



About the Innovator

Norma Caples has over 20 years' experience working in cardiology. The last 8 years have focused on heart failure, where she works as a Clinical Nurse Specialist and Registered Nurse Prescriber at University Hospital Waterford. She is currently the lead nurse for The National Heart Programme in Ireland.

Norma has a keen interest in solving problems in healthcare, her ideas are always focused on improving outcomes for patients and she has submitted many innovative ideas to HIHI in the past. Norma is a true clinical entrepreneur!



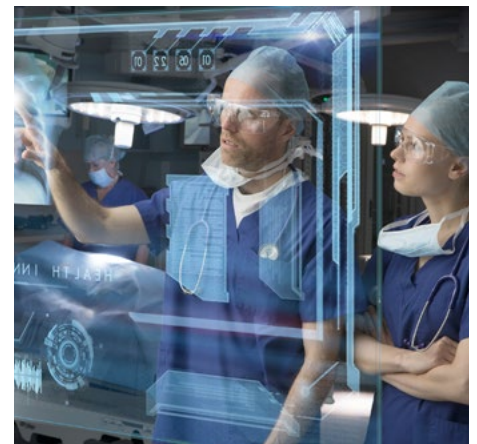
About Health Innovation Hub Ireland

Health services in Ireland and across the world are increasingly seeking innovations in health-related technology, products and services to drive improvements in the quality, access and value of healthcare delivery.

Health Innovation Hub Ireland (HIHI) brings enterprises and healthcare professionals together to **test, validate and help commercialise** innovative technologies, products and services, while enabling greater innovation in healthcare delivery.

HIHI supports the building of an **innovation culture** within the **health service** through a suite of knowledge building resources and guidance for healthcare professionals on the key steps from ideation to adoption.

HIHI works with those with ideas that address unmet healthcare needs to develop new products and processes within the healthcare system and stimulate a pipeline of new needs-driven innovations for the future.



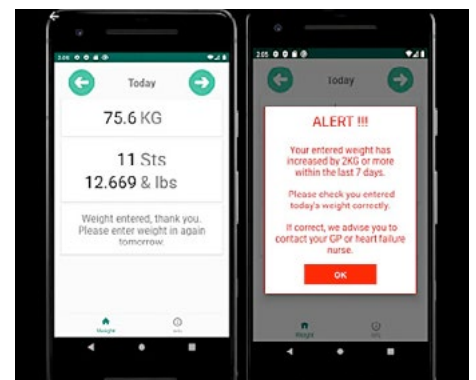
The Healthcare Challenge

Heart failure (HF) is a chronic condition that can lead to deterioration in functional capacity and quality of life. It is associated with significant morbidity and mortality risk. There are about 90,000 people diagnosed with HF in Ireland and another 160,000 living at risk of HF. HF is responsible for significant morbidity, a three-fold increase in hospitalisations and poses a significant cost to the health service.

Fluid retention, manifested by weight gain is indicative of HF. Prompt identification of weight gain before symptoms manifest, coupled with rapid intervention are key to optimising successful patient outcomes and reducing associated healthcare costs.

A weight gain of 2 KG, or more, over a 7-day period is an internationally recognised indicator that a patient is deteriorating and intervention is required. As part of routine care in

Ireland, patients with HF are required to record their daily weights, calculate weight gain and to alert their clinical teams when weight gain exceeds 2KG over 7 days. However, up to 66% of HF patients have mild cognitive impairment, with a reduction in numeracy and cognition skills resulting in an inability to recognise weight gains. **Assisting patients identify an increase in weight would encourage them to seek help sooner, leading to earlier intervention and improved clinical outcomes.**



The solution

Fluid Heart Tracker is a simple mobile phone app to record weight and alert the user to a significant weight gain. The app is available at:

irishheart.ie/news/new-app-launched-for-heart-failure-patients/

Fluid Heart Tracker is unique in its simplicity. It was designed in conjunction with those living with HF, and is intended to trigger patients to seek clinical help when their weight is increasing.

The user enters daily weight measurements on the app, if a significant increase in weight is detected an alert message appears on the screen to contact the HF services or GP. This removes the patient's need to recognise/calculate an increase in weight. The app reduces the risk of unidentified deterioration in heart failure, and allows for early intervention, a reduction in hospital admissions, an improvement in clinical outcomes and a reduction in healthcare costs.

There is a potential cost saving to the HSE of €15,000 per HF patient per year using the app. Based on 2018 HF admissions of 5800, there is a potential saving of €87 million to HSE on per annum.

About HIHI Spark Ignite

The Health Innovation Hub collaborated with the Office of Nursing and Midwifery Service Development, National Doctors Training and Planning, and the Galway Local Enterprise Office to deliver the only bottom up, staff facing, innovation competition open to all HSE staff. The programme received over 150 applications from all disciplines and grades across the HSE.

Thirty-six applications were selected to attend an innovation workshop to develop their idea by building a business proposition and preparing a pitch. The workshop participants pitched their ideas to a panel of experienced judges to win prize funding to develop their idea towards reality.

Outcome Report/ Next Steps

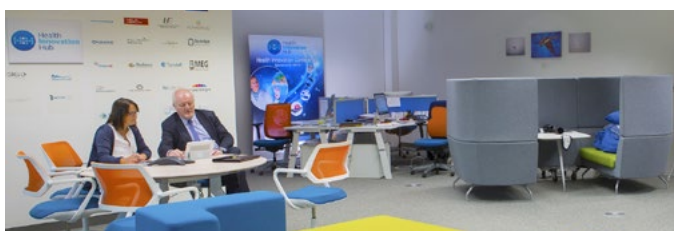
A pilot study of the App on 31 users identified that the App was easy to use, provided benefit to users and is something that they would recommend to others. Norma is now conducting a follow-on study as part of a PhD thesis under the guidance of Dr Mary Mooney and Dr Gabrielle McKee from TCD.

The App was launched on the Irish Heart Foundation (IHF) website. The App is free to download from the IHF website, Apple's App Store, and Google Play, or by this QR code.



Role of HIHI

Through the Spark Ignite competition, Norma Caples developed her ability articulate the business proposition for her innovative idea. Norma identified all the relevant stakeholders and determined what the problem meant to them. This information facilitated the development of a user friendly, intuitive, and simple solution with benefits for all stakeholders. Patients and carers are empowered to manager their condition in real-time. This self-care model supports a community based care methodology with the potential for earlier intervention, better patient outcomes, reduction in hospital admissions, and the associated cost savings.



Testimonial

Nurses are natural innovators. We are often faced with challenges on how to provide best care for the patient and therefore we become experts at problem solving. The challenge I found with an idea for a solution, is where or who to go to, to explore if the idea for a solution is worth developing. A lot of great ideas from nurses have been lost to lack of knowing on how to develop or explore these ideas for solutions. I was so excited when I read about the HIHI Spark Ignite competition. I had found a way to have my idea heard by those who had the skills to help me. This platform provides the opportunity for creditable ideas by nurses, health care and allied health professionals, to be developed into much needed solutions.

This will improve the healthcare system for the patient, healthcare workers and HSE. The competition taught me the skills of how to pitch my idea and move an idea forward, through mentoring provided by HIHI. I will use these invaluable skills throughout my nursing career.



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