

# Managing risks and rumours: Addressing safety concerns and mitigating rumours

## LNCT Vaccine hesitancy workshop

*Supporting countries in assessing and addressing vaccine hesitancy*



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LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



# Session objectives:

- Identify common vaccine concerns
- Identify key components of AEFI management -- distinguishing real vaccine risks from rumors
- Understand approaches to addressing public concerns about vaccines from real safety issues to rumours
- Understand the importance of proactive confidence building around vaccine safety and how to implement strategies to build public confidence in immunization safety

## 'A warning from history': How the polio virus escaped the GPEI

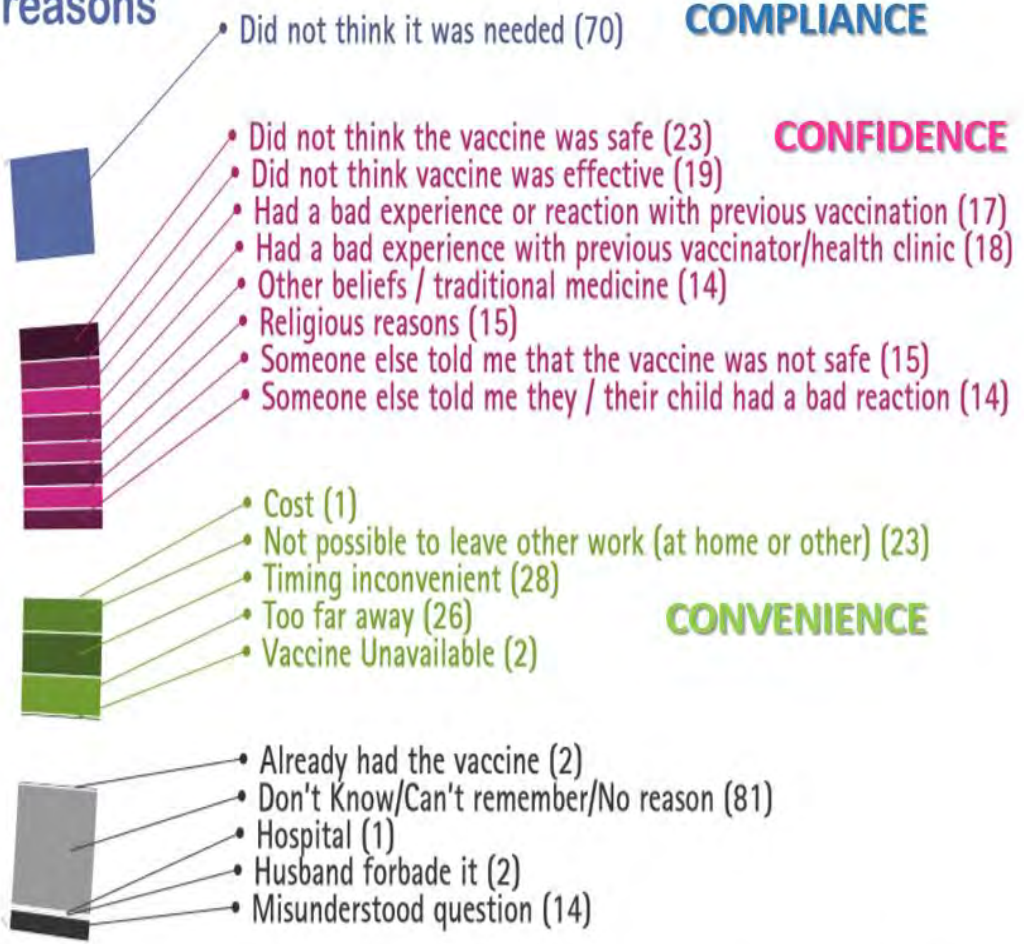
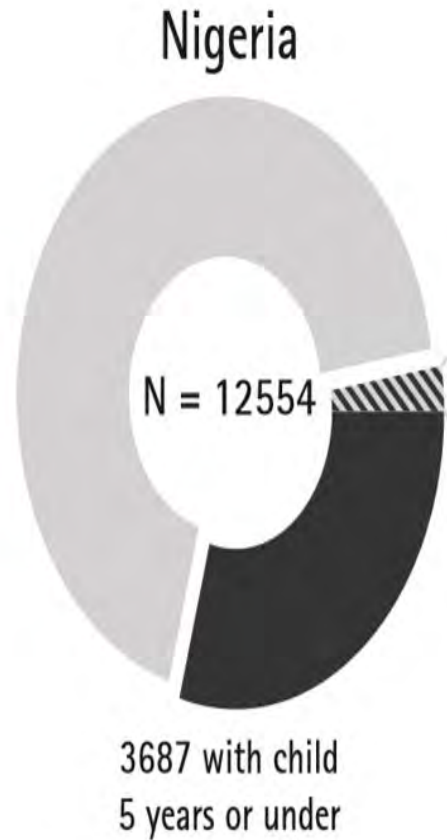


*Published originally in the November 2012 Report of the Independent Monitoring Board of the GPEI, this figure presents the spread of poliovirus from Nigeria following the 2003-2004 boycott. The IMB aptly titled its figure "A warning from history."*

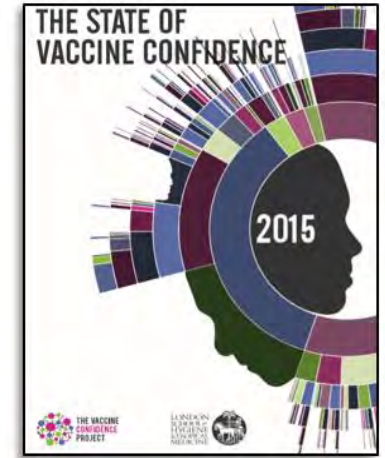
*Source: IMB. 2012. Sixth Report of the Independent Monitoring Board of the Global Polio Eradication Initiative: November 2012. Page 11. Available at: [http://www.polioeradication.org/Portals/0/Document/Aboutus/Governance/IMB/7IMBMeeting/7IMB\\_Report\\_EN.pdf](http://www.polioeradication.org/Portals/0/Document/Aboutus/Governance/IMB/7IMBMeeting/7IMB_Report_EN.pdf)*

# The State of Vaccine Confidence

## Vaccine-hesitant parents and their reasons



385 reasons given



# Survey size and prevalence of hesitancy and refusal

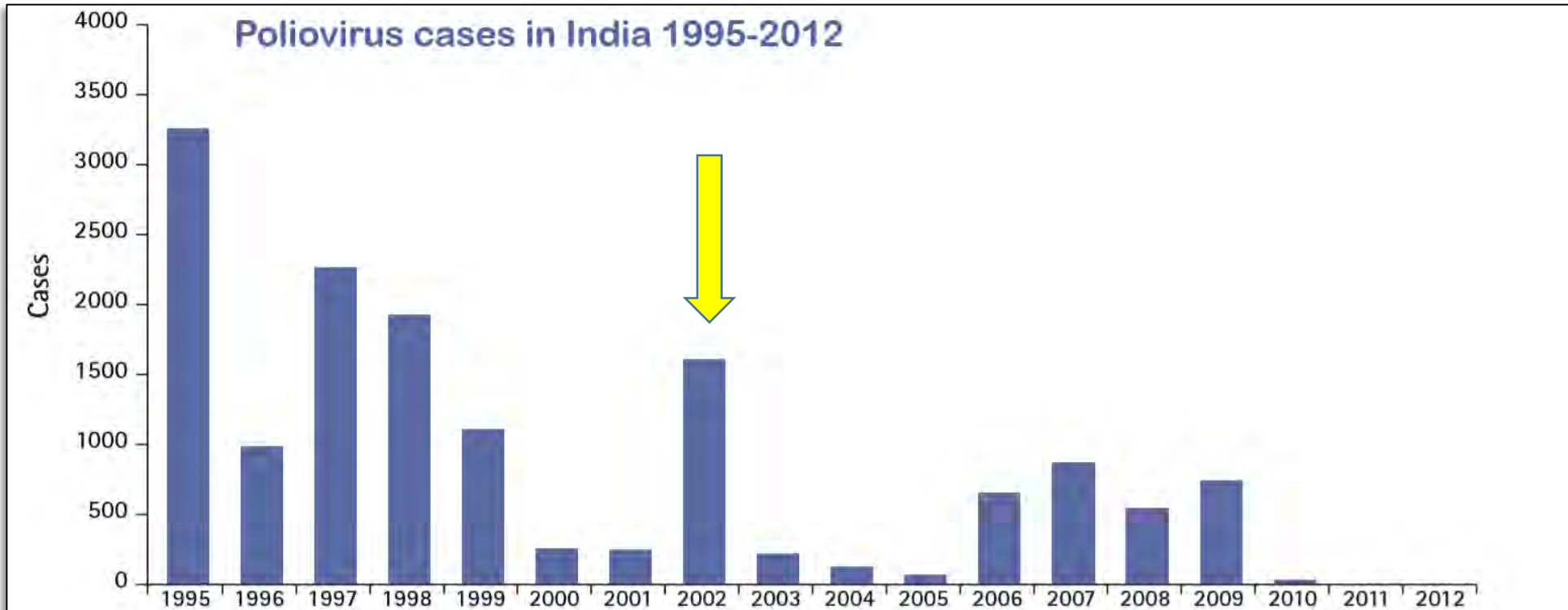
	Survey Size	With Child ≤5 years old (RCU5)	Hesitants	Hesitants as % of respondents	Outright refusers	Outright refusers as % of hesitants
India	1259	288	36	12.5%	6	16.7%
Pakistan	2609	709	99	13.9%	15	15.2%
UK	2055	196	48	24.5%	13	27.1%
Nigeria	12554	3687	308	8.4%	70	22.7%
Georgia	1000	474*	35	7.4%	21	60%

Nigerian States	Outright refusers as % of hesitants
Enugu	29.6%
Jigawa	9.9%
Kaduna	16.7%
Kano	74.2%
Lagos	22.2%
Total	22.7%



Source: Larson, H., Schulz, W., Tucker, J., & Smith, D. 2015. *Measuring Vaccine Confidence: Introducing a Global Vaccine Confidence Index*. PLoS Currents Outbreaks. 25 Feb. Edition 1. doi: 10.1371/currents.outbreaks.ce0f6177bc97332602a8e3fe7d7f7cc4.

Before the 2003-2004 Nigeria boycott, similar rumors were circulating in India, and polio cases resurged



*This graph tracks India's journey from suffering the world's greatest burden of polio cases, through to its successful elimination of the virus.*

*Source: Adapted from John TJ and Vashishtha. 2013. Eradicating poliomyelitis: India's journey from hyper-endemic to polio-free status. Indian Med Res. 137(5), p.881-894. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/23760372> [Accessed 19 March 2015].*

## Sterilization rumors (not only vaccines) have been around for a long time - will continue

<u>Date</u>	<u>Country/region</u>	<u>Health intervention</u>
<u>1920s</u>	<u>South Africa</u>	<u>Zululand Quinine</u> (anti-malaria) Causes sterility
	<u>Zimbabwe</u>	Childhood <b>vaccinations</b> Causes sterility
<u>1959</u>	<u>Congo</u>	– <u>Kikwit Polio vaccine</u> Makes children sterile
<u>1960</u>	<u>Malawi</u>	<u>Smallpox vaccination</u> Causes sterility
<u>1980s</u>	<u>Uganda</u>	<u>Polio vaccination</u> Makes children sterile
<u>1983</u>	<u>Burundi</u>	Childhood <b>vaccination</b> Makes children sterile
<u>1973</u>	<u>Zimbabwe</u>	<u>Chloroquine distribution</u> Causes sterility
<u>1986</u>	<u>Kenya</u>	<u>Childhood vaccination</u> Contains contraceptives
<u>1990s</u>	<u>Malawi</u>	<u>Famine relief</u> Causes sterility
<u>1990s</u>	<u>Malawi</u>	<u>Condom distribution</u> Causes sterility
<u>1990</u>	<u>Cameroon</u>	<u>Tetanus toxoid vaccine</u> -sterilizes
<u>1992</u>	<u>Nigeria</u>	– Childhood vaccination Makes children sterile
<u>1993</u>	<u>Kenya</u>	<u>Distribution of milk</u> to school children Contains contraceptives
<u>1994</u>	<u>Tanzania</u>	<u>Tetanus toxoid vaccine</u> Is “anti-fertility”
<u>1994</u>	<u>Nigeria</u>	– <u>Headache remedies</u> Contains contraceptives
<u>1996</u>	<u>Kenya</u>	Childhood <b>vaccinations</b> Makes children sterile
<u>1996</u>	<u>Malawi</u>	Childhood <b>vaccinations</b> Makes children sterile

### STERILIZATION RUMORS ACROSS AFRICA

<u>1996</u>	<u>Uganda</u>	<u>Polio vaccine</u> Contains “anti-fertility drugs”
<u>1997</u>	<u>Kenya</u>	<u>Polio vaccine</u> Contains “anti-fertility drugs”
<u>1998</u>	<u>Angola</u>	Childhood <b>vaccines</b> Contains contraceptives
<u>1999</u>	<u>Mozambique</u>	Childhood <b>vaccinations</b> Causes sterility
<u>2003</u>	<u>Niger</u>	Childhood <b>vaccinations</b> Makes children sterile
<u>2003</u>	<u>Nigeria</u>	– northern <u>Polio vaccine</u> Causes sterility
<u>2003</u>	<u>Zambia</u>	<u>Measles vaccine</u> Makes children sterile
<u>2003</u>	<u>Zambia</u>	<u>Micronutrients</u> Makes children sterile
<u>2004</u>	<u>Somalia</u>	<u>Polio vaccine</u> Makes children sterile <u>2</u>
<u>2004</u>	<u>Zambia</u>	<u>Famine relief</u> Makes men sterile
<u>2005</u>	<u>Guinea</u>	Childhood <b>vaccinations</b> Contains “family planning”
<u>2006</u>	<u>“Africa and Asia”</u>	<u>Micronutrients</u> Causes sterility in women
<u>2006</u>	<u>“West Africa”</u>	Childhood <b>vaccinations</b> Causes sterility
<u>2006</u>	<u>Djibouti</u>	<u>Polio vaccine</u> Makes children sterile
<u>2006</u>	<u>Kenya and Zambia</u>	<u>Vitamin tablets</u> Causes sterility

22/32 – vaccine related

# Old Rumours re-appear (20 years later)



## Kenya Catholic Church tetanus vaccine fears 'unfounded'

13 October 2014 Last updated at 19:58 BST

Kenya's government has dismissed allegations made by the country's Catholic Church that a tetanus vaccine can cause sterility in women.

"It's a safe certified vaccine," Health Minister James Macharia told BBC.

Catholic priests have been telling their congregations to boycott a vaccination campaign that begins on Monday to vaccinate women against tetanus.

Dennis Okari reports from Nairobi

Read more

**Kenya Catholic Church tetanus vaccine fears 'unfounded'**

**In pictures: Pneumonia vaccination in Nairobi**

[http://www.bbc.co.uk/news/world-africa-29604501,](http://www.bbc.co.uk/news/world-africa-29604501)

## CATHOLIC HERALD

Latest News

### Kenyan bishops call for no more tetanus vaccines until further tests

by Catholic News Service posted Monday, 19 Jan 2015



Cardinal John Njue of Nairobi signed the bishops' statement (CNS)

***Bishops say vaccines must be 'appropriately tested and proven to be safe'***

Kenya's bishops have insisted that "no further mass tetanus vaccination campaigns" should take place in the country until the

**S<sup>b</sup> ScienceBlogs™**

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## The Kenyan Catholic Bishops are at it again, this time spreading fear of the polio vaccine

<https://scienceblogs.com/insolence/2015/08/12/the-kenyan-catholic-bishops-are-at-it-again-this-time-fear-mongering-about-the-polio-vaccine>

<http://www.catholicherald.co.uk/news/2015/01/19/kenyan-bishops-call-for-no-more-tetanus-vaccines-until-further-tests/>



## Coverage for tetanus toxoid in the Philippines 1987-1996

Year	TT2+ coverage
1987	28.9%
1988	37.2%
1989	43.6%
1990	42.3%
1991	53.7%
1992	16.8%*
1993	70.0%
1994	69.3%
1995	57.5%
1996	47.0%

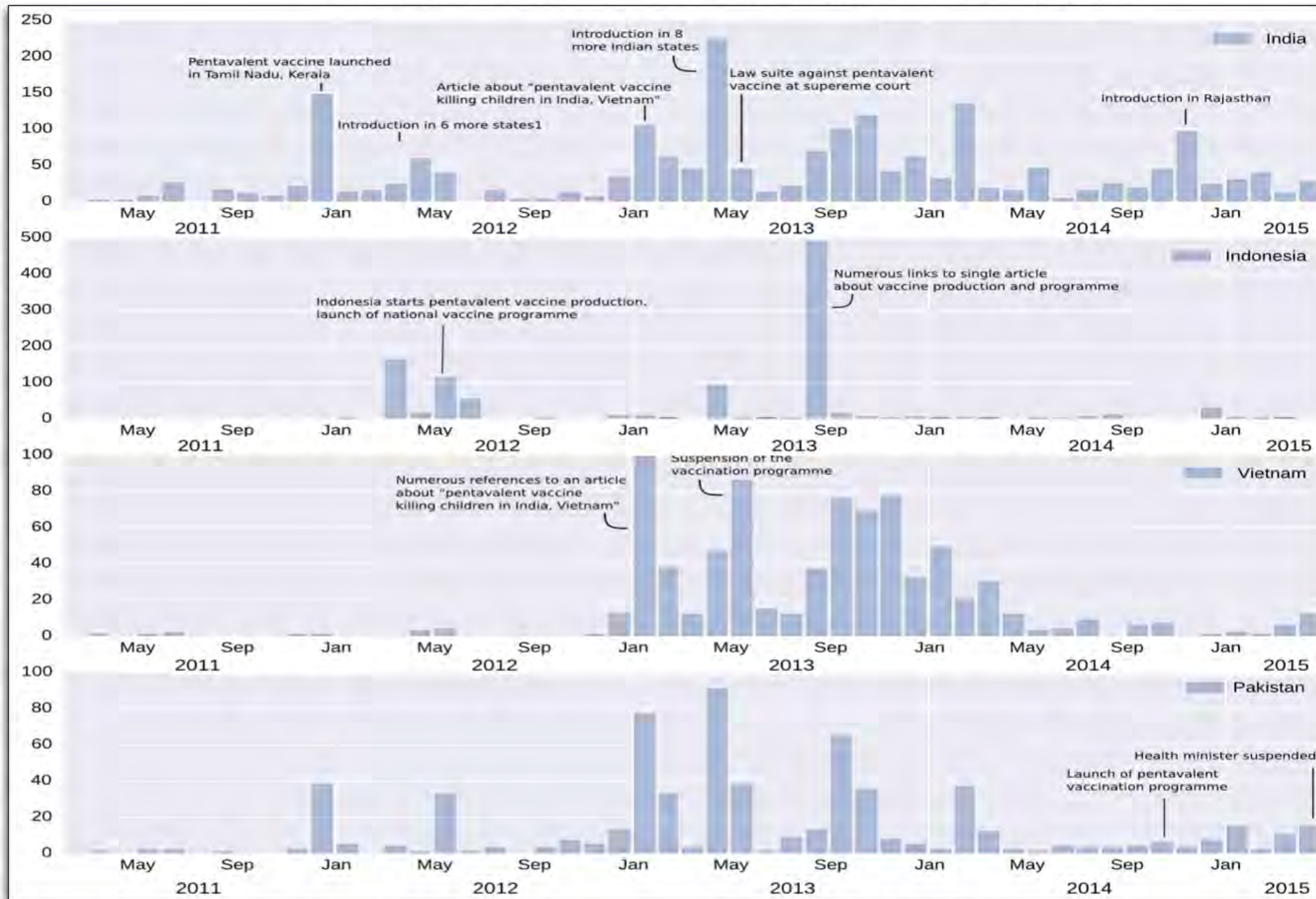
\* *Incomplete reporting.*

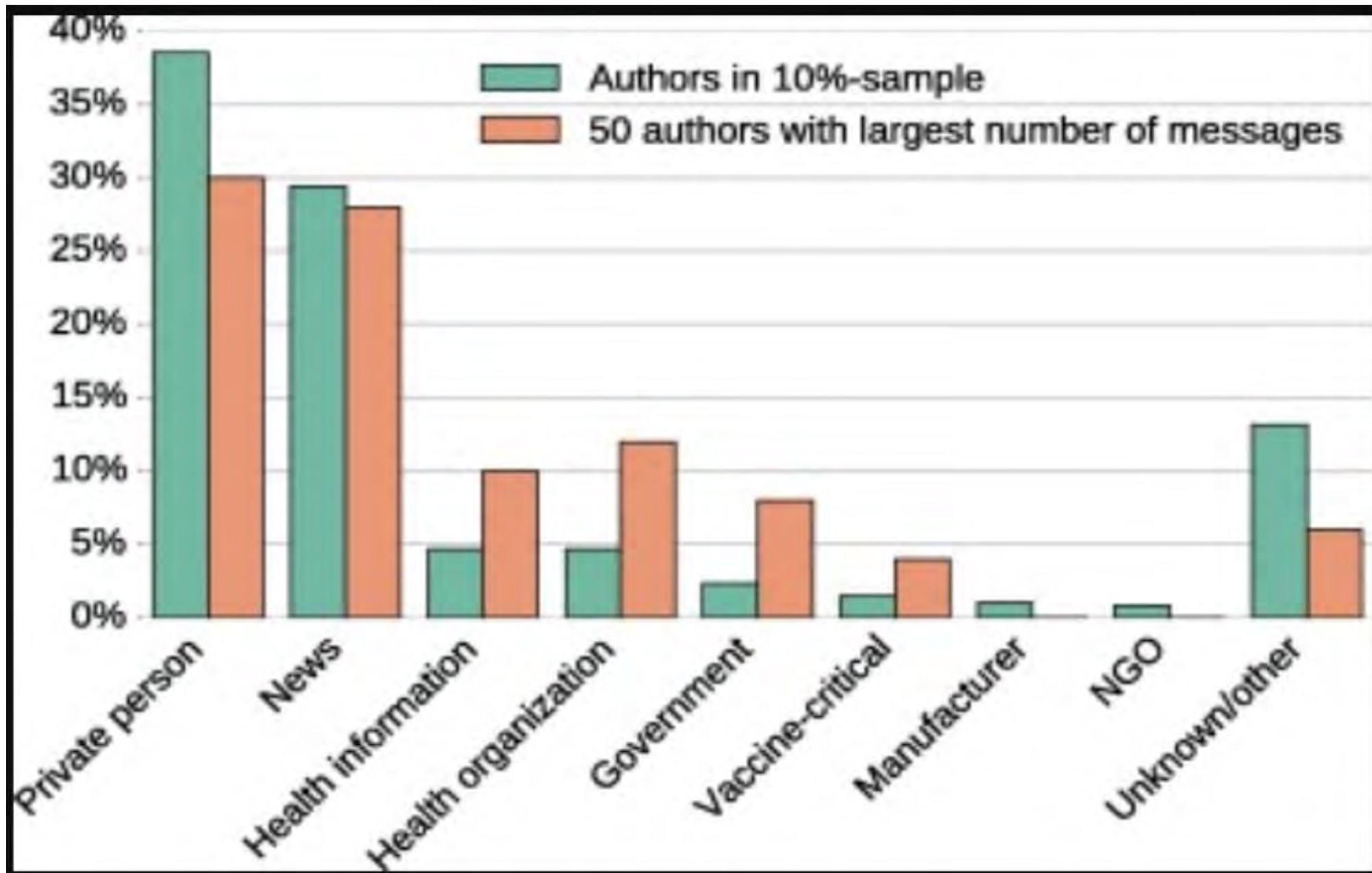
Source: UNICEF Kenya. 2001. *Combatting Antivaccination Rumours: Lessons Learned from Case Studies in East Africa.*

**Sterilization  
Rumours – Manila  
Mayor bans  
tetanus  
vaccination**

# DTP-Hib Pentavalent introduction safety perceptions

## DTP-HepB-Hib vaccine tweets from July 2006 until May 2015

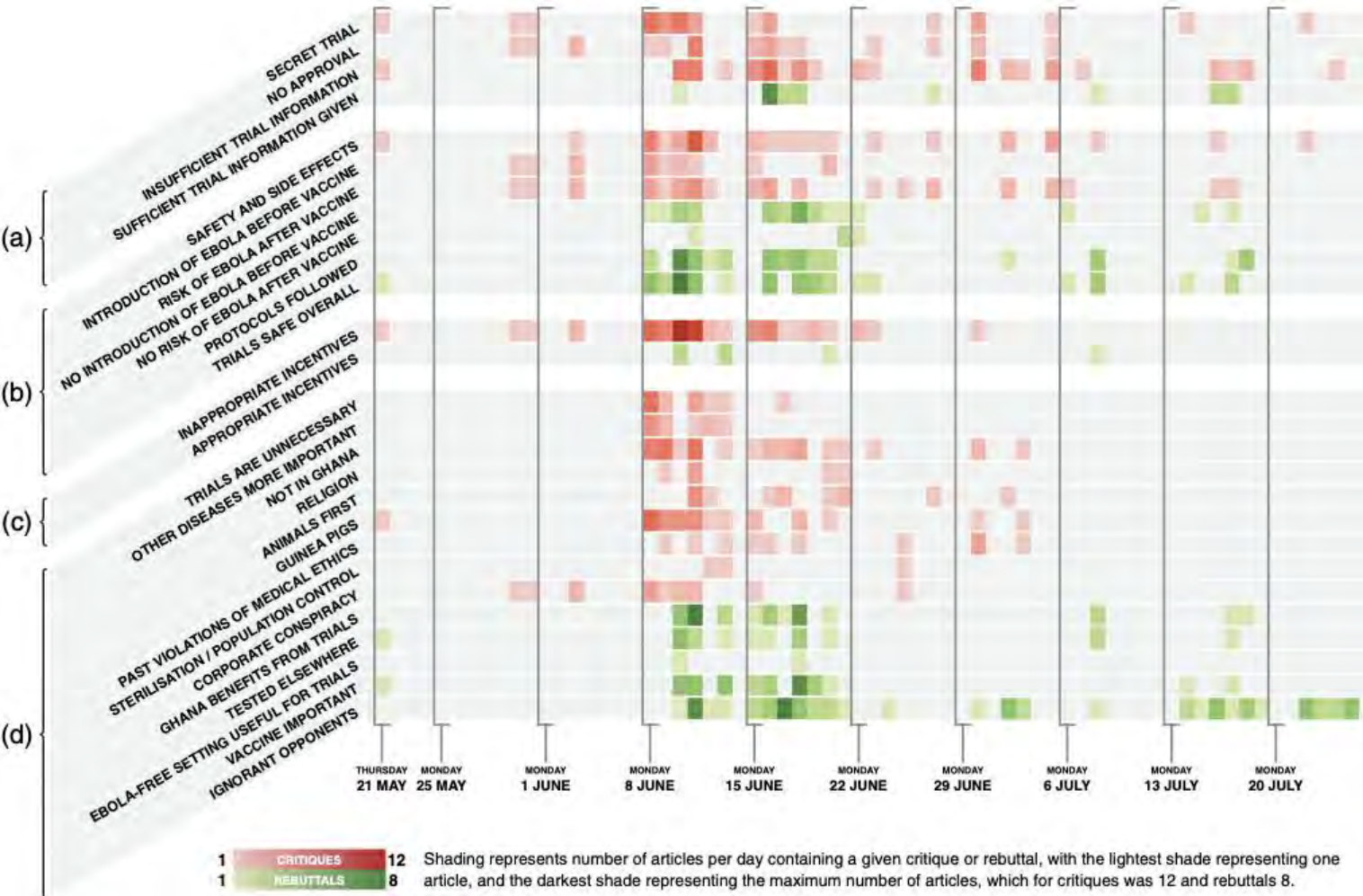






# Controversial Ebola vaccine trials in Ghana: a thematic analysis of critiques and rebuttals in digital news

Per Egil Kummervold<sup>1\*</sup>, William S. Schulz<sup>2</sup>, Elizabeth Smout<sup>2</sup>, Luis Fernandez-Luque<sup>1,3</sup> and Heidi J. Larson<sup>2</sup>



This included **media monitoring** to track and analyze **rumours** that **suspended two Ebola vaccine trials** in **Ghana**

# Controversial Ebola vaccine trials in Ghana: a thematic analysis of critiques and rebuttals in digital news



Per Egil Kummervold<sup>1\*</sup>, William S. Schulz<sup>2</sup>, Elizabeth Smout<sup>2</sup>, Luis Fernandez-Luque<sup>1,3</sup> and Heidi J. Larson<sup>2</sup>

**Discussion:** Perceptions that the trials were "secret" arose from a combination of premature news reporting and the fact that the trials were prohibited from conducting any publicity before being approved at the time that the story came out, which created an impression of secrecy. Fears about Ebola being spread in Ghana appeared in two forms, the first alleging that scientists would intentionally infect Ghanaians with Ebola in order to test the vaccine, and the second suggesting that the vaccine might give trial participants Ebola as a side-effect.



A lot of people are confused. The youth are agitating, and massing up for a demonstration.

*“... scientists of the Ghana Food and Drugs Authority (FDA) blithely authorised Ghanaian scientists, working for a foreign pharmaceutical company to carry out trials of an Ebola vaccine, without so much as a word to the Ghanaian public, to prepare their minds for the trials.” (Ghanaian Times, 30.06).*



That was the feeling among the people.

**Risk as feelings**  
(fast , instinctive, emotional.. )

**Risk as analysis**  
(logic, reason, scientific...)

**Risk as Politics**

Slovic et al. Risk Analysis 2004; 24 (2): 311-22



Show 10 minute video interviewing different sides of the Ghana Ebola vaccine rumors

The screenshot shows the Vaccine Confidence Project website. At the top left is the logo for the Vaccine Confidence Project, and at the top right is the logo for the London School of Hygiene & Tropical Medicine. The navigation menu includes Home, About, Research, Archive, Resources, and Contact. The main article is titled "Controversial Ebola Vaccine Trials in Ghana" and is dated 14 Feb. 2018. Below the title is a video player with a play button and a caption that reads: "I saw from Starr FM online, a local radio station, reporting that a midwifery school in the Volta region". To the right of the article are sections for "Literature" and "Videos". The "Literature" section lists several articles with titles like "What is causing high polio vaccine dropout among Pakistani children?" and "To talk better about vaccines, we should talk less about vaccines". The "Videos" section features a "Public Health United Podcast" and a "Panel Discussion: The State of Vaccine Confidence". At the bottom of the page, there is a timestamp: "This entry was posted on Wednesday, February 14th, 2018 at 1:47 pm and is filed under Vaccine".

How would you manage a rumor situation when there is no real vaccine risk, but still public panic?  
**(Break into working groups)**



## RESPONDING TO RUMOURS AND CRISES

### Preparatory work



#### Key point

Expect crises! They will happen. Be prepared.

When planning your communication to effectively deal with rumours and crises, consider the following three questions:

- Who are your "allies" in dealing with a crisis in public confidence in vaccine safety?
- What are the main elements of your communication plan to deal with rumours and crises effectively?
- Why could your crisis communication plan fail?

Particularly knowing the persons available to support you during a crisis is important. Think of who is best positioned to support you in developing and implementing your crisis communication plan. Professionals working in your post-marketing surveillance system may be well positioned to resolve a crisis swiftly by providing facts and information and supporting the communication. Also think about possible alliances outside your usual contacts who could add their expertise or support; for example, an organization that might fund aspects of your communication strategy such as printing leaflets, or a scientific journalist who might write an evidence-based article counteracting unfounded information arising from a rumour.

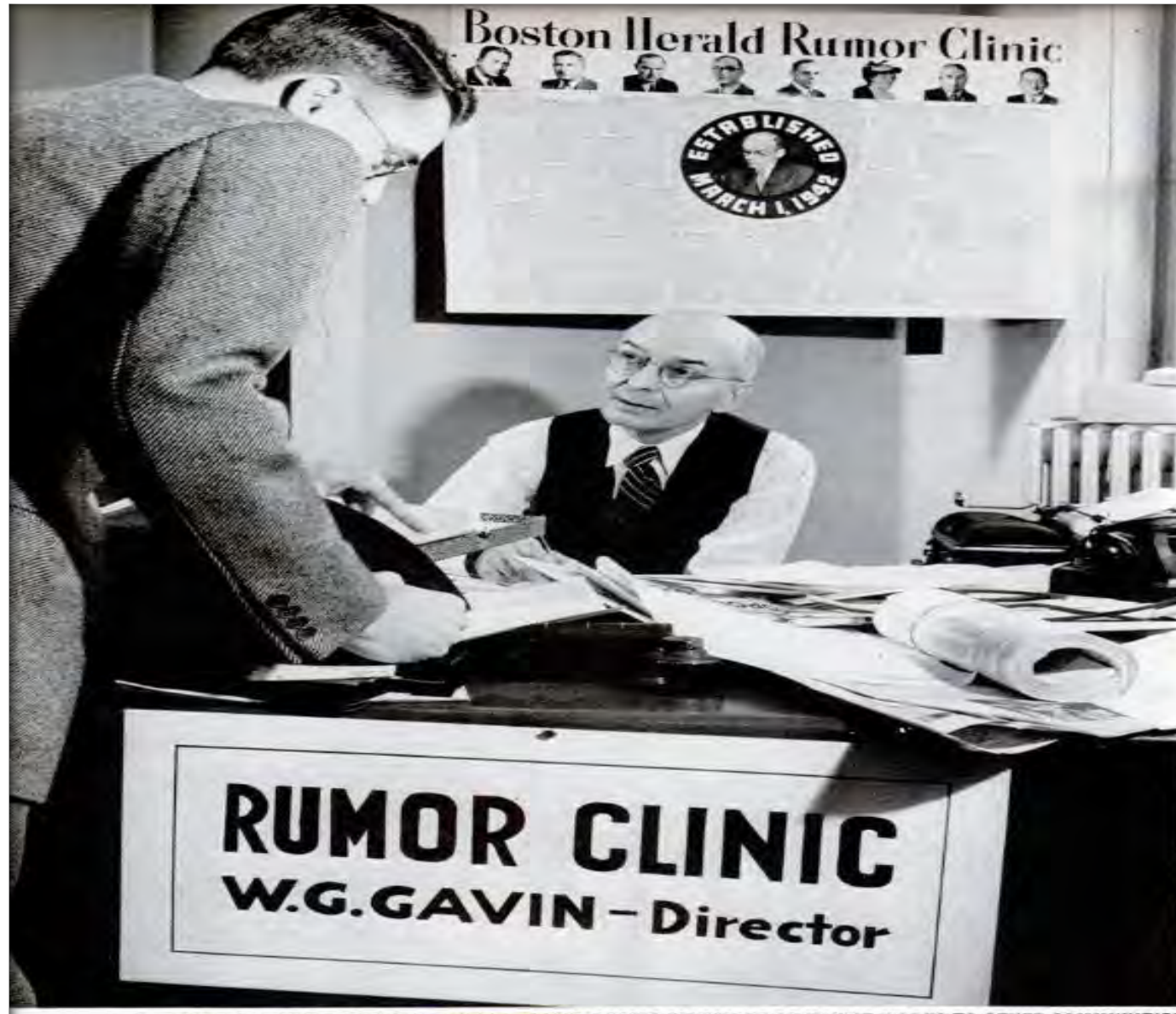
Before you begin work on your crisis communication plan, make sure that you have clear information and understanding of the crisis or rumour.

#### DEFINE THE NATURE OF THE CRISIS

- Is the crisis linked to immunization or not?
- How soon will facts be available?
- What is the damage potential?

#### DEFINE THE NATURE OF THE RUMOUR

- Where does it come from?
- Is it based on facts?
- Who is likely to be affected by it?
- How is it spread and by whom?



ASSISTANT PUBLISHER GAVIN RUNS RUMOR CLINIC, OFFERS BLUEPRINT OF HOW IT WORKS TO OTHER COMMUNITIES

# RUMOR CLINIC

**Boston** finds truth is best arm against stories that harm morale

Of all the virus that attack the vulnerable nerve tissues of a nation at war, **rumor** is the most malignant. Breeding sometimes in the stinkholes of enemy propaganda, sometimes in the muddled minds of gossips and show-offs, it spreads through a community with the rapidity of measles. It damages public morale as effectively as infectious disease damages public physique. Its most dangerous carriers are innocent folk who love to tell a tall tale.

In **Boston**, Mass., a community where political and racial conflicts create an ideal spawning ground, rumors have flourished viciously. Alarmed, a few forceful citizens got together last spring, evolved a method for scotching them. Since the **rumor** virus thrives in dark places, they decided to expose it to the clear light of truth. An outline of their plan has already been printed in the *American Mercury*, picked up in the September issue of the *Reader's Digest*. On these pages, you see it at work.

Three groups contribute toward the plan: 1) the **Boston Herald** which, in a weekly column called "The **Rumor Clinic**," publishes and authoritatively refutes the current crop of lies; 2) the Division of Propaganda Research, set up within the Massachusetts Committee on Public Safety to collect and analyze rumors, formulate counter-propaganda (*see p. 92*); 3) a willing band of volunteer workers who round up rumors, serve as samplers of public opinion and squashers of foolish fables. Outstanding among these is a fearless firebrand called Frances Sweeney (*see p. 90*).

Most notable difference between the rumors of World Wars I and II is that atrocity stories about the enemy are rare today. The vast majority of hate-and-horror tales are directed against the U. S. itself. This is because the Axis has been clever enough, via short-wave broadcasts and moral saboteurs, to exploit existing lines of discontent. Thus the people of the U. S. are led to a sort of psychological suicide by serving to circulate dangerous lies about U. S. Jews, U. S. Negroes, U. S. allies, U. S. leaders. No better could they aid the Nazi tactics of divide-and-conquer.



## CASE STUDY: MUSLIM LEADERS COUNTER RESISTANCE TO POLIO VACCINATIONS IN INDIA



An official at a local Muslim university administers oral polio vaccine to an infant in Aligarh, Uttar Pradesh.



## Nigeria

### BUILDING TRUST IN IMMUNIZATION Partnering with Religious Leaders and Groups

For every child  
Health, Education, Equality, Protection  
ADVANCE HUMANITY



2004

## BUILDING TRUST

In responding to resistance, the first reaction is to develop messages to counter the resistance and disseminate them immediately. Experience shows that a more measured approach is often more effective.

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# Fake news and distrust of science could lead to global epidemics

Distrust in scientific expertise puts public health at risk



# The biggest pandemic risk? Viral misinformation

A century after the world's worst flu epidemic, rapid spread of misinformation is undermining trust in vaccines crucial to public health, warns Heidi Larson.

This month, the death rate from the 1918 pandemic. An estimated 500 million people were rse of the pandemic; between 50 million .3% of the global population at the time. vaccines have made massive outbreaks of phtheria and polio — rare. But people still . Few realize that flu and its complications leaths in the United States alone this past 7 and infirm. Of the 183 children whose related, 80% had not been vaccinated that enters for Disease Control and Prevention. for outbreak — whether of a highly fatal thing else — will not be due to a lack of ead, emotional cond erode trust in vac- m moot. The deluge nisinformation and social media should lic-health threat. Vaccine Confidence s to detect early sig- ightout vaccines, and hey snowball. The s experts in anthro- ics, political science s and social media, ave also developed a nilar to a consumer- itudes. are volatile, making ial for effective pub-

disciplined and his article retracted 12 months after publication rather than 12 years, we might not be remarking that this year marks the twentieth anniversary of its publication.

The second-most-dangerous category includes those who see anti-vaccine debates as a financial opportunity for selling books, services, or other products. (Wakefield, who maintains that financial concerns have not affected his research and that he has been unfairly vilified, gave paid testimony against the vaccine and filed a patent that allegedly stood to become more valuable were the vaccine to be discredited.)

The next tier of damaging misinformation comes from those who see anti-vaccine debates as a political opportunity, a wedge with which to polarize society. Multiple reports this year found that Russian trolls and bots used emotional, angry language to spread misinformation and exacerbate the divisions between those for and against vaccines (see D. A. Broniatowski *et al. Am. J. Pub. Health* **108**, 1378–1384; 2018).

Next are 'super-spreaders', who propagate misinformation through social media to like-minded vaccine-questioners. A common claim is that suspected adverse reactions to vaccines (typically coincidences) are confirmed reactions. Finally, there is misunderstood or inadequate information that might be circulating generally.

Targeted social media can combat misinformation. Both Denmark and Ireland faced groups broadcasting testimonies on social media and television news of young girls alleged to have been harmed by human papillomavirus (HPV) vaccination. In Denmark, national immunization rates fell from over 90% in 2000 to under 20% in 2005.

EMOTIONS AROUND  
VACCINES ARE  
**VOLATILE,**  
MAKING  
**VIGILANCE**  
CRUCIAL FOR PUBLIC  
OUTREACH.

“Fake news” has also been here before

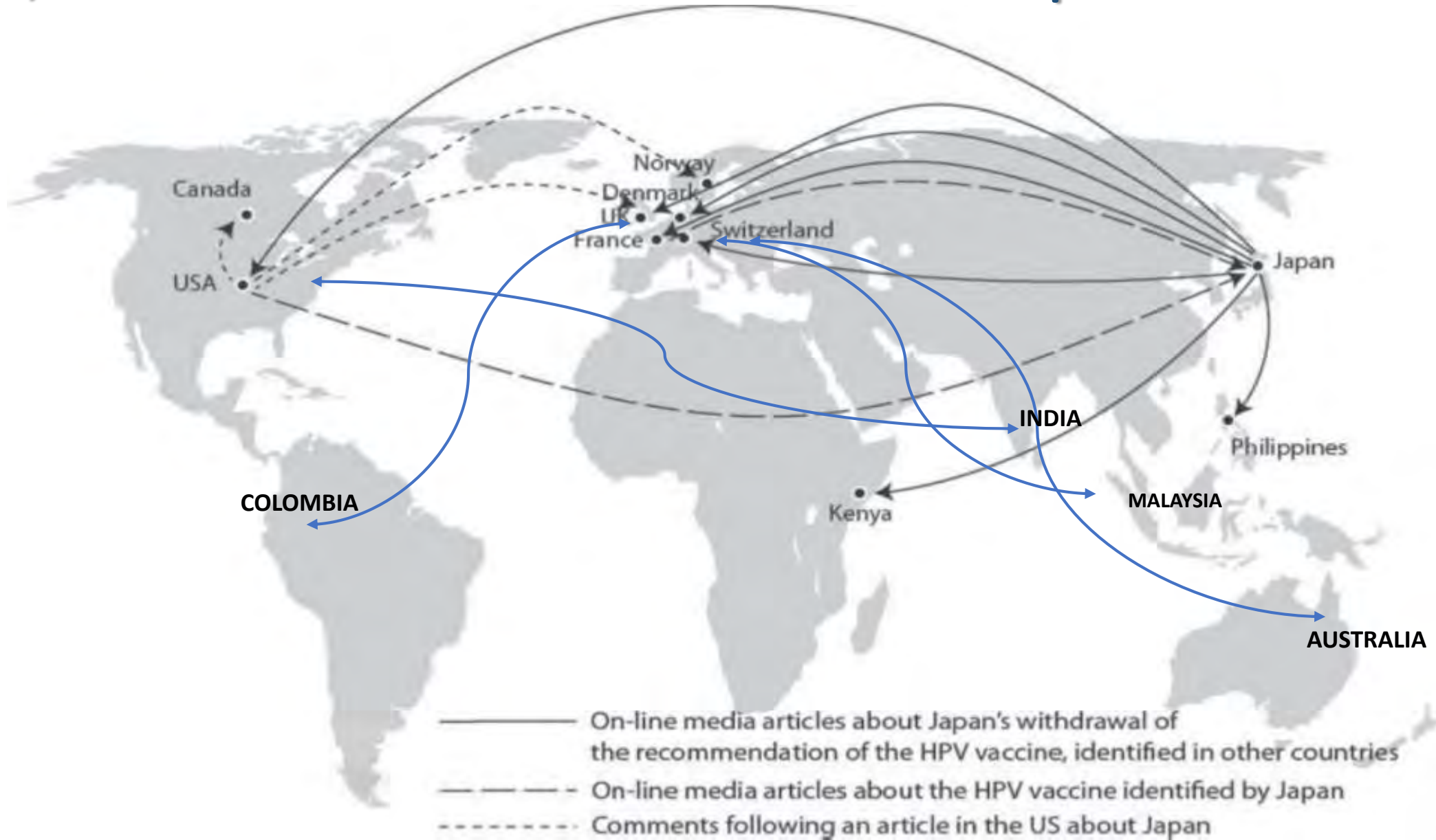


1894

Yellow Journalism: The “Fake News” of the 19th Century



# But, misinformation and rumours can spread more rapidly



# These viral emotions are global

## International Business Times

INDIA ELECTIONS WORLD BUSINESS TECHNOLOGY SPORTS ENTERTAINMENT AUTO

Home Society

### Tamil Nadu: Fake anti-vaccination messages circulated widely on WhatsApp and Facebook, fuelling fears that polio might return

The messages seem to be based on a study that has been disproved and its author barred from practising medicine in the United Kingdom.

Scroll.in

Thursday, March 16th 2017

Home Video The Latest The Reel The Field Magazine **Pulse** In Pictures Bookshop Trending Sections

### WhatsApp rumours about vaccinations hamper India's drive to halt measles and rubella

## THE NEW INDIAN EXPRESS

WORLD STATES CITIES BUSINESS

Home > States > Tamil Nadu

### Social media voices warn parents ahead of vaccination drive in Tamil Nadu

By Sruthi R Mallya | Express News Service | Published: 29th January 2017 05:06 AM | Last Updated: 29th January 2017 05:06 AM | A+ A A- |

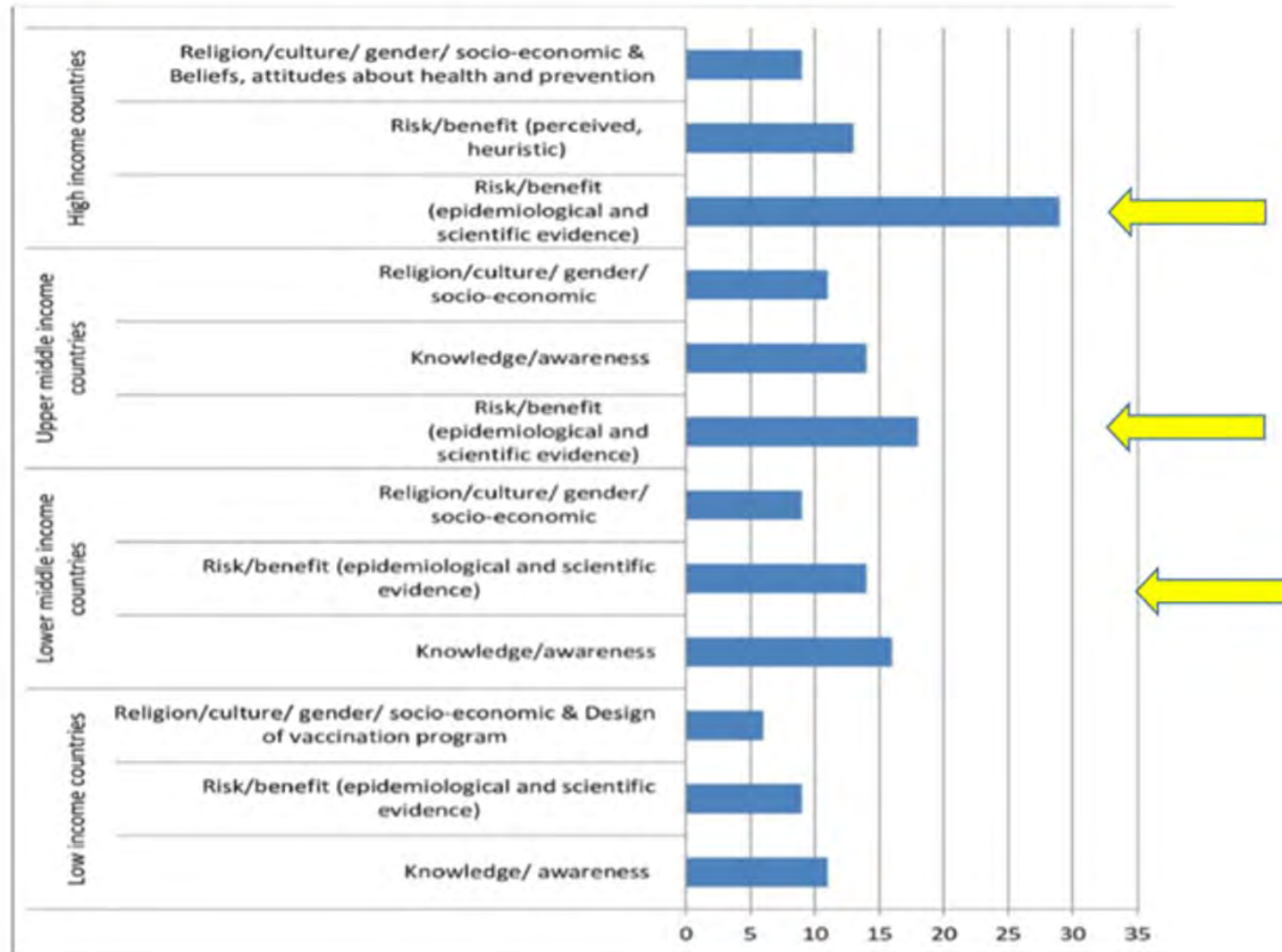


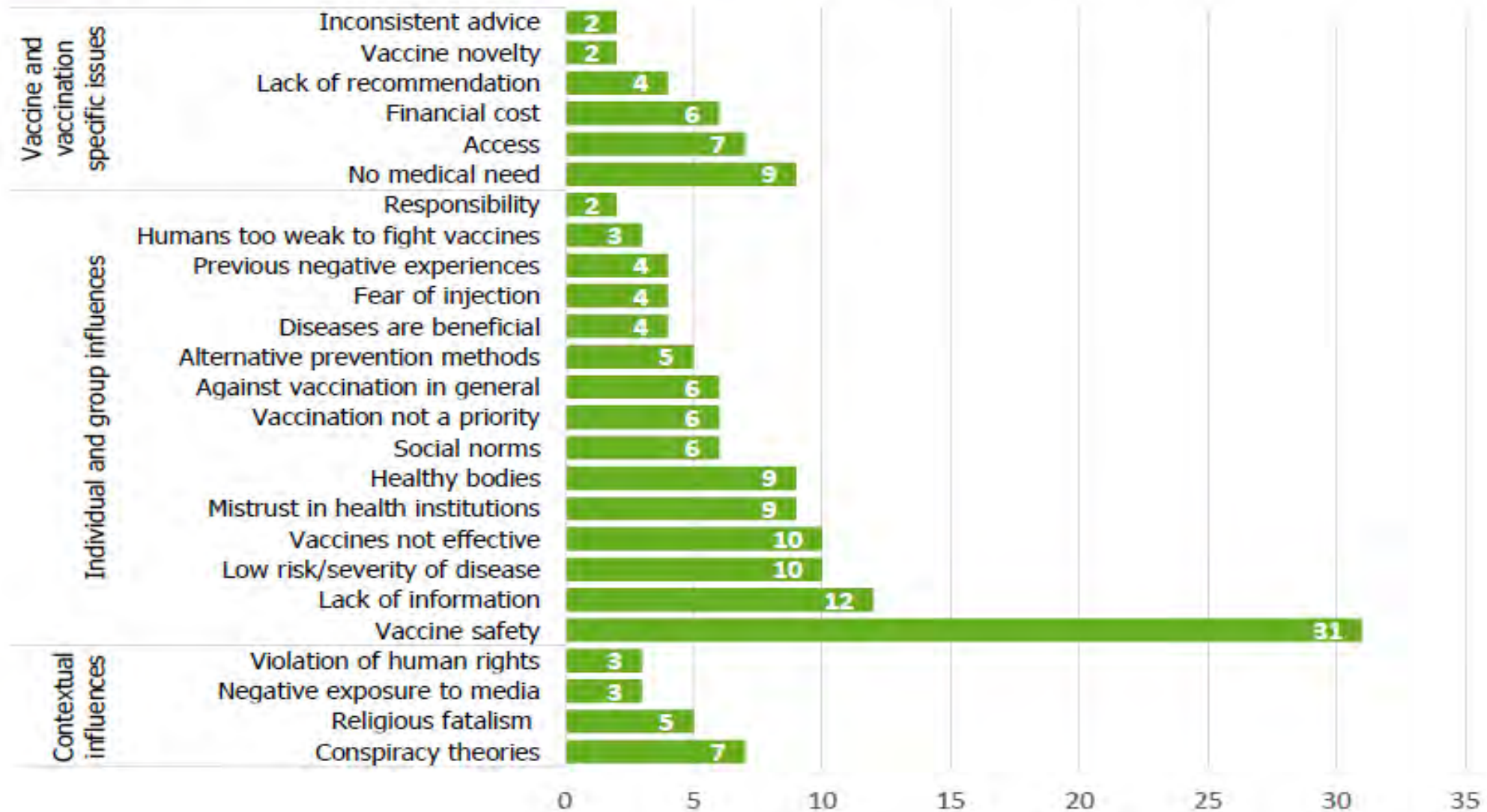
Image for representational purpose only.

COIMBATORE: Ahead of the measles-rubella (MR) vaccination drive in Tamil Nadu, messages doing the rounds in social media like WhatsApp and Facebook are warning parents from vaccinating children.

According to these messages, the vaccination will harm children and will not raise their immunity. Indeed, it would weaken children, as most children are already receiving the same vaccines as part of their vaccination schedule, they say.

# Vaccine Hesitancy in LMICs – Risk Perceptions are Key



**Figure 2. Determinants of vaccine hesitancy by category and number of times recorded**



European  
Commission

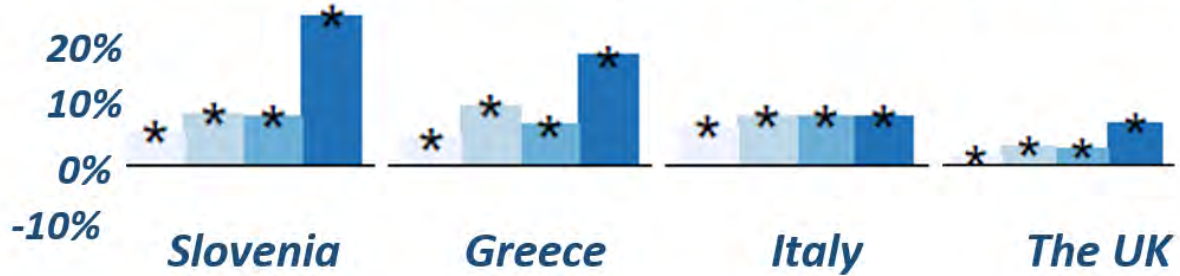


**STATE OF VACCINE  
CONFIDENCE  
IN THE EU 2018**

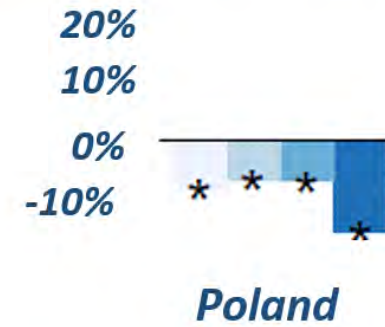


# Changes in public confidence between 2015-2018

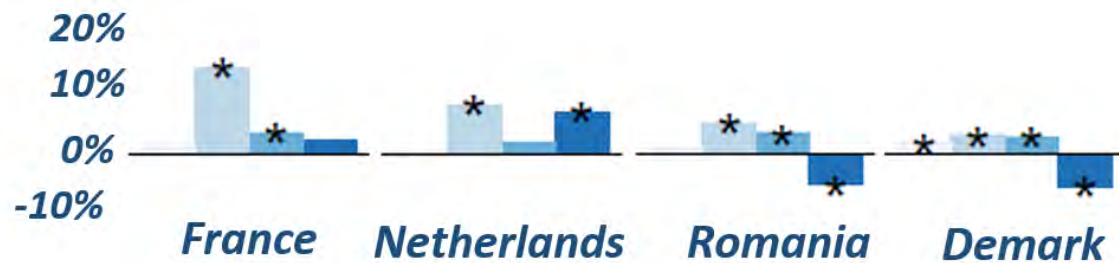
Countries with increase in confidence in safety, importance, effectiveness and religious compatibility



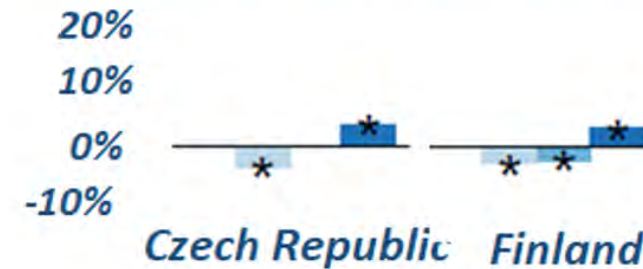
Countries with decrease in confidence in safety, importance, effectiveness and religious compatibility



Countries with increase in confidence in safety



Countries with decrease in confidence in safety



Vaccines are important for children to have

Vaccines are safe

Vaccines are effective

Vaccines are compatible with my religious beliefs

# Dengvaxia: How would you manage a real risk?



Nov  
2017

Sanofi  
Pasteur  
warns of  
'severe  
disease'  
from  
dengue  
vaccine  
for people  
with no  
prior  
infection

Dec  
2017

- Dec: **temporary suspension of the dengue vaccination program**
- 04 Dec: **Justice Department orders the National Bureau of Investigation to look into the dengue vaccination program**
- 05 Dec: **PhilFDA suspends the sale and distribution of Dengvaxia.**
- 07 Dec: **Health Department returns unused doses to Sanofi, asks for refund**
- 11Dec: **House and Senate decide to again investigate dengue vaccination program.**



2018

- 10 Jan: **The Public Attorney's Office (PAO) conducts an autopsy on five vaccinated children who died**
- 11 Jan: **Parents in Zamboanga refuse the DOH's deworming program due to the Dengvaxia scare.**
- 02 Feb: **UP-PGH experts' panel report is released: no direct link between the deaths and the vaccine**
- 05 Feb: **Sanofi Pasteur refuses to refund used dengue vaccine and financially support hospitalized vaccinated children.**
- **Legal case against former Health Secretary Garin, former Undersecretary Kenneth Uy, and other health officials of implementing the program in undue haste even if "the product has no proven safety and efficacy."**

HEALTH NEWS DECEMBER 13, 2017 / 12:29 PM / 2 MONTHS AGO

# Philippines' Duterte says dengue campaign carried out in 'good faith'

MANILA (Reuters) - President Rodrigo Duterte believes the previous Philippine government acted in good faith in launching an immunization drive that used a now-dengue vaccine on

CRIME · HEALTH · LOCAL GOVERNMENT · PEOPLE · POLITICS · SOCIAL WELFARE

# Dengvaxia Scare: Turning A Serious Health Issue To A Political Witch-Hunt

2 weeks ago 1,438 Views 5 Min Read



News

# Philippines immunisation rates plummet amid Dengue vaccination scare



Authorities have warned of a big drop in immunisation rates amid 'anti-vax' concerns. RANOCO/ REUTERS

# Medical experts: Stop Dengvaxia autopsies

By Sheila Crisostomo, Christina Mendez (The Philippine Star) | Updated February 4, 2018 - 12:00am



COMMENTARY - SOLICITED



## Vaccine confidence plummets in the Philippines following dengue vaccine scare: why it matters to pandemic preparedness

Heidi J Larson<sup>a,b</sup>, Kenneth Hartigan-Go<sup>c</sup>, and Alexandre de Figueiredo<sup>d,a</sup>

<sup>a</sup>Department of Infectious Disease Epidemiology, London School of Hygiene & Tropical Medicine, London, UK; <sup>b</sup>Department of Health Metrics & Evaluation, University of Washington, Seattle, WA, USA; <sup>c</sup>Stephen Zuellig School of Development Management, Asian Institute of Management, Makati City, The Philippines; <sup>d</sup>Department of Mathematics, Imperial College London, London, UK

### ABSTRACT

In November 2017, it was announced that the new dengue vaccine (“Dengvaxia”) had risks for those not previously exposed to dengue. While some countries proceeded with adjusting guidance accordingly, the Philippines reacted with outrage and political turmoil with naming and shaming of government officials involved in purchasing the vaccine, as well as scientists involved in the vaccine trials and assessment. The result was broken public trust around the dengue vaccine as well heightened anxiety around vaccines in general. The Vaccine Confidence Project<sup>TM</sup> measured the impact of this crisis, comparing confidence levels in 2015, before the incident, with levels in 2018. The findings reflect a dramatic drop in vaccine confidence from 93% “strongly agreeing” that vaccines are important in 2015 to 32% in 2018. There was a drop in confidence in those strongly agreeing that vaccines are safe from 82% in 2015 to only 21% in 2018; similarly confidence in the effectiveness of vaccines dropped from 82% in 2015 to only 22%. This article highlights the importance of routinely identifying gaps or breakdowns in public confidence in order to rebuild trust, before a pandemic threat, when societal and political cooperation will be key to an effective response.

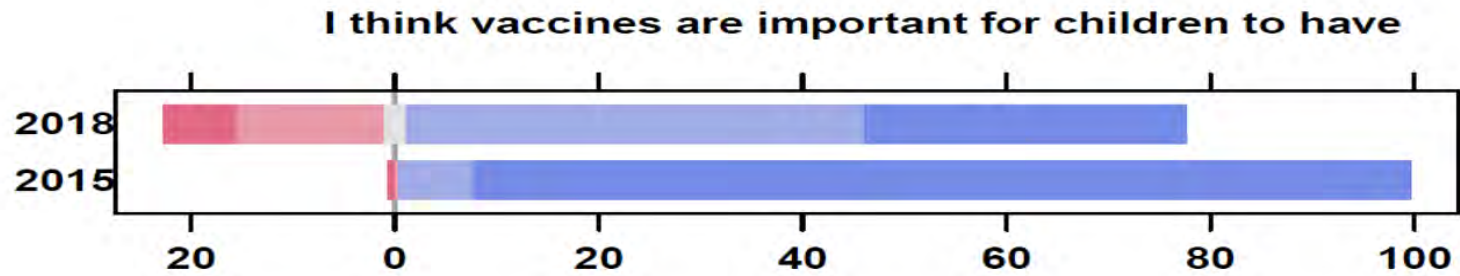
### ARTICLE HISTORY

Received 13 August 2018  
Accepted 31 August 2018

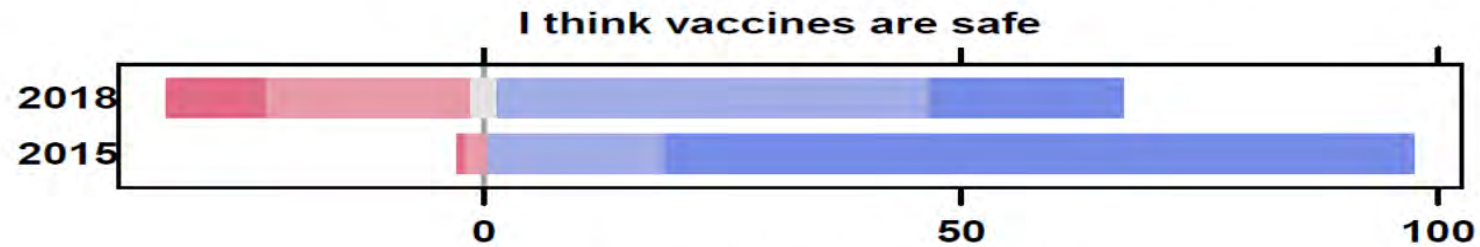
### KEYWORDS

Vaccine confidence; dengue vaccine; Dengvaxia; Philippines; pandemic preparedness; risk perception; public trust; vaccine confidence index

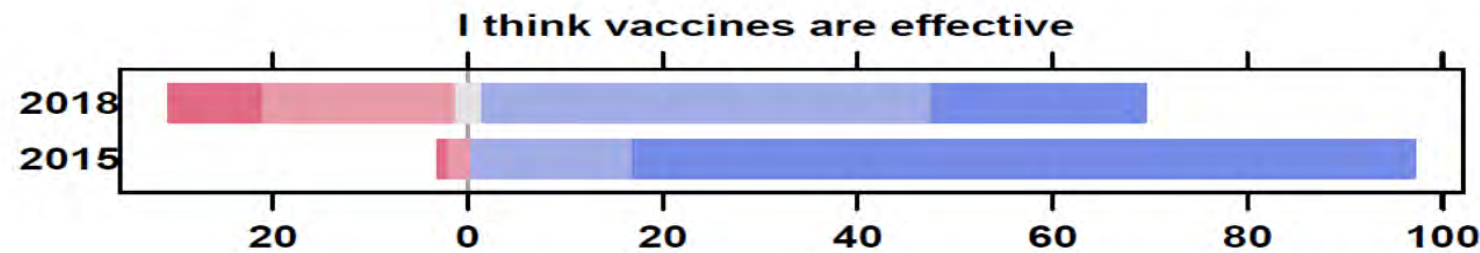
## The Philippines



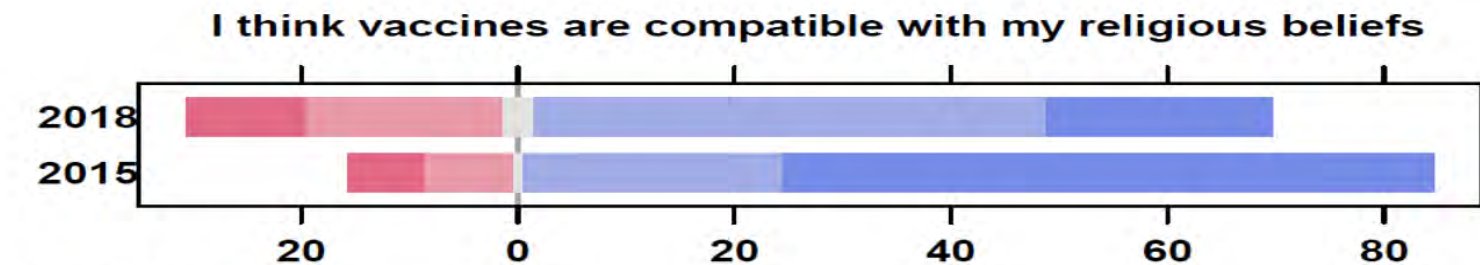
Strongly disagree  
Tend to disagree  
Do not know / no response  
Tend to agree  
Strongly agree



Strongly disagree  
Tend to disagree  
Do not know / no response  
Tend to agree  
Strongly agree



Strongly disagree  
Tend to disagree  
Do not know / no response  
Tend to agree  
Strongly agree



Strongly disagree  
Tend to disagree  
Do not know / no response  
Tend to agree  
Strongly agree

# From Department of Health bulletin board

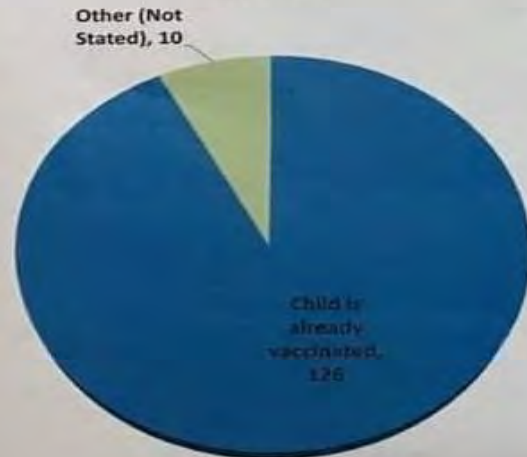
## Reasons for Unvaccinated and Reasons for Refusal



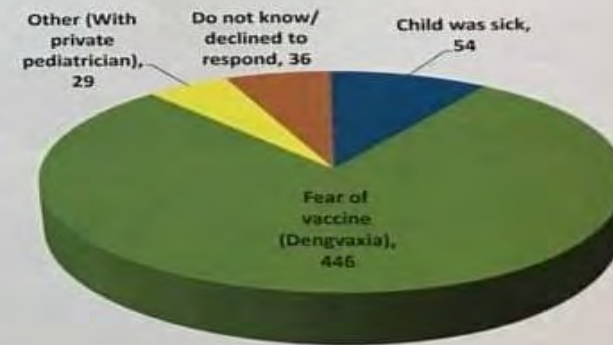
### 2018 Ligtas Tigdas SIA Report in NCR as of April 27, 2018



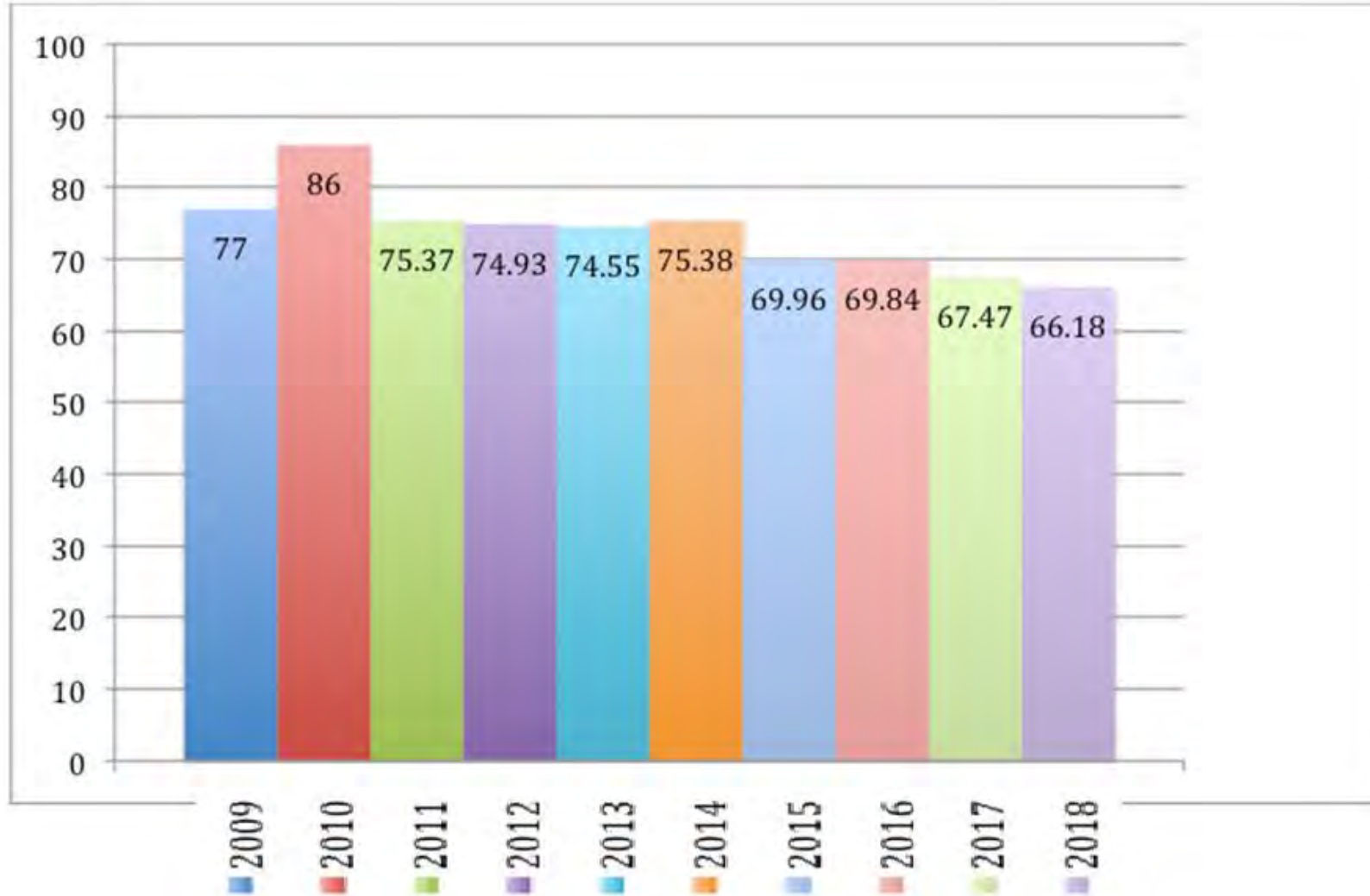
Reasons for Unvaccinated  
N=136



Reasons for Refusal  
N=565



# Overall immunization rates also declining ...



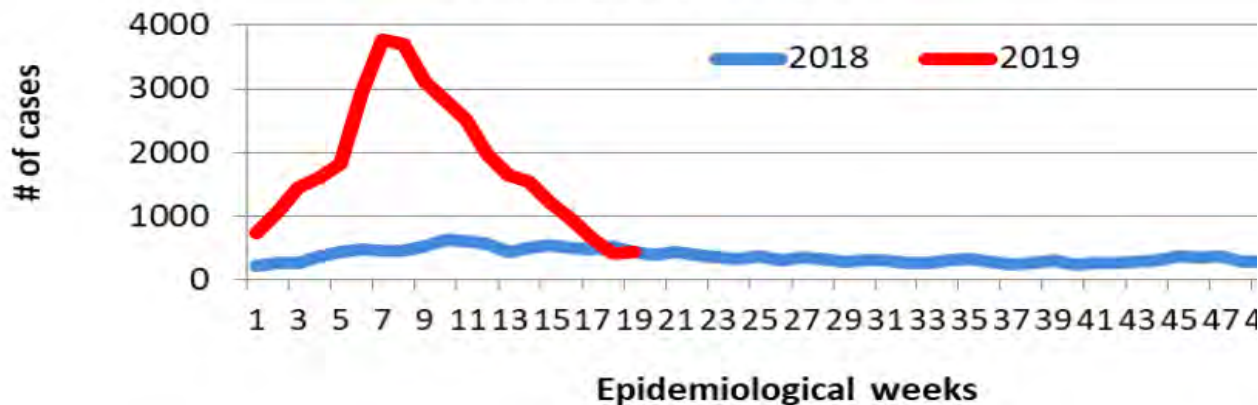
# Measles outbreak declared 07 Feb 2019

- Current measles outbreak started late 2017 in Mindanao.
- In 2018, 20,827 cases were reported with 199 deaths.
- DoH declared measles outbreaks in 5 Regions (Region NCR, III, IVA, VI, VII) on 7 February 2019
- 1 January and 11 May 2019: 34,950 measles cases, 477 deaths, CFR 1.37%

**Table 1: Cumulative Measles Cases by Region**  
*11 May 2018 vs 11 May 2019*

Region	2018			2019		
	Cases	Deaths	%CFR	Cases	Deaths	%CFR
<b>PHL</b>	<b>8,580</b>	<b>75</b>	<b>0.9</b>	<b>34,950</b>	<b>477</b>	<b>1.4</b>
01	125	0	0	1,548	19	1.2
02	29	0	0	531	2	1.0
03	278	4	1.4	5,803	107	1.8
04A	256	2	0.8	6,481	117	1.8
04B	23	0	0	1,488	16	1.1
05	33	0	0	1,048	8	0.8
06	112	0	0	2,102	7	0.3
07	167	1	0.6	1,719	11	0.6
08	19	0	0	1,460	31	2.1
09	1,018	5	0.5	469	1	0.2
10	817	2	0.2	1,808	10	0.6
11	1,065	13	1.2	882	12	1.4
12	857	9	1.1	678	5	0.7
ARMM	2,815	23	0.8	617	6	1.0
CAR	25	0	0	579	2	0.3
CARAGA	93	1	1.1	986	9	0.9
NCR	848	15	1.8	6,751	114	1.7

**Figure 1. Measles Cases by Week of Rash Onset**  
*1 January 2018-11 May 2019*



Source: Philippines Department of Health Measles-Rubella Surveillance Reports 2019

Heidi.Larson@lshtm.ac.uk

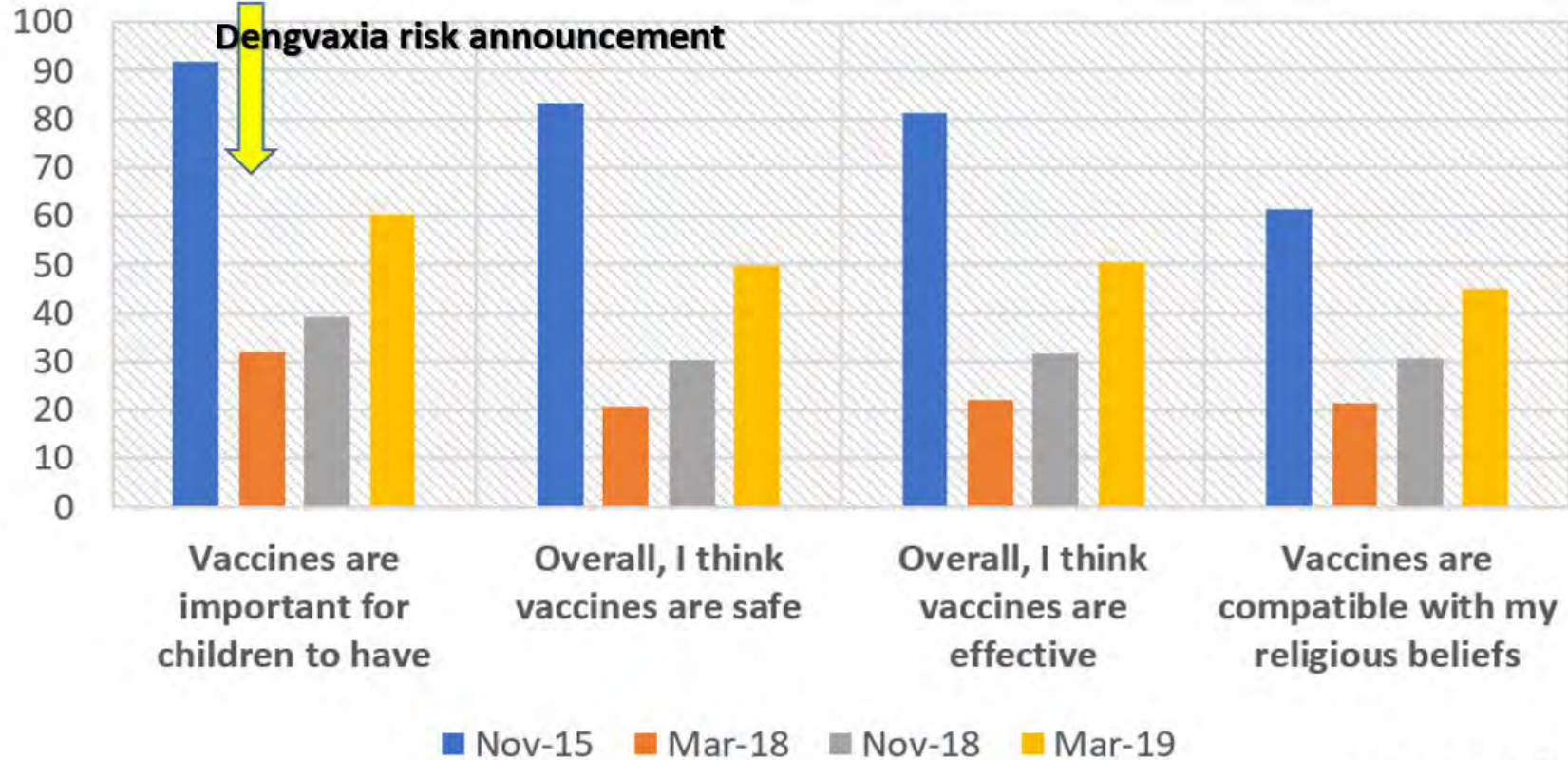
Break into working groups –  
What would you do in this situation?



# Philippines Vaccine Confidence

Strongly agree

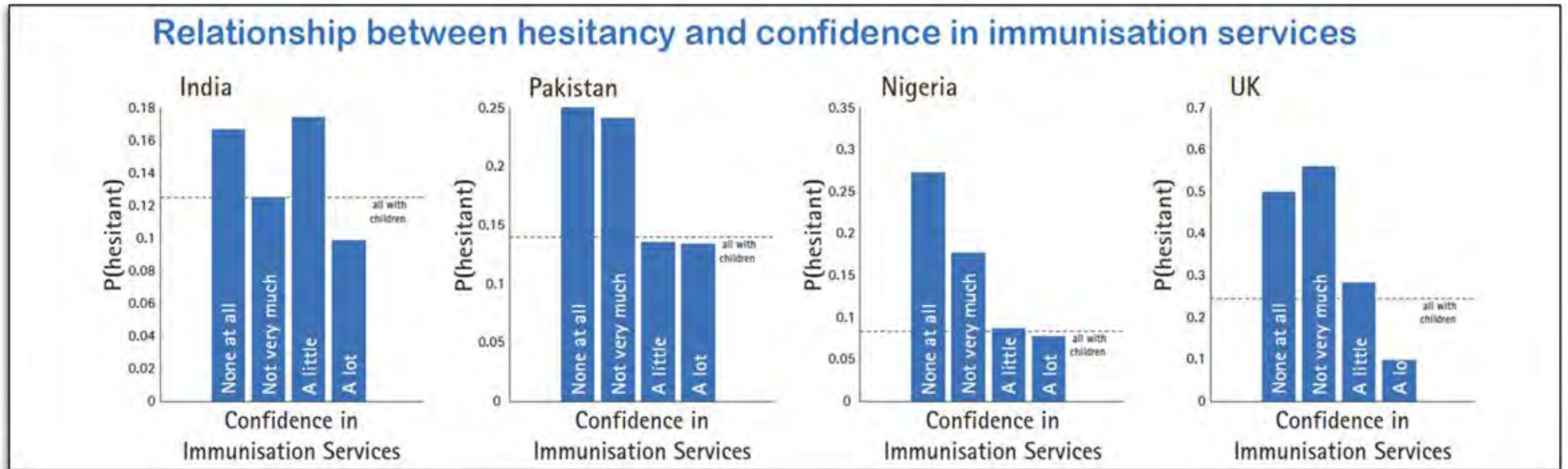
Strongly Disagree



Heidi.Larson@lshtm.ac.uk

Heidi.Larson@lshtm.ac.uk

# “A lot” of confidence in the immunisation services means low vaccine hesitancy



**Source:** Larson HJ et al. *The State of Vaccine Confidence 2015*

[https://www.vaccineconfidence.org/wp-content/uploads/2018/10/VCP\\_The-State-of-Vaccine-Confidence\\_2015.pdf](https://www.vaccineconfidence.org/wp-content/uploads/2018/10/VCP_The-State-of-Vaccine-Confidence_2015.pdf)

# Anxiety-related reactions to vaccination



Voice of America

Scaremongering Video Undermines Anti-Polio Drive in Pakistan ...

VOA



Lokesh Raju @lokeshraju · Feb 8

@JPNadda @MoHFW\_INDIA Pls clarify/intervene #Rubela vaccine mishap in #Tamilnadu, much mis-info, against campaign..



Sangita(Jain)Vasuraj @sangitavasuraj · Feb 6

Children are being hospitalised after receiving the MR Vaccine yesterday in various parts of Tamilnadu.... [fb.me/8qxcTFpeK](https://fb.me/8qxcTFpeK)

on@Ishtm.ac.uk

**GALWAY - IRELAND**  
**23/08/2016**



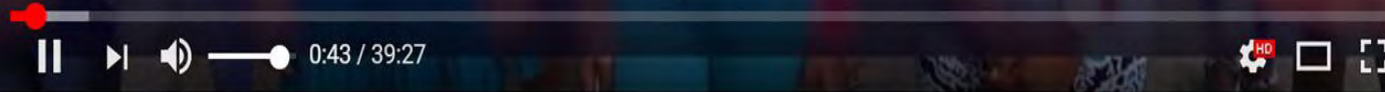
**HI I'M REBECCA AND I JUST, I AM ONE OF  
THE GIRLS WHO REACTED TO THE VACCINE,  
I HAVE 4 DOCTORS TREATING ME FOR**

Irish HPV vaccine victim Rebecca

**IRELAND**

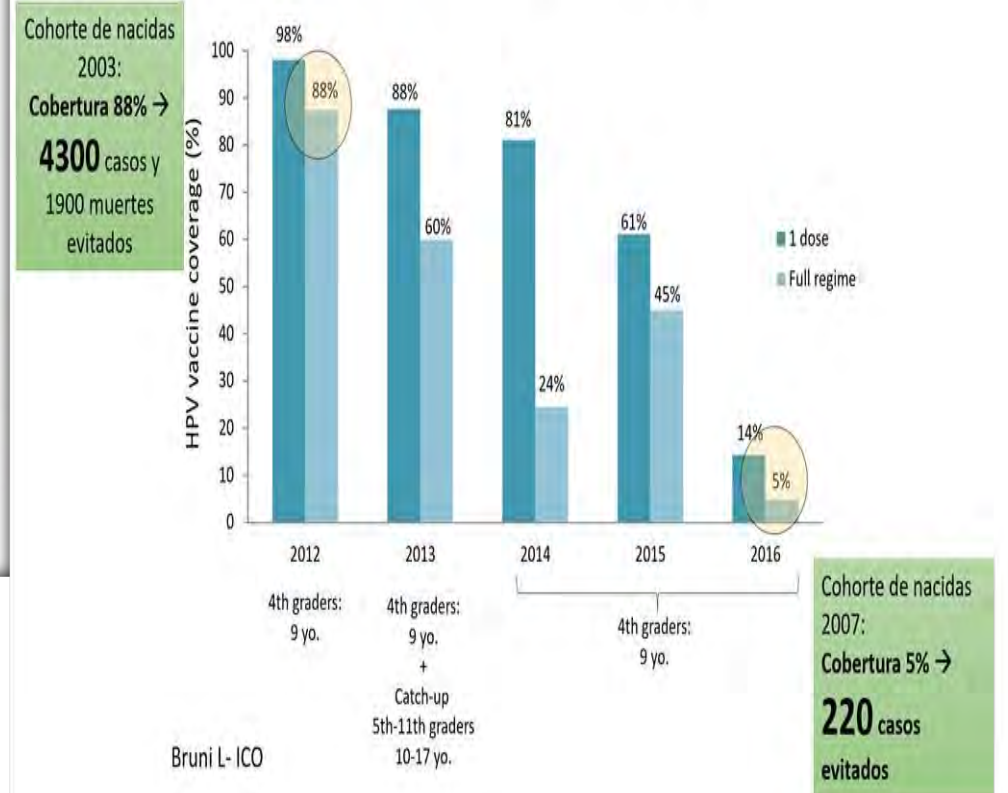


Don't let them vaccinate you, because it can kill you...



Gardasil did it/Fue el Gardasil

## HPV Vaccine Coverage in Colombia





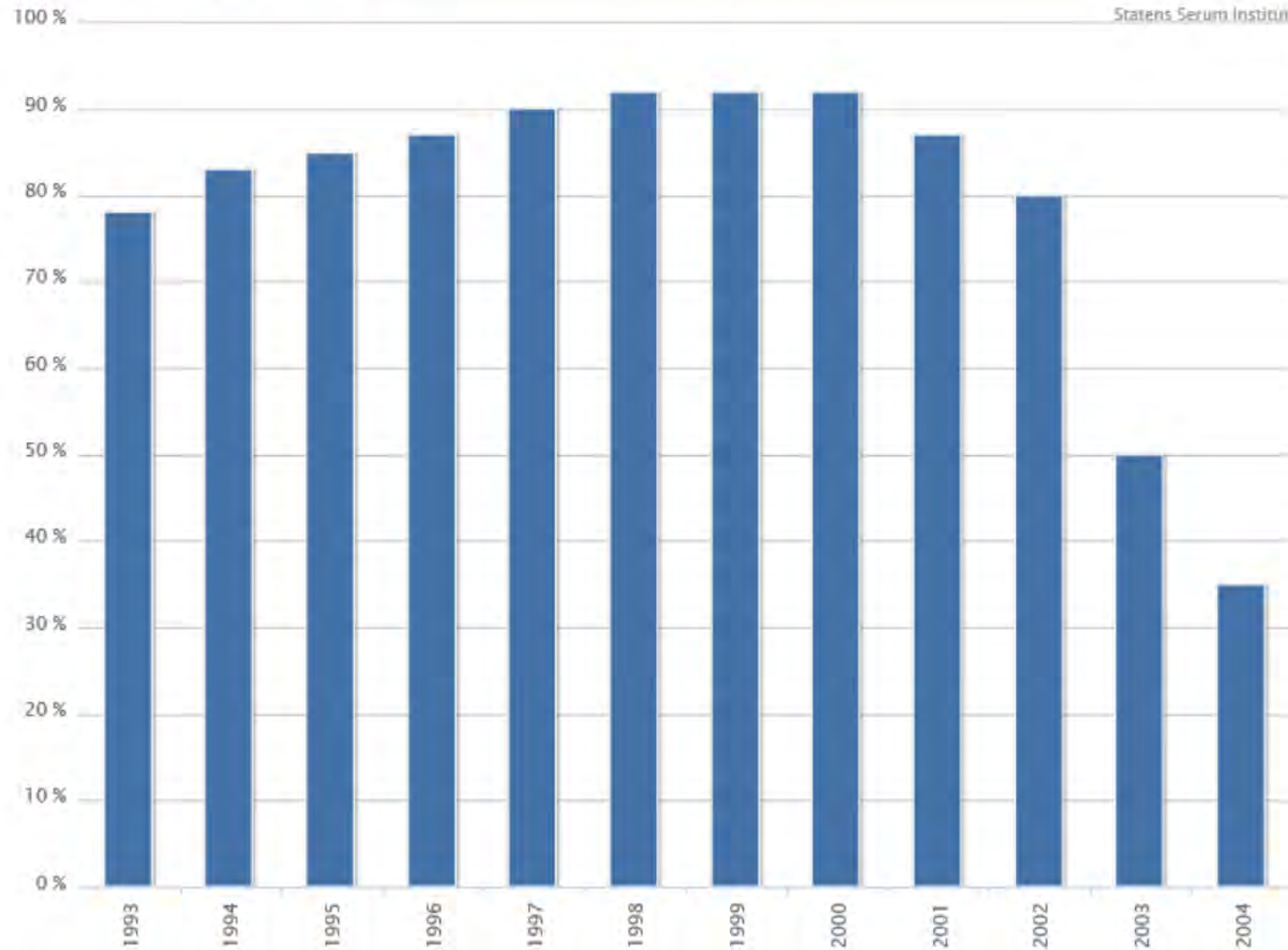
Now for the first time, several doctors  
express their concerns -

The Vaccinated Girls - 2015 Documentary

Broadcast on TV2Danmark. In Danish with English subtitles.

# DENMARK

# HPV VACCINE UPTAKE OF FIRST DOSE BY BIRTH COHORT DENMARK



## In 2016, Armenia submitted a proposal to GAVI to support a new HPV vaccine program

We anticipate that the main impediment in achieving high coverage with HPV vaccine in Armenia will be vaccine safety concerns among the teenage girls, their parents, medical worker and the public in general... Since 2009 only three middle-income countries have introduced HPV vaccine: Romania, The former Yugoslav Republic of Macedonia (MKD), and Kazakhstan... Rumors about negative effects of vaccination on teenage girls' health and scepticism about benefits of HPV vaccination flooded the Internet and social media. As a result, the **Ministry of Health of Romania had to cancel HPV vaccination and destroy the vaccine** that it had procured. In MKD the HPV vaccine coverage was much lower than coverage for other teenage vaccines. In **Kazakhstan HPV vaccine caused clusters of anxiety-related adverse events following immunization which later transformed into widespread psychogenic reactions** that created very negative publicity. As a result, The Ministry of Health of **Kazakhstan had to cancel its HPV vaccination program and destroy its vaccine**. Recently **Denmark and Ireland, high income countries of our region, had similar clusters of anxiety-related AEFIs** that negatively affected previously successful HPV vaccination programs. In **Denmark the HPV coverage dropped from 86% to 15% within one year**. The cluster of anxiety related AEFIs were reported in **Japan** and lead to **suspension of HPV vaccination** in this country.

The **information about vaccine safety events in Kazakhstan, Denmark, and Japan has been broadly disseminated** through the Internet, mass media, and social media in all countries of the Region.



Invite Armenia participants to talk about their  
experience with introducing the HPV vaccine



## IMMUNIZATION ANXIETY-RELATED REACTIONS

Vaccine product-related reaction

Vaccine quality defect-related reaction

Immunization error-related reaction

**Immunization anxiety-related reaction**

Coincidental event

Individuals can react in anticipation to and as a result of an injection of any kind. These reactions are not related to the vaccine, but to fear of the injection. There are four reactions you may encounter.<sup>26</sup>

### Fainting

Fainting is relatively common, but usually only affects older children and adults. Fainting does not require any management beyond giving the injection while patients are seated (to avoid injury caused by falling) and placing the patient in a recumbent position after the injection.

### Hyperventilation

Hyperventilation as a result of anxiety about immunization can cause light-headedness, dizziness, tingling around the mouth and in the hands.

### Vomiting

Younger children tend to react differently, with vomiting being a common anxiety symptom. Breath-holding may lead to a brief period of unconsciousness during which breathing resumes. Children may also scream to prevent the injection, or may run away.

### Convulsions

An anxiety reaction to injection can, in rare cases, include convulsions. These children do not need to be investigated but should be reassured.

## CONTENT

Overview and outcomes

### Classification of AEFIs

*Vaccine reactions*

*Immunization error-related reaction*

*Immunization anxiety-related reactions*

*Coincidental events*

Mass vaccination campaigns

Rates of adverse vaccine reactions

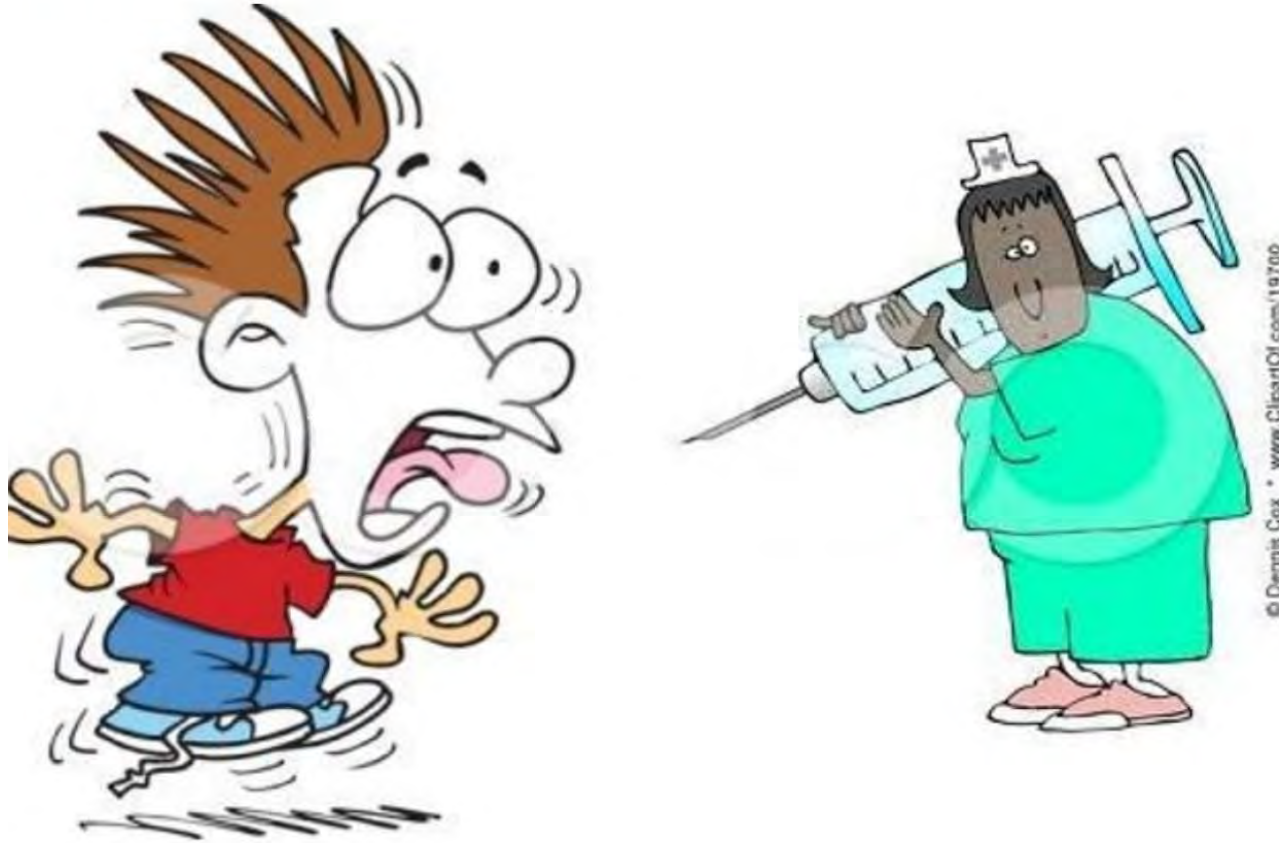
Summary

Case Study A

Assessment 3

<https://vaccine-safety-training.org/immunization-anxiety-related-reactions.html>

# Immunization Stress Related Responses (ISRR)\*



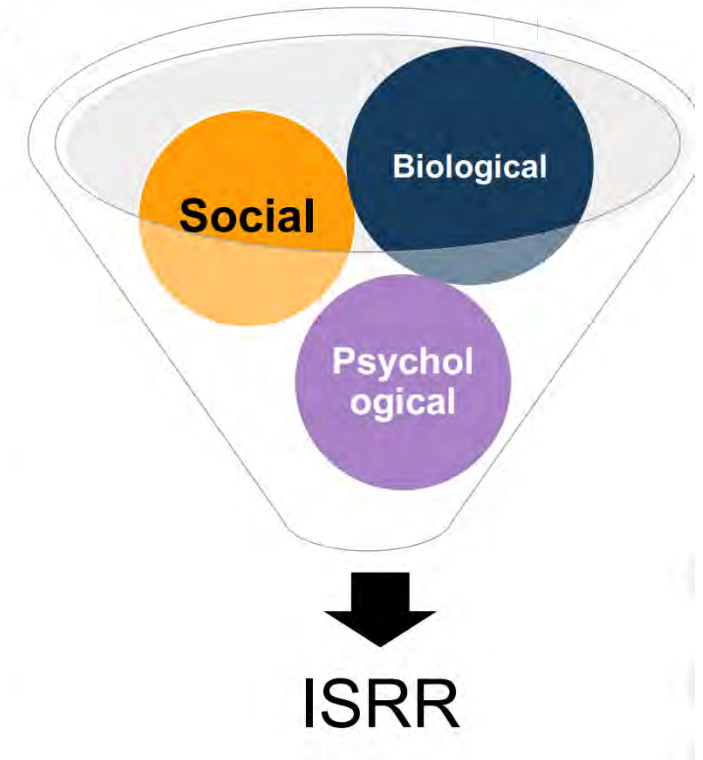
**Dr Madhava Ram MD DNB**

\* Developed based on the outline of the *“Immunization stress-related response - A manual for program managers and health professionals to prevent, identify and respond to stress-related responses following immunization”*

# Characteristics - ISRR

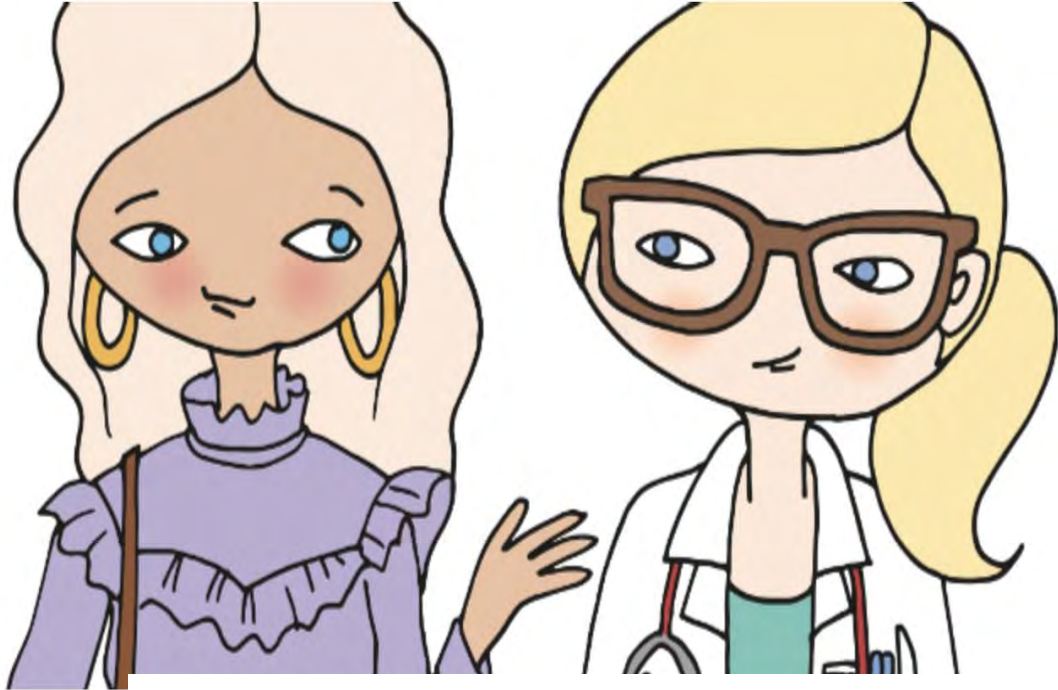
Can happen before, during, or after immunization

- **Biopsychosocial framework:** Helps understand a person's response to immunization
  - **Pre-disposing factors:** Historical, pre-existing factors brought into the immunization context
  - **Precipitating factors:** Dynamic, factors occurring in the peri-immunization context
  - **Perpetuating factors:** Factors occurring in the post-immunization context



## Denmark campaign rebuilds confidence in HPV vaccination

February 2018



### Understanding parent's concerns

To help understand why so many parents of girls around 12 years of age were postponing vaccination, the Danish Health Authority conducted an analysis in 2016. It found that nearly all parents who doubted whether to vaccinate their daughters had heard stories about the suspected side-effects, primarily through media and online.

New data reveals that less than nine months into the campaign, uptake in the number of vaccines is already increasing. During the past year, twice as many girls – nearly 31 000 girls – have started the HPV vaccination programme compared to just over 15 000 in 2016.

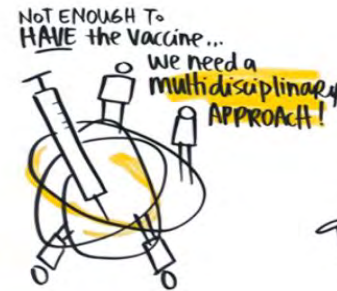
# BUILDING TRUST,



# MANAGING RISK:

VACCINE CONFIDENCE AND  
THE HUMAN PAPILLOMAVIRUS  
VACCINATION

"We've been calling  
VACCINES "ROUTINE".  
it is a choice."



# The Vaccine Confidence Project™

## Social Media: Managing Risk & Rumour



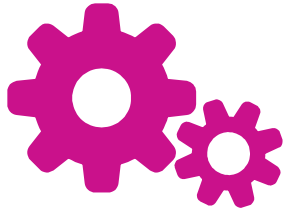
THE VACCINE  
CONFIDENCE  
PROJECT™

LONDON  
SCHOOL of  
HYGIENE  
& TROPICAL  
MEDICINE



Dr. Sam Martin  
Research Fellow (Digital Analytics Lead)  
Vaccine Confidence Project™

[Sam.Martin@lshtm.ac.uk](mailto:Sam.Martin@lshtm.ac.uk)

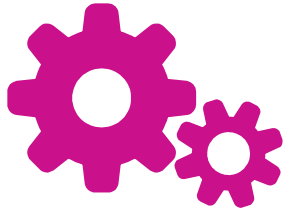


# Manage negative media

## Monitoring and moderating online conversations

- Monitoring and moderating online conversations helps ensure that your online community reflects your brand, voice and values. Social listening and moderating should be built into your daily routine.
- If you receive a positive comment, general inquiry or a request for help, responding directly will demonstrate that you are listening and present.
- Despite efforts to maintain a professional and positive voice through your messaging, followers may leave negative comments or reviews. If you choose to respond, remember that social media is inherently public and that your response will be visible to your entire community or anyone else who visits your page.



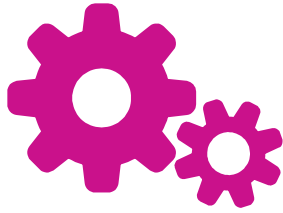


# Manage negative media

## Responding to negative comments

When crafting a potential response, consider:

- whether responding will only further incite the individual. If this is the case, resolving the matter offline may be better.
- a general post that addresses the individual's concerns to your entire community, which may help combat any ripple effects.
- seeking feedback from colleagues to ensure you strike an appropriate tone.



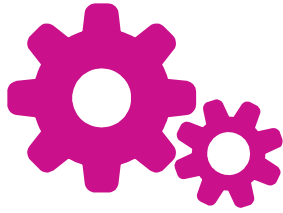
# Manage negative media

## Hiding inappropriate comments

You can consider hiding comments that violate social media etiquette. Below is a framework you can consider using to determine whether to hide a comment from your Facebook page.

- Comments that are off topic or intended to send the conversation in a nonproductive direction.
- Comments that attack individuals or organizations.
- Comments that contain offensive language.

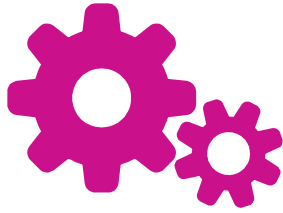
○ **Continued...**



# Manage negative media

## Hiding inappropriate comments

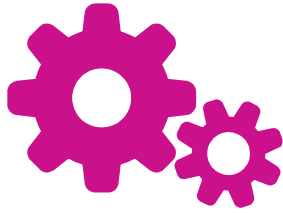
- Multiple postings of the same comment on various threads.
  - Comments that contain personal information about others, including information about patients.
  - Posting with such frequency or repetitiveness as to discourage others from posting.
  - Comments that put forth inaccurate information about child health, include links to unverified external content, exist for the purpose of selling a product or service, or give medical advice.
- **Continued...**



# Manage negative media

## Hiding inappropriate comments

- If you have a Facebook page, set up filters to automatically hide posts or comments that include negative key words or profanity.
- To protect yourself from any action that your page may take, consider including commenting rules in the About section of your Facebook page. Commenting rules may include many of the points emphasized in the above social media etiquette framework, such as asking your followers to refrain from using profane or vulgar language or sharing patient information.
- Keep in mind that personal information that can be used to identify someone or patient information should not be discussed on social media.



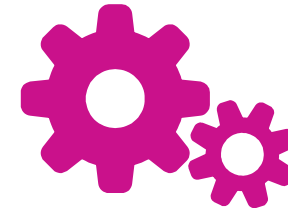
# Manage negative media

## Moderating on Twitter

- The structure and real-time nature of Twitter does not allow for direct moderation of a conversation that may happen below your post. For example, although an individual may comment on a tweet, you are not able to remove it. Because it offers anonymity, Twitter also tends to attract more individuals who "troll," making negative comments or mentions common.
- The best way to combat trolls on Twitter is to continue to post factual messages in a positive voice. If you repeatedly receive negative or threatening comments from a user, you can block the user or report their behavior to Twitter.



# Case Studies



# Case Study #1

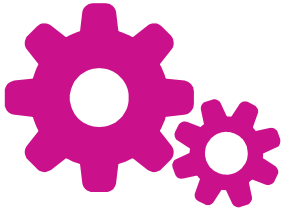
## Myanmar managing negative comments during a vaccine campaign

Hnin Su Mon  
10 min

Myanmar's Experience on Japanese Encephalitis Campaign (2017)

unicef  
for every child

THE POWER OF  
VIRTUAL COMMUNITY



## Case Study #1

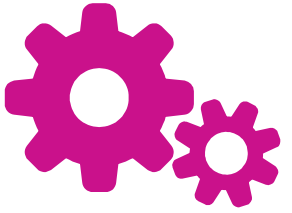
# Myanmar managing negative comments during a vaccine campaign

### THE CAMPAIGN



- Nationwide Campaign
- Total Target
  - 9 month to 15 years = 13.6 millions
  - 26 % of the total population
- TWO PHASES
  - School phase vaccination – (15-23) Nov 2017
  - Community phase vaccination – (11-20) Dec 2017
- WHO prequalified live attenuated JE Vaccine (SA 14-14-2)





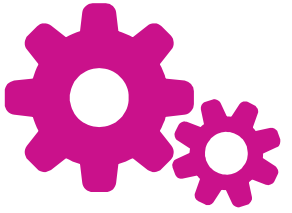
# Case Study #1

## Myanmar managing negative comments during a vaccine campaign

### THE PREPARATION

- Print** Posters, Pamphlets, Advocacy Folder with fact sheets, Invitation cards
- Broadcast** TV & Radio (TV spots, Radiospot, Songs, PSA, Interview, Music Videos, Crawler)
- Media** Advocacy
- Transit** Billboard, Street banners
- Mobile** SMS reminders
- Local Media** Miking & meetings
- IPC** BHS and volunteers

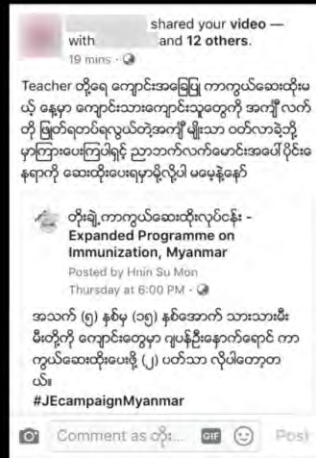




# Case Study #1

## Myanmar managing negative comments during a vaccine campaign

### THE VIRTUAL COMMUNITY



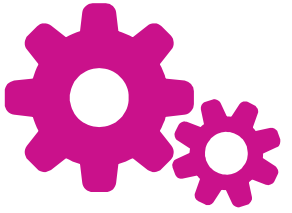
Teachers



Parents



Pediatricians



# Case Study #1

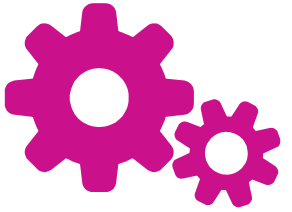
## Myanmar managing negative comments during a vaccine campaign

**THE EVENTS**

Day 1

Day 2

- Official Statement on EPI Facebook Page
- Public and Media Opinion Monitoring (mothers groups, public posts, media posts, key word search)
- Two-ways/individualized conversations initiated



# Case Study #1

## Myanmar managing negative comments during a vaccine campaign

### THE MEDIA



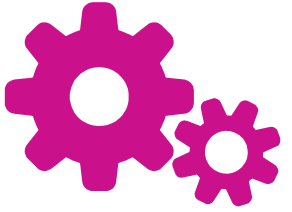
98% of comments are against the article's accusation

The article was criticized by doctors, pediatricians and other journalists



More than 9 K likes/reactions and share

More than 350 comments, mainly against the campaign



# Case Study #1

## Myanmar managing negative comments during a vaccine campaign

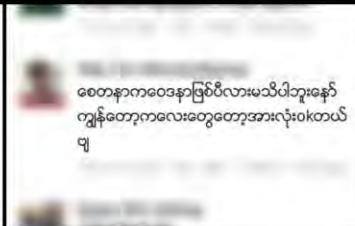
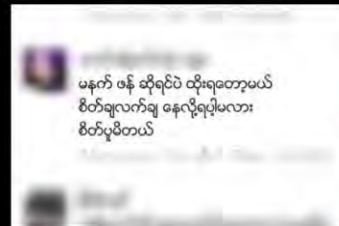
### THE VIRTUAL DIALOGUE

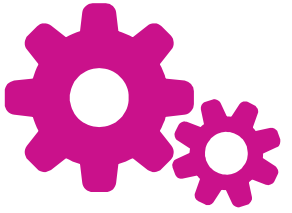
- Japanese, so it must be in Japan
- Made in China
- Political Motive
- AEFI cases
- Blame



**Mothers' Group**  
(more than 400K members)

- Experienced Mothers
- Advice & Support
- Sharing





# Case Study #1

## Myanmar managing negative comments during a vaccine campaign

### THE RESPONSE

#### Media

- Press Statement; Briefing; Media as Vaccine Advocate

#### Two ways communication with parents

- Total **234** questions were answered via **7** parts of Q & A posts
- Over **1000** questions were answered through individualized answers on comment & message
- Update news on AEFI cases

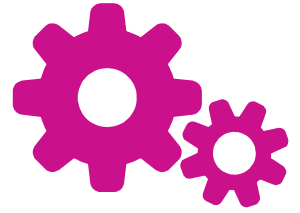
#### Public Opinion Monitoring

- Facebook, key-word search
- Hotline via Myanmar Radio & 6 affiliated FMs
- Q & A via private FM

#### Endorsement/Recommendation/ Experience Sharing

- Proud parents of children who were vaccinated JE posted cute and happy photos of their children
- Parents with children suffered from JE
- Celebrities
- Proud Volunteers
- Proud Monks

#### Mothers' Groups

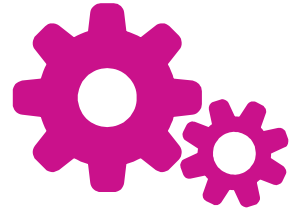


## Case Study #1

# Myanmar managing negative comments during a vaccine campaign

### THE RESULT

Among **13.6 million** children,  
**12.58 million** were vaccinated  
achieving **92.5%** coverage



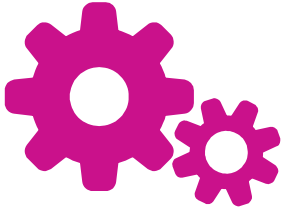
## Case Study #1

# Myanmar managing negative comments during a vaccine campaign

### THE LESSON LEARNED

- Power of **Virtual Community Dialogue**
- Trending on Social Media
- **Government's** commitment and ownership
- Two ways/**individualized communication** with parents
- **Media** as an advocate
- As multiple channels as possible





## **Case Study #2**

# **Myanmar managing negative comments during a vaccine campaign**

## **Acknowledgement**

**UNICEF Myanmar, 2019**

# Thanks!



Heidi Larson, PhD,

Professor of Anthropology, Risk and Decision Science

Director of the Vaccine Confidence Project

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Dr. Sam Martin, Research Fellow (Digital Analytics Lead)

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& TROPICAL  
MEDICINE

