



Health
**Innovation
Hub** Ireland



Innovation Showcase



20 Healthtech Innovations to watch in 2022

HIHI Connecting Innovation and Healthcare

Health Innovation Hub Ireland FIVE YEARS AT A GLANCE

Feb 2016 - Feb 2021



HEALTHCARE

INNOVATIONS FROM HEALTHCARE STAFF

+500

HEALTHCARE
STAFF
IDEAS

+150

HEALTHCARE
INNOVATION
SITES

+100

IDEAS
PROGRESSING



ENTERPRISE

INNOVATIONS FROM COMPANIES

+100

PILOT
PROJECTS

+400

SUPPORTED

+800

COMPANY
ENGAGEMENTS



EDUCATION

CREATING INNOVATION CHAMPIONS

34

PG Dip
GRADUATES

+1,000

INNOVATION
TRAINING
SESSIONS

+150

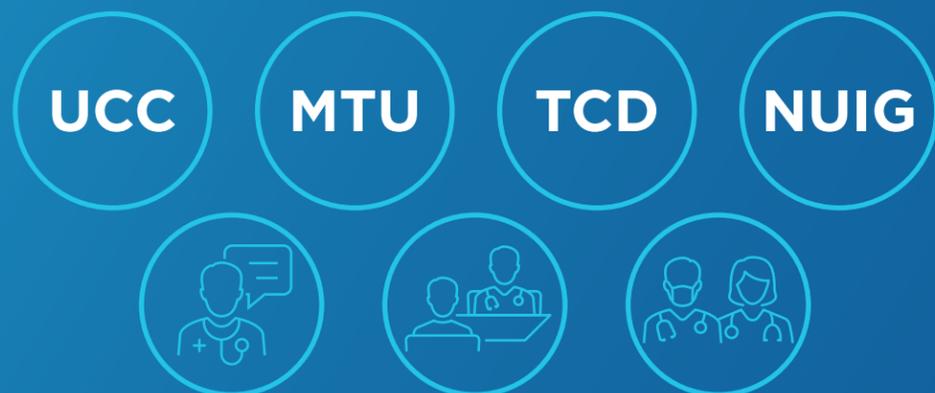
WORKSHOP
ATTENDEES



HIHI Clinical Partners



HIHI University Partners



*MOIC and HIRANI



Mr Stephen Donnelly, TD

Minister for Health

“I am delighted to support the Health Innovation Hub Showcase. Ireland’s Health Innovation Hub provides a valuable platform bringing together the health sector and healthtech companies to develop new technologies, products and services with the overall aim of improving Ireland’s health service for all of us. A key ingredient in this collaboration is the link to leading health professionals and clinicians to pilot and test these innovative solutions addressing unmet clinical needs. This Innovation Showcase highlights some of the exciting work underway in 2022.”

Mr Leo Varadkar, TD

Tánaiste and Minister for Trade, Enterprise and Employment

“Ireland is becoming world renowned as a centre of excellence in healthcare innovation. We are home to most of the top biopharmaceutical and medical devices companies in the world and have developed a really strong talent pool as a result. Many indigenous Irish companies have also been established and are leading on some really exciting new technologies and contributing massively to better patient outcomes. This brochure from Health Innovation Hub Ireland highlights 20 with huge potential.”

Mr Paul Reid

Director of the Health Service Executive (HSE)

“I am delighted to see the support Health Innovation Hub Ireland gives healthcare companies to innovate and develop key changes in this sector. Digital technologies and innovations offer the potential to transform our national healthcare system in support of Sláintecare.”





John R. Higgins

Professor of Obstetrics and Gynaecology,
University College Cork

Clinical Director, Ireland South Women & Infants
Directorate, HHI Lead Principal Investigator

“At Health Innovation Hub Ireland, our goal is clear – Ireland can lead the way in providing ideas and solutions that will directly benefit the Irish healthcare system but will also be applicable to healthcare systems across the world. Through HHI, the 20 innovations showcased have demonstrated impact and value in healthcare. Over the next five years, HHI will continue to support innovative solutions that directly align with Irish healthcare needs, we will enable an innovation culture in healthcare through technology and people and will support the economy by driving the growth of new healthtech companies.”



Mr Leo Clancy

CEO of Enterprise Ireland

“Enterprise Ireland is proud to support Ireland’s innovative healthcare companies to design and deliver competitive solutions to global healthcare challenges. The Health Innovation Hub successfully supports access to the world class clinical knowledge and expertise within the HSE for the benefit of Irish companies and patients. The Showcase highlights the important work of the Health Innovation Hub and the exceptional talent of Irish industry.”



Mr Dave Shanahan

Chair of the National Oversight Group,
Health Innovation Hub Ireland

“Ireland is yet to fully exploit the intersection between our healthcare delivery, research and industrial sectors. HHI is a vehicle which catalyses new ways of working to enable these domains to collaborate and innovate together. This showcase of HHI projects demonstrates the benefits to enterprise and healthcare.”



Health Innovation Hub Ireland Connecting Innovation and Healthcare



Over the past five years, Health Innovation Hub Ireland has supported more than 400 healthtech companies, guiding their innovation journey, providing clinical assessment and feedback and delivering pilot studies of their products in healthcare.

At HIIH - Driving healthcare innovation is in our DNA

The application of innovations in healthcare leads to better patient outcomes, efficiencies and a supported healthcare system. The HIIH team works closely with the Irish healthcare system to deliver needs driven innovations. Our projects have been delivered in Irish healthcare sites nationally - in HSE acute, primary and community sites, in private healthcare, in pharmacies and GP practices and directly with the public.

At HIIH - We improve healthcare through innovation

We work with emerging and growing Irish companies who are providing solutions to address unmet clinical needs. Those who succeed will impact healthcare outcomes, export their products, create jobs, impact the

Irish economy, inspire new innovators and ensure that Ireland is a world leader in the delivery of healthcare and in the development of innovative healthtech.

At HIIH - We support and guide Ireland's healthcare innovation industry

Here is a snapshot of 20 of these inspiring healthtech innovations.

Health Innovation Hub Ireland is privileged to be part of our healthtech ecosystem and will continue to drive collaboration, agility and vision to ensure that innovative Irish healthcare solutions have an impact on Irish healthcare and patient experience.

Dr Tanya Mulcahy
HIIH Interim Director





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HIHI Pilots

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Ostoform

Founder

Kevin Kelleher

Location

Co. Westmeath

ostoform.com

Clinical Need

An ileostomy is where the small bowel (small intestine) is diverted through an opening in the abdomen. The opening is known as a stoma and the skin around the stoma is known as peristomal skin. With all ileostomies, there is a risk of stoma output contacting the peristomal skin and causing irritation. A clinical solution was required to prevent the development of peristomal skin complications.

Healthcare Access

HIHI delivered two clinical non-randomised investigation studies of the Ostoform product. The studies ran across multiple sites; Tallaght University Hospital, St James' Hospital Dublin, University Hospital Galway, Cork University Hospital and Mercy University Hospital Cork. The results of these studies were submitted to address the criteria for application to the HSE Primary Care Reimbursement Scheme (PCRS).

Product and Solution

The company developed the Ostoform Seal, a Class 1 medical device, designed to prevent the development of peristomal skin complications and ensures that stoma output flows away from the skin, keeping it safe, healthy and comfortable.

Company Growth

Since working with Health Innovation Hub Ireland, the Ostoform Team has grown from three to eight. The product has received FDA and CE approval and is revenue generating. Ostoform is part of a consortium which received €2.67m through the Disruptive Technology Innovation Fund managed by the Department of Enterprise Trade and Employment. Additionally, Ostoform has raised €3m equity from BGF.



Ostoform is supported by Enterprise Ireland





My OT & Me

Founders

Jess Kennedy
Seán Ó Tuama

Location

Co. Cork

www.myotandme.com

Clinical Need

Paediatric Occupational Therapy (OT) is important as it helps children and young people with different abilities to develop the skills they need to perform the purposeful activities that make up everyday life. In Ireland, HSE Community OT Services however are experiencing increased numbers of referrals which is challenging particularly in times of limited resources and long waiting lists.

Healthcare Access

HIHI together with My OT & Me is piloting a new HSE Cork Kerry Community Healthcare (CKCH) Paediatric OT service with thirty children and their families in Cork City who are awaiting OT intervention services. The children and their parents are undertaking a dedicated My OT & Me twelve-week online school skills programme which provides OT services in a timely, efficient and flexible manner and is transferable to other community OT providers in Ireland.

Product and Solution

My OT & Me is an online paediatric occupational therapy resource for children and families who are in need of OT services. The focus is on positive child development, encouraging independence and creating confident children. My OT & Me provides information through high quality videos and resources online as well as physical resource packs (Octobox).

Company Growth

Since working with Health Innovation Hub Ireland, My OT & Me has increased its private client base in Ireland. It has created a new child development service called Gabadoo which provides OT, Speech and Language Therapy and other developmental expertise.





Zendra Health

Founders

Thomas Coleman
David Coleman

Location

Co. Dublin

www.zendrahealth.com

Clinical Need

Many healthcare staff have identified the need for mobile health apps, however they do not have expertise or resources to develop a safe, secure and easy-to-use app. For example, hand therapy teams need an app to support patients recovering from surgery. As hand injuries can affect a person’s ability to work and carry out daily activities, it is important that rehab exercises are carried out regularly and correctly to achieve the best results.

Healthcare Access

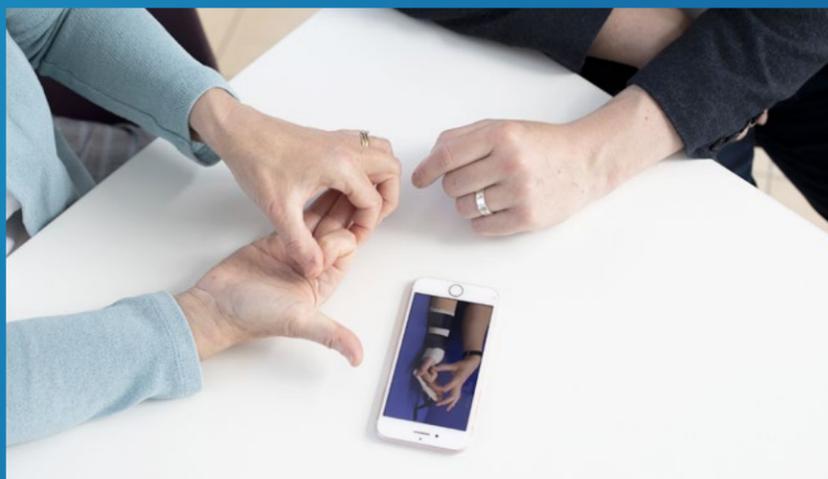
HIHI is supporting Zendra Health to conduct pilots with patients and staff of the hand therapy teams in Cork University Hospital and University Hospital Galway. This affords Zendra Health the opportunity to demonstrate its capabilities to design, develop and manufacture customised health apps in conjunction with the local clinical teams. HIHI has also identified other healthcare teams who require and have budget for mobile health apps.

Product and Solution

Zendra Health’s medical device grade software creates personalised self-management solutions aligning with specific care pathways to provide the right care, at the right time, in the right place. The hand therapy app prompts patients when to do their rehab exercises, how to carry them out correctly and records progress. This helps to improve outcomes and reduces the need to travel to hospital for out-patient appointments.

Company Growth

Since working with HIHI, Zendra Health was ISO 13485:2016 accredited, making it one of the few software suppliers worldwide that is certified with medical device regulatory standards. Zendra Health has also developed health apps for private healthcare providers in Ireland and has tendered for a number of mobile health apps with HSE, as well as expanding into the US market.





Founder
Sonia Neary

Location
Co. Dublin

www.wellola.com

Wellola

Clinical Need

Traditional service models need to evolve in appropriate ways in line with major societal trends - internet, smartphones and other technologies. Healthcare organisations are seeking solutions that will modernise how they care for and communicate with their patients.

Product and Solution

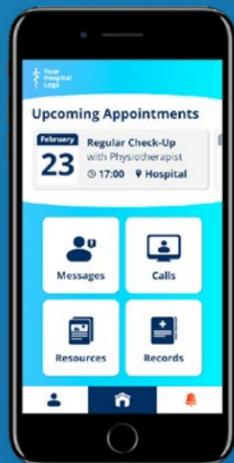
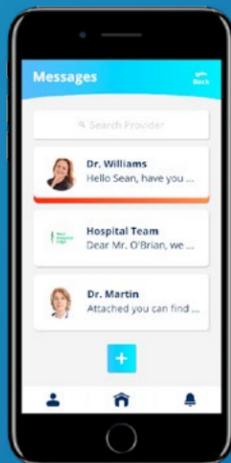
Wellola's end-to-end patient communication platform was designed to 'plug-in' to hospitals, organisations and primary care systems, giving patients access to their medical information (both clinical and administrative), in addition to facilitating remote care delivery via Wellola's video and online consultation tools.

Company Growth

Since completion of the study, Wellola has doubled its team to six. It has had commercial success in a number of areas including securing contracts with BACP in the UK, Nutricia Danone, who service 170 Irish Nursing Homes through the Wellola platform, as well as several mental healthcare charities and providers. Successes in the UK include a partnership with Servelec, a place on the Digital First Online Consultation Video Consultation (DFOCVC) framework and working with NHS Digital and NHS Login to offer additional security and primary care connectivity for users of the platform.

Healthcare Access

HIHI facilitated a pilot study with the Irish Association of Counselling and Psychotherapy (IACP). The HIHI study was designed to evaluate remote psychotherapy and counselling care supported by Wellola. Feedback from end-users was used to inform product improvements and enhancement of the Wellola platform.





Hygiene Audits

Founders

Glenda Hahn
Yvonne O’Loughlin

Location

Co. Kildare

<https://hygieneaudits.ie>

Clinical Need

It can be challenging for those in healthcare management to keep up to date with changing guidelines whilst maintaining hygiene oversight. Healthcare managers are often burdened with time consuming paper-based systems for hygiene workflows, highlighting the need for automation. Paper trails provide a point-in-time solution with limited oversight and are error prone. In addition, due to high staff turnover, there is often a lack of specialist knowledge to maintain up to date audits and cleaning protocols.

Healthcare Access

A HIHI pilot was designed with clinical partner UPMC Kildare Hospital, to evaluate the use of the Hygiene Audits software system to digitise its cleaning, maintenance and auditing system. The HIHI pilot report recorded significant value add and impact across: 1) financial – cost savings 2) efficiencies and time saving, 3) operational benefit and 4) clinical benefits.

Company Growth

The company has received investment through a competitive start funding from Enterprise Ireland, an award from the European Institute of Technology and feasibility support from Naas Local Enterprise Office. Since working with HIHI, the Hygiene Audits product is in use in the Irish healthcare system and is revenue generating.

Product and Solution

Hygiene Audits is a cloud-based hygiene and facilities software solution which helps clinical sites to track and trace infection risks and measure compliance with HIQA National Standards for IPC and World Health Guidelines. Using RFID (radio-frequency identification technology) smart tags the system allows care staff to view, record and evidence location-based actions right down to room level. This includes workflows for housekeeping and maintenance which is monitored by a hygiene auditing system. The Hygiene Audits platform gathers, monitors, and displays the data on a management dashboard.





SyncroPhi

Founder

David Toohey

Location

Co. Galway

www.syncrophi.com

Clinical Need

To enable tracking of patient deterioration and intervention, Ireland (and other countries) operates a National Early Warning Score Clinical Guideline (NEWS). The current NEWS system in Ireland is paper based and error prone.

of these pilot studies, the system was implemented throughout Cavan Monaghan General Hospital. HIHI's assessment of the system on 4 wards demonstrated increased compliance with timing of NEWS recording and demonstrated improved accuracy, efficiency and compliance with the digital KEWS system.

Product and Solution

Syncrophi has developed a digital system to capture NEWS observations that allows easy tracking, auditing and monitoring of scores and subsequent escalation processes for all patients is presented on a tablet which can be viewed at the bedside and at the nurses' station ensuring an overview of all patients. Syncrophi's system (KEWS 300), allows the NEWS observations to be recorded on a digital chart, calculating the NEWS score automatically as well as displaying the appropriate escalation/response.

Company Growth

Syncrophi Systems Ltd is in use in hospitals in the UK, private hospitals in Ireland and since the completion of the HIHI pilots, their KEWS 300 system has been implemented in multiple Irish public hospitals including CMGH (RCSI Hospital Group) and Tallaght University Hospital. They also won a 19-hospital public tender run by the HSE as part of a Winter Covid Initiative. The system can be integrated with other systems to allow ease of monitoring and remote review of charts and escalation status.



Healthcare Access

HIHI ran a pilot study of the KEWS 300 system in St Luke's Hospital Kilkenny, and at Cavan Monaghan General Hospital(CMGH) conducting an error analysis comparing digital to paper based NEWS. Error rates at both sites were reduced from circa 50% to 0 with the digital KEWS system. As a result





ViClarity

Founder
John Ogie Sheehy

Location
Co. Kerry

www.viclarity.com

Clinical Need

Overseeing, auditing and reporting on compliance and risk is a requirement of healthcare organisations. Many hospitals are still relying on manual-based processes and outdated tools such as spreadsheets to manage audit and compliance. Manual processes not only take longer, but they represent an increased risk for human error and reliance on specific employees who have been trained in the unique process, there is no efficient oversight and management often do not have the tools to assess real-time compliance

Healthcare Access

Health innovation Hub Ireland was approached by University Hospital Kerry who required a solution to assist with compliance management. ViClarity, already successful in providing financial auditing systems, developed a healthcare focused compliance and auditing tool. HIHI piloted the system in UHK and subsequently implemented a compliance and reporting tool in Cork University Hospital.

Company Growth

ViClarity currently employees 31 people with 13 based in Kerry and a further 18 in their US offices. They have expanded from one Irish only location to three with offices now in Tralee, Boston and Iowa. Their healthcare compliance tool is used in public and private healthcare in Ireland and in the US and they recently merged with US company Policyworks, supporting their global expansion.

Product and Solution

ViClarity's has developed an all-in-one audit solution. Information is gathered in real-time and displayed on a live dashboard, allowing healthcare facility managers to see any areas of noncompliance quickly and easily. Mitigating actions can be created and tracked in the system, ensuring non-compliant areas become compliant. The system reduces errors, risk and provides management with real-time oversight of compliance - this results in time savings, cost savings and increased compliance.

Criteria	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Unit 11	Unit 12	Unit 13	Unit 14	Unit 15	Unit 16	Unit 17	Unit 18	Unit 19	Unit 20	
Overall Oral Hygiene Audit	83%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	0%
3.1 Has the resident's oral cavity been assessed using a validated assessment tool within the past 3 months?	81%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
3.2 Does the resident's care plan address his/her oral hygiene care needs/preferences?	81%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
3.3 Does the resident have suitable oral hygiene equipment available to them in accordance with their care plan?	81%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
3.4 Does the resident's daily flow sheet correspond with the needs identified in the resident's care plan?	81%	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes								
3.5 Does this resident wear dentures?		No	Yes	No	Yes	Yes															
3.6 Are oral tray /swabs in use?	15%	No	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
3.7 Are oral tissues of oral cavity & lips inflamed, painful, ulcerated & likely to tear?	81%	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No						





HiberGene Diagnostics

Founder

Dr David Corr

Location

Co. Dublin

www.hibergene.com

Clinical Need

The Gold Standard diagnostic for COVID-19 is a RT-qPCR test. There is a high demand for tests globally, with governments, citizens, private and public organisations covering the costs to ensure a safer world during this pandemic. COVID-19 testing is impacted by costs, time to result, specificity and accuracy of the test.

was performed on 100 positive and 150 negative samples, previously tested using another commercially available Sars-CoV-2 RT-qPCR assay kits, all samples were tested with HiberGene’s PCR Adapt test. Samples used were frozen between -18 and -20°C and extracted using standard methods. The results were assessed by the laboratory scientist and concordance value provided for all samples.

Product and Solution

In August 2021, HiberGene successfully completed the CE marking of a new fast molecular COVID-19 test. HiberGene’s PCR Adapt COVID-19 RT-qPCR is a CE marked multi-target SARS-CoV-2 test for nasopharyngeal (NP), oropharyngeal (OP) and anterior nasal swabs. This single tube assay is validated for both direct sample testing and manual/automated extraction. An assay time of 50-70mins enables rapid diagnosis of the disease at the early and highly infectious stage of infection.

The PCR Adapt COVID-19 assay demonstrated excellent concordance (99%) with the other standard commercially available assay kits.

Company Growth

The PCR Adapt COVID-19 test was developed by HiberGene’s Irish-based team and broadens the company’s product portfolio beyond LAMP Molecular Diagnostics, whilst also bringing the number of HiberGene CE-Marked tests to fourteen. The inclusion of tests for SARS-CoV-2 on both LAMP and PCR menus offers customers a broader choice. HiberGene’s CE approved PCR and LAMP tests for SARS-CoV-2 are in use in several private laboratories in Ireland and approved for sale internationally and in Ireland.

Healthcare Access

HiberGene Diagnostics Ltd worked with HIHI to facilitate the assessment of HiberGene’s PCR Adapt COVID-19 RT-qPCR test against two commercially available standard tests.

The Bon Secours Hospital in Cork operates a private SARS-CoV-2 testing facility, with high throughput testing using alternate test kits. A comparison study (facilitated by the Bon Secours laboratory Scientists)





Founder
Bevin Mahon

Location
Co. Dublin

Dental Tech Group

www.dentaltech.ie

Clinical Need

Good oral health is essential to general health and well-being and greatly influences quality of life. Poor oral care has been shown to contribute to pneumonia in older people. Dental caries is more common in older adults and only 7% of people aged over 65 have healthy gums. Maintaining good oral care practices can be challenging for many older people due to frailty, disability, immobility or disease. Many carers experience difficulties in administering oral care to older people and feel inadequately prepared to provide oral care.

Healthcare Access

HIHI supported Dental Tech Group in the development of this programme. HIHI brought together an expert group to validate the content and test it. HIHI applied for and was granted approval from NMBI for the course. HIHI together with Dental Tech Group piloted the approved course with nurses and care assistants. HIHI's expertise and network allowed Dental Tech Group to develop, validate, test and pilot this programme with greater authority, credibility and speed than could have been achieved by Dental Tech Group alone.

Product and Solution

Dental Tech Group has developed a programme for the oral care for older people which includes basic and routine oral daily care with practical solutions. It is aimed at care assistants, nurses, student nurses, family members and older people themselves and consists of blended learning with online interactive modules and offline practical exercises. The Nursing and Midwifery Board of Ireland (NMBI) has approved it for Continuous Education Units, describing it as a simple innovative solution to a great need.

Company Growth

Dental Tech Group makes bespoke high-quality dentures for clients to improve their quality of life, removing stresses around loose dentures and helping them to eat and socialise with confidence while looking great. The Dental Tech Group can now offer its accredited course to healthcare professionals and carers online and provides this training as part of its services to nursing homes.





Salaso Healthcare Solutions

Founder

Aoife Ní Mhuiri

Location

Co. Kerry

www.salaso.com

Clinical Need

Many patients referred by their GPs are waiting for prolonged periods for an initial consultation with an orthopaedic surgeon. A recent study found that over 25 percent of these patients required physical therapy rather than any other investigation or surgery. A need for an alternative care pathway for suitable patients which provides immediate and more cost-effective access to an online rehabilitation programme was identified by healthcare professionals.

Healthcare Access

HIHI is supporting Salaso to run a pilot in Tralee with patients on orthopaedic waiting lists. Following consultation with the orthopaedic consultant, those patients that do not require further investigation or surgery and who are suitable for and would benefit from an exercise programme are enrolled by the orthopaedic consultant on a Salaso programme that they can undertake at home.

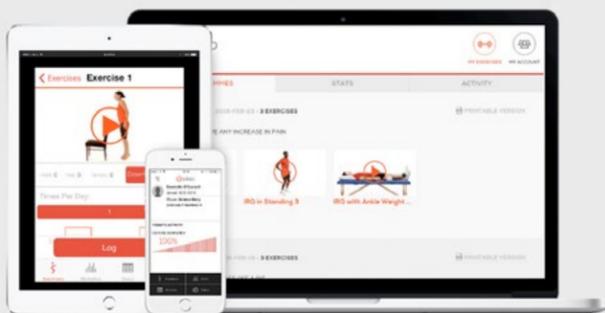
Company Growth

Salaso Health Solutions continues to grow with increased number of employees and offices in Ireland, UK and USA. The Salaso platform was particularly important during the COVID-19 pandemic and was used by hundreds of HSE healthcare staff. Salaso won the SME Most Innovate Product award at the 2021 Healthtech Ireland awards.

Product and Solution

Salaso is an online, mobile application used by healthcare providers and clinicians. It educates and supports patients in performing their prescribed exercises, whether as an in-patient in hospital or outside of the clinical setting. The Salaso care management tool combines multimedia and technology to engage, educate and support patients, employees and sportspeople of all ages and ability levels in building targeted exercise routines and advice into their daily lives.

Monitor your patients, anytime, anywhere, on any device





Yellow Schedule

Founders

Martina and Michael Skelly

Location

Co. Limerick

www.yellowschedule.com

Clinical Need

Due to the pandemic, hospitals across the country needed to limit access to hospitals to protect their patients and staff. South Infirmity Victoria University Hospital, Cork (SIVUH) sought a solution to manage visits for long stay patients. Cork University Maternity Hospital (CUMH) wanted to support safe access to the hospital for partners. Both hospitals needed a visitor scheduling system that was easy to use, minimised risk, pre-screened visitors, enabled contact tracing, minimised queuing and staff-visitor interactions.

Healthcare Access

YellowSchedule worked with HIHI and the clinical teams at SIVUH and CUMH to deliver a solution that addressed their site and discipline specific requirements. A pilot assessment was conducted at both sites and based on the positive outcomes, a system implementation at both sites followed.

Company Growth

Since working with Health Innovation Hub Ireland, YellowSchedule has increased staff numbers and have developed their system further to add multi-language capability, COVID-19 certificate status checking for visitors and are due to launch in 3 additional Irish hospitals in 2022.

Product and Solution

Yellow Schedule adapted their cloud based appointment scheduling system to enable safe visits at both sites. The system enrolled nominated visitors, scheduled visits, enabled pre-screening of patients. Once visitors were approved, a QR code allowed those visitors to enter the hospital, scan the QR code and progress to the visiting location. The system enabled contact tracing, tracking of visitor numbers and locations, minimised touch points and minimised risk for patients, family and staff.





Gasgon Medical

Founder

Vincent Forde

Location

Co. Cork

www.gasgonmedical.com

Clinical Need

Air bubbles in intravenous (IV) infusion drugs are a common cause of risk and disruption for patients and healthcare workers. A patient is at risk if air bubbles enter a vein via an IV line as this can result in serious health complications such as stroke. Removing bubbles can be dangerous when drugs like chemotherapy are being administered. Healthcare workers exposed to hazardous drugs have greater risk of cancer and poorer reproductive outcomes.

Product and Solution

Gasgon is developing a new medical device to remove bubbles in IV lines. Gasgon's AirVault device easily connects to an IV line and automatically captures air bubbles in a sealed chamber. The AirVault device will improve patient safety, ensure patients get the therapeutic dosage, save time, reduce manual handling, reduce exposure to hazardous drugs and enable healthcare providers to meet requirements to protect staff.

Healthcare Access

HHI supported Gasgon by facilitating multiple focus groups with key clinical experts who provided the company with greater insights into the challenges presented by air bubbles, better understanding of which drugs are most problematic and clinical feedback on the design and functionality of the AirVault device. Gasgon also required independent testing of a prototype of AirVault, HHI facilitated this through the ASSERT Centre in UCC

Company Growth

Since working with HHI, Gasgon has improved its prototype and subsequently finalised its design. It is currently carrying out studies with international partners with the aim of getting FDA and CE approval in 2022. The market for the AirVault is likely to grow in 2022 when both EU and USA are expected to enforce new regulations to minimise this risk to healthcare workers from hazardous materials.





Founder
Feargal Duignan

Location
Co. Dublin

PacSana

<https://pacsana.com>

Clinical Need

The share of the Irish population aged 65 and over is projected to increase substantially over coming decades. Accordingly, the demand for health and social care services for older people will increase. Digital healthcare solutions such as wearable sensors are required to augment traditional healthcare services and keep older or vulnerable people living safely at home for longer.

Healthcare Access

HIHI facilitated a clinical evaluation study for PacSana to explore, through expert clinical feedback, potential product application and market value across different therapy areas. Comprehensive clinical feedback was facilitated using the HIHI national network and the close links HIHI has with clinicians and healthcare institutions across the country. Four separate clinical evaluations were completed across acute and community based geriatric and respiratory care settings, with twelve healthcare professionals from a variety of backgrounds participating.

Product and Solution

As a homecare technology company, PacSana provides products to help prolong independent living for older people. The primary sensor is a movement tracker contained in a bracelet. The PacSana bracelet sensors provide critical insight and understanding of users' movement and health status. The data generated can help family members and carers predict possible future issues and react to urgent ones.

Company Growth

This year PacSana has completed a fundraising round of €650,000 to help accelerate business growth in the US and the company has recently announced the launch of a pilot project with Visiting Nurse & Community Care in Arlington, Massachusetts. The PacSana team has grown from one to five staff members since their initial engagement with HIHI.





Novus Diagnostics/ SepTec

Founders

Dr Elaine Spain
Dr Kellie Adamson

<https://septec.ie>

Location

Co. Dublin

Clinical Need

Sepsis is an often-fatal condition: the body launches an overpowering immune response to an infection that can lead to organ damage and in some cases death. Early diagnosis and treatment of sepsis are critical for patient outcomes. A critical unmet need in combating sepsis is a diagnostic system that increases the speed of diagnosis and pathogen identification.

Product and Solution

Novus Diagnostic's first product SepTec is a point-of-care diagnostic device that screens blood for sepsis associated bloodstream infection, detecting and identifying pathogens within 15 minutes. SepTec addresses the critical issues of time and accuracy for sepsis. It combines screening and pathogen family identification in one compact, near-patient instrument.

Healthcare Access

Novus Diagnostics needed to map the patient/user journey, define clinical needs and better understand

sepsis management within specific clinical settings to inform product design, positioning and critical user requirements. To achieve this, HHI organised and facilitated a focus group for SepTec with staff from the Emergency Department (ED) at St James's Hospital.

Company Growth

Since working with HHI, the company has expanded from the two founders to a six strong team. Novus Diagnostics has recently been awarded €2.4 million from the European Innovation Council (EIC) Accelerator pilot to commercialise its rapid sepsis test. Novus Diagnostics was also awarded blended financing through significant additional equity financing from the EIC Accelerator. In addition to the EIC financing, Novus Diagnostics secured pre-seed backing of €1.4m from Enterprise Ireland, Science Foundation Ireland, EIT Health and sepsis charity Lil Red's Legacy.





Symphysis

Founders

Michelle Tierney
Tim Jones

Location

Co. Galway

www.symphysismedical.com

Clinical Need

A common complication of late stage cancers is malignant pleural effusions (MPEs) or 'fluid on the lung', which causes shortness of breath and chest pain in patients and can significantly affect quality of life. Malignant or recurrent pleural effusions are those that persist despite first-line medical interventions and in cancers are often indicative of a patient approaching the end-of-life stage. MPE affects up to 15% of late-stage cancer, rising to 35% in patients with lung cancer. There are >200,000 new cases of MPE per year in the USA, and approximately 375,000 per year in Europe.

Healthcare Access

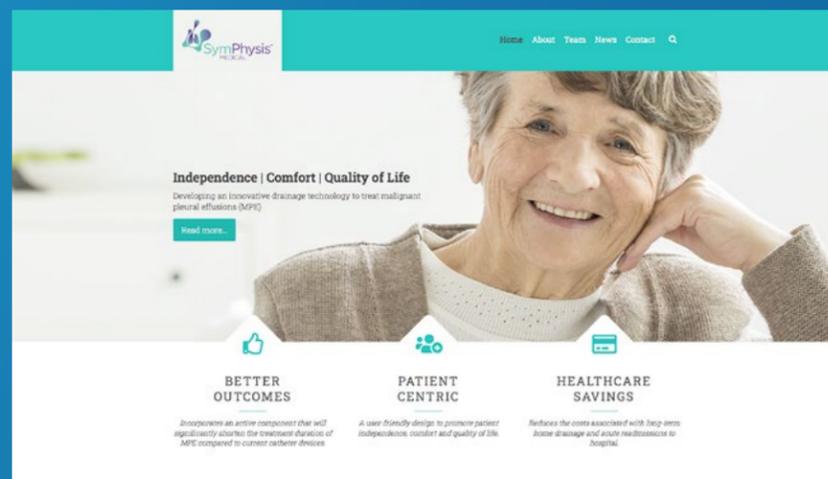
HIH recruited specialist healthcare professionals with experience in the management of pleural effusions and the use of IPCs from hospitals across Ireland to engage in the project and facilitated feedback sessions where relevant information was gathered on this clinical need and its core pain points.

Company Growth

SymPhysis Medical were successful in the 2021 Disruptive Technology Innovation Fund. Their company, having spun-out from NUI Galway, is located in the iHub in GMIT where they continue to work on their suite of solutions to address patient and clinical needs.

Product and Solution

RelEase is a minimally invasive technology that incorporates a unique, active component designed to accelerate treatment, thus providing shorter and more predictable treatment durations, and allow the patient to be liberated from the catheter sooner. The technology will incorporate features that improve the functionality and the comfort of the device. A key aspect of the device's design is to enable most patients to manage their MPE unassisted.





Think Biosolution

Founders

Dr Shourjya Sanyal
Koushik Kumar Nudy

Location

Co. Dublin

www.thinkbiosolution.com

Clinical Need

There are approximately 50 million patients in Europe with multimorbidity (two or more chronic conditions). The cost of chronic disease management in the EU is 700 billion per annum. 70-80% of healthcare costs are spent on chronic diseases. There is a distinct need for an easy to use and integrated system that can diagnose multiple chronic conditions early and provide treatment.

Product and Solution

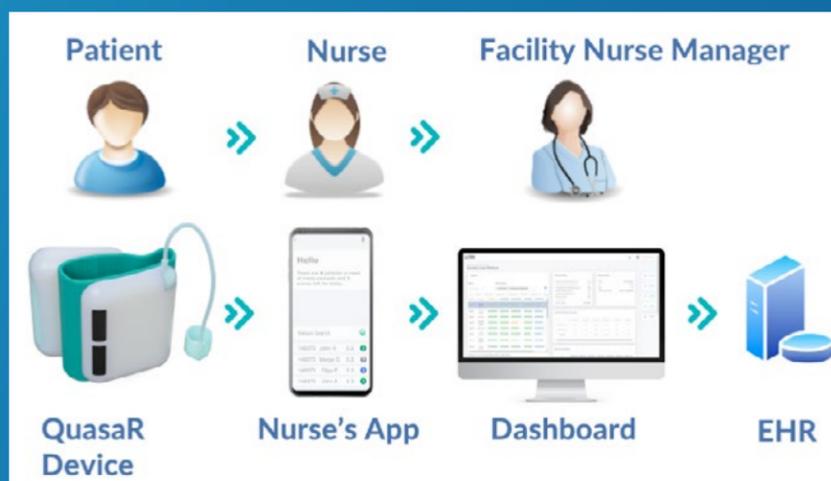
The Think Biosolution digital health platform is the next generation of remote patient monitoring. QuasaR™ measures multiple vitals including heart rate, respiratory rate, blood oxygen saturation, and heart rate variability. This digital health platform helps clinical case managers review the patient's weekly vitals, symptoms and activity, and can schedule doctor appointments or a telehealth appointments using the digital health platform.

Healthcare Access

HHI facilitated a feasibility study to help the development team at Think Biosolution to rank the relative importance of the features of the clinical dashboard. A focus group, comprising twenty healthcare professionals, was conducted in Cork. The feedback from the clinical professionals was incorporated in the design plan by Think Biosolution.

Company Growth

Think Biosolution is aiming to achieve one CE-Marking and three FDA 510(k) for the device and associated digital health platform in 2022. Think Biosolution continue to grow and have secured four EU-funded projects in the last two years.





MedDeus

Clinical Need

Prescription illegibility can be any factor contributing to ambiguity in what is prescribed e.g., incomplete drug name, strength, frequency, route and even prescriber identity. Poor handwriting leads to potential misinterpretation of intended treatment. Data from the UK, reported in the British Medical Journal (BMJ), calculated that “definitely avoidable” medication errors cost the NHS nearly £98.5 million every year and 1708 lives.

Product and Solution

ClearScribe® is a quick and intuitive system that enables the printing of clear/legible prescription labels delivered instantly at the point of care using Cloud Technology. Prescribers use this product to enhance the clarity of their intended drug treatment for their patient, and thus improves the process, safety and efficiency of medication dispensing and administration. Further functionality introduces best practice patient safety features which is unachievable with the current processes e.g., patient identifiers and time of prescription.



Founders

Niamh Boner
Mary Allen

Location

Co. Galway

www.meddeus.com

Healthcare Access

When the solution was in an early phase of development, MedDeus required feedback from various clinical personnel familiar with the prescribing process to help validate their assumptions about both the need and the proposed solution. HIHI recruited a multidisciplinary group of healthcare professionals to attend a focus group. The interaction, hosted and managed by HIHI, provided the company with an opportunity to engage with the people best placed to validate their solution.

Company Growth

MedDeus was accepted onto the New Frontier Programme from Enterprise Ireland, and was awarded an EI Innovation Voucher. In 2020, Blackrock Clinic partnered with MedDeus to trial ClearScribe® in an effort to help address errors in the medication prescribing process. Blackrock Clinic will be proceeding with a wider rollout of ClearScribe® in 2021 and will work with MedDeus to enhance the product and its features.





xWave

Founder

Mitchell O’Gorman

Location

Co. Dublin

www.xwave.ie

Clinical Need

Radiology is a complex and continually changing field with many different types of imaging now available. As a result, it is not always clear which test is best for a patient. There is no easy way for a referring consultant or a GP to access specialist radiology support to help them make their decision. Global research has shown that between 20% – 50% of advanced imaging carried out on patients (e.g. MRI, CT) can be unnecessary for that patient.

of healthcare professionals to engage with the company and provide feedback on the product. This feedback and the subsequent formation of an expert panel has helped xWave Technologies drive xRefer toward market.

Company Growth

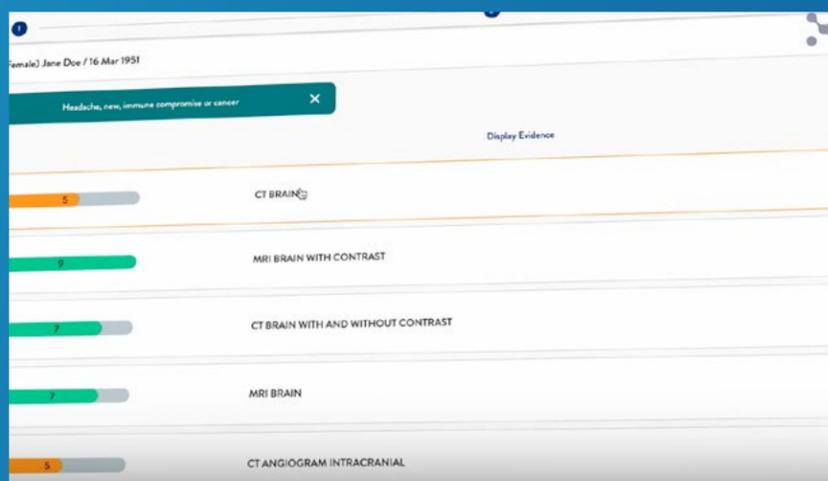
This feedback helped shape the product before commencing a “live” pilot in the Royal Victoria Eye and Ear Hospital in Dublin in early 2021. xWave are in discussions to roll xRefer out across a number of public and private hospitals in Ireland and have secured their first contract with an NHS Trust in the UK. xWave Technologies became an Enterprise Ireland High Potential Start Up (HPSU) in 2021. They have recently raised funding from private and public investors to grow their engineering and sales teams and to ramp up operations across Ireland, the UK and Europe.

Product and Solution

xRefer, xWave Technologies’ smart radiology referral platform, tackles both issues by integrating radiology guidelines seamlessly into their cloud-based referral platform which can also provide the referrer with a full audit trail of the patient’s journey through the radiology workflow.

Healthcare Access

Feedback from various clinical personnel and experts was required early in the development of xRefer. HIHI recruited a multidisciplinary group





Feeltect

Founders

Dr Andrew Cameron
Darren Burke

Location

Co. Galway

<https://feeltect.com>

Clinical Need

Venous Leg Ulcer (VLU) is a long lasting sore that takes between three to four months to heal if treated by a healthcare professional trained in compression therapy. However, some ulcers may take longer to heal, and some never heal. The current gold-standard treatment for VLUs is graduated compression therapy. If compression is too loose, the therapy is ineffectual, and if it is too tight, it is dangerous. Despite this, there is currently no accurate feedback on the level of pressure applied during routine compression therapy.

Healthcare Access

HIHI facilitated a functional assessment of the Tight Alright device by a number of healthcare professionals with experience in wound management.

Company Growth

Feeltect has continued to grow as a company having recently received financial investment, have spun out of NUI Galway and set up their office in Údarás na Gaeltachta in the West of Ireland. Their product Tight Alright is still in development.

Product and Solution

Tight Alright is a pressure sensing device that can be easily and securely attached to a compression bandage, where it measures and monitors sub-bandage pressure. The device wirelessly transmits pressure signals to a user-friendly app for viewing live readings or recorded data. Using this information, healthcare professionals can address issues with compliance or make informed decisions on changes in compression regimens.





PPR Healthcare

Founder

Marian Kennedy

Location

Co. Tipperary

www.pprhealthcare.ie

www.anewmum.com

Clinical Need

When a new baby is born, the utmost care is taken to make sure they get the best possible start in life. However postpartum (after birth) care of mothers is also required, with particular care being required in the first six to eight weeks. Good hygiene is important for pain and comfort reasons, but it is also needed for wound healing and to prevent infection. There is a growing market for hygiene products to help new mothers in their recovery after birth.

Product and Solution

PPR (Post-Partum Relief) Healthcare has developed a range of comfort and hygienic products to assist new mothers in their recovery after they've given birth. A New Mum is their over-the-counter range of hygienic products. In addition, they have also designed a disposable pair of briefs for women to wear postpartum for the first few weeks after birth. These briefs will help with the healing, cooling, and soothing of the sensitive areas after birth.

Healthcare Access

HIHI supported PPR Healthcare to get feedback and advice on their postpartum briefs from clinical experts such as doctors, nurses, midwives and GPs which will assist in the further development of the postpartum briefs. HIHI together with Cork University Maternity Hospital (CUMH) facilitated a focus group with clinical experts. From this focus group PPR Healthcare also identified a consultant Obstetrician and Gynaecologist, who has agreed to work with them as a clinical advisor.

Company Growth

PPR Healthcare is launching its over-the-counter brand. It is also looking for further investment and is currently meeting with a number of potential investors. The advice and feedback from the clinical focus group and in particular the identification of a clinical advisor has been very beneficial to the company in these discussions.





Mitchell O'Gorman

CEO, xWave Technologies

“During COVID-19 we were unable to visit hospitals and HHI were able to provide us with experts that could give us advice and feedback that shaped the development of our xRefer platform. That expert input enabled us to deliver a world-class smart radiology referral platform that we hope will save lives by ensuring that patients get the best test first.”



David Toohey

CEO, Syncrophi Systems Ltd

“HHI is a vital enabler from both a DOH/ HSE perspective and an SME viewpoint. For Syncrophi Systems they have been the means through which our flagship medical software system, KEWS300, has been strenuously and independently appraised in real HSE hospital environments against current and emerging needs in the domain of digital health.”



Kellie Adamson, Elaine Spain

Co-founders Novus Diagnostics/SepTec

“It was critical for us to be guided by HHI to map the patient/user journey, define clinical needs and better understand sepsis management within the clinical setting. This informs our product design, positioning and critical user requirements.”





Martina Skelly

Founder/CEO, Yellow Schedule

“We’re very grateful to Health Innovation Hub Ireland for facilitating the visitor scheduling and contract tracing platform at SIVUH and the CUMH project to schedule 20 week anatomy scans. HHI supported us with the resources and expertise required to ensure that it could be launched quickly and effectively.”



John Ogie Sheehy

CEO European Business and Global CIO at ViClarity

“HHI’s facilitation and project management expertise set the project up for success from the outset and ViClarity have benefitted from this, not only within the HSE system but also in the private healthcare sector. We would highly recommend any company to work with the HHI team to showcase their innovation.”



Kevin Kelleher

Founder/CEO, Ostoform

“HHI gave us access to the Irish clinical network and support in achieving ethics approval and study setup. The support in study management was an efficient framework to conduct an independent study across multiple sites.”





Sonia Neary

Founder/CEO, Wellola

“With HHI acting as a broker, they provided us with a robust management process through which we were able to engage seamlessly with IACP. HHI supported us in collating and analysing the feedback and data supplied by participants of the study and working on this pilot ultimately raised the profile of Wellola in the UK. We subsequently were awarded a contract with the British Association of Counsellors and Psychotherapists to offer their members our platform.”



Peter Kidney

Chief Financial Officer, HiberGene

“HiberGene has had an excellent experience working with the HHI. Through their guidance and support HiberGene has had the benefit of identifying a key partner organisation, the Bon Secours Hospital, Cork, to carry out a further, highly successful, clinical evaluation of its PCR Adapt COVID-19 test to support the potential introduction/availability of this Irish developed test within the Irish Healthcare System.”



Michelle Tierney

Co-Founder, Symphysis Medical

“Through our engagement with the HHI our team was able to gain valuable insights from specialist healthcare professionals which will inform the design of a user-centric solution for an underserved population of patients.”



HSE-HIHI Spark Ignite Competition TWO YEARS AT A GLANCE

2020 - 2021

An innovative healthcare system is delivered by its staff. Many healthcare staff have ideas to improve the system, deliver a better patient experience and improve patient outcomes.

To realise an innovative healthcare system, we must deliver a culture where innovation can thrive, where it is supported, encouraged and implemented.

Health Innovation Hub Ireland and the HSE Spark Programme developed and delivered Spark Ignite to stimulate ideas, educate, guide and empower HSE staff through their innovation process.

The results are phenomenal.



Spark Ignite



*A number of applications are in more than one category

For more information on Spark Ignite visit:
hih.ie/engage/hse-hihi-spark-ignite-2021





Are you a healthtech company or a healthcare professional?

Do you have an innovative idea which will improve healthcare delivery?

Do you need access to the Irish healthcare system for a pilot or clinical evaluation study?

The HIHI team can support your innovation journey.

Apply now to our **Innovation Portal** and visit www.hih.ie

HIHI is an initiative of the Government of Ireland supported by Enterprise Ireland and the Health Service Executive

