

Researchers develop novel flu test to speed up respiratory treatment

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Developed by Dr Tristan Clark, an associate professor in infectious diseases at the University of Southampton and colleagues at the NIHR

Southampton Biomedical Research Centre, the 'point-of-care' testing strategy can be carried out in hospital emergency departments and acute medical units.

It involves processing swabs immediately on a portable device combined with a rapid molecular [test](#) and, as samples do not need to be sent to the laboratory, results can be delivered within an hour as opposed to a number of days.

The system was trialled in a study at UHS during the winters of 2015 and 2016 which involved 720 [patients](#) with [acute respiratory illness](#), including pneumonia and exacerbations of asthma and chronic [obstructive pulmonary disease](#) (COPD).

Half the patients had the point-of-care test, in which case a swab was analysed on the device and the results given to their treating doctor, while the other half received standard care.

Results, published online by the journal *Lancet Respiratory Medicine*, showed patients who had the point-of-care test got the right treatment for their lung condition faster.

In addition, patients who tested positive for flu in the point-of-care testing group were appropriately isolated in a side room and given antiviral medication more often and sooner than those in the standard care group.

"My vision is that anyone who comes into hospital with an acute respiratory condition will receive this point-of-care test as soon as they come through the hospital door," explained Dr Clark, a consultant in [infectious diseases](#) at University Hospital Southampton NHS Foundation Trust. "It tells us immediately what virus the person has so, for example, if they have flu they can be isolated in a side room and given antiviral

drugs without delay."

Dr Clark also highlighted the potential of the test to tackle antibiotic resistance—the growth of resistant strains of bacteria which cannot be treated with antibiotics—by reducing unnecessary or ineffective use of medication.

"Lung infections in asthma and COPD patients are a common cause of antibiotic overuse" he said. "Antibiotics are only effective at treating bacterial infections and not infections caused by a virus like the cold or flu viruses, yet they are often given [antibiotics](#) 'just in case', when the cause of the infection is not immediately apparent."

He added: "Tests like this, which enable tailored and personalised medicine, have a major role to play in the fight against antibiotic resistance."

The point-of-care test came to prominence during the winter of 2015 when, during the study, doctors at Southampton General Hospital found a large proportion of patients attending [hospital](#) with respiratory illnesses were suffering from a strain of influenza not covered by the seasonal flu vaccine.

More information: Routine molecular point-of-care testing for respiratory viruses in adults presenting to hospital with acute respiratory illness (ResPOC): a pragmatic, open-label, randomised controlled trial, DOI: 10.1016/S2213-2600(17)30120-0

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