



BACTERIAL MENINGITIS

Appeal to Thwart Deadly Outbreak

Fearing a repeat appearance of a rare strain of bacterial meningitis that killed 1500 people last year in Africa, the World Health Organization (WHO) last week issued an urgent plea to drugmakers to make an effective vaccine available at reduced cost. The most common forms of meningitis can be

W135 strain will return this winter, says WHO spokesperson Iain Simpson, but if it does, the organization doesn't want to be caught empty-handed. The only vaccine available against W135 is a tetravalent preparation that also staves off three other strains. But at a cost of at least \$4 per dose, the vaccine—which is in routine use for military recruits and travelers from wealthy countries—is out of reach of vulnerable countries in Africa, which can afford to pay at most about \$1 per dose, according to WHO.

Even if the price were slashed, there would not be enough of the tetravalent vaccine to respond to a large epidemic. In a severe outbreak, some 3 million doses would be needed; at the meeting, drug companies estimated that only 2 million doses are available, says Simpson. "If there are one or two small outbreaks, that might be enough. If there is one large outbreak, we wouldn't even be close."

On 4 October, following negotiations with WHO and other officials, the drug giant Glaxo-SmithKline offered to produce a new triple-action vaccine against W135 and two common strains,

A and C, for \$1 per dose. But there might not be enough time to get the new vaccine ready for winter. It would have to receive regulatory approval in Belgium, where it would be manufactured, and in countries where it would be used. That could take months, says Daniel Tarantola, WHO's director of vaccine development. And financing is far from certain. "We do not want to overstate our hope," he says.

WHO began talks with vaccine manufacturers in late spring, Tarantola says, but received little positive response until last month. Some observers question the strategy of vaccinating after an outbreak starts. Mass vaccination campaigns before an epidemic could save thousands of lives a year, asserts John Robbins, a vaccine expert at the National Institute of Child Health and Human Development in Bethesda, Maryland.

He and several colleagues have been

pushing WHO to launch mass campaigns immediately to protect more people and drive down the tetravalent vaccine's cost. "There is a primary rule about vaccines: If you want to make it cheap, use it," Robbins says. "No manufacturer will be able to store enough vaccine and deliver it within the time frame required to stop an epidemic."

Tarantola and others at WHO say that such a strategy would work only with a conjugate vaccine that elicits a stronger and longer-lasting immune response against a range of strains. Such a vaccine is under development but won't be ready for several years, Tarantola says. In the meantime, health officials in Burkina Faso and the rest of the Meningitis Belt can only hope that they are luckier this year than last.

—GRETCHEN VOGEL

HERPETOLOGY

100 Frogs A-Leaping For Biodiversity

While many herpetologists have been scrambling to understand why frogs, toads, and other amphibians are declining worldwide, one research team has been cataloging more than 100 new species, all from one postage stamp of a rain forest in Sri Lanka. On page 379, Christopher Schneider, a systematist at Boston University, and his colleagues describe their discovery of this biodiversity hot spot, increasing the number of known frog species on the island of Sri Lanka fivefold. "It's quite amazing [that] they have found this incredible diversity," comments David Wake, a herpetologist at the University of California, Berkeley.



Ample anurans. Biologists have discovered this and more than 100 other new frog species in Sri Lanka's rain forest.



Victims of an ill wind. Dry winter winds help spread *Neisseria meningitidis* (inset), triggering yearly epidemics that sicken tens of thousands of children in Sudan and other countries south of the Sahara.



prevented with inexpensive, readily available vaccines, but the only vaccine that protects against strain W135 costs \$4 to \$40 a dose—far more than most African countries can afford.

At last week's emergency session in Burkina Faso, officials were pessimistic about staving off another epidemic of W135 without help from the world's largest drug companies. If a major outbreak of W135 were to strike again, WHO says, there would not be enough vaccine doses available at any price.

Outbreaks of bacterial meningitis plague Africa's so-called Meningitis Belt every winter as dry winds blow south from the Sahara, spawning dust storms that irritate the lungs and leave people vulnerable to the airborne bacteria. Last year, W135 hit with a vengeance, killing 1500 people in Burkina Faso. Most of the victims were young children. The death toll tells only part of the story: One in 10 survivors suffers brain damage, deafness, or limb amputation.

It's impossible to predict whether the rare