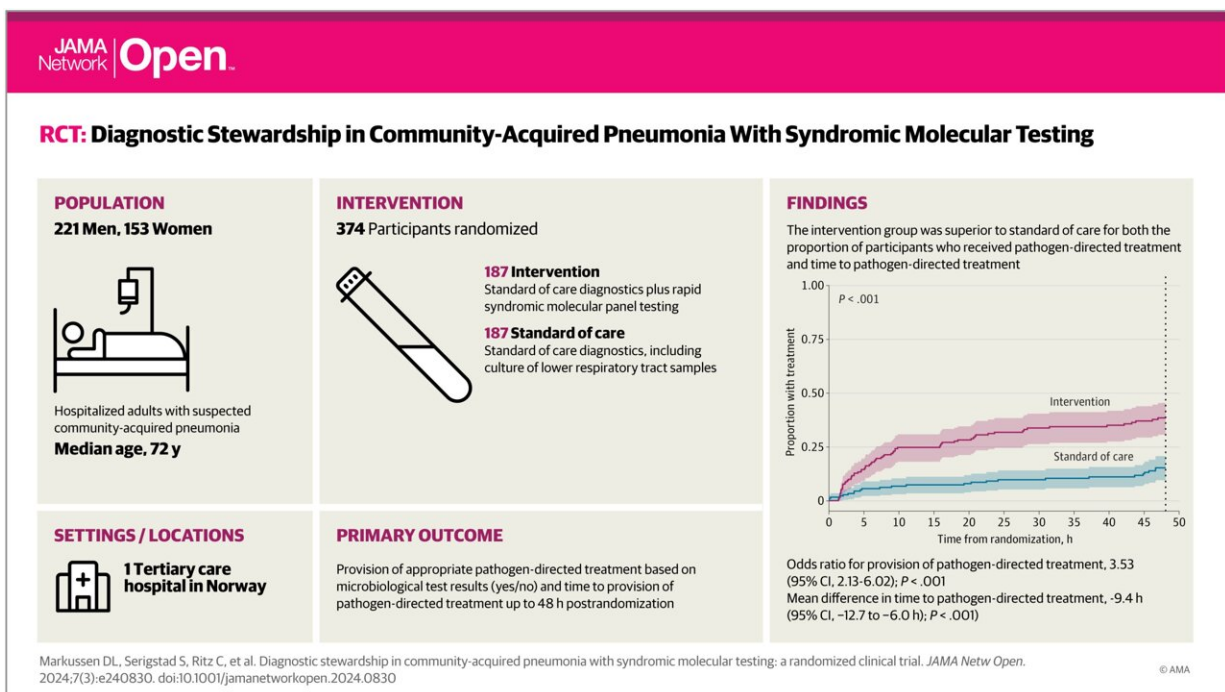


# Rapid molecular testing in emergency department leads to faster, targeted treatment for community-acquired pneumonia

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Visual Abstract. Diagnostic Stewardship in Community-Acquired Pneumonia with Syndromic Molecular Testing. Credit: *JAMA Network Open* (2024). DOI: 10.1001/jamanetworkopen.2024.0830

Pneumonia is an inflammatory condition affecting the lungs, typically

resulting from an infection with viruses or bacteria. Community-acquired pneumonia refers to pneumonia acquired outside of the health care system. It is one of the most common infectious diseases, significantly contributing to both mortality and morbidity on a global scale.

A study [published](#) in *JAMA Network* demonstrates that rapid molecular testing for patients hospitalized with suspected community-acquired pneumonia (CAP) significantly enhances the speed and accuracy of treatment.

The study, titled "Diagnostic Stewardship in Community-Acquired Pneumonia with syndromic molecular testing: A Randomized Clinical Trial," marks a pivotal advancement in managing one of the most common reasons for hospital admissions and mortality worldwide.

The randomized trial, conducted at the [emergency department](#) (ED) of Haukeland University Hospital (HUS), compared the effects of utilizing a syndromic PCR-based panel for rapid testing (The BioFire FilmArray Pneumonia Panel plus) against standard care procedures. The study demonstrated that the patients randomized to rapid molecular testing were three times more likely to receive targeted treatment. There was also a significant reduction in the time to targeted treatment.

This study is a product of the collaborative efforts of CAPNOR (Community-Acquired Pneumonia Norway), a multidisciplinary research group uniting experts from Norwegian institutions such as Haukeland University Hospital (HUS), University of Bergen (UiB), Drammen Hospital, University of Oslo, and international partners from Denmark, Netherlands, and the UK. The study was coordinated by Prof. Harleen Grewal (Dept. of Clinical Science [K2], UiB) in collaboration with Prof. Elling Ulvestad (Dept. of Microbiology, HUS) and Prof. Rune Bjørneklett (Dept. of Clinical Medicine, UiB).

"Through this study, we observed that adding rapid molecular testing into the care process could help doctors make quicker treatment decisions, potentially improving outcomes for patients with community-acquired pneumonia," says Senior consultant and researcher Dagfinn Markussen (ED, HUS and K2, UiB). "While this approach shows promise, it's one piece of the puzzle in managing respiratory infections effectively and judiciously using antibiotics."

The study is a step towards better understanding how rapid diagnostics can be utilized in managing infections like [pneumonia](#), potentially leading to more efficient use of antibiotics and improved patient outcomes. The results indicate that rapid molecular testing, if implemented alongside clinical decision support tools and antimicrobial stewardship programs, has the potential to reduce the unnecessary use of antibiotics and improve patient outcomes.

The findings underscore the importance of incorporating advanced diagnostic tools into clinical practice. Such tools facilitate a more accurate diagnosis and ensure timely and appropriate treatment, addressing the critical need for antibiotic stewardship in the face of rising antimicrobial resistance.

**More information:** Dagfinn L. Markussen et al, Diagnostic Stewardship in Community-Acquired Pneumonia With Syndromic Molecular Testing, *JAMA Network Open* (2024). [DOI: 10.1001/jamanetworkopen.2024.0830](#)

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