

[2.1 to 7.2], $p=0.002$). The minimum clinically important difference in CFQ-R Respiratory Domain was achieved more frequently in exacerbations treated with AZLI+IV (83.3% vs. 43.8%, $p=0.03$). No significant differences were found between treatments for changes in sputum bacterial load, systemic inflammation or adverse events. Aztreonam-resistant *P. aeruginosa* load was significantly increased ($+0.9 \text{ Log}_{10} \text{ CFU/ml}$, $p=0.01$) after the IV+IV treatment but not AZLI+IV ($-0.15 \text{ Log}_{10} \text{ CFU/ml}$, $p=0.65$) despite no use of aztreonam in the IV+IV treatment.

Conclusion AZLI is effective, safe and well tolerated in the treatment of acute pulmonary exacerbations of CF. Superior improvements in lung function and quality of life suggest AZLI may represent a new treatment approach for acute pulmonary exacerbations and further work is required to understand how its use in the acute setting can be optimised.

An update in screening for lung cancer

S21 DEVELOPING NHS ENGLAND'S NATIONAL TARGETED LUNG HEALTH CHECK PILOT

¹RW Lee, ²A Nair, ³C Stacey, ³D Fitzgerald, ²S Quaife, ⁴P Sasieni, ²S Janes, ⁵D Baldwin. ¹Royal Marsden Hospital and Institute of Cancer Research NIHR Biomedical Research Centre, London, UK; ²University College London Hospitals, London, UK; ³NHS England National Cancer Team, London, UK; ⁴Kings College London, London, UK; ⁵Nottingham University Hospitals NHS Trust, Nottingham, UK

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Introduction The NLST and NELSON studies demonstrated lung cancer mortality reduction from low-dose CT (LDCT) lung cancer screening. Local implementation pilots of 'Lung Health Checks' indicate feasibility in the NHS. NHS England will now fund 10 aligned projects for a national Lung Health Check pilot as a major centre-piece of the early diagnosis agenda of the NHS Long Term Plan. We report on methodological approaches to deliver this project and progress towards deployment.

Methods Sites selected from Clinical Commissioning Groups in 10 Cancer Alliances had highest incidence and mortality from lung cancer, excluding those where screening pilots or research projects were already underway. Approximately 600,000 individuals will be invited with an expected 200,000 scans over the next four years, including baseline and 24 month incident round scanning. To support quality and governance, NHS England published a National Protocol (January 2019), are developing a Quality Assurance Framework, minimum dataset, Incidental Findings Protocol and Research Standard (assisted by CRUK). NHSE are supported by the CT Screening Advisory Committee, a sub-group of the Clinical Expert Group for Lung Cancer, NHSE. Cancer Alliances are being assisted in developing detailed delivery plans by the National Cancer Programme team.

Results Detailed delivery plans have been provided by all regions. 47 radiologists will attend a national education program with clearly defined metrics for a national quality assurance training standard including volumetry and computer-aided detection. Standard participant materials are in

production and QA evaluator appointed. Data on infrastructure readiness, progress against delivery milestones and final supporting documents relating to quality and governance will be presented.

Conclusions The Lung Health Check program will be a major national flagship for respiratory medicine and a key component of the Long Term Plan aspirations to achieve early stage diagnosis in 75% of cancer cases. The program will inform the international literature on implementation of potentially revolutionary lung cancer screening but careful adherence to QA and demonstration of efficacy through appropriate evaluation is critical. Potential barriers include participant uptake; workforce capacity and data flow/information governance. The Standard Protocol is already being used by several European countries as a template for local protocol development.

On behalf of the CT Screening Advisory Group, Clinical Expert Group for Lung Cancer and NHS England National Cancer Team.

S22 THE LIVERPOOL HEALTHY LUNG PROJECT – RAISING THE IMPORTANCE OF LUNG HEALTH

¹MJ Ledson, ²M Ahmed, ³R Arvanitis, ³M Timoney, ³E Gaynor, ⁴J Field. ¹Liverpool Heart and Chest Hospital, Liverpool, UK; ²Aintree University Hospital, Liverpool, UK; ³Liverpool CCG, Liverpool, UK; ⁴Liverpool University, Liverpool, UK

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Liverpool has high levels of deprivation and one of the highest rates of respiratory morbidity in England with double the incidence of lung cancer, most prevalent in the lower socioeconomic groups. To tackle this health inequality, in February 2016 in partnership with Liverpool CCG, Liverpool University, and primary care and public health colleagues, we embarked on the 4-year Liverpool Healthy Lung Project.

Based on primary care records, individuals aged 58–75 with COPD, a history of smoking or asbestos exposure were invited to a face-to-face lung health check conducted by an experienced respiratory nurse. At this interview positive lifestyle messages were promoted and their 5-year personal lung cancer risk calculated (www.MyLungRisk.org) using the LLPv2 risk model. Those without a diagnosis of COPD underwent spirometry, and those who triggered the 5% threshold lung cancer risk threshold were offered a low dose thoracic CT scan. We now report our results to April 2019, when 11436 of 28590 (40%) patients invited to the lung health check had attended.

Of these, 6632 (58%) underwent spirometry and 10% were diagnosed with COPD. A further 3812 (34%) underwent the CT scan and of these 126 (3.3%) were suspicious of malignancy. Lung cancer was ultimately diagnosed in 76 (2%) and 61 of these (80%) were offered radical treatment. Of the remaining 50 patients, 11 underwent an invasive test and there was 1 benign resection. 343 patients (9%) needed repeat scans for lung nodules.

These early results show that this innovative project is already improving access to respiratory healthcare in a deprived area of Liverpool, has identified new COPD patients, and over time should improve outcomes for lung cancer in this disadvantaged population.