

Central Asia's hidden burden of neglected tropical diseases

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The open-access journal *PLoS Neglected Tropical Diseases* will publish an article emphasizing the rising burden of Neglected Tropical Diseases (NTDs) in Central Asia on Tuesday, Sept. 27th. According to the article's co-authors, Dr. Peter Hotez, President of the Sabin Vaccine Institute, and Dr. Ken Alibek of Nazarbayev University in Astana, Kazakhstan, the region continues to suffer from a post-Soviet economic breakdown that may have contributed to a re-emergence of several NTDs in the area, especially among its most economically disadvantaged groups.

Specifically, the five mostly landlocked Central Asian countries created after the 1991 collapse of the Soviet Union -- Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan -- became increasingly vulnerable to NTDs due to a deterioration of [health care services](#) and infrastructure. Among the prevalent diseases profiled in the article, the following was highlighted:

- A study of rural primary schools in southwestern Kyrgyzstan found that many of the children had at least one soil-transmitted helminth infection. Developmental and cognitive delays have been associated in children with these infections, leading to decreased school attendance and low wages earned as adults. In Uzbekistan, and likely in other Central Asian countries, soil-transmitted helminth infections have been responsible for losses in economic productivity.
- After the decentralization of farming and [livestock production](#), small farms in Central Asia were left largely without veterinary inspection, leading to the deterioration of veterinary public health and the rise of zoonotic, or animal-borne, helminth infections. In four of the Central Asian nations, cystic echinococcosis -- a tapeworm infection spread by dogs and

sheep -- has increased at least four-fold and is thought to be vastly under-reported.

There has also been an alarming increase in pediatric cases of this and other zoonotic helminth infections.

- Despite a considerable decrease in reported malaria cases as a result of indoor residual spraying and mass drug administration of anti-malaria drugs, a large portion of Kyrgyzstan and Tajikistan populations is still at risk for *Plasmodium vivax* malaria. In Tajikistan, the malaria epidemic is fueled by human migrations from Afghanistan, thwarting efforts to eliminate malaria in neighboring countries.

Dr. Hotez, who also serves as the director of the Sabin Vaccine Institute & Texas Children's Center for Vaccine Development and was recently named the founding dean of the first national school of tropical medicine, located at Baylor College of Medicine, said, "There appears to be an overall absence of detailed information on the prevalence of many of these neglected diseases in Central Asia."

Hotez and Alibek also suggest that the Global Fund to Fight AIDS, Tuberculosis, and Malaria should consider how to best integrate NTDs into their control and elimination programs in order to help ease the burden caused by NTDs.

More information: Hotez PJ, Alibek K (2011) Central Asia's Hidden Burden of Neglected Tropical Diseases. *PLoS Negl Trop Dis* 5(9): e1224. [doi:10.1371/journal.pntd.0001224](https://doi.org/10.1371/journal.pntd.0001224)

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