca/it-doesnt-haveto-hurt>

Introducing a fun, light-hearted, and engaging new video for parents & health professionals:

### It Doesn't Have to Hurt:


Strategies for Helping Children with Shots and Needles



View the video at:  
[pediatric-pain.ca/it-doesnt-have-to-hurt](http://pediatric-pain.ca/it-doesnt-have-to-hurt)

f #itdoesnthavetohurt YouTube

**Centre for Pediatric Pain Research**  
SCIENCE HELPING CHILDREN



Presented in an entertaining and informative way (& backed by scientific research!).  
**Please watch and pass it on!**

**Do your kids get upset about going to the doctor to get a needle?**

## 10. Reminders Make a Difference

Systematic review: effect on 0-5 years imm

- postal and telephone reminders help
- 2 min video sent by email on pneumococcal vaccines sent to seniors prior to clinic visit -↑ uptake -  
<https://www.sciencedaily.com/releases/2016/05/160514105710.htm>
- SMS infant vax reminder LMIC(Guatamala City)

# 11. Mandatory Vaccination & Financial Incentives

Mandatory Immunization for school entry

Outcomes: US- ↑ rates non medical exemptions;

not lead to high uptake -may **backfire**

e.g. UK- 150 years ago compulsory small pox vaccine:

Incentives:

HCW: UK -GP imm incentives ↑ uptake; US RCT Peds-no

Patient incentives: sys review – not enough evidence but where done parents appear to like: Australia



[www.dcclothesline.com](http://www.dcclothesline.com)

*Dubov A, Phung C. Vaccine 2015;33: 2530-35; Salmon DA, et al. Lancet Infect Dis. 2015;15:872-3. Dube E, MacDonald NE. CMAJ 2016 ;188:E17-8; Hull et al British Journal of General Practice. 2000;50:183-187; Fu LY et al. Pediatrics 2016; 137: e2 0154603; Adams et al Plos One 2016*

## 12. Consider a chart?

LEVEL OF CONCERN	SIGNS	SUGGESTIONS
Very worried	Child has had no vaccines	Avoid alienating Maintain relationship Offer more information/discussion
Quite worried	Some vaccines Showing strong reluctance	Provide information Give more time Adverse events clinic
Fence sitter	Expresses concerns about a vaccine	Discuss issues and vaccinate Written materials and return visit
Fleeting concerns	Child is usually vaccinated	Provide information and vaccinate

*Leask et al, 2012, Doctors and dissenters: a study of how GPs respond to parental hesitance about childhood immunisation.*

Thank you



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Extra Slides: Tools to consider to build acceptance and address skepticism and hesitancy



## Hesitancy is contextual: one response model will not fit all

- Social Features
- Cultural Features
- Ethical and Spiritual Features
- Legal Features
- Political Features
- Resource Features
  
- BC takes place within an Enabling Environment which is ever evolving
  
- Enhance people's capacity, presenting them with optimal opportunity, ability and motivation to vaccinate.
  
- To do that, we need to listen (locally)



## The Guide to Tailoring Immunization Programmes (TIP)



Increasing coverage of infant  
and child vaccination in the  
WHO European Region



World Health  
Organization  
REGIONAL OFFICE FOR  
Europe

## Improving our diagnostics: Tailoring Immunization Programmes (TIP)

<http://www.euro.who.int/TIP>



## TIP - The Starting Point: The Child and Caregiver(s)

A people-centered approach  
grounded in reality

In contrast to the “medical era”

Behaviours are complex

Solutions are integrated

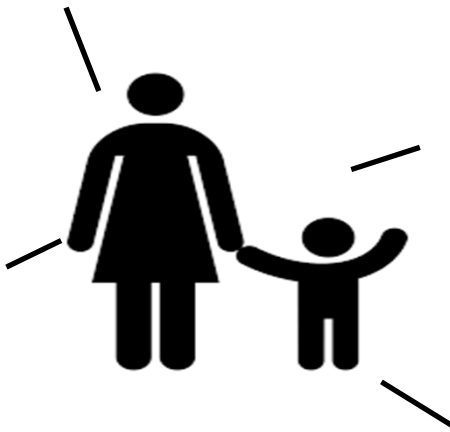


## Example: segmentation, Charedi mothers

The concerned mother

The mother who is sceptical  
of health authorities

The community-  
focused mother



The busy mother



## What can be done to enhance vaccine acceptance

- Detect and address demand/acceptance
- Ensure vaccine providers have best immunization practices
- Use evidence-based strategies known to ↑ vaccine uptake
- Effective communication and crisis response plan
- Educate children, youths, adults on the importance immunization
- Work collaboratively (multi-sectorial)



## Examples of activities and policies to reach and maintain high population immunity

- Vaccination registers with reminder systems
- Supplementary immunization activities
- Tailoring Immunization Programmes
- Opportunity vaccination
- Pre-school entry policies
- Pre-travel vaccination
- Health workers policies
- Prompt outbreak response



# Vaccine demand and equitable extension of services



## Vaccine confidence-building and crisis response

- New support package
- Hand-over to global



## MR symposium event

- With London School of Hygiene and Tropical Medicine

## Intersectoral health education

- Pilot



## The digital Classroom



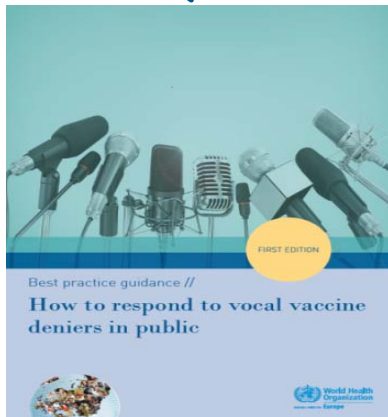
## Behavioural insights and people-centred approaches through the TIP programme

- Evaluation
- New materials and opportunities

# Vaccine demand and equitable extension of services

## Responding to vaccine deniers

- Tested in training workshop
- Commentary accepted by Vaccine



24–30 April 2016

Narrative report:  
**European Immunization Week 2016**



European  
Immunization  
Week

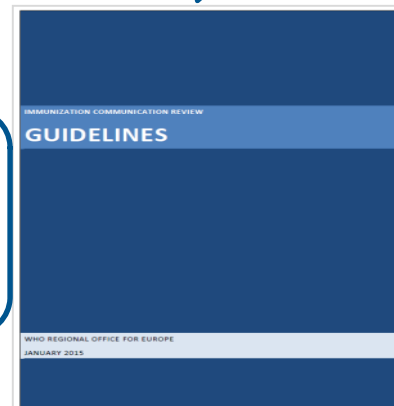
Prevent Protect Immunize

## Annual advocacy event

- National activities to promote immunization
- Narrative report

## Technical support to Member States

- Immunization communication reviews
- Ongoing support



WHO EpiBrief

Immunize Europe Forum

immunize-europe.org

**Immunization highlights 2015**  
Report of the WHO Regional Office for Europe  
World Health Organization  
Regional Office for Europe

## Regional advocacy platform (EVAP)

- Web
- New online forum
- Reports
- Social media
- Immunization Highlights
- WHO EPI Brief