

## International

# US biotechs to speed work on Nipah vaccine; virus hits India

## Profectus, Emergent get up to \$25m from CEPI coalition

**LONDON:** A global coalition set up a year ago to fight epidemics has struck a \$25 million deal with two US biotech companies to accelerate work on a vaccine against the brain-damaging Nipah virus that has killed 12 people in India. The Coalition for Epidemic Preparedness Innovations (CEPI) said yesterday that Profectus BioSciences and Emergent BioSolutions would receive up to \$25 million to advance development and manufacturing of a shot for the bat-borne disease.

There is currently no vaccine or treatment to tackle Nipah, which has a mortality rate of around 70 percent. The death toll from the latest outbreak in Kerala rose to 12 yesterday, following the death of a 61-year-old man who had already lost three members of his family, including his two sons, to the virus. Indian officials said they were awaiting blood test results from a further 16 patients suspected to have the infection.

The experimental vaccine being developed by the biotech companies has produced promising results in animal tests, following more than 15 years of research by scientists at the US-based Uniformed Services University of the Health Sciences. Based on data so far, Christopher Broder, one of the main researchers behind the project, said the Nipah vaccine in develop-

ment was also "highly likely" to work against the related Hendra virus.

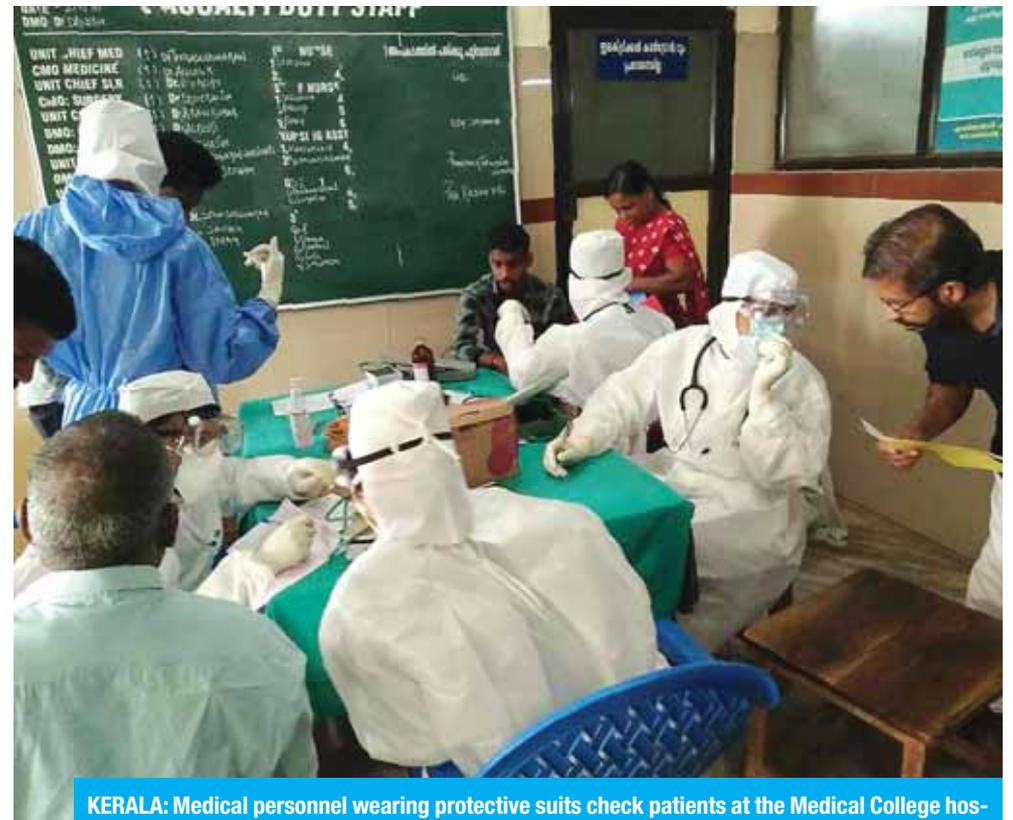
Experts believe both Nipah and Hendra are spread by flying foxes - bats of the genus *Pteropus* - with humans becoming infected by exposure to bat urine and saliva on fruit, or from infected pigs and horses. It can also spread person-to-person. Outbreaks of Nipah occur annually in Bangladesh and 105 people died from the virus in Malaysia 1999, when more than a million pigs were slaughtered to stem its spread. Still, Nipah remains a relatively rare tropical disease - like Ebola - which severely limits the incentive for drug companies to invest in vaccines or drugs.

It was the slow response to West Africa's 2014-2016 Ebola outbreak, which killed more than 11,300 people before an effective vaccine was developed, that prompted the launch of the CEPI coalition in January 2017. The group, which sees itself as a global insurance policy against epidemics, is funded by Norway, Germany, Japan, the Bill & Melinda Gates Foundation and the Wellcome Trust. Nipah is on the World Health Organization research and development priority list alongside Ebola, Zika, MERS, Lassa and Crimean-Congo haemorrhagic fever.—Agencies



**Nipah has killed 12 in southern Indian state of Kerala**

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**KERALA:** Medical personnel wearing protective suits check patients at the Medical College hospital in Kozhikode. A deadly virus carried mainly by fruit bats has killed at least 12 people in southern India, sparking a statewide health alert. —AFP

## In costly quest for security, US schools face the law of diminishing returns

**TEXAS:** From gunshot detection devices to wireless panic buttons and bulletproof windows, schools across the United States are pursuing aggressive security measures to prevent a shooting massacre on their campuses. Pressure from parents and community members to find solutions, both high and low tech, has grown in the wake of deadly mass shootings at high schools in Parkland, Florida, and Santa Fe, Texas, among other violent incidents. In the rush to find answers, school security has ballooned into a multi-billion-dollar industry. Meanwhile, some schools are spending precious funds on untested technologies, safety experts said, even though the most robust and effective safety measures can only mitigate the risk, not eliminate it.

"We've seen this huge shift to unproven tactics, based on a lot of emotion," said Chris Dorn, an analyst with Safe Havens International, which conducts on-site safety assessments at hundreds of schools every year. "What we really need to do is to get back to basics." Those include single-point entry that restricts access to buildings, classrooms that lock from the inside, training in emergency protocols and effective supervision of campuses by either police officers or school staff. School officials must also strive to balance the need for security with a desire to preserve an atmosphere conducive to learning, experts said, warning that schools

can become fortified bunkers that feel like prisons to students.

"There's a diminishing amount of returns," Dorn said, noting that even extraordinarily secure places like the Pentagon and the Fort Hood military base have faced shootings. Metal detectors, for example, are expensive, require armed personnel and can create long lines outside buildings, providing yet another target for potential attackers. Many schools have considered door-barricading devices, but experts said they can endanger students by preventing escape and stopping law enforcement from accessing rooms. Instead, schools should ensure their classrooms can be locked from the inside.

Even cameras are not necessarily helpful during an active shooter situation unless they are monitored live at all times, requiring additional personnel. The majority of schools now have single-point entries, forcing visitors during the day to come through one entrance and get approved by a main office, a practice that security experts say is among the most effective. Many districts, like Littleton, Colorado, near the site of the 1999 Columbine High School massacre, have installed video intercom systems to restrict access.

But most schools use multiple points of entry at arrival and dismissal due to the sheer number of students. In Parkland, perimeter gates were opened shortly before the end of the day. School resource officers - armed police officers assigned to campuses - have also become more common, and several states, including Florida and Maryland, have approved funding to pay for more officers this year. Some schools, like Healdton Public School in Oklahoma, have installed expensive bulletproof shelters in classrooms that can shield students from incoming fire.

Even low-budget solutions, like providing classrooms with makeshift weapons - one Pennsylvania school district put buckets of rocks in all of its 200 classrooms - can have unexpected drawbacks if they are used in student assaults. —Reuters

## Death toll from Indian protests rises to 13

**TUTICORIN:** A protester shot during demonstrations against a copper plant in southern India died of his injuries yesterday, officials said, the 13th victim killed by police fire. A curfew remained in pockets of Tuticorin city in Tamil Nadu state where police used live ammunition to disperse protesters this week, provoking international outrage and demands for an immediate investigation.

Calls demanding the closure of the copper smelting plant owned by British mining giant Vedanta Resources had been building in recent months, with residents complaining it was polluting their city. The resistance came to a head Tuesday when police stopped a crowd of thousands from protesting outside the factory. Cars and buildings were set ablaze and rocks hurled at police, who responded with live fire. Eleven demonstrators were shot dead and many people injured in the melee, including 20 police. Another protester died Wednesday when he was struck by rubber bullets in a second day of protests.

The latest victim died in hospital yesterday, two days after being injured, doctors said. "He was brought in a critical condition with bullet injuries and died today," a doctor at the local hospital said. The chief minister of Tamil Nadu has ordered an inquiry but defended the actions of police, which the state's opposition leader called "mass murder". "The police have a duty during protests to maintain law and order, but lethal force can only be used if there is an imminent threat to life," Meenakshi Ganguly, South Asia director at Human Rights Watch, said.—AFP