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.

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Introduction Respiratory tract infections (RTIs) are a leading cause of mortality and morbidity 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.

Abstract P24 Table 1 Respiratory pathogens detected with the Respiratory Multiplex Array

Adenovirus	Influenza A
Bocavirus	Influenza B
Coronavirus 229E	RSV A
Coronavirus OC43	RSV B
Enterovirus	*C. pneumoniae*
Metapneumovirus	*M. pneumoniae*
Rhinovirus	*L. pneumophila*
Parainfluenza 1	*H. influenza*
Parainfluenza 2	Strep. *pneumoniae*
Parainfluenza 3	Staph. *aureus*

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Introduction The incidence non-tuberculous mycobacteria (NTM) has been growing steadily and was previously estimated between 2.9–4.43/100,000 persons. 125 NTM species have been identified due to advances in laboratory techniques with a corresponding increase of clinical presentations. Treatment is recommended if the same species is cultured on at least 2 occasions with clinical/radiological evidence for progression. Other than cystic fibrosis predisposing factors in adults include chronic lung disease, immunodeficiency, gastro-oesophageal reflux disease and post-menopausal non-smoking females.[1]

Methods 768 isolates were collected over 15 years in our regional mycobacterial database and analysed for demographic and frequency distributions using simple statistics. The data includes many single, incidental isolates as well as patients with multiple isolates and on-going symptoms.

Results We analysed 768 non-tuberculous mycobacterial cultures from 534 patients. The mean age for first positive culture was 55 (range 0–102) with 42.7% of the isolates occurring above age 65. 58% (310) of subjects were male, 61.3% were white Caucasian and 24.5% were of South Asian ethnicity. 81.4% of isolates were single with only 2% of patients culturing more than 4 isolates. The patient with most isolates (12) grew Mycobacterium Avium Complex (MAC) repeatedly over a 10-year time span. The most common isolate was MAC (37.0%) followed by the rapidly growing mycobacteria (RGM) which accounted for 28.4%. In descending order M. Kansasii, M. Gordonae and M. Xenopi accounted for 8.7%, 6.9% and 3.9% of the isolates respectively. The majority of cultures were of respiratory origin from sputum (76.2%) and broncho-alveolar lavage (7%) samples. 3.8% of samples were cultured from pus, 1.3% from blood cultures and 0.7% from lymph nodes.

Discussion In keeping with previous studies MAC was the most commonly identified mycobacterium and the most common population were older, white peoples. Our data for culture site compares to that published by the American Centers for Disease Control and Prevention. Our data highlights that a variety of NTM can be isolated from multiple locations and pose a diagnostic challenge.

1. DE Griffith et al., "An Official ATS/IDSA Statement: Diagnosis, Treatment, and Prevention of Nontuberculous Mycobacterial Diseases," *AJRCCM* 175, no.4 (February 2007): 367–416.

Management and organisation of respiratory health care

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Patient perspective is important for quality assessment of service offered by hospitals and individual clinicians, evidenced by annual surveys required by the Care Quality Commission for all English NHS Acute Trusts. Patient satisfaction has been measured in consultations in Primary Care[1]. However as yet unanswered, is which aspects of consultations do patients value most, and whether this preference is dependent on patient type and mode of presentation. We used a tablet PC (Customer Research Technologies) or paper

questionnaires for 106 respiratory outpatients (**RO**), 100 respiratory inpatients (**RI**, 38% male) and 102 urology inpatients (**UI**, 67% male) to answer 18 questions of the CSQ[1] on 5 point categorical scales for how important they value aspects of the consultation (very important – not at all important) & how well that aspect was achieved (strongly agree – strongly disagree) in a teaching hospital over 10 weeks. Median (range) age was 68(26–91) years and 64 (20–90) years respectively and length of stay was 7 (1–93) and 4 (1–90) days respectively for **RI** and **UI** respectively.

Anonymised questionnaires on the tablet PC were completed in median (range) 264 (142–775) secs. Outcome score correlated with importance in for **RI** and **UI** (Pearson correlation coefficient, PCC, 0.90 and 0.81 respectively) but not for **RO** (PCC 0.56)

Questions were clustered into General satisfaction (3Q), Professional care (6Q), Depth of relationship (6Q) and Length of consultation (3Q). Fig.1 shows for each domain and each patient type, percentage of total possible scores and importance evaluated. Scores for all three patient categories were higher for general satisfaction and professional care than for depth of relationship and length of consultation. Depth of relationship was regarded as least important by all three patient categories.

We conclude patients value clinicians checking questions with them and being told about their treatment most and suggest doctors place more emphasis on this and on depth of relationship with patients. New technology allows preferences to be ascertained and analysed rapidly and accurately in a time constrained health service.

Reference Kinnersley P et. al. (1996) A comparison of methods for measuring patient satisfaction with consultations in Primary Care, Family Practise, 13, 41–52.
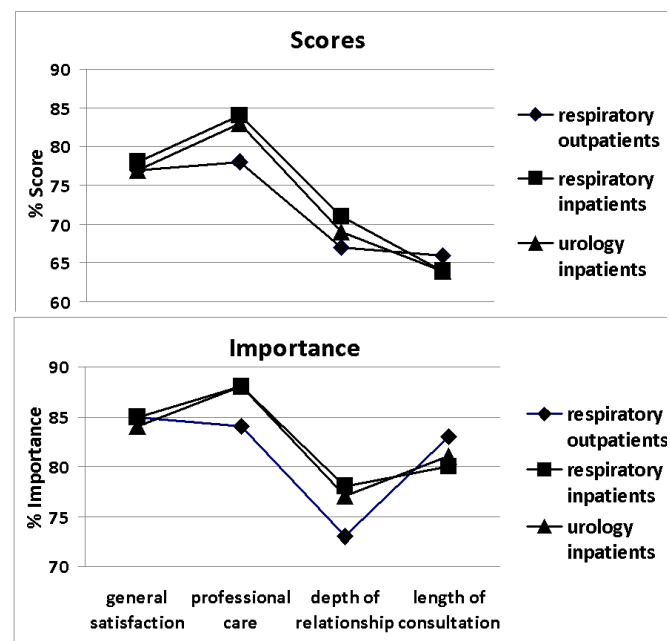
Abstract P26 Figure 1

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Introduction The Department of Health have identified that the provision of home oxygen is an area where there are significant potentials for both quality improvements and efficiency savings. As part of a programme of work which has included renegotiation of the SHA's home oxygen supply contract, each PCT in the West Midlands has been encouraged to set up a Home Oxygen Assessment and Review service and supported to establish an accurate home oxygen register. Here we report the benefits to one PCT of establishing an accurate home oxygen register and removal of inappropriate short burst oxygen therapy.

Methods A home oxygen register was created by importing billing information into Open Exeter and uploading a list of deducted patients which were checked manually. Patients on short burst oxygen therapy were contacted and clinical need evaluated. Where appropriate these patients were reviewed by the HOS-AR team. The project commenced in July 2011 and was funded by a profit sharing agreement between the local PCT and acute Trust.

Results In 2010/11 Coventry Primary Care Trust (population ~350,000) spent approximately £730,000 on home oxygen therapy (excluding VAT). In July 2011 there were 966 people on the home oxygen register. Removing duplicate entries (67), deceased patients (21) and individuals who had moved to another area (16) reduced the register by 104 with an associated saving of £69588 over a nine month period. Removal of inappropriate short burst oxygen resulted in a monthly saving of approximately £4,000. Thus an annualised total saving of approximately £150,000 was achieved which equates to 20% of original spend.

Discussion This demonstrates that significant savings can be achieved rapidly simply by the creation of an accurate home oxygen register and removal of inappropriate short burst oxygen.

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Introduction and Objectives CT guided lung biopsy is a cost effective and reliable method to diagnose lung malignancy. The procedure has a low morbidity and mortality although pneumothorax complicates up to 61% of all lung biopsies.[1] Patients were previously admitted for this procedure but the lack of beds and the resources prompted the conversion to an out-patient service.[2] The aim of this study was to look at how a new policy for day-case CT guided biopsy of the lung affected bed-days, in particular those patients with a post biopsy pneumothorax.

Methods We collected data on CT guided lung biopsies, its complications and bed days per biopsy during 2008 when procedure was performed as inpatient and compared it with the findings when procedure was performed as day case between 2009 and 2011.

Results During 2008 we performed 35 CT guided lung biopsies as inpatients. Total bed days per biopsy were 2.31(81/35). With the introduction of a day case procedure in 2009 total bed days per biopsy were remarkably reduced to 0.12 (9/73). Post biopsy pneumothorax rate was 18.8% (13/73) over 3 years, but only one patient required treatment with a chest drain 7.7% (1/13). However 9/13 patients were admitted for observation irrespective of the symptoms and size of the pneumothorax.

Conclusion We present evidence that the implementation of a successful day-case CT biopsy pathway has dramatically reduced bed days per successful biopsy. We have demonstrated that a further pathway for the ambulatory management of post-biopsy complications would further reduce this figure by a factor of 10 from 0.12 to 0.014 days (1/73)[see table]. We recommend discharging suitably selected patients with small asymptomatic pneumothorax with an