

Heart Failure virtual ward safely reduced acute length of stay: preliminary data on first 183 patients.

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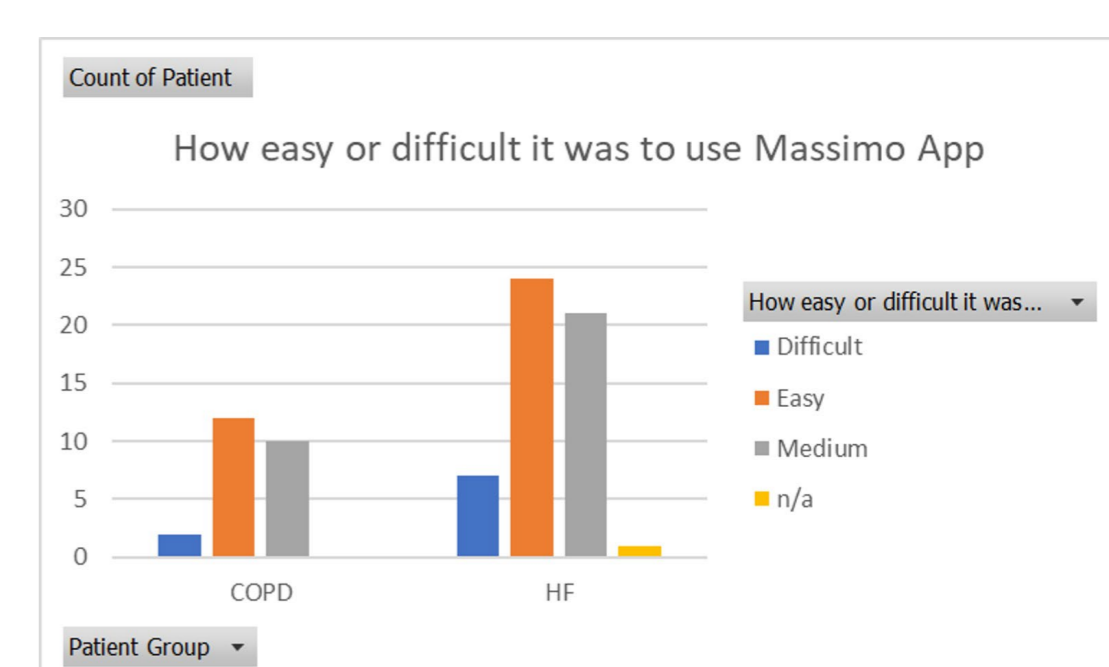
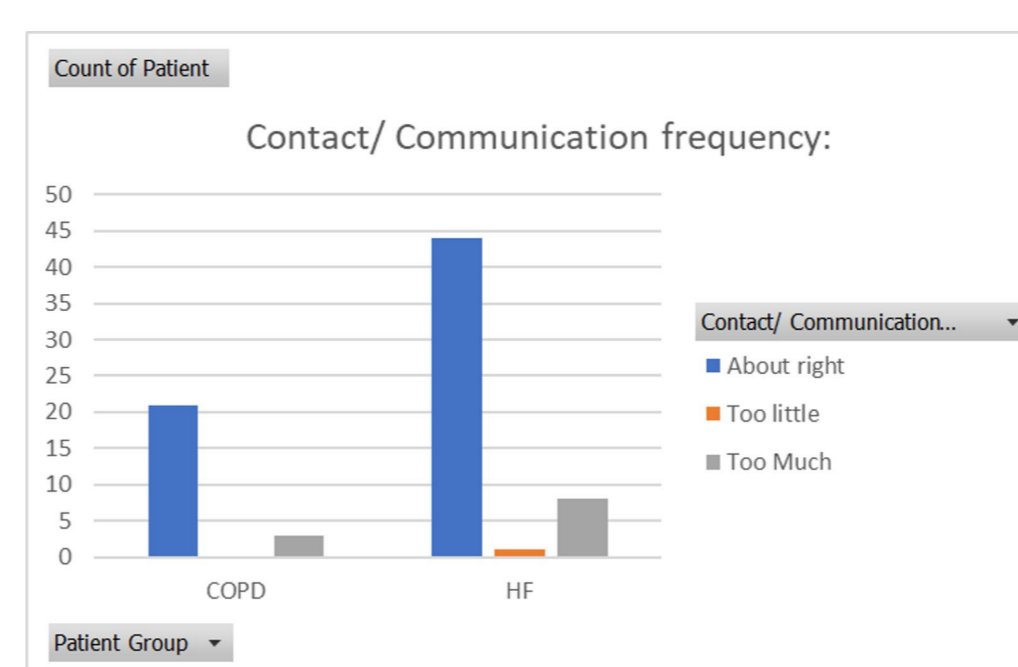
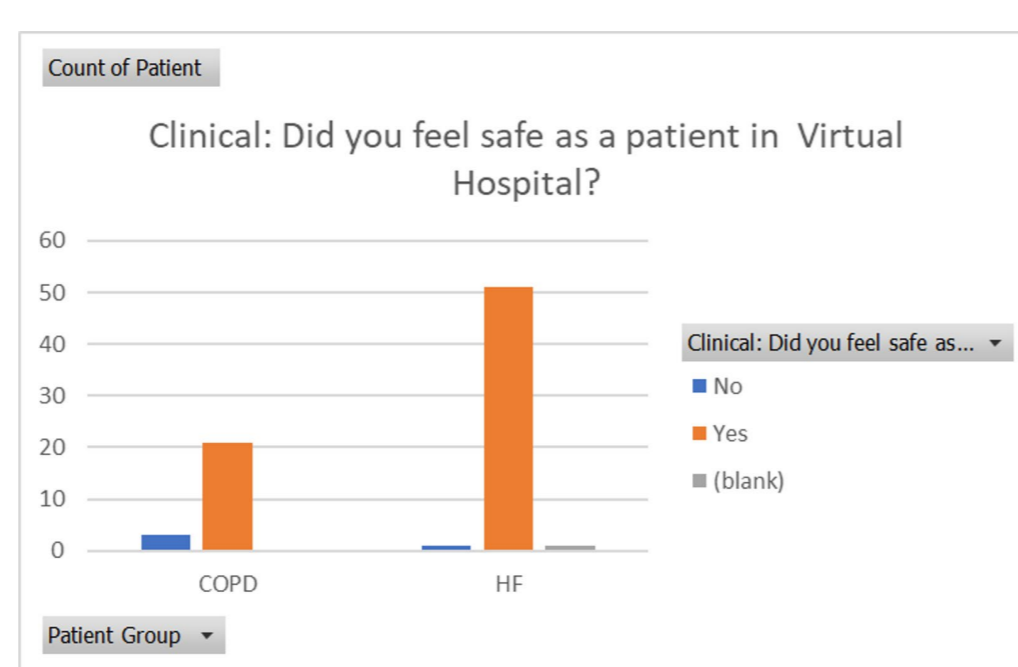
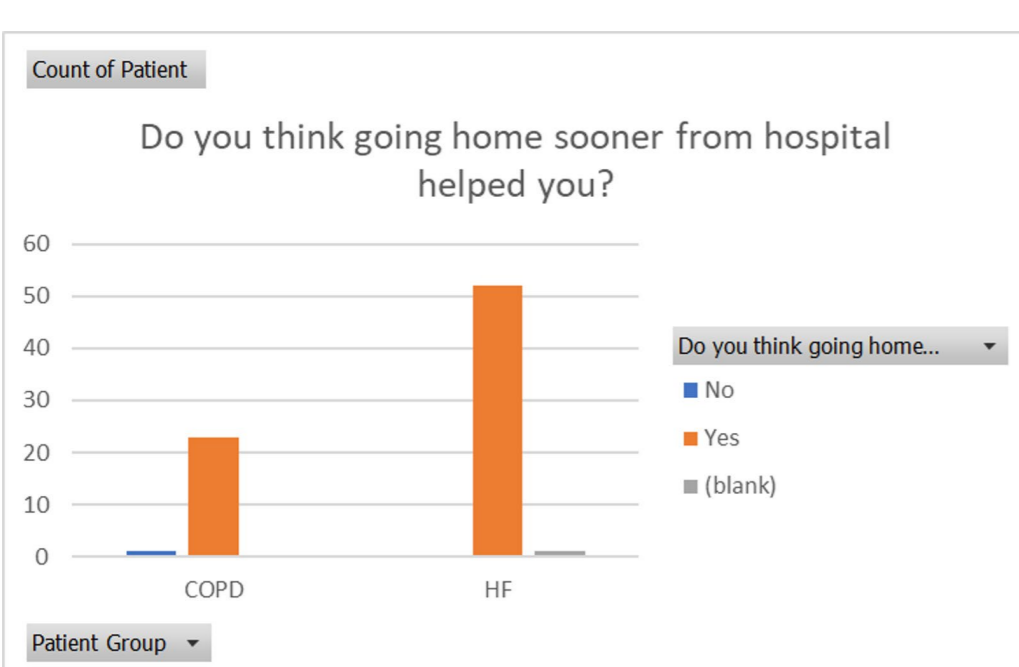
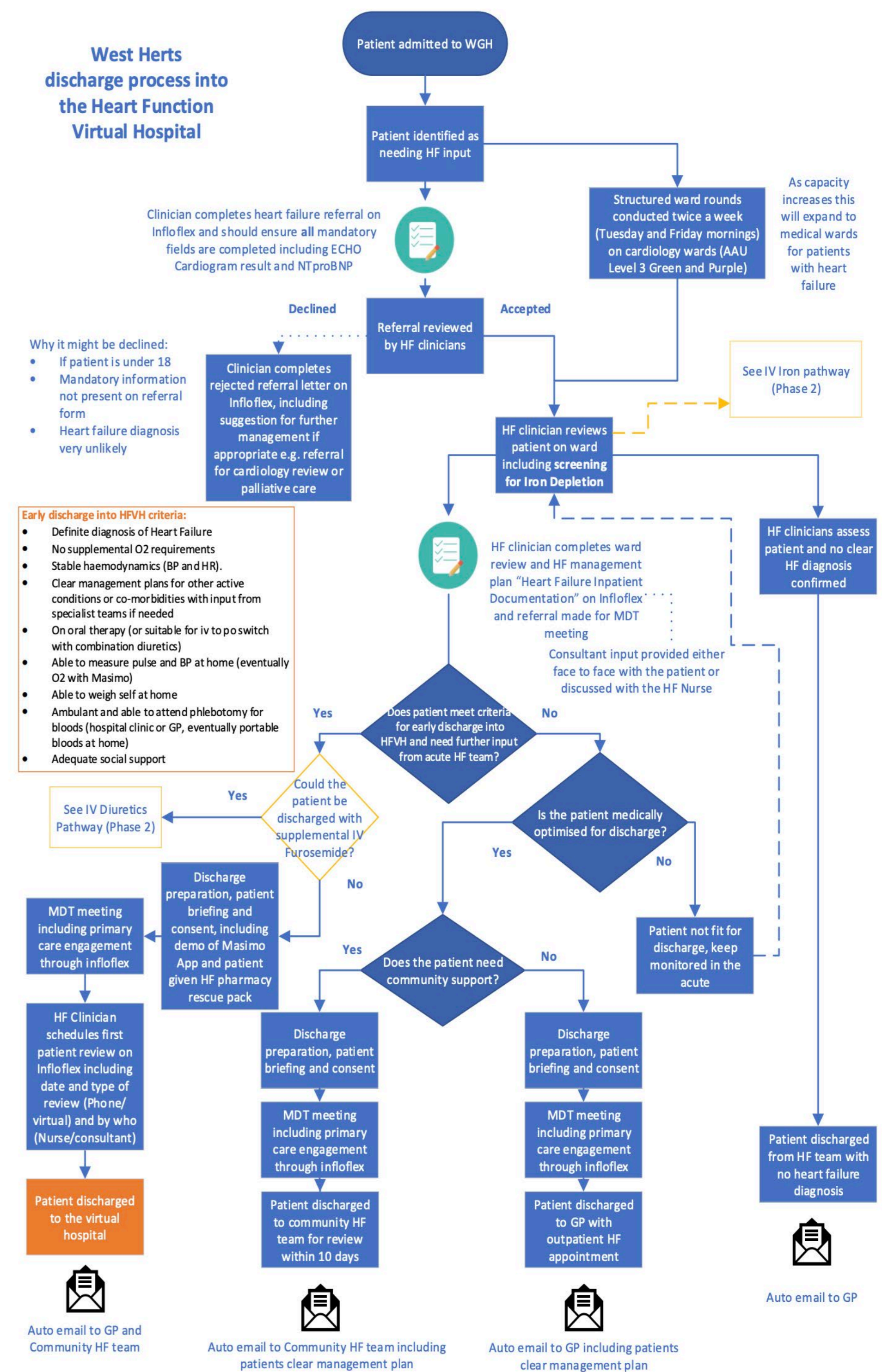
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Background Virtual wards are recommended by NHS England to reduce length of stay and to avoid admissions. This model of care can be highly acceptable to patients and may reduce healthcare expenditure. However virtual care could potentially lead to higher readmission rates and clinical safety is vital. There are limited data on length of stay (LoS), readmission, safety and patient acceptability for heart failure virtual wards.

Purpose To present our data on length of stay, readmission rate and patient experience with our virtual hospital, one of the first datasets of its type.

Method Our Heart Failure (HF) Virtual Hospital (VH) was designed by the local Integrated Care Service consisting of representatives of the Acute Trust (West Hertfordshire Teaching Hospitals) Community Heart Failure services (Central London Community Healthcare), and primary care. Clinical pathways were approved by all stakeholders and a central VH monitoring hub was established. Roll out took place in two phases: 1) early discharge, 2) admission prevention. Any patient admitted with HF was eligible for onboarding. After review by the HF team, patients were onboarded by the hub team. Patients were given a tablet loaded with the Masimo monitoring app, with Bluetooth enabled BP machine, O2 saturation monitor and weighing scales, and in addition Alivecor if in Atrial Fibrillation. Weight was recorded daily. O2 saturation, BP, heart rate and rhythm 3 times per day. Observations were sent to the hub by the app. Patients answered a 10-point questionnaire daily on the app and were contacted daily by a specialised HF VH nurse. Daily virtual ward round was carried out by a HF consultant. HF therapy was optimised, blood tests monitored diagnostic tests carried out as appropriate. Patients were discharged from the HFVH to the Community HF team when stable. Admission prevention patients were identified from the Rapid Access Heart Failure Clinic or from Community HF nurse reviews. Patients were invited to anonymously fill a satisfaction questionnaire at the end of their VH stay.

Results A total of 183 patients were onboarded from December 2021 to end August 2022. 113 (61.7%) were males, median age was 74 years old (range 17 to 93). Median NTproBNP was 5520pg/mL (220-35 000). In patients onboarded into HFVH after an acute admission, mean acute LOS was 5.8 (standard deviation=5.3) days compared to 9.1 (10.4) days in HF patients not onboarded into VH (36% reduction; p=0.008). Between January and June 2022, a total 125 patients had been discharged after a VH stay. During the same time period, a total of 445 patients had been discharged home from the acute with a primary or secondary diagnosis of HF without VH support. There were no deaths during the VH stay. There were 3 deaths (1.6%) within 30 days of discharge from VH. Readmission rate into the acute at 30 days follow-up with a primary HF diagnosis was 3.2% (n=4) in the VH group compared to 3.6% (n=16) in the non VH group (p=0.830). Of the 4 VH readmissions, 3 had been directly planned from VH. Readmission rate for all causes was 9.6% (n=12) in VH group vs 15.5% (n=69) in non VH group (p=0.095). Finally, patients satisfaction was excellent.



Discussion and Conclusions

This is one of the first reports on HFVH in the UK. Acute LOS was on average 3 days/36% less. There was a trend towards reduced readmissions rates. The 30-day death rate of 1.6% is as expected in this cohort, so there is no signal on safety. There was a high degree of patient acceptability. If these results were replicated in larger cohorts HF VH could result in major savings in terms of IP LOS with no concerns re safety and excellent patient satisfaction.