



Dengvaxia researcher charged

Contentious prosecutions are beginning in the wake of the dengue vaccination controversy in the Philippines. **Patralekha Chatterjee reports.**

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Maria Rose Capeding, a prominent researcher involved in the development of the first dengue vaccine, has posted bail and is now at home after having been charged by Filipino authorities. Her indictment, first reported in *Science*, is related to the national dengue vaccination programme, which was halted over safety concerns in late 2017. Capeding, who until recently worked at the Research Institute for Tropical Medicine in the Philippines, was the first author on the phase 3 clinical trial of Dengvaxia.

“If convicted, the charges could carry a penalty of up to 6 years of imprisonment for each count.”

Capeding is among 20 people facing criminal charges, along with Janette Garin, a former health secretary, and other officials in the Department of Health, employees at Sanofi (which makes the vaccine), other employees at the Research Institute for Tropical Medicine, and Filipino regulatory officials. The charges relate to accusations of neglect following an investigation into the deaths of ten children who had received dengue vaccination.

In February this year, national prosecutors in the Philippines concluded that there was probable cause to indict the 20 individuals for “reckless imprudence resulting [in] homicide”, because they “facilitated, with undue haste” Dengvaxia’s approval and rollout among Filipino school children.

The Philippines, where dengue is common and causes a huge burden of disease, was among the first countries to introduce mass vaccination with the dengue vaccine in 2016. However, reassessment of data from the clinical trials by Sanofi in late 2017 suggested

that vaccination could increase the risk of severe dengue in recipients who have never previously had dengue. Although most people in high burden settings will have had natural dengue infections at a young age, many will not have. The vaccination programme in the Philippines was suspended soon after amid public outcry from parents who believed that their children had been put at risk.

The Department of Justice said that “Garin and the other respondents, most of whom are medical professionals, exhibited such [a] degree of neglect when they ‘totally disregarded the identified risks and adverse effects of the vaccine’”. If convicted, the charges could carry a penalty of up to 6 years of imprisonment for each count. The Department of Justice has said that another set of complaints is under preliminary investigation by prosecutors.

A Sanofi spokesperson told *The Lancet Infectious Diseases*, “We strongly disagree with the Department of Justice’s findings made against Sanofi’s officials (current and past) and we will vigorously defend them. There is no clinical evidence that any reported fatalities were causally related to vaccination. We diligently monitor the safety of people participating in clinical studies. We are also performing pharmacovigilance activities and continuously monitoring the safety profile of the vaccine in a real-world setting, including the Philippines”. Sanofi added that it “will continue to work with health authorities to help secure access to the vaccine in countries where appropriate populations can benefit from vaccination against the disease”.

The Public Attorney’s Office in the Philippines and the Department of

Justice have not yet responded to a request for comments.

The questions of what led to the crisis and who is to blame is highly contentious within the Philippines and worldwide. The prosecution of a researcher has also raised ethical concerns. Arthur Caplan, a bioethicist at NYU School of Medicine (New York City, NY, USA), said that the prosecution carries long-term risks. “Unless it is handled in a careful, transparent, and thoughtful manner, there is a grave danger that vaccine development may be slowed if companies decide that diseases plaguing poor and developing nations are not worth the risk of bad publicity, liability, or both, and pull out of vaccine manufacturing for those with few resources but desperate need.”

“We need an honest, precise accounting of how the tragedy in the Philippines happened, what values underpinned decisions to proceed even in the face of known risks to children, and what role regulators played in signing off on the public health effort to battle dengue and why” he added.

“It is a sad day for public health when researchers who lead clinical trials to demonstrate safety and efficacy are indicted for poor judgment by others on the use of a vaccine or drug”

Dengue researchers are defending Capeding. Tikki Pang (Lee Kuan Yew School of Public Policy, National University of Singapore), said that “the indictment of Rose Capeding is an egregious, unjust, and highly disturbing act directed at a scientist of the highest calibre who has contributed so much to health improvement in the Philippines and beyond”.

Pang acknowledged that there had been “poor risk communication”

around Dengvaxia and there needed to be “better explanation of the risks inherently associated with any new vaccine and that no vaccine is 100% safe”. He called for “better public education and awareness, [and] curbing of fake news and misinformation”.

Duane Gubler (Duke-NUS Medical School, Singapore) said that Capeding is being “unfairly indicted”. “It is a sad day for public health when researchers who lead clinical trials to demonstrate safety and efficacy are indicted for poor judgment by others on the use of a vaccine or drug”, he told *The Lancet Infectious Diseases*.

“The unfortunate ramifications for researchers is that it may discourage medical scientists from conducting research on desperately needed vaccines to help reverse the trend of emergent epidemic infectious diseases.”

The initial recommendations by WHO’s Strategic Advisory Group of Experts on Immunization (SAGE) in 2016 advised dengue vaccination “for areas in which dengue is highly endemic as defined by seroprevalence in the population”. In 2018, SAGE updated its advice to a preferred strategy of pre-vaccination screening for previous exposure and vaccination only of seropositive individuals.

“The Dengvaxia controversy is thought to be contributing to a drop in public confidence in other vaccines the Philippines”

Lulu Bravo, a paediatrician based at the University of the Philippines and executive director of Philippine Foundation for Vaccination, was among the first of 58 signatories to an appeal

made last year by a group of doctors under the banner *Doctors for Truth* calling for a halt to the claims of deaths caused by the dengue vaccine. “I believe that an injustice has been done”, Bravo said. “As a researcher and clinical vaccine trialist myself...I cannot help but feel so frustrated with what happened.”

The Dengvaxia controversy is thought to be contributing to a drop in public confidence in other vaccines the Philippines. In February this year, WHO reported that gaps in immunisation have contributed to a rise in the number of cases of measles in the country. Tens of thousands of cases have been reported already this year, although inadequate availability is also an issue. Bravo called the measles outbreak “a disaster waiting to happen”.

Patralekha Chatterjee

Infectious disease surveillance update

Chikungunya in Congo (Brazzaville)

An outbreak of chikungunya virus disease was declared on Feb 9, 2019, in Congo (Brazzaville). 6149 cases were reported between Jan 1 and April 14. The outbreak is affecting eight of the 12 health departments in the country, with most cases (47%) in Kouilou Department. This is the second outbreak of chikungunya reported in Congo (Brazzaville) since 2011.

Wild poliovirus in Pakistan

11 cases of wild poliovirus type 1 (WPV1) have been reported so far this year in Pakistan; worldwide, 18 cases have been reported as of May 4. The latest case was reported on May 4, in a 1-year-old girl from Bannu district in Khyber Pakhtunkhwa province with an onset of paralysis date of April 22. This is the third case reported from Bannu district this year.

Hepatitis A virus in Florida, USA

During April 28–May 4, 2019, the Florida Department of Health

reported 85 cases of hepatitis A virus infection. This is the highest number of reported cases in 1 week since the national outbreak began in 2017. As of May 4, 1585 cases of hepatitis A virus infection have been reported so far this year. 60% of the cases have been reported in Hillsborough, Orange, Pasco, and Pinellas counties.

Measles in Ukraine

During April 21–27, 2175 cases of measles were reported by the Ministry of Health of Ukraine. Most cases were reported in Kharkiv, Kyiv, and Ternopil regions. 43 783 cases have been reported so far in 2019, including 16 deaths.

Ebola in DR Congo update

As of May 4, 1554 cases of Ebola virus have been reported in DR Congo since the outbreak began in August, 2018: 1488 cases have been confirmed and 66 are probable. 1029 people have died from their illness. 213 cases remain under investigation. The security conditions continue to limit response

activities in Butembo. On May 3, bikers attacked safe and dignified burial teams, resulting in two bikers being killed. On May 4, demonstrations led to a temporary halt of response activities and resulted in the destruction of several handwashing stations. On May 5, activities partly resumed; however, cases are expected to rise, due to the suspension of response activities.

Plague in Mongolia

On May 4, the Mongolian Ministry of Health confirmed that two people had died from bubonic plague. The pair had consumed raw meat and internal organs from a marmot, a type of large squirrel. The town where the couple lived, Uglii, in the western province of Bayan-Ulgii was placed under quarantine following the deaths. 158 people who had direct or indirect contact with the couple are being followed up. Plague is endemic to Mongolia and marmots are reservoirs of *Yersinia pestis*.

Ruth Zwizwai



For more on **chikungunya in Congo (Brazzaville)** see <https://www.who.int/csr/don/01-may-2019-chikungunya-congo/en/>

For more on **polio in Pakistan** see <https://www.promedmail.org/post/6456375>

For more on **hepatitis A in Florida, USA** see <http://outbreaknewstoday.com/florida-hepatitis-outbreak-tops-1000-cases-2019/>

For more on **measles in Ukraine** see <http://outbreaknewstoday.com/measles-epidemic-ukraine-cases-near-44k-16th-death-reported-30805/>

For more on **Ebola in DR Congo** see <https://www.promedmail.org/post/6457148>

For more on **plague in Mongolia** see <https://www.promedmail.org/post/6456511>