

Human pandemic

Exposing the risks of infectious diseases

From freedom – global travel, social events, and collaboration – to isolation in your own home, the COVID-19 pandemic demonstrated on a world stage the profound impacts of a highly infectious disease.

Together we must proactively learn from recent experience and prepare for the possible impacts of another pandemic, with different complexities and variables, occurring in the future.

Picture the scene: Infectious disease spreads unchecked

Contamination: A sickness is detected within a herd on an industrial farm. The herd is immediately quarantined and eventually culled. At the same time, some workers report in sick and are sent home.

Deterioration: The workers are hospitalised and several die from a disease that is not currently recognised. Reports of illness showing similar symptoms come from public transport and health workers and members of the workers' families and friends.

Spread: At first, the infectious disease appears to be asymptomatic and travel continues as normal. By the time the origin hospital has noticed the beginnings of a potential pandemic, disease vectors are spreading out across the globe.

Lockdown: Governments act faster, and more severely, to clamp down on spread. Fatalities remain high and healthcare systems are overwhelmed. Employee concerns lead to absenteeism in critical sectors, disrupting industrial operations and supply chains.

Prolonged lockdown: Efforts to develop an effective vaccine fail and governments maintain isolation measures. Public hospitals and access to healthcare become increasingly strained. Without customers, the retail, leisure, travel, and hospitality sectors suffer.

Recession: Moderately effective treatments emerge and isolation measures are eased, but fear prevents many from returning to in-person work. With reduced spending, the avoidance of physical stores by consumers and the lack of workers in critical industries, the global economy suffers from a decline in GDP and enters a recession.



How severe could the situation get?

Infectious diseases are not all alike. Some may be very virulent but not easily transmitted; some less virulent but more easily spread. The type of infectious disease recorded will have an impact on pandemic severity, along with population management protocols, healthcare structure, and more.

To help build resilience and preparedness against future pandemics, we have calculated the impact infectious diseases could have across three severity levels on businesses and the wider economy.

Level	Scenario severity descriptions	Historical reference
Major	Localised epidemic of emergent infectious disease: A local outbreak of highly virulent, low transmission disease, such as Ebola, SARS, Avian Flu, leading to new public health measures and local lockdowns.	SARS and MERS
Severe	Infectious pandemic: Global pandemic of highly infectious, but moderate virulence virus (with a case fatality rate (CRF) of less than 1%), such as new strain of influenza or infectious coronavirus, causes outbreaks in many countries leading to travel restrictions. Vaccine development scepticism limits the timely recovery from the pandemic.	COVID-19
Extreme	Deadly pandemic: A global pandemic from an infectious and highly virulent virus (with a CRF of over 5%), such as a haemorrhagic virus, with outbreaks in many countries leading to travel restrictions. Vaccine development challenges stall the recovery from the pandemic.	None

\$13.6trn

5-year global economic loss from an infectious disease outbreak

How vulnerable is the economy?

If this human pandemic scenario were to take place, the global economic impact could reach **\$13.6trn** over a five-year period (this represents the probability weighted average across the three severities we have modelled), with an expected loss of **\$396bn** (the economic loss multiplied by the probability of the event occurring).

Which sectors might be most at risk?

Hospitality and tourism – Foreign holidays and all international travel, including aviation, rail and marine, are all at significant risk from a pandemic and subsequent lockdowns.

Retail – Consumer spending is likely to be heavily influenced by a pandemic, largely due to job losses and economic insecurity or intermittent stockpiling in case of supply chain issues.

Food industry – If the pandemic is zoonotic, a wholesale cull of animals could result in scarcity and higher prices. Public fear and misinformation could also trigger shifts in consumer behaviour, leading to the avoidance of specific foods.

Investments – A lack of certainty about when normality will return, and which sectors will see extended impacts, could mean that companies hold back investing in major capital projects, resulting in a slowdown in long-term economic growth.

Healthcare – Some aspects of healthcare could naturally see a significant leap in demand. But the urgent need for additional resources could also expose healthcare procurement systems to expensive failures.



What can businesses do?

Prepare: Businesses should develop comprehensive emergency continuity plans in preparation for future outbreaks. A well-structured plan will allow the organisation to react quickly to future lockdowns if needed, helping to halt the spread of disease and limiting any collateral damage to the business.

Contingency plans: For companies where working from home is not an option, contingencies are needed to mitigate potential business interruptions. Business may need to develop plans for operating on a skeleton crew or adapt their business model to accommodate the changing circumstances.

Communicate: Employers have a duty to help their employees understand the changing environment and what it means for them. Strong communication is vital for the success of any pandemic plan and will help maintain the trust and resilience of employees to ensure they can operate under tough conditions.

Next steps

Work proactively to build resilience in your risk management against these threats and connect with your broker to discuss risk transfer for infectious diseases.

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