Conclusion  This multidisciplinary intervention reduced antibiotic duration for lower respiratory tract infections and antibiotic related side-effects. This simple, effective intervention can be readily and quickly implemented into other clinical settings.

P24  COMBATTING INAPPROPRIATE USE OF ANTIBIOTICS THROUGH RAPID, ACCURATE AND COMPREHENSIVE DETECTION OF RESPIRATORY PATHOGENS USING A RESPIRATORY MULTIPLY ARRAY

doi:10.1136/thoraxjnl-2012-202678.165

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Introduction  Respiratory tract infections (RTIs) are a leading cause of morbidity and mortality worldwide and one of the greatest causes of mortality in children under 5. Most people develop an acute RTI every year and these are the most common problems dealt with in primary care. RTI symptoms are similar but can be caused by a heterogeneous range of viral and bacterial pathogens.

Antibiotics were prescribed in 68% of acute respiratory tract visits and of those, 80% were unnecessary (CDC guidelines, 2001), with acute infection likely to be self-limiting. Repeated and improper use of antibiotics is the primary cause of increasing resistance, decreasing efficacy of these essential drugs. The best way to control resistance is to decrease antibiotic misuse by implementing rapid and accurate diagnosis, facilitating appropriate treatment.

A multiplex approach for detection of respiratory pathogens allows comprehensive screening, which is more effective in terms of time and resources compared to traditional methods thus allowing severely infected patients to be treated quickly and appropriately. This study reports the assessment of clinical samples using a respiratory multiplex array in a biochip platform for simultaneous detection of 22 clinically relevant bacterial and viral respiratory pathogens within a single patient sample (Table 1) and comparison against routine diagnostic approaches.

Methods  Residual clinical respiratory samples (n=502) were analysed using a Respiratory Multiplex Array applied to the Evidence Investigator analyser. This technology couples highly stringent multiplex PCR to biochip array technology. Results obtained were compared against routine diagnostic methods and % agreement determined.

Results  A high level of agreement was found between TaqMan based real-time assay and the Respiratory Multiplex Array. In a considerable number of samples, additional pathogens, previously unreported were detected with the Respiratory Multiplex Array. Sample re-testing confirmed that all were positive for the additional pathogens.

Conclusions  These results highlight the relevance of multiplexing for detection of co-infections, enhancing patient care. The British Lung Foundation estimate respiratory illness costs NHS £6.6billion, so there is also potential for significant cost reductions should a system be implemented that allows for rapid and accurate detection of all causative agents of infection to ensure correct treatment.