Abstract P112 Figure 1 Lung cancer by clinical stage pre and during COVID-19 pandemic

Results The total number of lung cancer patients was 286 (2019) and 207 (2020). Median age (2019) was 72 (21–93) and (2020) 71 (22–93). The median times from referral to treatment were 35 days (1–209) (2019) and 38 days (1–532) (2020) $p=0.0333$. Figure 1 shows the absolute frequency of lung cancers by clinical stage for each period. A 44% drop in surgery was seen during the pandemic (150 to 84) with a 73% increase in radiotherapy treatments (15 to 26). Combined and systemic therapies were reduced 25% (76 to 57). Best supportive care reduced by 11% (45 to 40).

Conclusion The Covid pandemic had a major impact on our lung cancer service. A noticeable reduction in early stage (IA1–IIB) lung cancers were seen from 126 (44%) to 81 (39%). It can be postulated that during the Covid-19 pandemic, there was a reduction in routine CT scanning for other organs, which often picks up incidental early stage lung cancers. So far there has not been an increase in the numbers of later stage cases, but it can be hypothesised that these patients may present in the coming months as they are unlikely to become symptomatic within a year with early lung cancers. There is an important cohort of patients with early stage disease suitable for radical treatment that may have been missed since Covid-19 started and measures should be put in place to try to identify them as soon as possible.

Thinking outside the lung: monitoring and management of patients with CF, PCD and bronchiectasis

P113 SEGREGATION IN CYSTIC FIBROSIS: THE PERCEPTIONS OF PATIENTS AND CAREGIVERS

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Introduction In attempt to limit the cross-infection morbidity and mortality, segregation amongst those with CF is encouraged. Despite the long-standing nature of segregation, the perceptions of patients remain relatively unexplored in the literature. The aim of this study is to identify the perceptions of patients as well as the possible negative effects of segregation on mental health.

Methods A semi-structured questionnaire was distributed to paediatric ($n=25$) and adult CF patients ($n=72$) within NHS

Grampian. Inductive coding analysis was used to analyse responses and key themes produced

Results A total of 12 paediatric (48%) and 12 adult (17%) questionnaires were returned. Paediatric participants and caregivers' perception of segregation were mostly negative in nature, whereas adult perception were more mixed with participants reporting it is positive and negative for them. The perceived impact of segregation on mental health was mixed and only slightly more participants ($n=x$) reported that it had a negative impact of their mental health. Half of paediatric and adult participants wished for increased contact with others with CF in future. Areas for suggested local service improvement focused on creation and promotion of local support and CF community groups via social media platforms and an allocated 'CF buddy'.

Conclusion The perceptions of segregation and its impact on the mental health differs largely between participants in both paediatric caregiver and adult patient groups. These perceptions are likely formed from previous/witnessed CF segregation experience, as well as illness severity and environmental factors. Further research is needed to assess the possible influences of these factors on mental health in CF populations.

Please refer to page A193 for declarations of interest related to this abstract.

P114 ASYMMETRICAL DISTRIBUTION OF DEMAND FOR CYSTIC FIBROSIS INPATIENT SERVICES AND IMPLICATIONS FOR FUTURE CARE NEEDS

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Introduction and Objectives Clinical expression of cystic fibrosis (CF) is highly variable, even amongst patients with the same CFTR genotype. The aim of this study was to identify those with a high demand for inpatient care, in order to aid understanding of the potential impact of new CFTR modulator therapies. We have looked at pre-Kaftrio patterns of admission, risk factors and outcomes.

Methods The study was conducted at the Adult Cystic Fibrosis Centre, total clinic size 413 patients. Inpatient records were reviewed for 36 months from 2017–19. Inpatient care was measured as bed-days. Patients leaving the service in the calendar year 2017 or entering after this were not included. Outcomes were recorded at end of 2019. Outpatient care episodes were not included. Demographic factors relevant to CF were assessed for statistical significance as predictors of high bed usage using a binomial logistic regression model.

Results There was a significant skew in the demand for inpatient care. 97 patients (23%) required no inpatient care. On the other hand, 15% of the clinic cohort (63 patients) accounted for 58% of the total bed-days. CF-related diabetes and low FEV1% predicted were statistically significant predictors of falling within this high bed use group ($P=0.007$ and $P<0.001$ respectively). Those in the high bed use group had a mean of 67 days of admission/year. By the end of 2019, 14 (22%) patients from this group had died and 8 (13%) were transplanted (compared with 0.6% and 1.7% in the remainder of the CF clinic). Annual mortality rate was 10x greater than the rest of the clinic. Of the high bed use survivors at the end of 2019, 31 (76%) were eligible for Kaftrio.

Conclusions Demand for inpatient care in CF is hugely variable, with a high burden of care being concentrated in a small proportion of patients. CF diabetes and low lung function are risk factors. These patients have high mortality. Kaftrio is likely to decrease the need for inpatient care for many of these, but a small cohort with unresponsive genes will continue to require high levels of specialist inpatient care.

P115 THE DIAGNOSIS AND MONITORING OF CYSTIC FIBROSIS LIVER DISEASE IN A WEST OF SCOTLAND CF COHORT

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Introduction Cystic fibrosis [CF] is a systemic disease resulting from loss of function of the CFTR protein. Despite being a significant cause of mortality, CF liver disease [CFLD] remains under recognised.

This study determined the prevalence of CFLD and CFLD-cirrhosis in our cohort of adult CF patients and the adherence to local surveillance protocols for diagnosing and monitoring these conditions.

Methods The study identified 270 patients with a diagnosis of CF in the West of Scotland Adult CF Service. Electronic clinical records were reviewed to determine the prevalence of pre-existing diagnoses of CFLD and assess for evidence of cirrhosis. Appropriate liver monitoring and gastroenterology service involvement, as per locally agreed protocols, was reviewed.

Results The mean age of the cohort was 32 years (range 16–71) and 145 (54%) were male. A pre-existing diagnosis of CFLD occurred in 80/270 (30%) patients, 23 (29%) of whom had evidence of CFLD-cirrhosis - 9% of the total cohort.

The local standard of yearly and 6 monthly liver function tests [LFT] in non-CFLD and CFLD/CFLD-cirrhosis patients respectively was met in 241/270 individuals (89%).

The local standard of 5 yearly, 2 yearly and 6 monthly ultrasounds in non-CFLD, CFLD and CFLD-cirrhosis patients respectively was achieved in 190/270 individuals (70%).

Of those with CFLD/CFLD-cirrhosis, regular follow up with or previous discharge from gastroenterology services occurred in 34/80 patients (43%).

Abstract P115 Table 1

	Non-CFLD [190/ 270; 70%]	Non-Cirrhotic CFLD [57/270; 21%]	CFLD Cirrhosis [23/270; 9%]
LFT Standard Met [Yearly LFT Non-CFLD; 6 monthly LFT CFLD/CFLD-cirrhosis]	173/190 (91%)	49/57 (86%)	19/23 (83%)
Ultrasound Standard Met [5-yearly US Non-CFLD; 2-yearly US Non-cirrhotic CFLD; 6-monthly US CFLD-cirrhosis]	138/190 (73%)	35/57 (61%)	17/23 (74%)
Gastroenterology Referral	N/A	22/57 (39%)	12/23 (52%)

Conclusions CFLD is a source of significant morbidity and mortality in CF patients and affects 30% of our patient cohort, with evidence of cirrhosis in 29% of CFLD patients. However, a risk of delayed or missed CFLD diagnosis has been identified for patients not receiving 5 yearly screening ultrasound and regular LFT monitoring. Additionally, patients with CFLD or CFLD-cirrhosis are not always receiving more intensive liver monitoring such as increased ultrasound and LFT testing frequency. Improvements also need to be made to ensure all CFLD/CFLD-cirrhosis patients are referred to gastroenterology services.

We will strengthen existing protocols guiding liver monitoring and referral pathways for non-CFLD, CFLD and CFLD-cirrhosis patients.

P116 A NOVEL TOOL TO INTERPRET THE INCREMENTAL SHUTTLE WALK TEST (ISWT) IN A CYSTIC FIBROSIS (CF) PAEDIATRIC POPULATION

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Introduction Cardiopulmonary exercise testing (CPET) is the gold standard for the assessment of exercise tolerance but is not widely available. There is increased recognition of the prognostic value of exercise tolerance in patients with CF but there is a lack of normative values for other exercise tests within the literature. The lack of such data prompted the development of the Birmingham ISWT tool to provide more insight into ISWT results gained and identify those that would benefit from an exercise intervention. We developed the tool incorporating published equations that predict VO₂ peak for distance achieved in an ISWT (Fernanda-PaedPul-2019) and compared this to published normal values for VO₂ peak by age and sex (Ten-Harkel-EurJCardiovasc-2011). The tool provides thresholds that enable a patient's results to be rated as green (predicted Z score ≥-1), amber (predicted Z score -1 to -2) or red (predicted Z score <-2) based on their ISWT distance.

Methods The tool was used to evaluate the most recent ISWTs completed for all CF patients attending our centre aged 8years and over (n=112).

Results 112 ISWTs were completed in our patient group. 65 of the 112 of the tests completed were deemed either maximal (n=52) or non-maximal but the patient completed all 15 levels (n=13) and could be evaluated using the tool, with 49 rated as green, 12 amber and 4 red. In those rated amber or red, 9 stopped due to leg fatigue, 3 due to difficulty in breathing and 4 for either safety or unknown factors. The remaining 47 results were assessed as non-maximal and therefore not evaluated with 35 stopping for safety issues, 4 technical issues, 3 because of foot/knee/back pain and 5 for unknown factors.

Conclusions We have shown that the Birmingham ISWT tool proved easy and quick to use and enabled us to highlight those that would benefit from intervention. 75% of our cohort had good levels of fitness. Leg fatigue was the most common reason for stopping the test rather than shortness of breath. Future plans include validating the tool and developing targeted interventions to improve physical fitness in children with CF.