

July 13, 2008

Birbeck: Borders don't block disease

Michigan, America have huge stake in global research

As we all know, the world is shrinking. In a matter of hours, you can fly from the United States and land in another country, another continent, another culture.

More than 63,000 Americans traveled outside of the United States in 2006; 51,000 foreign travelers visited U.S. soil that year. The number of college students studying abroad is on the rise.

So many aspects of American life have benefited from the cross-pollination allowed by closer relationships with other regions of the world.

As a Michigan State University physician working in Africa for several months each year, I enjoy the growing international flavor in Lansing. Our world's communities are growing increasingly related to each other. It is in our best interests to reflect that understanding in our health and foreign policies.

Our vulnerability to problems viewed as separate from ours was painfully illustrated last year when a gentleman with extremely drug resistant tuberculosis (XDR) flew from Atlanta to Paris and then re-entered the U.S. overland via Canada to avoid concerned public health authorities. XDR TB is a dreaded reality in many parts of Asia and Africa today.

The infection is unresponsive to anti-tubercular treatment and takes us back to the pre-antibiotic era where TB treatments include surgical procedures and long-term isolation preceding eventual death.

Epidemiology, the science of investigating disease in populations, has taught us that other communicable disorders like HIV/AIDS, SARS, and avian flu don't respect geographic or national boundaries. To effectively identify and address potential public health threats to Americans, the U.S. medical research community must be globally engaged in a proactive fashion.

Even the most obscure of international research findings can eventually play an important role in health decisions. Take kuru for example.

In 1957, this unusual form of dementia was identified among the Fore people of Papua New Guinea. Kuru was eventually shown to be related to a funeral practice involving cannibalism. A study of this obscure condition (now extinct) eventually led to the discovery of infectious particles called "prions." Neither virus nor bacteria, prions infect simply by influencing and changing surrounding brain proteins.

Armed with this knowledge of these infectious particles, British neurologists in 1996 became concerned about a series of unusual cases of rapidly fatal dementia in young adults. What is now known as a new variant of Creutzfeldt Jakob Disease was traced to "mad cow" disease. Victims had consumed contaminated beef from cattle fed upon sheep scraps infected with a kuru-like illness.

Massive bovine screening campaigns and changes in animal feeding practices stemmed an epidemic.

Less exotic findings also offer benefits. Technological advances aimed at reducing the laboratory costs of HIV/AIDS care in Africa will eventually provide substantial savings in U.S. health costs.

Most of us understand the humanitarian need for global health research. In a Research!America opinion poll last year, eight in 10 Americans said it's important that the U.S. work to improve health globally. Investing in global health research is no different - it's the smart thing to do for Michigan, the right thing to do for the world.