Overall recurrence rates at two years were 12.3% lobectomy, 11.8% sub-lobar resection, 17.2% SABR and 29.6% radical radiotherapy – differences not significant on uni-variable regression, which may relate to small patient numbers. Figure 1 demonstrates the sites of recurrence. Considering only those with pathological confirmation of cancer, recurrence rates at two years were 17.9% for SABR and 32.4% for radical radiotherapy.

Conclusions The lowest recurrence rate was observed following surgical resection. In comparison, recurrence following SABR was non-significantly higher due to more loco-regional recurrence. Radical radiotherapy is associated with higher rates of overall, loco-regional and distant recurrence. Nodal recurrence was comparable between lobectomy, SABR and radical radiotherapy. This data is limited by low numbers as well as the confounding effects of early non-cancer deaths and incomplete pathological confirmation in the non-surgical treatment cohorts.

S65 DEVELOPING A MULTI-DISCIPLINARY THORACIC SURGERY RESEARCH TEAM IMPROVES THE RECRUITMENT INTO AND QUALITY OF CLINICAL TRIALS

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Objectives Recruitment into surgical trials historically has been fraught with difficulty. We examine whether developing a multidisciplinary research team has aided recruitment, data collection, patient retention and so success of clinical trials. In addition we look at effects on the patient experience of the surgical pathway.

Methods We evaluated the development and impact of a specialist thoracic trained research team of nurses and allied health care professionals in a regional thoracic unit from 2009–2015. We assessed the impact on the recruitment into National Institute for Health Research Clinical Research Network (NIHR CRN) thoracic surgery portfolio trials. Patient experience was captured through a survey (n = 30) and research team feedback through interviews (n = 5).

During the development, clear leadership and support networks were created, new members were trained by specialist thoracic research nurses to obtain competences in both research and thoracic surgery to enable confident valid informed consent and the collection of robust quality data.

Results Since the development of a specialised thoracic surgery research team in 2010 the number trials have steadily increased and along with number of team members whilst clinical activity remained constant. The number of patient consented into clinical trials increased 7 fold (Table 1). From staff interviews a recurring theme was that a clear team structure and a specialist training aided them to be better patient advocate not only in research but in the clinical pathway. Patients universally agreed that involvement of the research team helped reduce their anxiety about their surgery and so enhanced patients experience.

Conclusion The impact of a dedicated research team goes well beyond research but improves clinical care. Having a clear support system and a specialist trained team has increased recruitment and retention into thoracic surgical trials and enhanced the patient's experience of research and the surgical pathway.

Abstract S65 Table 1

Year (April to April)	CLRN Thoracic Research Trials open	Number of Thoracic research staff	Number of consents in thoracic surgery research
2009	2	2	95
2010	4	3	216
2011	4	3	353
2012	3	4	373
2013	6	5	919
2014	5	6	681
2015	5	7	948

Improving Outcomes During COPD Hospitalisations

S66 LEVELS OF SALIVARY C-REACTIVE PROTEIN, PROCALCITONIN AND NEUTROPHIL ELASTASE CAN PREDICT EXACERBATIONS IN COPD AND DETERMINE THOSE PATIENTS AT HIGH RISK OF RE-EXACERBATION

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Saliva has numerous practical advantages as a diagnostic bio-sample for management of long term conditions. We have previously demonstrated that C-reactive protein (CRP), procalcitonin (PCT) and neutrophil elastase (NE) can be reliably and reproducibly detected in saliva, offering useful information on health status. This study explores whether proactive monitoring of target analytes provides early warning of COPD exacerbations and re-exacerbation events.

Salivary CRP, PCT and NE levels were determined weekly in 55 subjects with established COPD, known to be frequent exacerbators [GOLD Stage I, 7; Stage II, 24; Stage III, 19; Stage IV, 5]. Daily symptom scores were collected using a self-assessment electronic diary. Participants were monitored throughout their stable, prodromal (defined as the 7 days prior to exacerbation onset), exacerbation and post-treatment recovery periods. All three salivary biomarkers could distinguish stable status from onset of patient-defined exacerbations (CRP: $p < 0.003$, PCT: $p < 0.001$, NE: $p < 0.01$); CRP median increase was 1.82 ng/ml, [interquartile range 4.79]; PCT 0.03 ng/ml [0.10] and NE 364 ng/ml [76]. Interestingly, increases over stable baseline were also observed in the prodromal period for salivary CRP 0.53 ng/ml [2.73], ($p < 0.001$), PCT 0.08 ng/ml [0.01], ($p < 0.01$) and NE 519 ng/ml [568], ($p < 0.007$), occurring at 5.4 ± 1.8 days prior to patient-defined onset. Importantly, in those COPD patients experiencing more than 1 exacerbation (n = 15), re-exacerbator salivary CRP was significantly higher at the index exacerbation, 4.08 ng/ml [0.21], ($p < 0.04$) with a mean time of 11 ± 8 days to re-exacerbation after treatment completion. Diary symptom analysis