



Economic Cost of Zika Virus

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The Zika virus has been the cause of considerable concern in the recent past for the Latin American region. The outbreak of the Zika virus has been traced to October 2015 in the state of Pernambuco, which is located in the north-eastern part of Brazil. The outbreak of Zika virus was evident by rapid increase in the cases of Microcephaly. Microcephaly is a condition that affects pregnant women – their infants are born with extremely underdeveloped brains, who grow up to be adults with limited cognitive ability and motor skills.

Brazil reported a total of 3893 cases of Microcephaly from October 2015 to January 2016; a number that saw manifold increase from 150 cases reported in 2014. Out of all the cases reported, 1306 were from the state of Pernambuco that is assumed to be the epicentre of the Zika virus.¹

The virus was first detected in the Zika forest of Uganda in 1947 in the *rhesus monkey*. The virus was detected again in 1948 in the *Aedes africanus* mosquito, which is the forest relative of the more common variety, *Aedes aegypti*. *Aedes aegypti I* and *Aedes albopictus* are two mosquito species that can be the carrier of the Zika virus. Some cases of sexual transmission were also reported in the past, but there are none in the recent outbreak in Latin America.

The Zika virus shares some of its symptoms with Dengue and Chikunguniya, like fever, rash and they are all spread by the same species of mosquitoes. However, Zika has come to be associated with congenital central nervous system malfunctions – Microcephaly and Guillain-Barre Syndrome.²

A few cases of the Zika virus were reported in 2007, when an outbreak occurred in the Yap Island of Micronesia. It infected an estimated 75 percent of the population. In 2013, it was detected again in French Polynesia along with the outbreaks of Dengue and Chikunguniya. However, an increase in the cases of Microcephaly and the Guillain-Barre Syndrome has been observed only during this outbreak.³

The spread of the virus to Brazil has been explained by a theory that suggests that the virus could have landed from the Pacific during the International Canoe event in Rio de Janeiro in 2014. The theory finds its evidence in the fact that the strain of the virus is the most similar to that found in the Pacific.

It is important to note that while both Microcephaly and Guillain-Barre Syndrome*⁴ have become associated with the Zika virus, no empirical medical study corroborates the cause and effect relationship and the associations being made, though compelling, are based purely on circumstantial evidence.

While the human cost of the Zika virus is obvious, it also has significant economic cost for the countries suffering from the outbreak. The epicentre of the virus was Brazil and the virus soon spread to El Salvador, Honduras, Colombia, Venezuela and Costa Rica. It has spread further to the rest of the Latin American Countries. A few cases have been reported in Mexico and the US and a few even in China.⁵

A primary evaluation of the cost of the Zika virus has been conducted for the region as a whole by the World Bank. It is not possible to come up with extensive figures at this point as officials suggest that it is too early to accurately judge the situation.

The precedence of the outbreak happened at a much smaller scale than the present outbreak being experienced in the Latin American region.

The World Bank estimated that since the outbreak, Zika has cost the region a total of \$3.5 billion USD. The figure can also be understood as 0.06 percent of the GDP of the Latin American and the Caribbean region.

World Bank predicts that this number will climb upwards with time and will affect the economies that base themselves on tourism the most. The World Health Organisation has forecast that the smaller Caribbean economies would be losing anywhere from 1 to 2 percent of their GDP to the Zika virus in the coming months. It has also been estimated that the costs would rise in the coming months as the cost of prevention and treatment would get added to the existing estimate.

While the Caribbean countries worry about losing tourists till the Zika virus is contained, larger economies like Brazil and Mexico are at a risk of losing business from multi-national firms that have issued advisory against travelling to the affected countries, especially to their female employees.⁶

If the trends set by other mosquito-borne illnesses are taken as a parameter, the cost of Zika virus is set to increase as it gradually increases its reach. It has been estimated that the Zika virus cost the global economy a total of \$8.9 billion USD.

The Zika virus will also play a role in slashing the revenue from tourism in the forthcoming Olympic Games scheduled in Rio de Janeiro. The virus has emerged during what can be termed as the most inconvenient time for Brazil as the country has already been suffering from the worst economic recession in the past three decades.⁷

However, there has been an increase in insurance companies that have added Zika to the list of diseases that are covered by travel insurance. However, how would this

extended insurance cover translate into monetary terms for the countries that are experiencing a slump in tourism is yet to be defined.

The Zika virus is yet to reveal its effects on the health and economy of affected countries in totality.

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The Views expressed are that of the Researcher and not of the Council.*

End Notes:

¹ “City at Centre of Brazil’s Zika Epidemic Reeling from the Disease’s Insidious Effects, 25 January 2016,” *The Guardian*, <http://www.theguardian.com/global-development/2016/jan/25/zika-virus-mosquitoes-countries-affected-pregnant-women-children-microcephaly> (Accessed 21 February 2016).

² Rapid Risk Assessment, 21 January, 2016, European Centre for Disease Prevention and Control (ECDC), <http://ecdc.europa.eu/en/publications/Publications/rapid-risk-assessment-zika-virus-first-update-jan-2016.pdf> (Accessed 23 February 2016).

³ Zika Virus Fact Sheet, February 2016, World Health Organisation (WHO), <http://www.who.int/mediacentre/factsheets/zika/en/> (Accessed 23 February 2016).

⁴ * “Guillain-Barré syndrome (GBS) is a disorder in which the body's immune system attacks part of the peripheral nervous system. The first symptoms of this disorder include varying degrees of weakness or tingling sensations in the legs. In many instances, the symmetrical weakness and abnormal sensations spread to the arms and upper body. These symptoms can increase in intensity until certain muscles cannot be used at all and, when severe, the person is almost totally paralyzed,” National Institute of Neurological Disorders and Stroke, http://www.ninds.nih.gov/disorders/gbs/detail_gbs.htm (Accessed 25 February 2016).

⁵ The Spread of Zika Virus – Infographics, Part – II, 29 February 2016, Forbes, <http://www.forbes.com/sites/kevinanderton/2016/02/29/the-spread-of-the-zika-virus-part-2-infographic/#2dcb4b923541> (Accessed March 1, 2016).

⁶ The Short-Term Cost of Zika Virus in Latin America and Caribbean (LCR), 18 February 2016, World Bank Group, <http://pubdocs.worldbank.org/pubdocs/publicdoc/2016/2/410321455758564708/The-short-term-economic-costs-of-Zika-in-LCR-final-doc-autores-feb-18.pdf> (Accessed 26 February 2016).

⁷ “The Economic Cost of Zika Virus,” 5 February 2016, *Bloomberg News*, <http://www.bloombergtv.com/articles/2016-02-05/the-economic-cost-of-zika-virus> (Accessed 28 February 2016).