

WHO plans rapid deployment

The World Health Organization (WHO) has responded to the threat from new and emerging diseases by setting up an early-warning system and a rapid-response taskforce for disease outbreaks around the world. The emerging diseases division will tackle new and emerging diseases such as HIV, Ebola virus, yellow fever, tuberculosis and bubonic plague, which, WHO says, are now threatening the health of the world.

"Recent outbreaks have shown the potential of epidemics is now vastly increased by the speed by which they are able to spread through the unprecedented size, concentration and mobility of populations," said WHO's Director-General Hiroshi Nakajima. According to WHO, at least 29 diseases have emerged over the past 20 years and an outbreak of disease anywhere must now be perceived as a threat to all countries.

Providing a rapid means of intervention onsite is a departure for WHO; the agency is used to providing advice at a distance, although it can still only enter a country by invitation. The new division, which formally came into existence on 1 October, is headed by David Heymann who led WHO's response to the Ebola outbreak in Kikwit, Zaire, earlier this year. Heymann plans to develop a rapid-response taskforce that is able to mobilize within 24 hours of receiving a call for assistance.

There are also plans to improve surveillance by expanding the existing network of WHO Collaborating Centres, and by improving existing, and building new, laboratory facilities. The new division will also take on the responsibility for monitoring antibiotic resistance, increasing the scope of the existing system called WHONET. This electronic database is currently used by more than 200 microbiological laboratories worldwide to record and access antibiotic sensitivity test results from routine clinical isolates.

The division will have a budget of US\$1.6 million for the first two years. Heymann hopes to supplement this, however, by persuading national governments to put money into laboratories, equipping them to detect rare bacteria and viruses.

"The Ebola outbreak [in Zaire] would have been diagnosed and controlled more quickly if an early-warning system had been in operation. Doctors in the region had not seen the disease before and

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A patient in Kikwit, Zaire, with red eyes, which is symptomatic of Ebola virus.

it was not reported. It was not until the disease spread to two local hospitals that the attempt began to identify it," Heymann says. Four months elapsed between the first appearance of Ebola and

its identification, and more than 295 people died in the outbreak. "An outbreak of Ebola near an airport could mean the disease is exported half way across the world in a matter of hours," he warns.

One of the division's first tasks will be to carry out a survey of the diagnostic capabilities of its associated laboratories to ensure that each country has the ability to diagnose common infections, and locally to link a specific cause with the disease. In addition, a referral system is being developed, where problem samples may be sent for more complex analysis or confirmation of preliminary results.

NUALA MORAN
London

Salk vaccine makes a comeback

The US Centers for Disease Control and Prevention (CDC), worried about the small number of cases of polio caused every year by the oral 'live' vaccine, likely will recommend a major change in the immunization regimen for American children that will revive the all-but-abandoned injectable vaccine created in 1954 by Jonas Salk.

Salk's vaccine ended the polio scourge (the epidemic reached a peak of 20,000 cases in the United States in 1952), but has been little used in recent years. Since 1961, most children have received the live — but weakened — virus vaccine administered orally and invented by Albert Sabin.

Sabin's vaccine provokes a stronger immune response than Salk's. Also, the live-virus nature of the Sabin vaccine can elicit protection in people who have not directly received it, but who have had contact with individuals who have — a phenomenon known as 'herd' immunity. But the Sabin vaccine also is believed responsible for causing a small number of cases of the disease — about eight to ten annually — in the United States.

The new policy calls for two doses of the injectable vaccine in infancy, followed by two doses of the oral vaccine during the first two years of life. The injectable vaccine (which poses no danger of disease), when given first, is expected to provide enough immunity to prevent disease when the oral doses are administered later, according to members of the CDC advisory panel who



Proposed changes call for two doses of the injectable polio vaccine developed by Salk (left) and two doses of Sabin's oral vaccine.

made the recommendation. Currently, most children receive four doses of the oral vaccine during the first two years of life. (About 20 million doses of polio vaccine are administered each year in the United States, of which only about 400,000 are the injectable version. The latter is most frequently given to those with damaged immune systems who could be harmed by taking the live product.)

The change is aimed at eliminating or reducing the small number of cases linked to use of the oral vaccine. The CDC is not bound by the recommendations of its advisory committees. Nevertheless, such advice weighs heavily in agency decision-making, and is expected to be adopted. Also, CDC health policy recommendations are not binding on states. However, several immunizations, including polio, are mandatory for entry into public schools.

"Our long-range goal will remain the [global] eradication of polio altogether,