THE CHALLENGES AND OPPORTUNITIES OF STARTING A TARGETED USE OF RIGHT HEART CATHETERISATION IN HEART FAILURE VIRTUAL WARD, EXPERIENCE FROM LONDON NORTH WEST UNIVERSITY HEALTHCARE NHS TRUST

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Introduction
The corona virus pandemic has resulted in a need to rethink how we manage patient care. Remote monitoring of patients using digital technology is an exciting option for supporting patients on discharge from hospital particularly in patients with heart failure as it may prevent decompensation events and provide opportunity to maximise prognostic medications for patients to improve prognosis. London North West University Healthcare NHS Trust (LNWUH) partnered with LUSCIITM a remote monitoring app that allows patients to upload daily observations and symptoms status to aid in symptom management and optimisation of medical therapy. We present an analysis of the first 198 days of our experience of launching our service. Methods and Results
We performed a retrospective analysis of all patients admitted to the two acute sites with a presumed diagnosis of heart failure between July 19th 2021 and February 2nd 2022. A sub group between November 16th 2021 and February 2nd 2022 had an in-depth analysis of the reasons for not being recruited onto the HFVW. Figure 1 demonstrates the in-depth review. A total of 280 patients were admitted with a presumed diagnosis of heart failure, of these 142 (50.8%) were eligible for the HFVW. Of the 142 patients 24 (16.9%) - approximately 1 in 6 - patients who had a discharge diagnoses of heart failure were able to be recruited to the HFVW. Reasons for not recruiting the patient to the HFVW were divided into patient factors (frailty, compliance issues, need for specialised care, language barrier; n=97), technology related factors (no-access to smart phone, struggles with technology; n=72), and patient refusal to be recruited (n=5). An individual patient may have more than 1 reason for not being recruited. Since the beginning of recruitment, a total of 64 patients have been recruited, mean age 62.0 ± 12.1 years, 48 (75.0%) male and 58 (90.6%) had HF with reduced ejection fraction. The patients on the HFVW had high prevalence of comorbidity; 45 (70.3%) had hypertension, 32 (50.0%) with Diabetes, 11 (17.2%) with chronic kidney disease and 28 (43.8%) with ischaemic heart disease. Patient spent an average of 7.1 weeks (range 0.0 – 21.1 weeks) on the HFVW, a total of 26 (40.6%) have been successfully optimised, stabilised and discharged to community/OOH HF services. 3 patients withdrew when on the HFVW. Eight of the 64 (12.3%) patients had an admission whilst on the HFVW, however only 1 (1.6%) was heart failure related in a patient who was refractory to ambulatory intravenous diuretics. 1 (1.6%) patient despite a biventricular pacemaker and defibrillator; being on optimised HF medications had a sudden cardiac death associated with refractory ventricular arrhythmia despite exhausted therapy from his implantable device. Patients with reduced ejection fraction on the HFVW were shown to have excellent medical therapy with 94.8% on ACEI/ARB/ARNI, 93.1% Beta-blocker, 56.9% on MRA and 44.8% on SGLT2i.

Conclusion
HFVVW provides and exciting opportunity to monitor and optimise heart failure patients in the community with specialist support using digital technology. The patients recruited were predominantly patients with reduced ejection fraction and are highly co-morbid. There remain significant challenges to tackle digital exclusion to increase the proportion of heart failure patients recruited as currently only 1 in 6 patients are successfully recruited.

Conflict of Interest
None

TARGETED USE OF RIGHT HEART CATHETERISATION IN THE MANAGEMENT OF SHOCK: A CASE SERIES

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Introduction
Circulatory shock is a life-threatening condition associated with in-hospital mortality rates as high as 45%. In some cases, there is a clear cause, when mechanical intervention such as revascularisation is often indicated. However, there is often a mixed picture with more than one underlying pathological mechanism. Right heart catheterisation (RHC) permits detailed evaluation of haemodynamics to enable better patient tailored therapy. ESC guidance suggests consideration of RHC in patients who, despite pharmacological treatment, have refractory shock or shock of unclear aetiology. Evidence from large registries is accumulating that RHC assessment in suspected cardiogenic shock is associated with favourable outcomes. To demonstrate the value of RHC assessment, ten patients with shock and a sub-optimal response to therapy or with suspected mixed pathology are reported.

Methods
Retrospective analysis of ten patients who had RHC for shock of uncertain aetiology or not responsive to conventional therapy between June 2015 and 2020. Clinical course, therapy adjustment, survival to discharge, one month and one year were evaluated.

Results
Eight patients were male and median age was 69 (IQR 8.5). Each patient had a mean of five comorbidities – most commonly - type 2 diabetes, ischaemic heart disease and left ventricular systolic dysfunction. Prior to RHC, five patients were in Society for Cardiovascular Angiography and Intervention (SCAI) stage C shock and five in stage D. Nine had ongoing infusions of vasopressors or inotropes, with five on two agents. RHC studies significantly changed management in 8/10 patients. Five patients had therapy changes in the catheter lab allowing real time monitoring of invasive haemodynamics. RHC evaluation led to a change in diagnosis in 4/10 patients.