patients and confirmed cardiogenic shock in 6/10 patients (with adjustment in ongoing therapy in 4 of these patients). Six patients survived to discharge and 4/10 to one year post RHC. The mean procedure duration was 47 minutes, and one patient had a retroperitoneal haematoma, which was successfully managed conservatively before being discharged, with no other complications recorded. SCAI shock stage, higher heart rate, lower mean aortic pressure and higher mean right atrial pressure were associated with mortality prior to discharge, one month and one year post RHC.

Conclusions In patients with shock of uncertain aetiology, or suboptimal response to standard therapy, RHC can provide important haemodynamic information to help optimise management. This observational data suggests that RHC assessment in these circumstances is an important tool to help assess and adjust medical therapy. It appears to be associated with favourable outcomes to discharge in a cohort of critically ill, comorbid patients at high-risk.

Conflict of Interest Nil

ARTIFICIAL INTELLIGENCE FACILITATES MONITORING OF PATIENTS WITH HEART FAILURE IN THE LANCASHIRE OBJECTIVE VOLUME EVALUATION OF LEG OEDEMA IN HEART FAILURE PILOT RANDOMISED CROSS-OVER TRIAL (LOVE-HF)

Background/Introduction Early detection of worsening congestion in heart failure (HF) patients can prompt timely interventions and potentially decrease hospital admissions. Accordingly, standard care recommendations include the monitoring of symptoms and daily weighing at home. However, most patients with worsening HF do not appear to weigh themselves during the weeks prior to the hospital admission. Up to half of hospital admissions were associated with moderate to severe peripheral oedema and that oedema was strongly associated with subsequent prognosis. This suggests a missed opportunity for clinicians to respond rapidly to early changes in congestion.

Purpose A camera-based technology linked to artificial intelligence software for remote home-monitoring of lower-leg volume was developed, that, unlike daily weights, does not require patient adherence. The main aims of our pilot randomised cross-over trial were to determine the feasibility of data-collection and blinding of randomisation and to estimate event rates to inform the design of future trials of the AI device.

Methods Single-centre, pilot, double-blind, randomised cross-over trial in patients with HF at increased risk of decompensated HF requiring hospital admission. The main outcome measure was the proportion of participants that provided information on each available study day (ie: on the days they were alive and out of hospital over 30 days) of leg volume
Patients received guideline-recommended care and were asked to report worsening symptoms or weight gain. Patients were randomly assigned to having device monitoring data concealed or disclosed to a physician (as alerts) for two periods of 30 days.

**Results**

Between March and June 2021, we enrolled 27 patients (median [IQR] age 75 years [63–78], 41% women, 48% with a left ventricular ejection fraction >50%). For each monitoring period, participants accrued 29 days alive and out of hospital. Only 37% of patients weighed themselves on at least half of days; the median [IQR] number of days with available weights was 8.5 [0–21.5]. Substantially more patients (74%) had lower-leg volume measured on at least half of days; the median [IQR] number of days with available lower-leg volumes was 25 [16–29]. There were 4 hospitalisations from 4 patients in the monitored group (vs 7 hospitalisations from 4 patients in the unmonitored group). There were no deaths in the monitored group (1 patient died in the unmonitored arm).

**Conclusion**

This pilot trial suggests that measurements of leg-volume are more likely to be acquired than weights for patients with HF. Given that weight monitoring is routinely recommended in HF management, this finding represents a potentially significant improvement over standard care.

**Conflict of Interest**

This work was supported by a research grant with funding provided by Heartfelt technology-the company which manufactures the AI device.

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**Background**

In the UK, approximately half of patients with heart failure and a reduced ejection fraction (HFREF) are discharged from hospital on triple therapy (angiotensin-converting enzyme inhibitors (ACEI) or angiotensin receptor blockers (ARB), beta-blockers (BB), and mineralocorticoid receptor antagonists (MRA). It is unknown what proportion of patients would be eligible for uptitration of medicines prior to discharge, nor how many might be eligible for initiation of sacubitril-valsartan or sodium-glucose co-transporter-2 inhibitors (SGLT2I).

**Methods**

Between 2012 and 2017, 1,277 patients admitted with suspected heart failure were enrolled at a single hospital serving a local community around Kingston-Upon-Hull, UK. Eligibility for sacubitril-valsartan or SGLT2I was based on entry criteria for the PIONEER-HF, DAPA-HF and EMPEROR-Reduced trials.