HSC Public Health Agency
Research and Development

2014 Knowledge Transfer Scheme

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Title of research project: Advanced lung function assessment in patients with bronchiectasis: Development and delivery of an evidence based training programme in the multiple breath washout technique.

Abstract: The need: There is a lack of sensitive, responsive and feasible surrogate outcome measures of disease severity for use in clinical trials of patients with BE. Additional research into BE is urgently needed and it is important that all BE patients have the opportunity to take part in clinical trials. We have completed a study to show that LCI has good short-term reliability and superior sensitivity to lung disease as detected by HRCT, compared with the current standard measure - FEV1. However, more work is required to test the evidence base for LCI for adoption into BE practice. A national Medical Research Council (MRC) funded research partnership study (BronchUK) aims to assess the long-term clinimetric properties, including the noise to signal ratio of LCI in patients with BE over a 1 year period. In addition, a seminal Innovative Medicines Initiative (IMI) "New Drugs for Bad Bugs" study is planned internationally, to develop and assess new antimicrobial drugs. Up-to-date, sensitive outcome measures, such as LCI, are essential to deliver these studies. However, there is a need for education and training on MBW testing and the requirement for appropriate training to standardise MBW testing has been highlighted by an ERS/ATS consensus document. Our team have developed and successfully delivered a draft training and qualification programme to standardise MBW testing. A re-structured form of this programme, including all available forms of MBW device and a website to support learning would result in the translation of our research and the successful integration of MBW testing to measure LCI into the BronchUK and IMI trials.

The specific knowledge exchange objectives: 1. Develop the training and qualification programme through feedback from the draft programme and consultation with key stakeholders and end-users. 2. Develop the interactive eLearning website enabling access for all HCPs and forming part of the blended learning programme. 3. Deliver the blended learning training and qualification programme, using seminars, workshops and the eLearning website at Belfast and 5 national locations, targeting HCPs who are involved in the BronchUK and IMI trials. 4. Certify HCPs who complete the programme by acting as a central reader. 5. Assess the level of HCP engagement with the programme by evaluating the improvement in knowledge, qualification rate, and usage of eLearning website. The expected impact: The delivery of this knowledge exchange project will result in the translation of an emerging tool into the clinical setting, allowing utilisation of an advanced lung disease assessment for clinical research purposes at multiple sites nationally. The delivery of this programme will also pave the way for use of the tool directly in clinical practice as evidence for LCI in the BE patient group emerges.