

Trying to eradicate a disease is a waste of money: researcher

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Eradicating smallpox was one of the greatest human accomplishments of the 20th century, but new research shows initiatives of this kind are not as good a use of health dollars as people might think. McGill University Biologist Dr. Jonathan Davies explains that reducing the prevalence of diseases in areas most affected by them is a far more effective and efficient strategy than trying to eradicate them altogether, which is extremely difficult and costs billions of dollars. What's more, he said, new research shows that the most at-risk populations can be identified using just three variables.

A great diversity of local mammals and birds in a region, a large [human population](#) and ineffective [disease](#) control efforts point to a high-prevalence of disease. Climate plays a role in determining how many different kinds of diseases there are, but not how many people will suffer from them.

"Because disease is not restricted by political boundaries and local epidemics can rapidly transform into global pandemics, reducing prevalence in one part of the world will also benefit people everywhere," Davies explains. Recent flu outbreaks demonstrate how quickly diseases can spread to different parts of the world and the high cost of providing vaccines for millions of people. By targeting at-risk populations it might be possible to prevent global outbreaks and save money at the same time.

The research shows that efforts should be concentrated in countries with large populations, such as India and Pakistan, and areas where there is

currently almost no spending on health care, such as Madagascar and much of eastern Africa.

In addition to the health benefits, the research team points out that disease affects [human behaviour](#), the politics and political stability of countries, human fertility, global economies and more generally the course and dynamics of human history. The ramifications could be huge. "While it is clear that the distribution of diseases have, in the past, affected all aspects of human life, the degree to which these diseases will affect us in the future depends on the choices we make today in the global allocation of health-care dollars," Davies said.

More information: Dr. Michael Gavin of Victoria University of Wellington, New Zealand, and Dr. Robert Dunn and Nyeema Harris, of North Carolina State University, contributed equally to this research, which was published online by the *Proceedings of the Royal Society B* on April 15, 2010

Provided by McGill University

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