

Scientists look to crowd-funding and Big Data to fight superbugs

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Most common in hospital settings, there has been a worrying increase in the number of superbug infections in healthy people with no previous hospital exposure. Now scientists want to use 'Big Data' in their quest to tackle infections such as MRSA.

Researchers from the University of Bath and Emory University (USA) are hoping that online crowd-funding can help in efforts to develop a new way to identify and treat toxic superbugs, such as MRSA.

Superbugs pose a major problem for [public health officials](#) around the world. According to the World Health Organisation in 2011 6.7 million people died from [infectious diseases](#), making them the second biggest killer behind [heart disease](#), at 7 million.

Scientists at Bath and Emory want to use the latest sequencing technologies to build a much clearer picture of how these bacteria cause

disease. By using 'Big Data' they plan to create an online database that would enable doctors to make quicker and better decisions about treating such infections.

The infections are caused by micro-organisms that have developed resistance to a range of antibiotics making them incredibly difficult to treat. They are most common in hospital settings, affecting severely ill people. However, there has been a worrying increase in the number of cases of infections among healthy people with no previous hospital exposure.

Meticillin-resistant staphylococcus aureus (MRSA) causes a range of problems, from abscesses on the skin, to much more significant problems, especially when it gets into deeper tissue. In the lungs, MRSA can cause pneumonia which in itself can be deadly.

Once in the blood stream, MRSA mortality rates rise up to 40% when the disease can also attack heart tissue causing endocarditis. Recent reports in the USA suggested that infections caused by MRSA caused more deaths than HIV/AIDS.

Current treatments generally involve the prescription of a cocktail of antibiotics, some of which kill the bacteria and others shut off their release of toxins. This approach has led many, including the UK's Chief Medical Officer this March, to highlight concerns about the 'ticking time bomb' of antibiotic resistance.

Provided by University of Bath

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