Clinical identification of respiratory pathogens in pneumonia relies on time-consuming culture-based techniques first developed in the 1880s, while pneumonia remains a primary cause of morbidity, mortality, and healthcare expense.

Dated culture-based techniques

Delayed pathogen identification

Unneeded antibiotic use

Rapid, accurate identification of pathogens:

- Tell clinicians which bacteria are present in the lungs as well as the total bacterial burden
- Streamline the process to produce results in less than four hours for under $100
- Potentially determine genetic information pertaining to antibiotic resistance and optimal antibiotic selection

Developing a new protocol to identify pneumonia pathogens sooner

For pathogen IDENTIFICATION: The MinION (Oxford Nanopore Technologies, Oxford, UK) is a new-to-market palm-sized DNA sequencer used for real-time detection of viral and bacterial pathogens.

For pathogen QUANTIFICATION: Novel ultrasensitive PCR detection techniques for rapid and precise quantification of pathogen burden potentially clarifying the key clinical differences between health, colonization and acute infection.