Abstract P22 Table 1 Clinical characteristics of patients in DO-IRT pathway

	All (n=24)	LTOT* (n=2)	Oxygen weaning (n=22)	
			Concentrator and ambulatory oxygen (n=16)	Ambulatory oxygen (n=6)
Age (years)	64 (51-73)	60, 72	64 (54-74)	54 (48-68)
Gender female/male	9/15	2/0	4/12	3/3
Entry to DO-IRT (at discharge from hospitalisation)				
Respiratory rate (/min)	19 (18-20)	20, 20	19 (18-20)	19 (18-20)
Oxygen flow Concentrator rate (L/min)	N/A	4, 3	1.0 (1.0-1.4)	N/A
Ambulatory cylinder	N/A	4, 3	1.0 (1.0-2.0)	1.5 (1.0-2.0)
Length of Stay saved by DO-IRT (days)	N/A	N/A	10*	N/A
Readmission rates	5 (20.8%)	1 (50%)	3 (19%)	1 (17%)
30 day all-cause mortality	0	0	0	0
End of pathway outcome*				
Successfully weaned (no oxygen)	N/A	0	5 (31%)	1 (17%)
Ambulatory oxygen	N/A	0	5 (31%)	4 (66%)
LTOT and ambulatory	N/A	2 (100%)	4 (25%)	1 (17%)
LTOT Oxygen flow rate (L/min)	N/A	3, 2	1.0 (1.0-2.5)	N/A

Data presented as median (IQR) or absolute numbers.

*hospital bed days saved (calculated for weaning cohort only). Represents duration from initiation of pathway to weaning to air at rest.

*2 patients in concentrator and ambulatory cohort were readmitted and discharged without further referral to DO-IRT

* Only 2 patients in cohort, thus all raw values presented

Majority of declined referrals (55%) were patients who were above target saturations on oxygen and were supported to wean to air by IRT as inpatients. Duration on DO-IRT pathway was mean (SD) 16.3(7.2) days; median (IQR) length of stay saved for the oxygen weaning cohort were 9 (7-13) days. All-cause 30-day mortality and readmission rates on DO-IRT were 0% and 21% respectively. 14(58%) patients completed the satisfaction survey; 14(100%) reported confidence in their care and were 'extremely likely' to recommend DO-IRT.

Discussion Early supported discharge with home oxygen weaning for SARS-CoV2 pneumonia patients is feasible, safe and well-received by patients. Integrated respiratory teams with specialist oxygen expertise can make a valuable contribution to supporting acute medical flow. Future studies should investigate the feasibility of supported early discharge pathways with domiciliary oxygen in other conditions.

P23 IMPLEMENTING A DAILY VIRTUAL COVID-19 MULTI-DISCIPLINARY TEAM MEETING IN SECONDARY CARE

¹JA Wingfield Digby, ²H Petty, ²S Brij, ²J Bright, ²K Irion, ²W Khan. ¹University of Manchester, Manchester, UK; ²Manchester Royal Infirmary, Manchester, UK

10.1136/thorax-2021-BTSabstracts.133

Introduction In the UK, over 450, 000 people have been admitted to hospital with COVID-19, but co-ordinated MDT meetings to discuss cases, with combined respiratory, radiology and microbiology input have not been widely adopted, despite increased use of virtual MDT platforms in other specialties. This is surprising, given at times there is both diagnostic uncertainty, with low sensitivity of both nasal (63%) and throat (32%) COVID-19 RT-PCR tests and nuance around treatment decisions in these patients.

Aims and Methods We conducted a review of a virtual MDT (vMDT) set up and delivered daily (including weekends) over Microsoft teams to discuss management of inpatient COVID-

Abstract P23 Table 1

Radiological Code (n=200)	Positive COVID-19 RT-PCR (n= 162, 81%)	Negative COVID-19 RT-PCR (n = 38, 19%)
CVX0 (Normal appearances)	3 (1.5%)	6 (3%)
CVX1 (Classical/Probable COVID-19)	103 (51.5%)	8 (4%)
CVX2 (Non-classical/intermediate appearances)	51 (25.5%)	19 (9.5%)
CVX3 (Atypical – pleural disease/pulmonary oedema/lobar consolidation)	5 (2.5%)	5 (2.5%)

19 from September 2020 to February 2021 (1012 patients, mean 8.5 cases/meeting). We conducted a retrospective case note analysis of 210 subjects, recording the RT-PCR result, radiological appearances (BSTI criteria) and decisions regarding investigation for VTE. Alongside this we conducted a qualitative survey (0-10 satisfaction) of 20 members regularly attending MDT members.

Results Attendance ranged from 5-15 people and always included a respiratory and radiology consultant and microbiology/virology registrar. Of the 200 MDT cases reviewed (n=10 excluded due to inadequate CXR or missing PCR), mean age was 64 years old, 66% were male, 47% BAME, median LOS was 7 days and inpatient mortality was 41/200 (19%). Over half of cases (54.5%) had both a positive RT-PCR and classic CXR appearances of COVID-19, but n = 5 (2.5%) had atypical features alongside a positive PCR, warranting discussion and consideration of dual pathology (TB/lung cancer/suspected phrenic nerve palsy all suggested). A significant proportion of patients with a negative RT-PCR, n= 8/38 (21%) had radiological appearances that were classical of COVID-19 pneumonia, prompting appropriate treatment and ward triage (avoiding hospital spread). CTPA was suggested in 16/200 (8%) of patients' and confirmed PE in 5/16 scans. Of those surveyed, > 75% felt that their knowledge of anticoagulation (prophylaxis and treatment) in patients with COVID-19 improved and over 50% of junior doctors' submitted post-MDT work based assessments.

Conclusion The COVID-19 vMDT helped with diagnosis and management of patients during the SARS-CoV-2 pandemic, whilst simultaneously providing education to health care professionals.

P24 COVID-19 ADVANCED RESPIRATORY PHYSIOLOGY (CARP) WEARABLE RESPIRATORY MONITORING: EARLY INSIGHTS

¹SBH Lua, ¹D Lowe, ¹A Taylor, ¹M Sim, ²B Henderson, ²C Trueman, ²O Meredith, ³S Burns, ³P McGuinness, ¹C Carlin. ¹Respiratory Department, NHS Greater Glasgow and Clyde, Glasgow, UK; ²Altair Medical, Lanarkshire, UK; ³StormID, Edinburgh, UK

10.1136/thorax-2021-BTSabstracts.134

Background Covid-19 presents an urgent need to monitor large number of patients with respiratory failure. Respiratory rate (RR) monitoring can predict deterioration but clinician-based measurements are intermittent, often inaccurate, and frequency of measurements are dependent on level of care

Abstract P24 Figure 1 CARP trial wearable respiratory rate, respiratory support and outcome data from 3 patients with severe COVID-19

required. Wearable RR sensors have been benchmarked against reference sensors. They offer the potential for continuous remote monitoring at scale of patients at risk for deterioration, who may require escalation and respiratory support. In the CARP trial we are exploring feasibility and utility of continuous wearable RR monitoring of inpatients with COVID-19, with the potential of extrapolating this to other causes of respiratory failure in the future.

Method The pre-commercial chest-worn Altair PnuemoWave derives continuous RR and detects apnoeas, with processing algorithms benchmarked with reference impedance plethysmography. The device attaches to a standard adhesive ECG 'dot' with bluetooth hub and wi-fi connectivity. Live RR and event data is presented in a co-designed cloud-based dashboard, allowing for remote visualisation and inpatient journey tracking.

Consenting inpatients with PCR-confirmed COVID-19 who required oxygen therapy were screened over an 8-month period. Follow-up was performed at 28 and 90-days post discharge, including post-COVID patient reported outcomes and MRC dyspnoea score.

Results 156 patients were screened, with 77 recruited to the CARP trial. 32 patients required non-invasive respiratory support, of which 14 were escalated to mechanical intubation. 17 patients died within trial.

Bland-Altman analyses of paired RR data confirmed that wearable sensor data shows good agreement with critical care RR monitoring (Phillips Intellivue MX700), and that ward-based intermittent clinician RR measurements were imprecise.

From the initial utility review of CARP physiology data visualisations, rising hourly average RR >25/min is associated with subsequent patient deterioration. Improving and stable hourly average RR of <25/min associates with stable respiratory failure and improvement to hospital discharge (figure 1).

Conclusion Continuous wearable respiratory rate remote monitoring in COVID-19 inpatients is feasible. Planned machine learning and time-series analyses of the detailed physiology and clinical endpoint data will determine appropriate cut-offs and feature importance for deteriorating patient risk predictions. The CARP clinical dashboard provides an infrastructure for future implementation and evaluation of these AI insights.

P25 THE EFFECT OF POST COVID-19 REHABILITATION ON HEALTH STATUS USING THE EQ-5D- 5L

¹T Williamson, ¹F Dyer, ²D Garvey, ¹A Miers, ³C Morris, ¹C Wells, ¹S Rahman. ¹Epsom and St Helier University Hospitals NHS Trust, Epsom, UK; ²Sutton Health and Care, Sutton, UK; ³Surrey Downs Health and Care, Leatherhead, UK

10.1136/thorax-2021-BTSAbstracts.135

Introduction Many patients who have survived COVID-19 are left with ongoing health concerns; be it deconditioning from a prolonged hospital admission or those with long COVID syndrome. Rehabilitation programmes have been developed in attempt to address this but little is understood about its effectiveness. The EQ-5D-5L is a well validated measure of health status and was completed before and after rehabilitation. We aimed to investigate the effect of our rehabilitation programme on health status.

Method All patients attending assessment for post-COVID rehabilitation complete the EQ-5D-5L and is repeated on discharge. Patients attended rehabilitation twice a week for 6 weeks.

Results Between July 2020 and May 2021 136 patients completed post-COVID rehabilitation. Mean age was 56 (12.25). 38% male. Table 1 illustrates change pre and post rehabilitation.

Abstract P25 Table 1 Mean (SD) scores for EQ-5D-5L index pre and post rehabilitation

Pre rehabilitation	Post rehabilitation	change	P value*
0.611 (0.195)	0.733 (0.172)	0.127 (0.187)	< 0.05
Paired t-test			

Conclusion Post COVID rehabilitation improves health status in patients following COVID-19 with ongoing health concerns.

P26 KNOWLEDGE SEEKING BEHAVIOUR OF THE COVID-19 POPULATION. ANALYSIS OF THE FIRST MILLION UK USERS OF YOUR COVID RECOVERY®

¹RE Barday, ¹N Gardiner, ¹E Chaplin, ¹A Watt, ¹G Mills, ¹M Baldwin, ¹K Hicklin, ^{1,2}SJ Singh, on behalf of the multi-disciplinary national Your COVID Recovery core team. ¹University Hospitals Leicester, Leicester, UK; ²University of Leicester, Leicester, UK

10.1136/thorax-2021-BTSAbstracts.136

Introduction University Hospitals Leicester NHS Trust (UHL) in partnership with NHS England worked in collaboration with professional societies, charities and healthcare professionals (HCPs) nationwide to launch the Your COVID Recovery® website (www.yourcovidrecovery.nhs.uk). This site offers information on living with and recovering from the physical and psychological effects of COVID-19. The site has information on the commonly reported post COVID symptoms¹ and was launched in July 2020. The aim was to evaluate website usage and the knowledge seeking behaviour of its readers.

Method The first one million users were analysed using Google Analytics from July 2020 to February 2021, reporting on overall site usage, content page views and length of time spent on the pages. The top three content pages were recorded each month.

Results To reach one million users took seven months, with over 700,000 of these users viewing the site from December 2020 to February 2021.

Retrieval of content data (figure 1) shows that Fatigue was the most viewed page (225,511) followed by Musculoskeletal Shoulder and Back Pain (MSK) (212,312) and Cough (184,178). Fatigue consistently featured every month, whereas Musculoskeletal Shoulder and Back Pain and Cough did not feature until October 2020 and November 2020 respectively.