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Public trust and the COVID-19 vaccination campaign: lessons from the Philippines as it emerges from the Dengvaxia controversy

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Abstract

While the entire world prepares and begins to roll out COVID-19 vaccines, the Philippines is still reeling from the consequences of the Dengvaxia controversy in 2016. Those highly political events led to the erosion of public trust in leaders and a significant damage to vaccine confidence in the country, now potentially impacting the uptake of COVID-19 vaccines. We discuss how public trust and confidence can be rehabilitated through accountability, transparency, and proper communication from the most trusted sources of the population. We also highlight key lessons for policymakers and leaders on allowing science to take the front seat, and politics behind, for the safety and well-being of the people during this public health crisis.

KEYWORDS

COVID-19 vaccines, Dengvaxia, Philippines, trust, vaccine hesitancy

1 | INTRODUCTION

When the pharmaceutical firm Pfizer announced last November 2020 that its COVID-19 vaccine was found to be 90% efficacious, this created excited discussions on possibilities for mass vaccination by 2021—for many, light at the end of the “coronavirus tunnel.” Within a few weeks, at least six vaccines emerged—Oxford University-AstraZeneca, Moderna, Johnson and Johnson, Sputnik V, and Sinovac. Countries all over the world have already begun to roll out vaccination campaigns, albeit in varied speediness.¹

This will be the most important vaccination campaign ever embarked by mankind. Nations are now quickly discovering that vaccines are necessary but insufficient for successful mass vaccination campaigns—another equally important ingredient is trust in the vaccine and the health officials and system that will be tasked to roll it out. However, during a time of populism and disinformation, it would seem that trust may be in shorter supply soon compared to the vaccine itself which is already being mass produced. The Philippines has some stark lessons to share on vaccine roll out, drawing on its still controversial Dengvaxia vaccination campaign against dengue fever.

2 | DENGVAXIA WEAPONIZED

Even prior to COVID-19, vaccine confidence and uptake was already declining in many parts of the world—including the Philippines.² Various factors could be influencing this trend, such as anti-vaccine campaigns based on disproved studies linking vaccines to autism spectrum disorder, or on suspicions over corrupt schemes of pharmaceutical companies. In the Philippines, the controversy surrounding Dengvaxia, Sanofi's dengue vaccine, that flared-up in 2017 has certainly impacted the population's trust in vaccines, and is likely to affect the country's COVID-19 vaccination prospects.

Dengvaxia is the first dengue vaccine to be approved after more than two decades in development. Between 2014 and 2015, results of Phase III trials in Asia and Latin America including more than 31,000 healthy children revealed substantial efficacy in preventing Dengue fever, but posed an increased risk of hospitalization and severe dengue among children 2-5 years old.³⁻⁵ At this time, it was unclear whether this increased risk was attributable to a higher prevalence of seronegativity (i.e. has never had dengue fever) in this age-group. Clinically, the second infection from dengue has a higher risk of severe disease than the first. That the vaccine can act like a first infection for seronegative children, and thus pose an increased risk of severe dengue when infected after vaccination, was only theoretical at this point due to the lack of empirical data. Modelling studies showed that if this were true, the benefits of vaccination would be highest and would outweigh risks in the long-term when given to populations with high seropositivity (i.e. has had dengue fever before).⁶

Based on the results of these studies, in June 2016, the Strategic Advisory Group of Experts on Immunization (SAGE) and the WHO endorsed the vaccine for use among 9 – 45 year-olds in endemic countries.⁷ By late 2016, eleven countries had granted regulatory approval of the vaccine, including the Philippines and Brazil, where publicly-funded vaccination campaigns were rolled-out. Brazil aimed to vaccinate 500,000 individuals. The Philippines aimed to cover one million nine year-old children in three regions with the highest dengue incidence through a school-based vaccination program.⁸

In November 2017, as more data became available for a stratified analysis by serostatus, Sanofi publicly announced that the vaccine increased the risk of severe dengue for seronegative individuals.⁹ By this time, 800,000 Filipino children had been vaccinated.¹⁰ Now under new political leadership, allegations of corruption and negligence targeted at health officials of the previous administration surfaced, “weaponizing” Dengvaxia. Several reported deaths of children allegedly linked to Dengvaxia surfaced as well. Relatives—and particularly mothers—of alleged Dengvaxia victims were organized and were given a strong platform in mainstream and social media, further propagating deep concerns on vaccination for children among parents (and perhaps critically among mothers).¹¹ A senior official of the Public Attorney's Office, sensationally led the investigation of these deaths, and claimed that Dengvaxia was to blame, even as many independent scientific assessments questioned these claims.¹²⁻¹⁴

The public health issue had become a political controversy, which thrived on mainstream discourse for many months as the reported deaths of children continued to viscerally upset the public.¹⁵ As late as last November 2020 (already during the pandemic), several incumbent and previous government officials in the Department of Health faced a fresh wave of Dengvaxia-linked legal cases filed against them. The Public Attorney's Office reported that 99 relatives of Filipino children who allegedly died from severe dengue due to Dengvaxia filed cases against the sitting

and previous Health Secretary, along with 39 other government officials. These cases include “reckless imprudence resulting in homicide” and “torture of children.”¹⁶

In the midst of the noise, some facts may have been overlooked. The vaccination program and its target population were coherent with the WHO recommendations at that time. Legally, the vaccine was granted approval for use by the Food and Drug Administration (FDA) prior to vaccine roll-out, on the basis of available scientific evidence on safety and efficacy.

Following the Sanofi report in 2017, SAGE reconvened to deliberate on two vaccination strategies: (1) to vaccinate populations with high seroprevalence rates (above 80%), or (2) to screen prior to vaccination and vaccinate only seropositive individuals in endemic areas. Upon weighing the individual risks and population benefits, SAGE decided on the latter, and WHO updated its recommendations accordingly. It is notable that discontinuing vaccination in endemic areas was not a consideration. Given the vaccine's proven efficacy, withholding it would be inflicting harm by omission to seropositive individuals. Evidence showed that at the population level, vaccinating 1 million children in settings with 80% prevalence would prevent 11,000 hospitalizations and 2800 severe dengue cases in five years.⁵

In spite of this, the Philippines suspended the dengue vaccination program in December 2017, and permanently banned the vaccine in 2019.⁸ Meanwhile, the vaccine was approved by the European Medicines Agency in 2018 and by the United States FDA soon after.¹⁷ In 2019, the WHO added Dengvaxia to its model list of essential medicines.¹⁸ Other countries including Brazil, Mexico, Indonesia, Thailand, and Singapore continue to make the dengue vaccine available in conformity with WHO recommendations. The highly politicized handling of the Dengvaxia controversy in the Philippines led many Filipinos to distrust Dengvaxia even as the rest of the world proceeded to embrace that vaccine. The continued controversy surrounding Dengvaxia during the COVID-19 pandemic is likely further eroding vaccine confidence, as lingering governance issues continue to erode trust in the government.

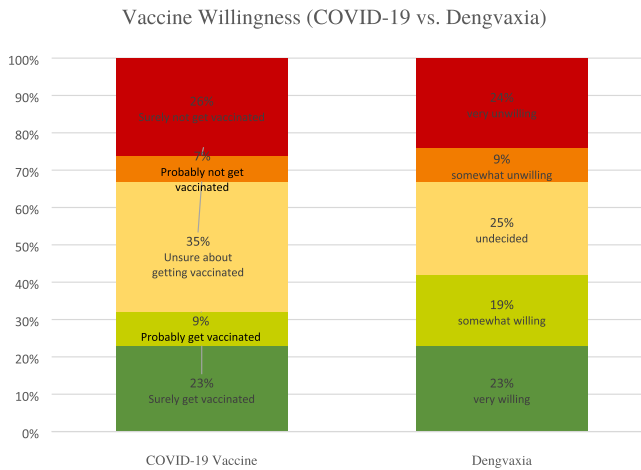
3 | DAMAGE TO VACCINE CONFIDENCE

There was a steep decline in vaccine confidence among Filipinos as the Dengvaxia controversy raged. In 2015, 93% of Filipinos strongly agreed that vaccines were important. This plummeted to only 32% by 2018.¹⁹ Distrust in vaccines was not limited to Dengvaxia. Measles vaccine uptake dropped from 88% in 2014 to 55% in 2018. Inevitably, a measles outbreak ensued in the country. In 2017, there were only 2400 reported measles cases, 18,000 in 2018, and 48,871 in 2019—a 2,000% increase in two years.^{20,21}

Unsurprisingly, a nationally representative survey by the Social Weather Stations (SWS), a private non-profit polling body, conducted in September 2020 revealed that about one-third of Filipinos demonstrate vaccine hesitancy when asked about Dengvaxia.²² Another survey by SWS from April to May 2021, showed that a similar share of Filipinos demonstrates hesitancy against any COVID-19 vaccine. Only around 32% of Filipinos are willing to get a COVID-19 vaccine, while 35% are undecided (see Figure 1).²³

In another survey conducted by the Massachusetts Institute of Technology (MIT) and Facebook from July 2020 to March 2021 including over 30,000 Filipinos, 41% of the respondents said they would not get COVID-19 vaccine when it becomes available. The same survey was implemented in Southeast Asian nations. A comparison of the results reveals that Indonesia suffers the highest vaccine hesitancy (42% would not get the vaccine), but the Philippines is a close second. This is in stark contrast to Vietnam where only 17% would not get the vaccine, 23% in Thailand, and 27% in Malaysia.²⁴

It is important to note that these surveys do not indicate a particular vaccine type or brand. It is possible that vaccine hesitancy is much more acute for certain vaccine brands by virtue of their reputation, or by association, the countries where they are manufactured, and emerging news of side-effects. Some brands are likely to be preferred over others, as revealed when vaccination sites were suddenly crowded as soon as a few Pfizer doses became available.²⁵ There could be many additional factors weakening trust in vaccines, but there is little doubt among experts that the controversy surrounding Dengvaxia worsened (and is still worsening) the situation.



Ateneo Policy Center Analysis using data from Social Weather Stations.

FIGURE 1 SWS Survey Data on COVID-19 and Dengvaxia vaccine willingness. The survey questions for COVID-19 vaccine and the Dengvaxia were not identical. For COVID-19, the exact question was “If you have a chance to be given a free vaccine that can prevent Covid-19 which has been approved by the Food and Drug Administration or FDA, would you...” For Dengvaxia, the exact question was “Are you WILLING or UNWILLING to have any member of your family be vaccinated with Dengvaxia?”

How much do you trust each of the following as a source of COVID-19 news and information?			
Category	Trust	Somewhat trust	Do not trust
Journalists	10.32%	28.66%	5.96%
Local Health Workers	27.95%	16.93%	1.39%
Messaging Apps	5.88%	25.07%	13.77%
Newspapers	18.58%	23.25%	2.21%
Online Sources	12.01%	30.90%	3.31%
People I do not know personally	1.78%	15.76%	26.52%
People I know personally	5.72%	27.90%	11.13%
Politicians	3.57%	19.78%	21.05%
Radio	18.43%	23.50%	2.17%
Scientists	36.69%	8.69%	0.81%
Television	23.35%	20.85%	2.00%
World Health Organization	30.77%	13.11%	2.88%

Ateneo Policy Center Staff calculations using MIT-Facebook Dataset.

FIGURE 2 Trust among Filipinos on COVID-19 sources of information

4 | BUILDING BACK TRUST

Moving forward, the value of the COVID-19 vaccine can be enforced by proper communication through trusted sources. The MIT Global Survey on COVID-19 showed that local health workers, the WHO, and scientists were the most trusted sources by Filipinos when it comes to COVID-19 news and information (see Figure 2).¹³ These channels can be leveraged to improve COVID-19 vaccine uptake. However, the health department must recognize that the population is still reeling from the Dengvaxia controversy. Underlying the population's concerns is wariness over whether the government or health department, which inoculated Filipino children with the “deadly” Dengvaxia, can or will do it again.

In order to gain the population's trust, political personalities must learn to be consistent with the message of the health department, which serves as the authority in public health. For instance, it was not helpful that while the government pushed for Sinovac and purchased it in bulk for the population, the president himself chose to delay his

vaccination because he preferred another brand.²⁶ At the same time, where the government is unable to provide the population's preferred vaccine, the health department must assuredly communicate the efficacy and safety of the other brands. Clearly, political personalities must also refrain from weaponizing Dengvaxia to attack the those from the opposing party, if the present administration is to stand a chance at effectively rolling out the vaccination against COVID-19.

Another critically important strategy has to do with increased transparency and accountability. In determining the allocation of limited vaccines, for example, the Department of Health has determined priority groups to receive the vaccine first based on risk and vulnerability. This is aligned with the WHO's Fair Allocation Framework for COVID-19.²⁷ The transparent use of guidelines helps builds trust in the fairness of vaccine allocation, and prevents influential persons from receiving the vaccine first based on authority, power or money. Any hint at unfairness will likely debilitate trust and put more pressure on the vaccine roll out.

Unfortunately, the brouhaha over the controversial admission of some public sector officials, notably the Presidential Security Group, that they already vaccinated themselves using an unregulated and as yet unapproved vaccines from China has likely set back trust-building, and has in fact exposed how government protocols are flaunted by some officials in power. As noted by Professor Noel De Dios of the University of the Philippines: "The incident is a scandal because it is a big slap in the face of government that pretends to any attempt at a fair social prioritization and orderly distribution of scarce life-saving vaccines."²⁸

Further fanning the flames of distrust due to rule- and regulation-flaunting, a whistle-blower exposed to media in early January 2021 that about 100,000 mainland Chinese workers of Philippine Offshore Gaming Operators (POGO) were able to vaccinate themselves in the Philippines using unregulated and unapproved drugs smuggled into the country. Her exposé confirmed what many suspected would be a thriving black market for COVID-19 vaccines, given that other countries in Asia already had access to these life-saving vaccines and the Philippines appeared to lag in its negotiations and vaccine roll out.²⁹⁻³²

5 | LEAVE VACCINATION TO THE MEDICAL EXPERTS

Learning from the negative consequences of politicizing life-saving health interventions, there is obvious risk when politicians instead of medical experts take the center stage in vaccine-related communications.³³ The COVID-19 vaccine must not be attached to political personalities or parties; the distribution of vaccines must not be used for political gain.

In order for the vaccination campaign to withstand political cycles, the face of the vaccine must be science, preferably represented by non-partisan experts, and any disputes regarding the COVID-19 vaccine must be based on scientific evidence. Already, there have been emerging news of vaccine side effects. The health department and medical expert groups must handle and communicate these carefully, so as not to weaken trust and undermine the vaccination campaign itself, as what happened with the Dengvaxia program.³⁴ Other expert and regulatory groups like the Food and Drug Administration (FDA) and the Health Technology Assessment Council (HTAC) are in the best positions to evaluate the safety and cost-effectiveness of the vaccines. These groups must endeavor to preserve their credibility and relevance by being unreserved and transparent about their recommendations regardless of whether they are in consonance with the government's stance or opinions. Their transparency is an opportunity to rehabilitate the public's trust and will allow the public to hold the government to account on sound bases.

Despite requirements for nondisclosure agreements in securing some vaccine deals, officials who handle vaccine procurement should also strive to practice as much transparency as possible especially given already existing mistrust and allegations of corruption. The health department, government agencies, medical societies, and media organizations must vigorously control and counteract the spread of disinformation, notably the politicized kind. These persons and organizations are already present on social media. Their reputable and authoritative presence can help counteract disinformation propagated in various social media platforms.

Finally, it is important to note that there could be differentiated public responses to COVID-19 vaccines depending on the perceptions on the manufacturers. Some pharmaceutical companies have an extensive history of successful medicine and vaccine development, which are also based in countries with solid regulatory institutions pushing the strictest standards. On the other hand at least one of the pharmaceutical companies in China is still struggling with a recent history of corruption allegations.³⁵ These preferences cannot simply be belittled as citizens being “choosy” or showing “colonial mentality,” as one official has noted.³⁶ Pharmaceutical companies following the right protocols and largely detached from allegations of using vaccines as political leverage are more likely to successfully earn the public's trust.

The country's policymakers and leaders must not forget that it is dealing with a population that is still shaken from the events of the Dengvaxia controversy. The success of the COVID-19 vaccination program now hangs by a weak thread of public trust. Soon it will break unless they learn to respect and value science, deal transparently, and act in good faith for the safety and well-being of the people.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

ETHICS STATEMENT

The authors have no potential competing interests to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the Social Weather Stations (SWS) and the Massachusetts Institute of Technology (MIT). The data from SWS are openly available in [https://urldefense.com/v3/_http://www.sws.org.ph/swsmain/artcldisppage/?artcsyscode=ART-20201119203953_!!N11eV2i-wtfs!8nSMWmfb099EFXmax1gmXYXs149F0cHP9HhHmrz6PNeY7wH7xr7uT085PJ91luwl\\$](https://urldefense.com/v3/_http://www.sws.org.ph/swsmain/artcldisppage/?artcsyscode=ART-20201119203953_!!N11eV2i-wtfs!8nSMWmfb099EFXmax1gmXYXs149F0cHP9HhHmrz6PNeY7wH7xr7uT085PJ91luwl$). The data from MIT are openly available at [https://urldefense.com/v3/_https://covidsurvey.mit.edu/dashboard.html_!!N11eV2iwtfsl8nSMWmfb099EFXmax1gmXYXs149F0cHP9HhHmrz6PNeY7wH7xr7uT085PEJNlQA-\\$](https://urldefense.com/v3/_https://covidsurvey.mit.edu/dashboard.html_!!N11eV2iwtfsl8nSMWmfb099EFXmax1gmXYXs149F0cHP9HhHmrz6PNeY7wH7xr7uT085PEJNlQA-$).

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