

## Royal Society urges integration of human and veterinary medicine

With the number of emerging infectious diseases on the rise worldwide, researchers and health experts are increasingly recognizing the benefits of integrating human and veterinary medical sciences at subnational, national and international levels. Case in point: on 3 February, the Royal Society (the UK's academy of science) published a policy statement recommending the creation of a National Institute of Infectious Diseases that would act as an umbrella for "technical know-how, research expertise and funding on infectious diseases," linking scientists who research human infectious diseases with those who study such diseases in animals.

This statement is in line with the 'one medicine'—or 'one health'—movement that aims to reunite medical and veterinary sciences, two fields that drifted apart over the past century. In 2006, the World Health Organization and partners launched a global system to predict and respond to animal diseases that are transmissible to humans, as part of WHO's veterinary public health program, and the American Medical Association and American Veterinary Medical Association adopted one-health resolutions in 2007 and 2008, respectively.

Although previous initiatives have increased collaboration between human and veterinary medical researchers and practitioners, the Royal Society's statement is the first to suggest modifying an entire country's organizational structure of infectious disease research, prevention and response. "It's really the bringing together of two cultures," says Keith Gull of the University of Oxford, who served as chairman of the Royal Society committee behind the new statement. In addition to academic collaborations, the proposed shift would lead to changes in regulatory and funding policies.

The call to action is seen as timely, given that pathogens originating from an animal or animal-derived product caused approximately 75% of new diseases affecting humans over the past ten years. Experts have found veterinary medicine expertise crucial to stopping outbreaks, such as that involving the SARS virus. Threats of outbreaks of diseases such as avian flu further highlight the need for integration, according to researchers. "To identify and contain a serious avian flu pandemic requires simultaneous and coordinated work on domestic poultry, wild birds, pigs and humans," says Sir Richard Feachem, a global health expert at the University of California—San Francisco.

Although he explains the benefits of a more integrated approach, Gull concedes it is unlikely the proposed National Institute of Infectious

Diseases will be created any time soon. He says the changes will be difficult to make "because of the cultural history, which is a very powerful thing to try to overcome."

There are many obstacles—political will and money being two of them, explains James Hughes, professor of medicine and public health at Emory University in Atlanta, Georgia and former director of the National Center for Infectious Disease at the US Centers for Disease Control and Prevention.

Hughes notes, however, that infectious disease outbreaks will continue to propel cross-disciplinary collaborations. "The microbes are there to remind us to work more closely together on the research side and the public health side," he says.

*Kirsten Dorans, New York*



Challenges ahead: Pathogens can cross species

Associated Press

## Millions put toward making polio history

Thanks to a worldwide program designed to fight polio, the numbers of people with this terrible illness have dwindled. But this initiative has not yet succeeded in making the disease disappear altogether. In January, the US-based Bill & Melinda Gates Foundation and Rotary International, along with the governments of Great Britain and Germany, jointly announced a donation of more than \$630 million to help propel the program forward toward its ultimate goal.

Since the Global Polio Eradication Initiative was launched worldwide, polio cases have been reduced by more than 99%—from over 350,000 in 1988 to around 1,600 in 2008. However, the initiative failed to meet the initial target date of 2000 for worldwide eradication, and the World Health Organization (WHO) has not set another official global target date for eradicating polio. "When they set [the 2000 deadline], it initially seemed a good idea. But [it] proved counterproductive, because funding increased in the run-up to the deadline and flatlined after the deadline was missed," says Amir Attaran of the University of Ottawa, Canada.

Policy makers need to remember any eradication campaign is a "high-stakes gamble," says Scott Barrett, professor at the Johns Hopkins University School of Advanced International Studies in Washington, DC.

"[The gamble] paid off for smallpox," says Barrett. "Smallpox eradication is probably the best investment the world ever made."

However, polio—which causes paralysis in less than one out of every 100 cases—is much more difficult to detect than smallpox, Barrett adds. And polio is endemic in war-torn countries, which makes vaccine delivery difficult.

There are four countries with endemic polio: Nigeria, India, Pakistan and Afghanistan. According to Oliver Rosenbauer, a WHO spokesperson, political support—particularly from local governments—coupled with the recent boost in funding will make eradication possible. "If these two things come together, we know [eradication] will happen because we've seen it work."

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A dose of hope: An Afghan boy is vaccinated against polio

Associated Press