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The article “Ears of the Armadillo: Global Health Research and Neglected Diseases in Texas” by Peter J. Hotez, M.D., Ph.D., et al., appeared in the June 2013 edition of *PLoS Neglected Tropical Diseases*. Hotez is dean of the National School of Tropical Medicine at Baylor College of Medicine, president and director of the Sabin Vaccine Institute and Texas Children’s Hospital Center for Vaccine Development, and fellow in disease and poverty at Rice University’s Baker Institute.

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HEALTH POLICY research

Rice University’s Baker Institute-Baylor College of Medicine
Joint Program in Health Policy Research

Are neglected tropical diseases a concern for developed, wealthy nations?

“Yes,” says Peter Hotez, M.D., Ph.D. “These are, most likely, the most important diseases you’ve never heard of.” We typically think that neglected tropical diseases (NTDs) are limited to poor, developing nations, but in fact, they affect the impoverished people of wealthy nations such as Canada, Australia and many European nations. NTDs also present a significant public health problem in many areas of the southern United States, including Texas.

Outbreaks of dengue fever, a mosquito-transmitted viral infection, have been reported in Texas. The state also reports cases of cysticercosis, a parasitic infection caused by a larval pork tapeworm that leads to seizures and epilepsy; toxocarasis, another parasitic infection that causes asthma and neurological problems; cutaneous leishmaniasis, a disfiguring skin infection transmitted by sand flies; and murine typhus, a bacterial infection transmitted by fleas and often linked to rodent infestations. Chagas disease, which is spread by the bite of a cockroach-like insect and passable to newborns congenitally by mothers and can cause heart failure and sudden death, is also a threat in Texas.

These diseases primarily affect those in poverty, and they disproportionately affect minority populations. The links between poverty and disease are still not well understood. One possibility could be that living in substandard housing and leaving the windows open due to lack of air conditioning puts occupants at risk. This, combined with fewer city services such as sanitation or garbage collection, creates a breeding ground for NTDs. Once infected, the person often has the disease for years, which can cause chronic or permanent disabilities. These diseases bolster the cycle of poverty by impeding the development of children and causing lower workforce productivity.

The exact scale of the NTD problem is not known. People in the most affected groups tend to have less access to quality medical care and often cannot afford to seek it. The medical personnel at

the centers in their communities, if there are any, usually lack the testing resources and training to properly identify and treat NTDs. Therefore, NTDs are often misdiagnosed if diagnosed at all. Obtaining quality data on the prevalence and transmission of these diseases is the first step in battling them.

With better diagnostic testing, several NTDs can be effectively treated using current methods. Others still need research to increase the efficiency and safety of current treatments or to create new treatments or vaccines. Unfortunately, major pharmaceutical companies are not investing in research for most NTDs because they do not anticipate financial gain to result from this work. But here in Houston, the Sabin Vaccine Institute and Texas Children’s Hospital Center for Vaccine Development are conducting research to develop vaccines and diagnostics. Also, a national tropical medicine school has opened at Baylor College of Medicine to train health professionals. In addition to treatment, we should consider investing in the development of preventive measures, such as those used for malaria and HIV/AIDS.

With an estimated 46 million Americans living below the poverty line and a proven link between poverty and neglected tropical diseases, this is an important issue. Without intervention, these diseases will continue to spread within our borders, and they will continue to perpetuate poverty in the United States.

PLoS Negl Trop Dis, June 2013, 7(6): e2021.

“*Tropical Diseases: The New Plague of Poverty*,” *The New York Times*, Aug. 18, 2012.

Forgotten People, Forgotten Diseases: The Neglected Tropical Diseases and their Impact on Global Health and Development, ASM Press, 2013, 2nd Ed.

HEALTH POLICY research presents a summary of findings on current health policy issues. It is provided by **Vivian Ho, Ph.D.**, James A. Baker III Institute Chair in Health Economics at Rice University's Baker Institute, in collaboration with **Laura Petersen, M.D., M.P.H.**, chief of the Section of Health Services Research in the Department of Medicine at Baylor College of Medicine.

This publication aims to make research results accessible to regional and national health policymakers. The views expressed herein are those of the study authors and do not necessarily represent those of the Baker Institute or of Baylor College of Medicine.

The Baker Institute and Baylor College of Medicine's Section of Health Services Research work with scholars from across Rice University and Baylor College of Medicine to address issues of health care — access, financing, organization, delivery and outcomes. Special emphasis is given to issues of health care quality and cost.

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