

# Rapid antigen detection and molecular tests for group A streptococcal infections for acute sore throat: systematic reviews and economic evaluation

Hannah Fraser, Daniel Gallacher, Felix Achana, Rachel Court, Sian Taylor-Phillips, Chidozie Nduka, Chris Stinton, Rebecca Willans, Paramjit Gill and Hema Mistry\*

Warwick Medical School, University of Warwick, Coventry, UK

\*Corresponding author [Hema.Mistry@warwick.ac.uk](mailto:Hema.Mistry@warwick.ac.uk)

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## Plain English summary

Antigen detection and molecular tests for strep A infection

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## Plain English summary

Sore throat is a common condition caused by an infection of the airway. Most cases are viral; however, a small number may be caused by the group A *Streptococcus* bacterium. Most viral and bacterial sore throat infections resolve spontaneously within a few weeks; however, some may be more serious and require antibiotics. Currently, National Institute for Health and Care Excellence guidance recommends the use of clinical scoring tools to identify patients for whom antibiotic treatment is appropriate.

Ideally, a throat swab culture should be obtained to identify the organism causing the infection in cases in which diagnosis is uncertain. However, this takes time, causing potential delays in administering the correct treatment. Point-of-care tests can be administered at or near the site of the patient; therefore, they are much faster.

Our review considered evidence for the test accuracy and cost-effectiveness of 21 point-of-care tests for detecting group A *Streptococcus* bacteria. We built an economic model, predicting costs and benefits for adults and children in a primary care or hospital setting. The findings will support the National Institute for Health and Care Excellence to make recommendations about the use of these point-of-care tests for detecting group A *Streptococcus* bacteria in the NHS in England and Wales.

The clinical effectiveness review found 38 relevant studies; of these, 26 reported on the accuracy of point-of-care tests. These studies found wide variation in the accuracy of the tests. The quality of the evidence was weak and there was little information on some of the 21 tests. As the studies were all so different, it was not possible to identify which test is the most accurate.

The economic model found considerable uncertainty about how costs and benefits would change if point-of-care tests were introduced in different care settings. Further research is needed to see whether or not point-of-care testing provides value for money.

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