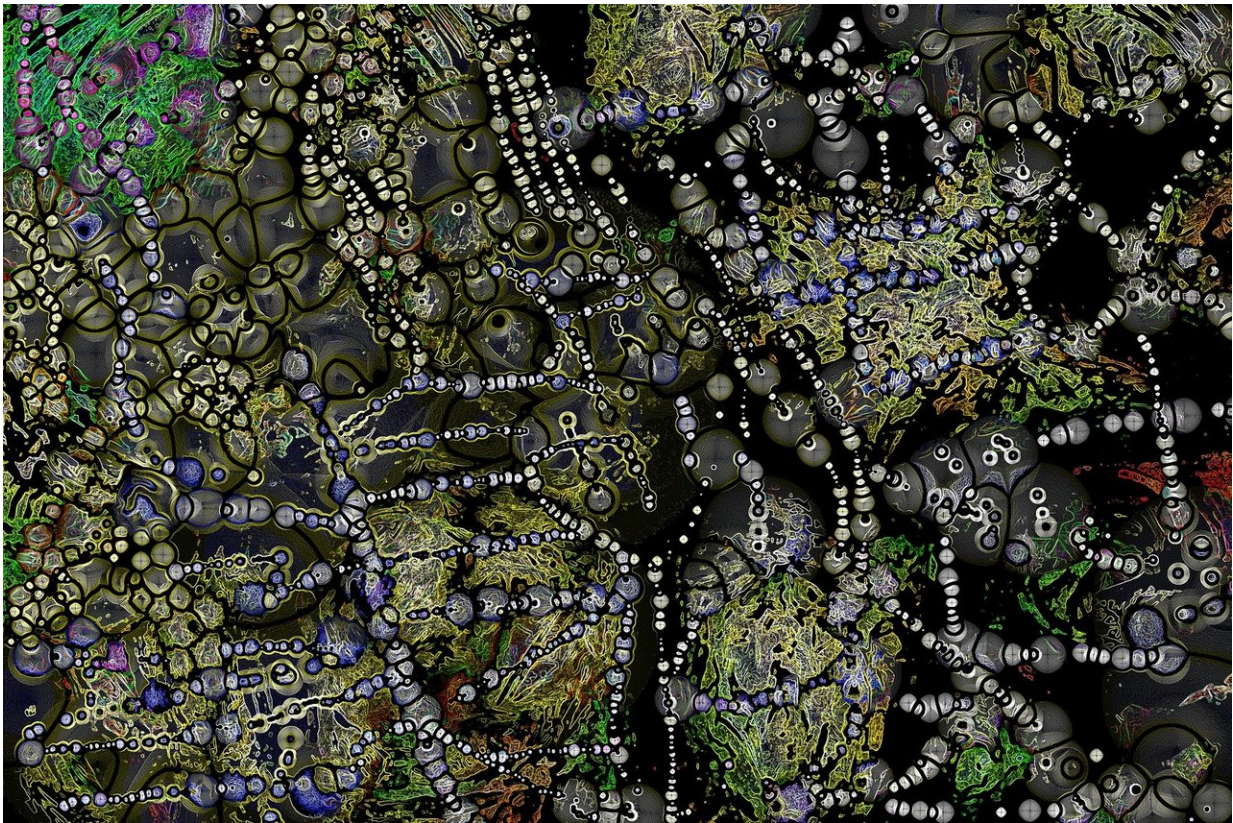


Superbugs could trigger our next global financial crisis

April 21 2020



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Infectious diseases professor Steven Djordjevic, from the University of Technology Sydney, said the proliferation of drug-resistant bacteria, known as superbugs, was a grave threat to Australia's economy and way

of life.

"The cost of uncontrolled infections caused by superbugs will be astronomical if we don't act now," Prof. Djordjevic said.

"By 2050, Australia's annual GDP will take a five to ten percent hit because of [drug-resistant](#) bugs.

"Already, our hospitals spend more than \$11 million a year treating just two of the World Health Organisation's most threatening drug-resistant infections.

"Without effective antibiotics, thousands more people will die from simple infections and people will be sicker for longer, slashing the size of the workforce and productivity."

Adjunct Professor Anna George, a former Australian Ambassador and multilateral negotiator, said the COVID-19 [outbreak](#) was revealing how complex and fragile logistic and transport strategies could be, particularly where a supply chain spans several countries.

"Trade and travel are heavily impacted and consumer behavior is unpredictable when public health is under threat. That disruption flows through to every business—from multinationals to solo operators," she said.

"Business models and practices will have to adapt to these health threats, not only to the impact of superbugs but also to stricter biosecurity measures."

Ms George said another emerging issue for businesses and investors was the cost of drug-resistant bacteria spreading through the food chain.

"Negotiations are underway for a global agreement on guidelines to minimise drug-resistant bacteria in the food chain. Those talks will be politically difficult but essential to facilitate trade," she said.

Prof. Djordjevic is chief scientist for OUTBREAK, a world-first hi-tech project to create a national system that will track and predict [superbug](#) hot spots across Australia.

"This is not a new problem but it is rapidly getting worse and, frighteningly, we do not know the full impact or reach of drug-resistant bacteria in Australia," he said.

"We need to find out how the superbugs are spreading through humans, animals and the environment. That's where OUTBREAK comes in."

"It will analyse an immense amount of human, animal and environmental data to create a nationwide system able to predict antibiotic-resistant infections in real-time. Then we can run different scenarios to work out the most effective way to contain or prevent outbreaks.

"Globally, AI-powered systems like OUTBREAK have the potential to save millions of lives and billions of dollars."

The planning stage of OUTBREAK is well advanced, with a group of 14 leading university, government and industry partners coming together to create a multidisciplinary team of experts to tackle drug-resistant infections.

The implementation stage now requires a five-year, \$100 million investment from the federal government's Medical Research Future Fund.

OUTBREAK chief executive officer Branwen Morgan said the work

needed to start now.

"COVID-19 is a very powerful example of how one virus can bring industries to their knees but superbugs pose an even bigger economic threat," Associate Professor Morgan said.

"Australia, more than anywhere else, has a unique opportunity to get in front of these deadly drug-resistant bacteria. Long-term funding for the OUTBREAK project will transform the sustainability of Australia's health and hospital systems."

More information: For more information, see outbreakproject.com.au/

Provided by University of Technology, Sydney

Citation: Superbugs could trigger our next global financial crisis (2020, April 21) retrieved 25 April 2024 from <https://phys.org/news/2020-04-superbugs-trigger-global-financial-crisis.html>

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