to concerns about the transmission of the COVID-19 virus. However there was still a need to support patients with COPD to self-manage their condition. Indeed social isolation and deconditioning were cause for concern in this population. The aim of this work was to gauge the appetite for 3 different models of remote self-management support and to explore the uptake, completion and clinical outcomes of these 3 options.

Methods Between March 2020- March 2021, 3 remote options for self-management were offered: telephone support (TP: biweekly for 6weeks with home exercise and education booklet), SPACE for COPD Manual (SM: with phone calls at week 2 and week 4), SPACE for COPD Website (SW: email prompts and contact health professional function). All patients had a subjective assessment (including risk assessment) completed over the phone. All programmes included self-management education and a home exercise programme (walking, strength exercises using free weights). Outcomes assessed were: uptake and completion rates, COPD Assessment Test (CAT), Chronic Respiratory Questionnaire (CRQ)- all domains.

Results N=287 patients chose a remote option and were included in the analysis. All patients had a spirometry diagnosis of COPD. Mean (SD) age 66.4 (10.2) years. 67% chose TP, 22% chose SM, 11% chose SW. Completion rates were: 56% TP, 52% SM and 30% SW (significant $p < 0.05$ between TP and SW). Table 1 displays the change in outcomes for the 3 choices. There were within group improvements for all outcomes, all meeting the clinically relevant thresholds in this population (except for the CRQ-fatigue and emotion domains in the TP group). There were statistically significant changes in a number of outcomes (*) but no between group differences.

Abstract P65 Table 1

Change in...	TP	SM	SW
CAT	-2.4 * C	-3.1 * C	- 7.2 C
CRQ- Dyspnoea	0.8 * C	0.5 * C	1.1 * C
CRQ- Fatigue	0.4 *	0.8 * C	0.9 C
CRQ- Emotion	0.4 *	0.8 * C	1.4 C
CRQ- Mastery	0.6 * C	0.5 C	0.8 C

*: Statistically significant $p < 0.05$

C: clinically relevant (meets MCID for this population)

Conclusion Most patients chose bi-weekly telephone support, TP and SM had the highest completion rate. All options were equally effective in terms of clinical outcomes. Despite being clinically effective, more work is needed to promote completion in digitally delivered self-management programmes.

P66

DOES AN INNER CITY LONDON VIRTUAL PULMONARY REHABILITATION PROGRAMME PRODUCE CLINICALLY SIGNIFICANT IMPROVEMENTS IN PATIENT OUTCOMES?

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Background The COVID-19 pandemic led to the suspension of Pulmonary Rehabilitation (PR) across the United Kingdom (UK). Services had to rapidly redesign to deliver rehabilitation within new limitations. As per many PR services the Adult Cardiorespiratory Enhanced and Responsive (ACERS) switched to deliver PR virtually, adapting the face to face programme to a virtual model. Patient outcomes were then analysed to see if they were clinically significant, achieving the minimal clinical important difference (MCID) and could offer a comparable alternative to face to face PR.

Method Following a comprehensive remote subjective assessment, patients attended a face to face objective assessment completing two incremental shuttle walk tests, the Chronic Obstructive Pulmonary Disease (COPD) Assessment Test (CAT), COPD Patient Reported Experience Measure 9 (COPD PREM 9), and the Hospital Anxiety and Depression Scale (HADS).

The virtual PR (VPR) programme ran twice weekly for six weeks, with a cohort of six patients and delivered was by a Physiotherapist and Rehabilitation Assistant over Microsoft Teams. The one and half hour programme contained cardiovascular, upper and lower limb strengthening exercises, modified from the face to face programme followed by an education session. Outcomes were then analysed to see they were clinically significant.

Results In total 53 patients started VPR during 2020/21, 62.26% (n=33) female, mean age 60, 62.3% (n=33) COPD,

Abstract P66 Table 1 Patient demographic data of those patients assessed and completed the Virtual PR programme

Patient demographic (n=53)			
Female (%)	33 (62.3%)		
Smoker (%)	16 (30.2%)		
Non Smoker (%)	8 (15.1%)		
Age (years) (range)	60 (37 to 81)		
Primary Disease			
COPD	33 (62.3%)		
Asthma	10 (18.9%)		
Other (bronchiectasis, ILD, lung cancer)	10 (18.9%)		
FEV1/FVC ratio	0.68		
FEV1% predicted	66.08% (20 to 116%)		
MRC (Range)	3 (1 to 5)		
Outcomes	Pre (n=53)	Post (n=26)	Mean change
ISW (m) (range)	297.14m (40 to 1020 m)	382.66m (80m to 650m)	31.25m (-80m to +110m)
CAT (range)	23.73 (8 to 36)	19.83 (5 to 32)	1.26 (-13 to +11)
COPD PREM 9 (range)	19.20 (0 to 32)	16.31 (3 to 34)	2.35 (-18 to +21)
HADS A (range)	9.56 (0 to 21)	8.13 (1 to 18)	1.56 (-18 to +11)
HADS D (range)	8.51 (1 to 14)	7.54 (1 to 18)	0.86 (-7 to +9)

Key: COPD: Chronic Obstructive Pulmonary Disease (COPD), ILD: Interstitial Lung Disease, FEV1: Forced expiratory Volume in one second, FVC: Forced Expiratory Volume, MRC: medical research council breathlessness scale, ISW: Incremental Shuttle Walk Test; CAT: COPD Assessment Test, COPD PREM: Chronic Obstructive Pulmonary Disease Patient Reported Experience Measure 9; HADS: Hospital Anxiety and Depression Scale: A: anxiety domain, D: depression domain

30.2% (n=16) were current smokers, with a mean Medical Research Council (MRC) breathlessness grade 3) (table 1).

Of those assessed 48.15% (n=26) completed, of those who started (n=36) 72.22% completed. Only the HADS anxiety domain demonstrated a clinically significant improvement in mean score post VPR (table 1). The COPD PREM 9 does not have an MCID, however completion of VPR lead to a mean improvement in score of 2.35.

Conclusion Completion of an inner City London VPR programme did improve levels of anxiety and improved patient experience of living with disease, clinically significant improvements in exercise tolerance or symptom burden were not demonstrated. VPR provided a solution for delivering PR during the pandemic, however greater comparison against traditional face to face PR models is required to ensure it delivers the same healthcare and patient outcomes.

P67 PILOT PROJECT: FEASIBILITY OF MINIMAL-EQUIPMENT HIGH-INTENSITY INTERVAL EXERCISE (HIIE) INTERVENTIONS IN BRONCHIECTASIS PATIENTS

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Introduction Minimal-equipment interval-type interventions offer a cost-effective way to improve the exercise adherence, fitness, and symptoms of bronchiectasis patients in the home setting. Of the approaches this might include, stair and walking-based high-intensity interval exercise (HIIE) have emerged as potentially safe, practical, and time-efficient methods for use by previously untrained and clinical populations in the home. However, the feasibility of using these methods to prescribe HIIE safely and effectively to bronchiectasis patients is yet to be explored.

Methods Following baseline physiological assessment (6MWT, CST, IQST) five non-cystic fibrosis bronchiectasis patients (2 men, 3 women, 68 ± 5 years) completed four differing step or walking-based HIIE formats in a randomised order across four supervised trials. HIIE sessions comprised of either 3 x 20 sec 'all out' stepping, 3 x 60 sec 'vigorous' stepping, 3 x 60 sec 'all out' walking, or 3 x 180 sec 'vigorous' walking. Patients were then asked to complete 6 weeks of unsupervised home-based HIIE, choosing their preferred HIIE format on 3 days per week, after which baseline physiological assessments were repeated.

Results No adverse events were reported and all HIIE formats were tolerated by patients (mean heart rate and ventilation across formats: 78 ± 5% HR_{max} and 35.4 ± 10.0 L·min⁻¹, respectively). Patients successfully completed 3.1 ± 0.5 sessions per week of unsupervised home-based HIIE. The most popular format was 3 x 60 sec of 'all out' walking, which comprised 46% of all sessions completed. Paired samples t-tests showed home-based HIIE significantly improved 6MWT (483 ± 79 vs 574 ± 58 m, p <.05) and CST (23 ± 5 vs 28 ± 4 ml·kg·min⁻¹, p <.05) outcomes.

Conclusion This data suggests step and walk-based HIIE is feasible, safe, well tolerated and effective for bronchiectasis patients. The engagement and enjoyment reported by patients suggests HIIE may offer an effective approach for prescribing unsupervised exercise to bronchiectasis patients, particularly

when such prescription incorporates different choices of HIIE format. We therefore plan to investigate the effectiveness of these approaches to HIIE in a fully powered clinical trial and subsequently compare the benefits to other commonly prescribed formats of exercise.

P68 A RETROSPECTIVE SERVICE EVALUATION OF A VIRTUAL RESPIRATORY PHYSIOTHERAPY OUTPATIENT CLINICAL SERVICE

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Aim To review the effectiveness of a virtual service delivery for Airway Clearance in a chronic respiratory population.

Methods A retrospective audit of virtual provision of Airway Clearance to a respiratory outpatient population. Patient's attendance and outcomes were reviews

Results 47 patients (36% male, mean (SD) age 57 (16) were referred to the respiratory outpatient physiotherapy service for ACT between March 2020–2021.

70% had a diagnosis of bronchiectasis. 87% attended appointments virtually with 74% via video call. To establish an effective ACT it took 2 appointments of 30 minutes. Figure 1 describes ACT taught. 5% (2) of patients did not have English as their first language, requiring advocates to translate. Of those who attended virtually, 1 patient was admitted to hospital within 3 months of being discharged from the service with an infective exacerbation of bronchiectasis.

6% (3) declined a virtual consultation with their main reason being access to technology. 60% (2) were male with an average age of 46. Our DNA rate was 18%.

Discussion Our findings indicate that virtual clinics are feasible for respiratory assessments and teaching an ACT. Patients could be taught different types of ACT within a few appointments, with no adverse events. The impact of the COVID pandemic resulted in changes to outpatient services with an immediate effect. Therefore patients had limited choice on their appointment type and so it is difficult to compare these outcomes to face to face clinics from previous years. This change in practice did overcome other historical barriers prior to the pandemic ie. Travel distance and cost and infection control. Admission rates may have been lower due to shielding, resulting in reduced exposure. They do not reflect exacerbations managed at home via GP's.

Further work is required to identify the long term carry over and effectiveness of these treatments. Qualitative data on patient's perceptions of a virtual clinic would guide any long term changes to the service.

Conclusion Virtual outpatient clinics for respiratory physiotherapy are feasible. The change in service design may

Abstract P68 Figure 1

	total virtual and telephone	%	virtual	telephone
Number taught acapella	24	58%	22	2
Number taught ACBT	16	40%	12	4
Number taught other	1	2%	1	0