



Recap Health

Florence



University Hospitals  
of North Midlands  
NHS Trust

## Case Study: Heart Failure

Cardiology Department – Royal Stoke University Hospital UHNM



### Introduction

Heart Failure is a serious long-term condition which can result in frequent A & E visits and hospital readmissions. It has been estimated that in 2014 more than 900,000 people suffered with the condition in the UK and more than 80,000 patients are admitted to an NHS hospital with heart failure every year.

UHNM is a regional centre for cardiology and cardiothoracic care. As part of an independent study funded by NHS England, two digital tools – **Recap Health** and **Florence** (Flo) – were used to monitor and educate heart failure patients following treatment for decompensated heart failure.

*This initiative was supported and funded by NHS England via the Test Beds programme, where innovative digital tools are used to tackle the biggest problems faced by the NHS, and to improve outcomes for patients.*

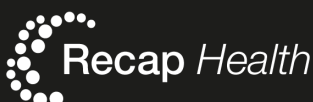
***“About 1,000 heart failure patients a year are admitted to University Hospitals of North Midlands. The combination of digital tools was introduced to help reduce A & E and hospital admissions for patients with chronic heart failure, helping to reduce pressures on services and provide a better experience for patients.”***

Dr Dargoi Satchi,  
Project Lead and Cardiology Consultant at Royal Stoke University Hospital UHNM

***“By coordinating community based interventions with patients who can record any deteriorating symptoms we are preventing unnecessary trips to hospital. The digital tools enhance patient knowledge and their ability to self-care, using bespoke patient education materials and referrals to appropriate third sector services.”***

Sarah Piggott  
Programme Manager Transformation Team UHNM

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How It Works Video  
W: [recaphealth.com](http://recaphealth.com) E: [info@health2works.com](mailto:info@health2works.com)



## Objectives

The study sought to:

- Assess whether the two digital platforms, operating in a coordinated way, could produce cost savings for the Trust and the NHS generally. Readmission to hospitals are costly and divert resources away from urgent care that is more needed.
- Determine whether readmission rates could be reduced by monitoring patient health post discharge in a personalised way
- To improve patients' knowledge about their condition so they are more motivated about their health and better able to self-care
- To improve the 'patient experience' of heart failure services

### ***Recap Health and Flo – The Digital Tools Used***

#### ***How does Recap Health work?***

Patients often lack good information about their diagnosis, treatment options and support needs. This affects their ability to cope well after discharge from hospital. Clinicians may provide some basic information to their patients, but there is no way of assessing whether they have viewed the materials or how useful they have been.

Recap Health addresses both these issues. Through a simple to use digital platform, clinicians share relevant educational information (videos, links to trusted third party web pages and leaflets), with their patients. Because it's digital, they can easily see whether the information has been viewed by each patient and what their patients say about the usefulness of the materials they have received.

#### ***How does Flo work?***

Flo's friendly persona interacts with patients via their own mobile phone with personalised and targeted psychology-based messaging to motivate and engage patients post discharge to self-manage better. The tool works on any mobile phone (not everyone has a smartphone), and connection to the internet is not needed.

**Telehealth coordinators** were used in the implementation of the digital platforms. These were non-clinicians who enrolled patients, helped them with any problems using the digital platforms and responded to text messages from patients to determine whether an intervention was needed.

## Methodology

103 patients with decompensated heart failure requiring inpatient or ambulatory intravenous diuretics were enrolled on to the project during a nine month period. Of these 103, 76 used Recap Health, 90 used Flo and 61 used both platforms.

Clinicians used Recap Health to share locally approved healthcare information with patients. They were able to send a variety of materials about heart failure – webpages, links to trusted videos and leaflets etc. These materials covered diagnosis, interventions, tips for coping with related anxiety, along with patient stories about how to live as full a life as possible with the condition.

Patients logged on to the platform whenever they wished to see their information. They could share digitally any material with family and friends, provide feedback and rate how useful the information had been. Clinicians saw at a glance which of their patients had viewed what and the platform sent timely reminders if a patient had not yet looked at any information.

Flo evaluated patients' own assessment of their individual symptoms and progress post intervention/treatment via a symptom checker. Patients responded to simple qualitative questions such as, "Do you feel better, the same or worse to how you felt when you last texted?", via an interactive texting service on their mobile phones. Non-clinicians (telehealth coordinators) monitored responses from patients (red/amber/green and feeling better/same/worse), with red/feeling worse being key indicators for readmission.

At the end of the three-month trial, results were compiled from:

- Responses to a telephone survey, which asked how patients had found being part of the digital programme
- The self-efficacy score from the Kansas City Cardiomyopathy Questionnaire (KCCQ) was used as a marker of self-management knowledge of heart failure

*The KCCQ is a well-known validation tool in the assessment of heart failure, for more information click here.*

## Results

### **Cost savings:**

Cost saving are based on the assumption that one hospital readmission costs in the region of £3,000. The reductions shown in this study, if replicated at a greater scale, could deliver financial savings of up to £1.5 million per annum to UHNM NHS Trust alone, providing all heart failure patients are able to access Recap Health and Flo.

If this project were to be replicated in all NHS Trusts offering in-patient heart failure services, total savings to the NHS of up to £50 million per year are achievable. Reducing readmission costs allows for the reinvestment of funds into other services such as urgent care facilities.

- **Readmission rates:**

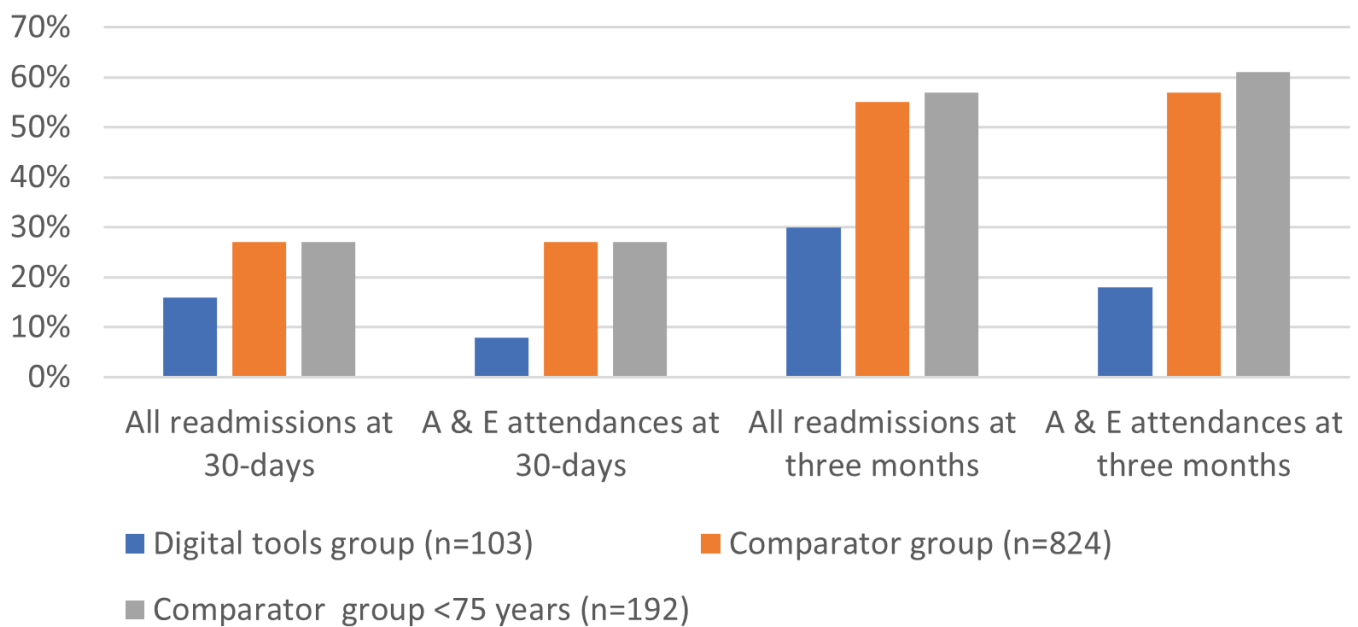
The trial shows that these two digital tools have the potential to reduce all cause readmissions in heart failure patients by a significant amount.

***“In comparison to a usual care hospitalised group, our trial significantly reduced admissions to hospital at three to six months after discharge as well as significantly reducing admissions into our emergency department. This has had an impact on an already pressured service and ensured patients were better supported through targeted and faster access to treatment before they became unwell and needed hospital treatment.”***

Sarah Piggott

Programme Manager Transformation Team UHNM

### Readmissions and deaths at 30-days and three months according to project group



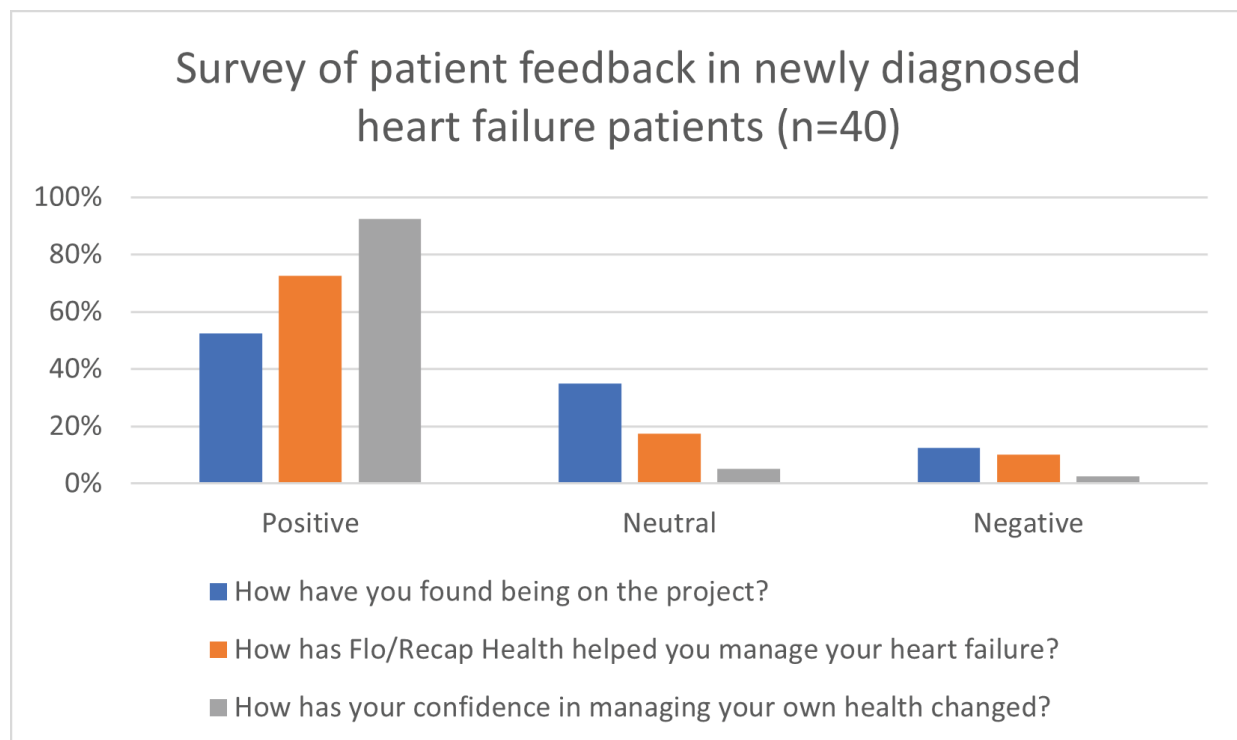
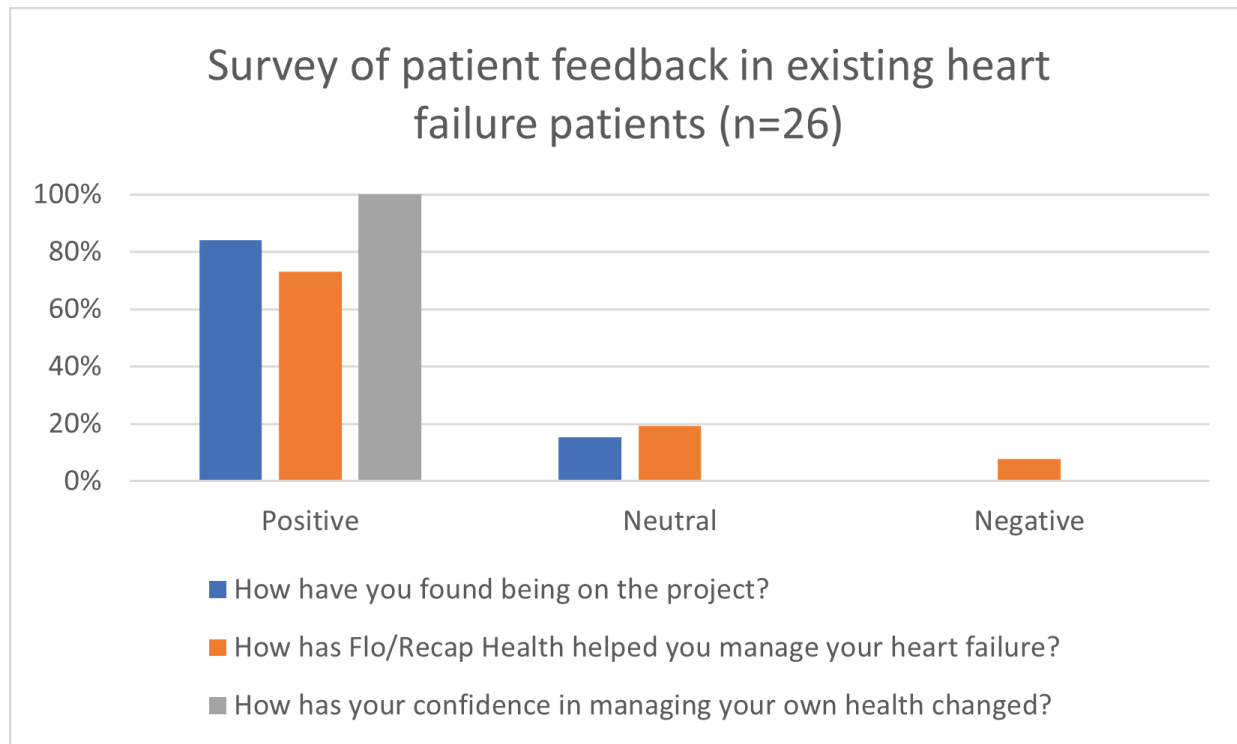
- ***Patients using both Recap Health and Flo together were 42% less likely to be readmitted to hospital within six months, compared to similarly aged patients***
- ***The overall reduction in hospital all-cause readmissions recorded in the test group dropped from 94% to 52%***
- ***All-cause readmissions into A & E was 34% at six months post-discharge, compared to the usual care group rate of 100%. This is a risk reduction of readmission into A & E of 66%***

## Self-care and the patient experience:

The patients' response to using these two digital products was very positive and the data shows that patients are more confident in the management of their condition. Using KCCQ, (as outlined in the methodology section), 77% of patients on the study reported a significant increase in self-efficacy scores at three months.

Patient feedback:

- **92%** of patients said they were more confident in managing their condition
- **73%** reported that Recap Health and Flo had helped them manage their condition



## Recap Health and Flo work great together

*"Getting all the information online is a big plus. Not knowing anything about your illness is worrying. Now, I can check on my symptoms and I can look up my meds and what they do. Also the daily texts keep me on top of my symptoms."*

Heart failure patient talking about using Recap Health and Flo.

Patients felt that they improved their ability to manage their own health at three months. They felt supported by using the digital tools and also felt they had a good or better experience of the management of their own health condition.

Patient feedback (via Recap Health):

- 82% of patients using Recap Health rated it as very useful or useful

*"I've been sent lots of useful information and feel much better informed about my condition and medications. At first, I wasn't bothered about watching the videos sharing other people's experiences, but soon found how much comfort I drew from them when I realised they felt like I was feeling."*

Heart failure patient on using Recap Health.

*"It helps to know that you are still being monitored away from the hospital. I feel I'm not alone in coping with my condition and I'm reassured that help is not far away if I need it."*

Heart failure patient on using Flo.

***"The trial has demonstrated an improved experience of the heart failure pathway in patients previously known to the heart failure service. Patient benefits include the detection of early signs of deteriorating health, education prescribed by the clinician that is tailored for the patient and in a language the patient understands which builds up confidence in managing their condition and their self-management. There is consistency in what information is given to patients from clinical staff and measuring compliance to care plans."***

Dr Dargoi Satchi,  
Project Lead and Cardiology Consultant at Royal Stoke University Hospital UHM

## Conclusion

The results of this project clearly show that there are opportunities to use digital technology to personalise self-care and to educate patients in a way that is acceptable to them. Digital tools can have a positive impact on heart failure care, reducing readmissions and the use of community resources. They can also motivate patients to improve their health and ability to self-care.

- The interventions delivered by Recap Health and Flo have helped to reduce the number of hospital readmissions in heart failure patients significantly at three and six months post-discharge.
- The Trust (UHNM) could make large financial savings if the operational practices used in this study are continued and extended to all in-patient heart failure patients.
- If replicated nationally, the NHS could yield significant savings, especially if the two digital tools have a similar impact on patients with other long-term conditions, for example, COPD.
- The majority of patients in the study felt they could self-care much more effectively.

***“At UHNM we already have a strong reputation for caring for heart failure patients but our project has highlighted that by enabling the uptake of latest technologies and digital tools we can support patients to have the best experience and outcome while also being cost effective and efficient for the NHS. We have demonstrated a whole systems approach and understanding of long term condition care, delivering a model for sustainable community investment to benefit patients and acute care provision.”***

Dr Dargoi Satchi,  
Project Lead and Cardiology Consultant at Royal Stoke University Hospital UHNM