

# Epidemics

## The Cost of Not Being Prepared

In many countries, governments struggle to reconcile limited resources with competing demands. As a result health rarely ranks amongst top budget priorities, and within health, epidemic preparedness is often overlooked.

This paper draws on examples and recent economic research to demonstrate the risks and economic costs of not investing in preparedness.

### Key Message

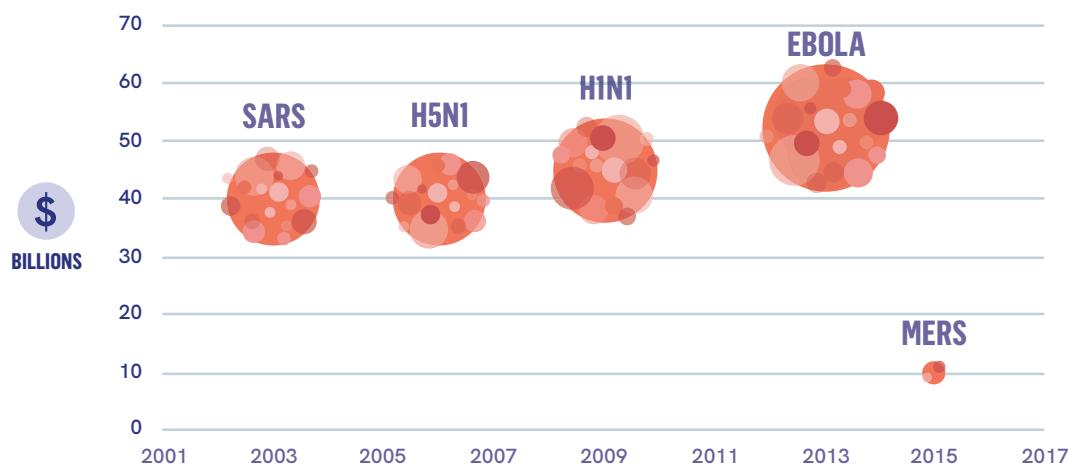
- Unless preparedness improves, epidemics are **inevitable—and will be costly.**
- Epidemics **impact all aspects of a country's economy and reverse years of growth & development.**
- Not investing in preparedness is a **high-risk economic and political gamble.**

### Unless Preparedness Improves, Epidemics are Inevitable—and will be costly.

**No community, country, or region is safe from disease outbreaks.** In the past 30 years there has been a steady increase in the frequency and diversity of outbreaks. Between 1980 and 2013 there were over 12,000 outbreaks<sup>1</sup> of human infectious diseases in 219 countries,<sup>2</sup> including Zika, Ebola, Cholera, MERS, and H1N1, which reached pandemic thresholds.<sup>3</sup>

Epidemics can cost **billions of US dollars.** In the wake of the 2003 SARS epidemic, the World Bank estimated that China's GDP shrank by 0.5%<sup>4</sup> with the global GDP falling by \$40 billion.<sup>5</sup> The cost of the West Africa Ebola outbreak is estimated at US \$53 billion from the mortality and economic impact,<sup>6,7</sup> similar to the cost of H1N1 (US \$45 to 55 billion).<sup>8</sup>

The cost of epidemics/pandemics



Estimated costs of selected epidemics / pandemics in US\$ Billions (2001-2017)

1 <http://www.worldbank.org/en/news/infographic/2017/05/23/from-panic-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level>

2 Smith K.F, Goldberg M, Rosenthal S, Carlson L, Chen J, Chen C, Ramachandran S. 2014. Global Rise in Human Infectious Disease Outbreaks. *Journal of Royal Society Interface*. Doi: 10.1098/rsif.2014.0950

3 Major Emerging and reemerging infectious disease outbreaks, epidemics, and pandemics, 2002-2015. *New England Journal of Medicine*, 2016

4 World Bank. 2008. On SARS Type Economic Effects during Infectious Disease Outbreaks. Policy Research Working Paper 4466. <http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-4466>

5 Lee J-W, McKibbin, WJ. 2004. Estimating the Global Economic Costs of SARS. *Institute of Medicine (US) Forum on Microbial Threats*. 2004. <https://www.ncbi.nlm.nih.gov/books/NBK92473/>

6 Fan VY, Jamison DT, Summers LH. 2015. The Inclusive Cost of Pandemic Influenza Risk. *NBER Work Pap Ser*. 2015; 22137:24.

7 Huber, C., Finelli, L. & Stevens, W. 2018. The Economic and Social Burden of the 2014 Ebola Outbreak in West Africa. *The Journal of Infectious Diseases* 2018;0000:S1-7. <https://academic.oup.com/jid/advance-article/doi/10.1093/infdis/jiy213/5129071>

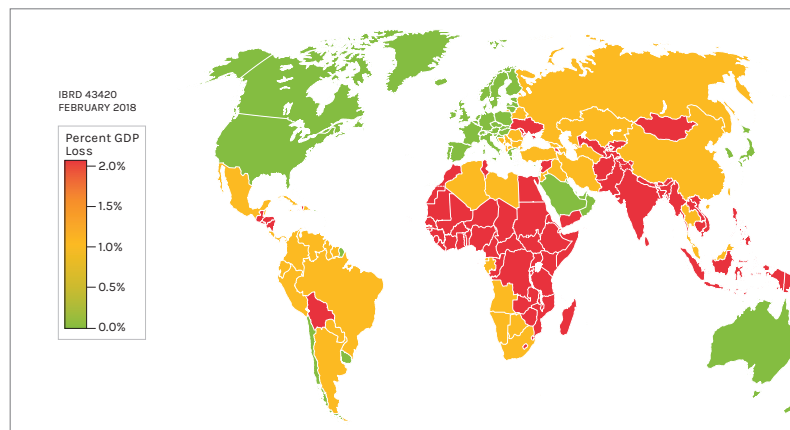
8 Funding challenge for furthering One Health activities, Olga Jonas, Draft, October 26, 2018

# Epidemics Affect All Aspects of a Country's Economy

The impact of an epidemic is not limited to the health sector, but extends to all aspects of a country's economy and triggers **long-lasting fiscal shocks, which can threaten stability and economic growth.**

- **TOURISM** declines as airlines freeze flight routes, countries close their borders and fear increases.<sup>9</sup>
- **TRADE** suffers as a result of quarantine and border control measures. Export and import of goods slow. **Manufacturing** stalls.<sup>10</sup>
- **AGRICULTURE** exchanges slow and reduced production can lead to food insecurity.<sup>11</sup> With food prices rising due to reduced domestic supply and a weaker currency raising import costs, inflation looms.<sup>12</sup>
- **HOUSEHOLDS AND LABOR MARKETS** are affected by rising unemployment, lost incomes and school closures. Demand for food and services drop.<sup>13</sup>
- **FOREIGN DIRECT INVESTMENTS** fall, whether delayed or canceled altogether.
- **DECLINES IN PUBLIC REVENUES** (drop in economic activity and lower tax compliance) and **increase in expenditures** for crisis response exacerbate **budget deficits**.<sup>14</sup>

Country Vulnerability to  
Pandemic Economic Loss



Annex C.2, <http://documents.worldbank.org/curated/en/97959149565274770/pdf/115271REVISED-FINAL-IWG-Report-3-5-18.pdf>

## How to Estimate Your Own Risk

YOU CAN ESTIMATE THE ECONOMIC RISK FACING YOUR COUNTRY USING THREE DIFFERENT METHODS.

**GLOBAL ESTIMATES** As we live in a globalized world, it is projected that when a major pandemic strikes, most countries will face economic shocks similar to those suffered by the overall global economy. Using data from recent economic research, countries should prepare for an estimated **2.2% loss of GDP** in the case of a moderate flu pandemic, while a severe scenario could mean **up to 4.8% loss of GDP**.<sup>15</sup> Since the average GDP growth in Sub-Saharan Africa in 2017 was 2.6%<sup>16</sup> **a pandemic would completely stall or even reverse economic growth in most Sub-Saharan African countries.**

**REGIONAL ESTIMATES** Utilizing regional vulnerability to economic losses from pandemics offers a useful gauge of the possible impact of pandemics on your region and country. It is anticipated that the annual cost of a global flu pandemic would translate into **South Asia's GDP dropping by 2% (\$53 billion), and Sub-Saharan Africa's GDP by 1.7% (\$28 billion)**.<sup>17</sup>

**COUNTRY ESTIMATES** The International Working Group on Financing Preparedness recently developed models to estimate country-level vulnerability to economic loss from pandemics, based on individual risk profiles and population<sup>18</sup> (See figure 3).

Regardless of the method used, all estimates reveal that not investing in preparedness is a **high-risk gamble**. Even the most conservative models suggest pandemic risks are **on par with other high-profile economic threats**, including climate change (0.2 to 2.0 percent of global GDP, according to the Intergovernmental Panel on Climate Change 2014<sup>19</sup>) or natural disasters (0.3 to 0.5 percent of global GDP and 65,000 deaths per year, according to UNISDR).<sup>20</sup> The International Monetary Fund's threshold for a major economic disaster is 0.5% of GDP loss.<sup>21</sup> We must ensure that our governments prioritize preparedness to avoid a reversal of development and economic progress, and an increase in social and political challenges. Without appropriate investment in epidemic preparedness, your country's hard-won prosperity, stability, and global reputation are at risk.

9 <https://www.wttc.org/-/media/files/reports/2018/impact-of-the-ebola-epidemic-on-travel-and-tourism.pdf>

10 <https://www.bbc.com/news/business-28865434>

11 [https://www.eurekalert.org/pub\\_releases/2018-08/p-eoh072518.php](https://www.eurekalert.org/pub_releases/2018-08/p-eoh072518.php)

12 <http://www.worldbank.org/content/dam/Worldbank/document/Economic%20Impact%20Ebola%20Update%202%20Dec%202014.pdf>

13 idem

14 <http://pubdocs.worldbank.org/en/297531463677588074/Ebola-Economic-Impact-and-Lessons-Paper-short-version.pdf>

15 Funding challenge for furthering One Health activities, Olga Jonas, Draft, October 26, 2018; Burns, A., van der Mensbrugghe, D. & Timmer, H. (2008). Evaluating the Economic Consequences of Avian Influenza. World Bank. [www.worldbank.org/content/dam/Worldbank/document/HDN/Health/WDR14\\_bp\\_Pandemic\\_Risk\\_Jonas.pdf](http://www.worldbank.org/content/dam/Worldbank/document/HDN/Health/WDR14_bp_Pandemic_Risk_Jonas.pdf)

16 <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=ZG>

17 International Working Group on Financing Preparedness (IWG) (2017). From Panic and Neglect to Investing in Health Security: Financing Pandemic Preparedness at a National Level, December 2017. [www.worldbank.org/en/topic/pandemics/publication/from-panic-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level](http://www.worldbank.org/en/topic/pandemics/publication/from-panic-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level)

18 Country estimates in Appendix C, Table c.2 [www.worldbank.org/en/topic/pandemics/publication/from-panic-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level](http://www.worldbank.org/en/topic/pandemics/publication/from-panic-neglect-to-investing-in-health-security-financing-pandemic-preparedness-at-a-national-level)

19 [https://www.ipcc.ch/site/assets/uploads/2018/02/SYR\\_AR5\\_FINAL\\_full.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf)

20 [https://www.unisdr.org/2016/iddr/IDDR2018\\_Economic%20Losses.pdf](https://www.unisdr.org/2016/iddr/IDDR2018_Economic%20Losses.pdf)

21 idem