

## Work on vaccines continues



by Luis Wilfrido Atienza

**I**n America a worrying antivaccination trend has arisen over the last few years. The trend is borne out of false concerns that the vaccines given to children can cause autism or other mental health disorders or that they are actually more dangerous than the diseases they fight.

Over the last year or so, this belief seems to have spread to the Philippines, with one of the main factors driving distrust in vaccinations being the Dengvaxia controversy in 2017. The Philippines was the first Asian country to approve the use of Dengvaxia, a vaccine for dengue fever.

In November 2017—after thousands had already received the vaccine—Sanofi Pasteur, the company that created the drug, released a statement that the vaccine posed serious risks to people who had not been infected with dengue. This led to the vaccine being recalled, thousands of people being put at risk, and a handful of deaths in which the role of the vaccine is still being investigated.

And while the Dengvaxia vaccine did cause a lot of harm due to its improper usage, it seems to have triggered a more widespread skepticism of vaccines in general. For example, an exploratory study published in *BMC Research Notes* found that, after the controversy, parents of children who were vaccinated with Dengvaxia were less willing to trust vaccines and vaccination programs.

This is a cause for concern because the Philippines—as a developing nation—is more urgently in need of vaccines and vaccination

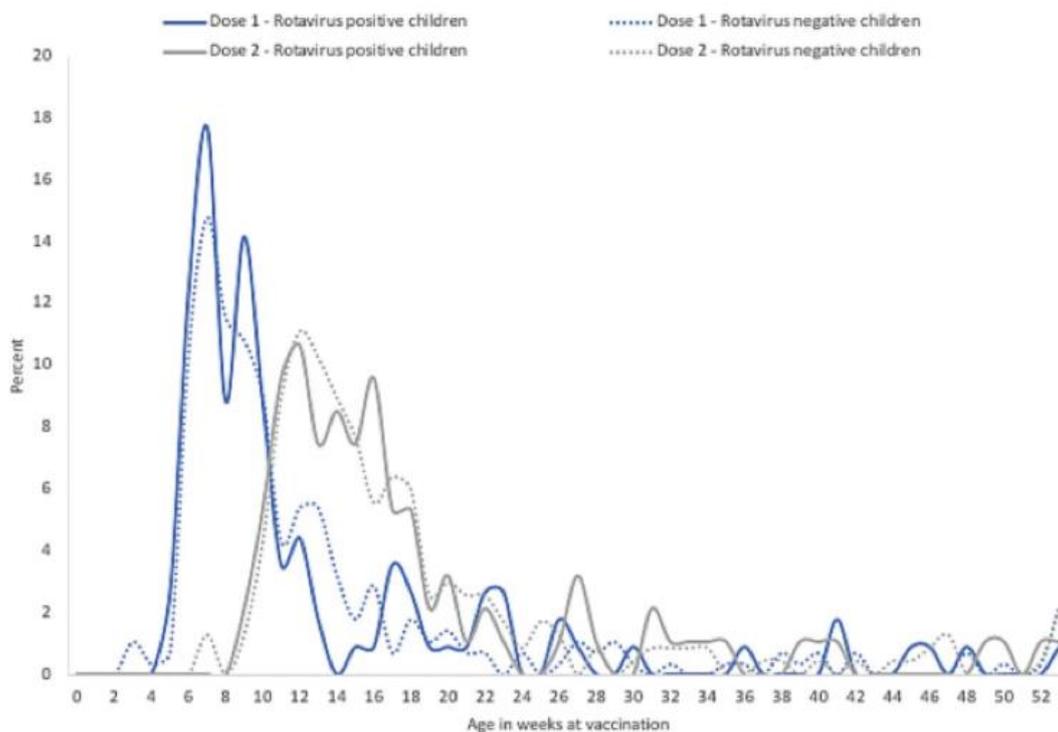
programs than more developed countries. Poorer families especially are more at risk of potentially fatal diseases that could be prevented.

Luckily there is still a lot of work going into developing and distributing vaccines to Filipinos who need them. Not only does this work go on in spite of the rising negativity toward vaccinations, but also it is more important than ever.

One study, by researchers from the University of the Philippines Manila, the Research Institute for Tropical Medicine, and the Department of Health, is looking into the safety and effectiveness of a vaccine for diarrhea. This work, published in *Scientific Reports*, deals with a vaccine for a type of virus called rotavirus. The most common cause of diarrhea around the world, rotavirus can infect humans who come into contact with dirty surfaces or food contaminated by the virus.

A rotavirus vaccine was introduced in the Philippines in 2012, and the researchers wanted to see if this vaccine was able to prevent children from contracting viral diarrhea. Also, was distribution of the vaccine to poor families, who would most need the vaccine, practical and financially feasible?

The study—based in D.O. Plaza Hospital in Agusan del Sur—observed over 600 cases of diarrhea in the area, mostly from poor families and all children over 8 months of age, from 2014 to 2017. The study found that the vaccine was effective and capable of preventing up to 60% of rotavirus diarrhea cases. It



The ages at which the children received the rotavirus vaccine.

also found that the vaccine's effectiveness decreased as the children got older, showing the importance of getting children vaccinated as early as possible.

The study also noted some difficulties with the distribution of the vaccine. Most notably, there were two vaccine shortages: one lasting nine months, and the other lasting eleven months. This suggests that while the vaccine may be effective, steps still need to be taken to ensure that it gets to the children who need it most, especially when nationwide distribution is considered.

While this study was mostly concerned with how effective a particular vaccine is, other studies look more closely into the implementation of proven vaccines. One such study, published in *Vaccine*, was conducted by the same lead researcher from the University of the Philippines as well as the Department of Health—

This second study examined the introduction of an inactivated poliovirus vaccine (IPV) to the regular immunization schedule for Filipino children. The IPV, which is given as an injection, replaced the pill polio vaccine in the Philippines in 2016.

While the IPV—designed to prevent children from becoming infected with polio—has been proven to be effective, its addition to the national vaccination schedule meant that children now had to get

multiple injections at 14 weeks old. This was a cause for concern because of the belief among parents and policymakers that receiving too many injectable vaccines at the same time can reduce their effectiveness, despite research providing evidence to the contrary.

Around the Philippines, the researchers administered surveys to health care providers responsible for administering multiple vaccinations to large numbers of children and to the parents and caregivers of these children. Given both before and after the introduction of the IPV, the surveys asked the providers to rate how comfortable they were with administering multiple injections at one time to children and how much faith the caregivers had in their health care providers' judgment regarding the number of vaccines to give in a single day.

The results revealed several interesting points about the behavior of health care providers, as well as of parents and caregivers who are vaccinating their children. One is that generally health care providers as well as parents and caregivers were accepting of their children receiving multiple vaccinations at once and that they were more confident of this after the vaccinations were implemented. Another is that, while caregivers were not very comfortable with their children receiving more than two vaccinations at once, they still allowed their children to receive more upon advice from the vaccinator.

This look into attitude and behavior can offer valuable insight about how best to implement

vaccination programs and communicate the safety, effectiveness, and urgency of vaccinating children.

## REFERENCES

Valido EM, Laksanawati IS, Utarini A. Acceptability of the dengue vaccination among parents in urban poor communities of Quezon City, Philippines before and after vaccine suspension. *BMC Res Notes* 2018; 11:661.

Lopez ALL, Daag JV, Esparagoza J. Effectiveness of monovalent rotavirus vaccine in the Philippines. *Sci Rep* 2018; 8:14291.

Lopez ALL, Harris JB, Raguindin PF. Introduction of inactivated poliovirus vaccine in the Philippines: effect on health care provider and care giver attitudes and practices. *Vaccine* 2018; 36:7399–7407.

**Luis Wilfrido Atienza** graduated from the Ateneo de Manila University, with a BS in Biology and a minor in poetry. He currently works as a writer for a medical communications agency and spends some of his free time writing about science.