

Fast infection test aims to cut antibiotics

Researchers have developed a rapid test for pneumonia and other respiratory infections, enabling a bacterial chest infection to be diagnosed within six hours rather than two to three days.

Scientists at the Quadram Institute and the University of East Anglia (UEA) said their test would help to reduce unnecessary antibiotic use.

Diagnosing a bacterial lower respiratory infection relies on growing bacteria from patient samples over several days. In this time antibiotics may be given, which will not work if the infection is caused by a virus. Antibiotic overuse is leading to bacteria developing resistance to key drugs, but the new test helps to reduce this risk.

Justin O'Grady, a group leader at the Quadram Institute and associate professor at UEA, said that the new test "has the promise to revolutionise the diagnosis of infectious diseases". His team's test can analyse the genomes of multiple organisms from a single sample. It can also show if the pathogens are resistant to any antibiotics.

Themoula Charalampous, a researcher, said: "Respiratory samples are difficult to work with because they are mainly comprised of human genetic material. Removing this makes detecting the pathogens easier and reduces the cost and time."

The test, reported in the journal *Nature Biotechnology*, is forming part of a larger clinical trial for the diagnosis of hospital-acquired pneumonia.