Global overview of vaccine hesitancy and confidence: Why it matters today and for the future

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Director, The Vaccine Confidence Project

23 May 2019
AVAC
Vaccine hesitancy: A global problem, rapidly evolving
ANTI-VAX MOVEMENT LISTED BY WORLD HEALTH ORGANIZATION AS ONE OF THE TOP 10 HEALTH THREATS FOR 2019

BY ARISTOS GEORGIU ON 1/15/19 AT 1:01 PM

Poor air quality caused by pollution is killing 7 million people each year.
Anti-vax movement must be resisted for the sake of world health

A ‘No Vax’ sit-in staged in central Rome last year: Italy has reimposed a law making inoculation compulsory before nursery school attendance
Vaccine Emotions are not new

The Vaccination Monster  (London, 1808)
“Fake news” has also been here before

Yellow Journalism: The “Fake News” of the 19th Century
This issue is not new, but the dynamics are changing
Protests against mandates

A protest against 11 mandatory vaccines in front of the Health Ministry in Paris

September 16, 2017

FRANCE

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“Green our vaccines”

http://www.slate.com/articles/news_and_politics/jurisprudence/2013/08/anti_vaxxers_why_parents_who_don_t_vaccinate_their_kids_should_be_sued_or.html
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.

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 misunderstanding 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.
These viral emotions are global

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 dispelled by a leading expert in poliomyelitis from practising medicine in the United Kingdom.

WhatsApp rumours about vaccinations hamper India's drive to halt measles and rubella
Addressing the online vaccine dissent will not be easy.

Facebook to get tougher on anti-vaxers

Facebook will crack down on anti-vaccine content

Pinterest Blocks Vaccination Searches in Move to Control the Conversation

Social media company stops showing results on the topic as it looks to censor unsubstantiated health claims.

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Metrics and mapping matters
Measuring vaccine confidence: analysis of data obtained by a media surveillance system used to analyse public concerns about vaccines

Heidi J Larson, David M D Smith, Pauline Paterson, Melissa Cumming, Elisabeth Eckersberger, Clark C Freifeld, Isaac Ghinai, Caitlin Jarrett, Louisa Paashter, John S Brownstein, Lawrence C Madoff

Published Online
May 13, 2013
http://dx.doi.org/10.1016/S1473-3099(13)70108-7

*Figure 2: Proportion of vaccine-related reports categorised as positive or neutral, by country*
Based on analysis of all 10 380 reports. Of the 9655 reports (93%) that mentioned a country or countries, 11 535 countries were mentioned. Countries about which there were fewer than ten vaccine-related reports are shaded grey. The world proportion (69%) is shown by the arrow on scale bar. Country border data are from the Global Administrative Areas database.34
"Vaccines are safe?"

State of Vaccine Confidence 2016
Larson et al. EBioMedicine 12 (2016) 295–301

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

<table>
<thead>
<tr>
<th>Category</th>
<th>Determinants</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine and vaccination specific issues</td>
<td>Inconsistent advice, Vaccine novelty, Lack of recommendation, Financial cost, Access, No medical need</td>
<td>2, 2, 4, 6, 7, 9</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Humans too weak to fight vaccines, Previous negative experiences, Fear of injection, Diseases are beneficial</td>
<td>2, 3, 4, 4</td>
</tr>
<tr>
<td>Individual and group influences</td>
<td>Against vaccination in general, Vaccination not a priority, Social norms, Healthy bodies, Mistrust in health institutions, Vaccines not effective, Low risk/severity of disease, Lack of information, Vaccine safety</td>
<td>6, 6, 9, 9, 10, 10, 12, 31</td>
</tr>
<tr>
<td>Contextual influences</td>
<td>Violation of human rights, Negative exposure to media, Religious fatalism, Conspiracy theories</td>
<td>3, 3, 5, 7</td>
</tr>
</tbody>
</table>
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

- Slovenia
- Greece
- Italy
- The UK

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

- Poland

Countries with increase in confidence in safety

- France
- Netherlands
- Romania
- Denmark

Countries with decrease in confidence in safety

- Czech Republic
- Finland

Vaccines are important for children to have
Vaccines are safe
Vaccines are effective
Vaccines are compatible with my religious beliefs
**MMR vaccine confidence in the EU**

The MMR vaccine is important for children to have

- Strongly agree: 52
- Tend to agree: 31
- Do not know: 9
- Tend to disagree: 5
- Strongly disagree: 3

The MMR vaccine is safe

- Strongly agree: 43
- Tend to agree: 37
- Do not know: 12
- Tend to disagree: 5
- Strongly disagree: 3

**Most confident countries**

**Importance:** Portugal (97%), Finland (93%), Hungary (93%)

**Safety:** Portugal (96%), Hungary (90%), Finland (90%)

**Least confident countries**

**Importance:** Belgium (65%), Bulgaria (75%)

**Safety:** Belgium (65%), Bulgaria (66%)

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The MMR vaccine is important for children to have

Most confident countries
- **Importance**: Portugal (97%), Finland (93%), Hungary (93%)
- **Safety**: Portugal (96%), Hungary (90%), Finland (90%)

Least confident countries
- **Importance**: Belgium (65%), Bulgaria (75%)
- **Safety**: Belgium (65%), Bulgaria (66%)

The MMR vaccine is safe

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## Confidence in vaccine safety among GPs

<table>
<thead>
<tr>
<th>Country</th>
<th>Vaccines in General</th>
<th>MMR Vaccine</th>
<th>Flu Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Romania</td>
<td>100</td>
<td>100</td>
<td>8</td>
</tr>
<tr>
<td>Estonia</td>
<td>99</td>
<td>97</td>
<td>3</td>
</tr>
<tr>
<td>Spain</td>
<td>98</td>
<td>100</td>
<td>2</td>
</tr>
<tr>
<td>France</td>
<td>98</td>
<td>98</td>
<td>3</td>
</tr>
<tr>
<td>Germany</td>
<td>98</td>
<td>99</td>
<td>6</td>
</tr>
<tr>
<td>Poland</td>
<td>98</td>
<td>96</td>
<td>6</td>
</tr>
<tr>
<td>Slovakia</td>
<td>98</td>
<td>75</td>
<td>2</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>97</td>
<td>64</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>95</td>
<td>99</td>
<td>1</td>
</tr>
<tr>
<td>Italy</td>
<td>94</td>
<td>97</td>
<td>4</td>
</tr>
</tbody>
</table>

**n=1,043**

[Not safe | Safe]
## GPs vaccine recommendations

<table>
<thead>
<tr>
<th></th>
<th>MMR Vaccine</th>
<th>Flu Vaccine</th>
<th>Flu Vaccine to Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK</strong></td>
<td>99</td>
<td>99</td>
<td>2 96</td>
</tr>
<tr>
<td><strong>Spain</strong></td>
<td>2 98</td>
<td>1 99</td>
<td>7 93</td>
</tr>
<tr>
<td><strong>Germany</strong></td>
<td>1 99</td>
<td>3 97</td>
<td>11 87</td>
</tr>
<tr>
<td><strong>France</strong></td>
<td>1 98</td>
<td>1 99</td>
<td>17 83</td>
</tr>
<tr>
<td><strong>Italy</strong></td>
<td>5 95</td>
<td>3 97</td>
<td>12 87</td>
</tr>
<tr>
<td><strong>Romania</strong></td>
<td>100</td>
<td>100</td>
<td>37 60</td>
</tr>
<tr>
<td><strong>Estonia</strong></td>
<td>4 94</td>
<td>3 97</td>
<td>26 65</td>
</tr>
<tr>
<td><strong>Poland</strong></td>
<td>4 87</td>
<td>7 93</td>
<td>42 49</td>
</tr>
<tr>
<td><strong>Slovakia</strong></td>
<td>21 47</td>
<td>4 96</td>
<td>69 30</td>
</tr>
<tr>
<td><strong>Czech Republic</strong></td>
<td>21 36</td>
<td>5 95</td>
<td>72 25</td>
</tr>
</tbody>
</table>

- **Unlikely to recommend**
- **Likely to recommend**
COMMENTARY - SOLICITED

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

Heidi J Larson a,b, Kenneth Hartigan-Go c, and Alexandre de Figueiredo d,e

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

MANILA (Reuters) - President Rodrigo Duterte believes the previous Philippine government carried it out in good faith in launching an immunisation drive that used a controversial vaccine on

Philippines immunisation rates plummet amid Dengue vaccination scare

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

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

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HPV vaccine anxieties: The power of images, social media and adolescence

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JAPAN
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Now for the first time, several doctors express their concerns -
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...
Fear and emotion
The neglected dimension of health

Polio workers killed in Pakistan attack
Assailants shoot dead four vaccinators in Baluchistan province, forcing authorities to halt immunisation drive.

Ebola outbreak: Guinea health team killed
Some villagers in Guinea have been scared by the appearance of health workers trying to combat Ebola. Eight members of a team trying to raise awareness about Ebola have been killed by villagers using machetes and clubs in Guinea, officials say.

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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.

Conclusion: The rumours captured through this research indicate the variety of strong emotions drawn out by the trials, highlighting the importance of understanding the emotional and social context of such research.
Controversial Ebola Vaccine Trials in Ghana

14 Feb, 2018

I saw from Starr FM online, a local radio station, reporting that a midwifery school in the Volta region...

Key figures share their perspectives on a controversy that led to the suspension of Ebola vaccine clinical trials in Ghana.

Share: 

This entry was posted on Wednesday, February 14th, 2018 at 1:45 pm and is filed under .
Focus on liberty and purity may change anti-vax parents’ minds

Not everyone believes in vaccination
Max Whittaker/New York Times/Redux/evevine

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I'm Ethan, an 18 year old who made national headlines for getting vaccinated despite an antivaxx mother. AMA!
An Ohio teenager helped school Congress on fighting anti-vax misinformation

By Adi Robertson | @thedextriarchy | Mar 5, 2019, 4:00pm EST
Confidence Commentary:
Vaccine crisis in China — act now to rebuild confidence

Heidi Larson  |  17 May, 2016

Click here to view the original post by Heidi Larson, Ruoran Li, and Xiong-Fei Pan on the BMJ blog.