



Innovation Programme

Annual Report 2021

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Foreword

Dr Colm Henry

The experience over the past two years or more in the setting of the COVID-19 pandemic has informed us of the power of innovation and collaboration. Through the difficult early months of 2020 and again during the rollout of vaccinations, we witnessed great transformation in healthcare, triggered by the pandemic, but imagined long before.

Above all, through what was a very difficult time for all our colleagues in healthcare, we witnessed extraordinary commitment, bravery and dedication. Supporters of the HSE's Spark Innovation Programme have known for a long time that we must be open to innovation and change in order to overcome the growing challenges of healthcare delivery, which include an ageing population, complex multi-morbidity and public health threats.

The COVID-19 response brought about a new era of innovation from which there is no turning back. As a health service we need to be adaptable, flexible and responsive, and it is in driving those capabilities across the health service that the HSE Spark Innovation Programme comes into its own.

Healthcare professionals and healthcare workers see the need for change and want to be part of that change, to make a difference to patients, their families, their fellow staff and the system as a whole. It is wonderful to see the truly multi-disciplinary ethos at the HSE's Spark Innovation Programme, with strengthened partnerships between National Doctors Training and Planning, The Office of Nursing and Midwifery Services Director and Health and Social Care Professions.

Spark aims to engage and empower our frontline workers to identify problems, improve processes, and implement solutions. It is essential that we listen to these workers and the unique insights that they have gained from years in clinical practice. I am delighted to continue to support the HSE's Spark Innovation Programme in empowering healthcare workers to shape the services in which they work.

'Ní neart go cur le chéile'

Dr Colm Henry
Chief Clinical Officer

Introduction

Jared Gormly,
Head of Spark Innovation Programme

The Spark Innovation Programme appeals to those who are excited by change, innovation and development in our health system.

Innovation and design principles are undoubtedly a departure from the day-to-day clinical roles that most in the HSE might be used to. The Spark programme seeks out innovative and creative people from within the health service, then encourages, supports and empowers them to explore their vision of how their corner of the healthcare system can better serve both patients and healthcare workers.

We at Spark recognise that the insight and creativity of healthcare staff, and their experience of working in the healthcare system, are of central importance in generating better systems, leading to better outcomes and better experiences for patients.

By equipping them with modest resources, mentorship, innovation skills, we enable them to progress their ideas, run tests, evaluate impact, and establish how best to create change for the better. Spark is currently run by a small team, but it is growing, and it represents the tip of an iceberg for collaboration, support and mutual progress that we believe is quietly transforming our healthcare system.

The Spark Innovation Programme would like to thank our three primary stakeholders - Office of Nursing and Midwifery Services Director, National Doctors Training and Planning and Health and Social Care Professions for their unwavering support in furthering the innovative potential of our frontline healthcare workers.

It is with huge excitement that we look forward to 2022, where we will recruit the first national Nursing/Midwifery Fellow and the first Health and Social Care Professional Fellow, who will join our Medical Fellows in driving a truly multidisciplinary programme.

By continuing to grow through continuously reaching out to new partners, we are amplifying our collective ability to move closer to the healthcare system we know we are capable of producing in Ireland.

Jared Gormly
Head of Spark Innovation Programme



Innovation Programme



A word from our Sponsors



The National HSCP Office is delighted to collaborate with Spark to empower and support frontline HSCP innovation.

Health & Social Care Professionals are passionate about and focused on delivering for service users and patients. The flexibility and dynamism that HSCPs have demonstrated in developing and taking up new roles, as well as the can-do attitude in taking a solution focused approach to enable new service delivery models are second to none. Their coming together to support patients and staff to meet the varied challenges we have all faced across the healthcare system is widely acknowledged.

HSCPs are enthusiastic and creative by their very nature and their engagement with the Spark Innovation Programme not only improves patient and service user care but also contributes to staff and service development. We look forward to the continued partnership between HSCP and the Spark Innovation Programme as we all work together to develop and enhance healthcare delivery throughout Ireland.

Jackie Reed
National Lead National Health & Social Care Professions Office



As Medical Director of the National Doctors Training and Planning Unit, I am very pleased to support the Spark Innovation Programme.

NDTP recognises the value of empowering and encouraging doctors in Ireland to engage with innovation. Much like medicine, innovation is about problem identification and solving.

When faced with clinical challenges, our doctors can rely on skills such as critical thinking, effective collaboration, and clear communication – skills that are readily transferable to the task of tackling unresolved challenges and addressing unmet needs in innovative ways. Looking back over the year, as we emerged from the COVID-19 pandemic, the importance of interdisciplinary care has never been clearer. I thank the Spark Innovation Programme for its commitment to facilitating interdisciplinary innovation, developing and improving our healthcare ecosystem as a whole.

Dr Brian Kinirons
Medical Director of the National Doctors Training and Planning Department



I am delighted that the Office of Nursing and Midwifery Services Director has continued to collaborate with the Spark Programme during 2021.

Throughout the COVID-19 pandemic, Nurses and Midwives have not only demonstrated outstanding resilience, dedication and care, but also proven their innovative ability to adapt their services in order to continue to give the best care to patients.

Nurses and Midwives are natural problem solvers with a unique relationship to patients. We are piloting an exciting interim role for Nurses and Midwives by creating a one-year National Nursing and Midwifery Innovation Fellowship, with the test of concept commencing in April 2022. The fellow will drive engagement and showcase Nurses' and Midwives' contribution to healthcare innovation. I believe the future is bright as Spark and ONMSD continue to work together to enable frontline teams to identify problems, improve processes, and implement solutions.

Dr Gearldine Shaw
Nursing and Midwifery Services Director ONMSD Health Services Executive



Oifig an Stiúirthóra Seirbhísí Altranais & Cnáimhseachais
Office of the Nursing & Midwifery Services Director

Fellows Foreword

2021 began with the toughest wave of the COVID-19 pandemic to date. With high demands on the health service, increasing complexity of care and high levels of exhaustion amongst HSE staff - having the scope to innovate in response to these growing challenges is more important now than ever before.

We as the Spark Innovation Fellows gain a unique and powerful insight into areas and elements of the healthcare ecosystem that we would not access normally. This year our priorities lay in increasing both awareness and engagement with healthcare workers of all disciplines and at all levels. This was achieved through a multipronged communications strategy, and involved a combination of webinars, workshops, written communications, along with getting out there on the floor.

It is hugely important to us that Spark is always operating through a multi-disciplinary lens. We look forward to being joined by new fellows to represent our Nursing/Midwifery and HSCP colleagues, in order to truly exemplify that multi-disciplinary ideal.

The Spark Team



Jared Gormly



Neilan Govender



Dr Alan Hopkins



Dr Rachel McNamara



Dr Ivan Yu



Keeping the fire burning

The Spark Innovation Programme is a frontline staff-led initiative that seeks to support, promote and recognise innovation amongst healthcare staff.

The Health Services People Strategy 2019–2024 sets out a vision of an exceptional employee experience that engages the talent and nurtures the leadership capability of all individuals and teams working together to deliver safer, better healthcare. Spark exemplifies this vision throughout all of its activities.

Spark Innovation Programme was initially established as a national programme to empower and engage Doctors at the beginning of their careers. The opportunity to develop ones ideas is central to keeping staff engaged and inspired, and makes it easier to recruit and retain the high quality graduates from our world class medical education system.

However, Spark is not solely about successful ideas but also about the potential shared learning for the system – creating a great place to work where healthcare professionals are empowered and encouraged to bring all of their creativity, imagination, problem solving skills, love of design, and passion for the wellbeing of patients.

The power of this vision has seen Spark expand to include all healthcare professionals, and every employee of the HSE, thanks to partnership with an ongoing support from Office of Nursing and Midwifery Services Director (ONMSD), National Doctors Training and Planning (NDTP), and National Health & Social Care Professions Office (NHSCPO).

The programme continues to exemplify bottom up innovation support. The role of the Innovation Fellows is, therefore, critical in leading and shaping the Spark Programme, playing a key part in supporting ideas, design, innovation, collaboration, and initial implementation of initiatives led by frontline staff.

This ongoing monitoring, and a willingness to pilot new schemes, critically appraise them, and scale what works best, is key to the continued success of the Programme.

Aims & Objectives

The aims and objectives of the Spark Innovation Programme align closely with the HSE Corporate Plan 2021–2024 ensuring that activity receives strong support from the centre of the organisation.



Promote the development of innovation culture to embed innovation as a foundation of the organisation at every level.



Advocate for innovation capacity building across the organisation to ensure that innovation activity is identified and supported as a strategic priority.



Seek to build capability through skills and mindset development to unleash the innovation potential of the frontline

01. Engage & Empower Frontline Staff

We seek to empower staff to deliver change, identify barriers and implement improvements for patients and service-users.*

- Promote and celebrate initiative, creativity and collaboration
- Create funding streams for staff-generated solutions to identified problems and opportunities
- Enable access to training in design and innovation methodologies
- Provide mentoring
- Share success stories

02. Create a Supportive Ecosystem for Health Innovators

With a shared vision of improving patient and service-user experience, we will work together more effectively and overcome barriers that have made change more difficult in the past.*

- Create an innovation-friendly workplace
- Promote collaborative work practices
- Normalise innovation practices
- Promote the role of human-centred thinking in the health system
- Promote early engagement with emerging technology

03. Develop Systematic Capability

To create this environment...an increased focus on teamwork and collaboration... education and training programmes... and developing necessary structures (e.g. locally based change and improvement networks, communities of practice etc)*

- Leverage existing resources and form strategic partnerships
- Source expertise
- Create pathways for innovation, innovators, and innovation processes
- Build an evidence base to illustrate value



Pillars of the Spark Programme

2021 has seen an expansion in the scale of activity undertaken by the Spark Programme. Though previously the activity of the Programme fell broadly under the strands of 'Spark Seed', 'Spark Ignite' and 'Spark Design', this year has prompted a review of activity and a recognition of the growth of the Spark Programme portfolio.

At Spark, we are constantly re-evaluating and re-iterating our activities, and in empowering the frontline healthcare workers to be innovative and disruptive, we apply those same principles to all elements of our programme. We are now operating through 7 Pillars:



Engagement

Providing multimodal engagement opportunities for our innovation collective across the health service.



Initiatives

Creating opportunities to develop skills, secure micro funding, access mentorship and embed innovation.



Design

Implementing user informed change and innovation.



Network

Gathering and connecting our internal and external partners.



Research

Contributing to the body of research in the frontline innovation space both nationally and internationally.



Pioneering

Leading the way with new products, services and ways of working through pilots and validation studies.



Professional Development

Developing our staff for agency and impact.



Spark Seed

“
Spark has enabled us in a very practical and meaningful way to start this journey towards providing an integrated service of delivery to children who both need and deserve integrated intervention. It will support their needs and improve their life outcomes, I am overwhelmingly grateful for this.

Elizabeth Downey, Senior Speech and Language Therapist

”

Spark Seed

The frontline staff in our health service are best placed to identify key problems and implement meaningful solutions. Spark Seed is about enabling them to sow the seed of innovation and cultivate the solution to grow and bear the fruits of improvements.

The Spark Innovation Programme recognises that frontline staff are best placed to identify key problems faced by service users and care providers alike, and implement solutions to those problems.

Offering funding, in combination with mentorship and training, equips staff with the skills required to effect meaningful change.

Spark Seed Funding is an initiative whereby frontline staff can apply for micro-funding and other supports for innovative projects that will improve our health service. The initiative focuses on small, rapidly implementable projects which take a bottom up approach to change. While small in scale, these projects have great potential to make meaningful improvements to patient care, increase service capacity and generate cost savings.

Applicants submit a brief project overview, with the best solutions shortlisted to attend a Design Thinking workshop where ideas are refined with support and mentorship from the Spark team. The workshops are facilitated by expert designers. Workshops are held in-person, online and in hybrid formats.

The seed funding call is open to NCHDs, Consultants, Nurses, Midwives and HSCP applications. The response to the Spark Seed Funding call grows year on year with excellent representation from right across the different professional groups that make up the frontline of the HSE.

Spark Seed Funding

- Targeted at NCHDs, Nurses, Midwives & HSCPs with emphasis on MDT collaboration
- Multiple calls per year for small scale projects
- Micro funding up to €3,000
- Best ideas invited to attend CPD CEU accredited Design Thinking workshops
- Mentorship and support also provided





How it works

- Applicants submit a brief project overview
- The best problems or solutions are shortlisted to attend a Design Thinking workshop
- Ideas are refined with support and mentorship from the Spark team.
- Workshops are facilitated by Trevor Vaughn, Assistant Professor of Human Centred Innovation in Maynooth University and inventor on RTE's "The Big Life Fix" and Martin Ryan, Programme Lead for Product Design at NCAD.
- The seed funding calls of 2021 were open to NCHDs, Nurses & Midwives, and multidisciplinary applications were strongly encouraged!

Seed at a Glance



211

Total Applications Received
(Individuals and Groups)



150

Attendance at Workshops



6

Total number
Workshops Delivered



70

Total Projects Supported



€119,252

Total Funding Awarded

A Selection of Funded Projects

01

The Exchange - Old Space With A Familiar Face.

Paul Phelan,
Clinical Nurse Specialist
(Psychiatry)



The Problem:

A Community of Inpatients seeking face-to-face contact with family during COVID visitor restrictions.

The Solution:

A familiar 'Old-Style Irish Phone-box' housing modern technology (Tablet). This provides a private space for face-to-face communication.

The Benefits:

Emotional needs: Enabling patients to contact loved ones, whom are the source of support pre- and post-hospital.

Social needs: Enabling contact with friends and family - therefore retaining a sense of connection and belonging to home and their community.

Functional need: The Phone box/Connection Hub would provide a safe, confidential space to freely access visual contact with family.

02

Vampire Cup

Glenn Curtin, Medical Student

The Problem:

Only 3% of the eligible population donates blood presenting a supply and demand issue, resulting in restricted use of blood products, cancellation of elective surgeries, and cancelling cancer treatment appointments.

The Solution:

Vampire Cup, an intervarsity competition that pits colleges against each other to see which college can donate the most blood.

The Benefits:

A reduction in IBTS costs on donor recruitment by over 40% and a consequential lowering of cost burden on the HSE for blood products.

Patients will be prescribed blood products when they need them and will not experience delayed or cancelled outpatient appointments and surgeries.

03

Paediatric Radiology Training Tool

Niamh Beirne (Paediatric Registrar)
Orla Callender (Advanced Nurse Practitioner)
Dr Nuala Quinn (Paediatric Consultant)
Dr Yusra Sheikh (Paediatric Radiology Consultant)

The Problem:

There is no dedicated paediatric radiology teaching at undergraduate nor postgraduate level. In-coming doctors face decisions to order and interpret scans, often with little experience or direction.

The Solution:

Developing a dedicated Paediatric Radiology app and website with modules on commonly requested images.

The Benefits:

A reduction in inappropriate imaging referrals; paediatric patient exposure to unnecessary radiation.

Improved trainee interpretation of imaging, confidence and morale; immediate patient care in the ED; reduction in missed findings. A reduction in calls and out of hours requests.

04

Limb Surgery Children's Storybook

Dr. Aisling Ni Cheallaigh
(Senior Clinical Psychologist)

Ms. Maria Noonan
(Clinical Nurse Specialist
in Limb Reconstruction)



The Problem:

A lack of adequate resources for the 5-10 year old group to prepare them for invasive limb reconstruction treatment.

The Solution:

A non-threatening illustrated storybook outlining the story of a fictional character who gets a fixator frame.

The Benefits:

The book will provide young children with a better understanding of what to expect when they are getting an external frame, empower parents who will be able to engage their child in talk about living with a frame.

Coping strategies outlined in the book, helping children to better cope with having a frame.

05

'Aunty Dorothy' - Virtual Hospital Visitor Assistant

Clíodhna Ní Fhoghlú

Orthopaedic Specialist Registrar

The Problem:

A lack of communication with loved ones due to visiting restrictions in place since the COVID-19 pandemic. Inpatients are having difficulty engaging with personal handheld devices.

The Solution:

A robotic device, a mobile unit that can be easily moved from bed to bed using a joystick, designed to facilitate virtual visits.

The Benefits:

Benefits both patients and their families in facilitating conversation, and offers comfort and reassurance through seeing loved ones during what can be a stressful time for patients.



07

Sensory Survival Package

Elizabeth Downey,
Senior Speech and
Language Therapy

The Problem

30% of children presenting for SLT therapy have sensory challenges, resulting in stress and frustration as the departments are not adequately resourced to deal with the particular needs of this cohort

The Solution

A pack – developed collaboratively between SLT and OT to maximise the utility of sessions by empowering the SLT to carry out their assessments and interventions.

The Benefit

100% of OTs surveyed reported that they felt the child/service user to be more engaged by using the survival kit.

06

Making education for the cancer journey accessible for all

Eoin Tabb,
Senior Pharmacist



The Problem:

This project is aimed at patients who are beginning their cancer journey and any family/friends who are supporting them throughout.

The Solution:

The solution is a video education platform which gives these patients the information that they need to be educated for their cancer journey.

The Benefits:

The implementation of education interventions between the time of diagnosis and treatment decreases anxiety in cancer patients, reducing the side effects from cancer. As only 14% of spoken medical information is retained by a patient following a consultation, the education platform will provide patients with access to the information post consultation.

08

Nursing Home Champion Project

Helen O'Keeffe,
Senior Occupational Therapist,
Beaumont Hospital

The Problem

Older adults from Nursing Homes often experience worse outcomes when presenting to unscheduled care with confusion and agitation, owing to falls, infections and prolonged admissions

The Solution

A 5 week educational programme for nominated staff in Nursing Homes on the management of confusion through a hospital outreach initiative.

The Benefit

Reduction of unnecessary, protracted admissions for older adults who can be managed in the Nursing Home.

Case Study

Your Little Sleep – A Perioperative Information Resource for Children

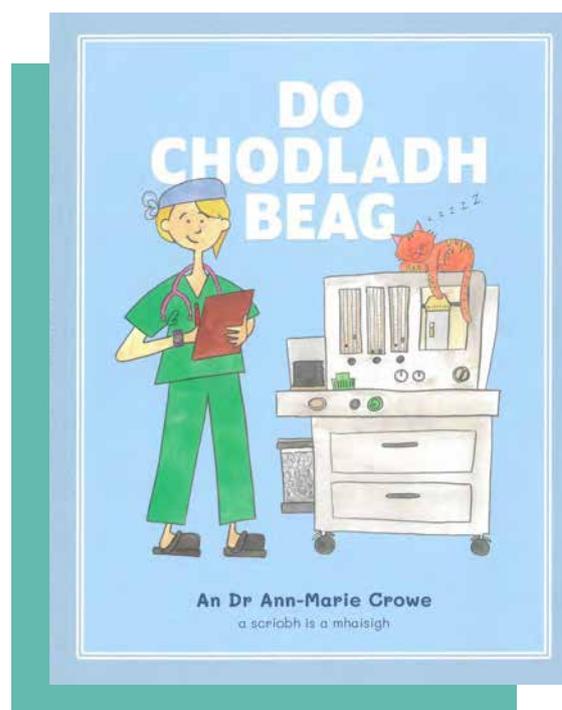
Dr Anne Marie Crowe

About the Innovator

Dr Ann-Marie Crowe is a graduate of NUI Galway (Class of Medicine, 2013). She completed her specialist anaesthesia training in Ireland in 2020 and following this, a year long clinical fellowship in paediatric anaesthesiology in CHI Crumlin. During the COVID-19 pandemic, the idea of creating an illustrated book for children began to take shape. In the evenings after her full-time clinical duties, Ann-Marie illustrated, developed and published the children's book *Your Little Sleep*, a perioperative resource for children.

The Challenge

Anxiety in advance of a visit to the operating theatre can result in a distressed and uncooperative child at induction of anaesthesia, something which is upsetting for parents and theatre staff alike. However, adequately preparing a child for their hospital visit can reduce or prevent such anxiety. Good communication correlates with improved health care outcomes and age-appropriate pre-operative information should be provided to explain what the experience will entail. Online resources for perioperative information for parents and younger children is currently lacking, however, as is a practical tool to help parents talk to their child about their upcoming hospital visit.



The Solution

Anaesthesiologists are known to display excellent communication skills that facilitate the development of rapid rapport, cooperation and trust with the patient, especially so in the setting of induction of anaesthesia in children. Translating this rapport to a children's book containing accurate information in an easy-to-read, age-appropriate format, along with beautiful watercolour illustrations, has created an accessible and fun tool that creates an opportunity for parents and their young child to prepare for the operative procedure.

Your Little Sleep is a 48-page colourful storybook written in the first-person narrative from the perspective of Annie the Anaesthesiologist, who explains the process of what's involved in a child's upcoming visit to theatre. The text incorporates accurate information on pre-operative fasting, premedication, induction of anaesthesia, and recovery, and underwent a rigorous review process, including by Senior Clinical Child Psychologist Dr Aisling Ni Cheallaigh, anaesthesia colleagues, play therapists and patient advocacy groups.

The Impact

Your Little Sleep has been endorsed as an official resource of the College of Anaesthesiologists of Ireland and the Royal College of Surgeons, and will be given as a free information resource after launch by the CHI Hospital Group. It has been translated into 14 different languages, and the Irish edition of the book, translated by theatre nurse Marion Breathnach, will be published by An Gum Press later in 2022.

Case Study

Children's Asthma Education Programme

Catherine Carrig and Mary Devitt, Paediatric Respiratory Clinical Nurse Specialists, Children's Hospital Ireland, Tallaght.

About the Innovators

Catherine Carrig and Mary Devitt are Paediatric Respiratory Clinical Nurse Specialists (CNS's) working in the Paediatric Respiratory Service in CHI@ Tallaght. Both Catherine and Mary hold a BSc Honours in Respiratory Care and Catherine is also a registered nurse prescriber. They each have more than 20 years of experience in the care and management of children with asthma and their families and work as part of a multidisciplinary team in caring for respiratory patients.

The Challenge

One in ten children in Ireland currently have asthma and one in five will experience asthma at some stage in their childhood, with 8000 asthma admissions to hospital every year. In 2019 approximately 600 patients had a face to face asthma education consultation with a respiratory nurse specialist. This education session includes advice on managing the condition reinforced by a personalized asthma management plan and information resources. Patients are referred to the clinic from the ward, Outpatients Respiratory Clinic, general Paediatric Clinics, or the Emergency Department, but as outpatients they face lengthy waits before receiving their telephone or face to face consultation, a situation exacerbated by pandemic restrictions. This delays their access to the necessary information and advice for optimal asthma management.



The Solution

Our innovators have created a childhood asthma education programme offered to children with asthma and their families on discharge from the hospital. Their Children's Asthma Pack, CAP, comprises a special wallet including:

- **asthma information leaflets and booklets**
- **a personalized management plan**
- **QR codes allowing digital access to asthma action plans, videos on inhaler technique and emergency treatment for acute asthma attacks**
- **the patient's medical letters and appointments.**

These packs empower children and their carers, and improve the effectiveness of a follow up virtual session with the respiratory CNS. All of the patient's asthma related information can be kept in this pack for easy reference and can be updated at further appointments.



Paediatric Respiratory Team in CHI@Tallaght

The Impact

As well as supporting patients to participate in their own care, and moving the point of care to the appropriate time and place as recommended by Slaintecare, the pack is a highly useful communicational aid when interacting with other clinical areas and creates assurance that the patient has the required asthma information and follow up.

Case Study

Syringe Swap Errors

Dr Richard Skelly, Specialist Registrar in Anaesthesia, St. James's Hospital, Dublin.

About the Innovator

Richard Skelly (pictured bottom left) is a final year Specialist Registrar in Anaesthesia currently working in St. James's Hospital in Dublin. Richard has a PhD in Respiratory Physiology. He has a special interest in obstetric anaesthesia and has been accepted to undertake an obstetric anaesthesia fellowship in Oxford University Hospital. He has published in a wide range of fields but most recently has become very interested in patient safety and patient experience. Richard was awarded Spark Funding in 2021 and has twice been featured in the Hospital Professional News top 100 doctors in Ireland.

The Challenge

Medication safety is paramount in medicine and is a particular focus of attention in anaesthesia due to the numerous high risk intravenous medications administered for each patient. When given in the wrong order or indeed to the wrong patient, the consequences can be life threatening. Studies have repeatedly shown that between 89-94% of anaesthetists have been involved in these errors and that on average these happen 1 in every 130 anaesthetics.



Recent survey data of anaesthetists in Ireland showed 75% had had syringe swap errors, most of which were potentially life threatening. 20% had litigation associated with the error; 44 of 45 reported errors were correctly labelled syringes. The most up to date data showed the average cost to the HSE for a medication error was €151,000. Using this figure, this small cohort of surveyed anaesthetists may have cost the Health Service Executive in the region of €755,000 due solely to syringe swap errors.

The Solution

A patent-pending design called the Syringe Safety Clip forces the user to physically unlock the syringe before administering the medication, while also visually differentiating syringes filled with high-risk medications. Benefits of the Syringe Safety Clip over current options include:

- Prevents the user depressing the plunger without removing the clip, which provides a moment of pause or double-check which is currently lacking.
- It visually differentiates high risk medications from others.
- Works with all syringe brands and sizes of syringes.
- Minimal training required for safe and effective use.
- Very affordable adjunct to current equipment and practice.

The Impact

Richard is working with medical industry innovators to bring this device to the wider anaesthetic community as an adjunct to their current practice. This is a worldwide issue in healthcare with a market opportunity to match.

Consultants Innovation Fund

Consultants Innovation Fund

The Consultants Innovation Fund began in 2019 as a collaboration between the Acute Hospitals Division, National Doctors Training and Planning (NDTP) and the Spark Programme. This fund recognises the need for investment in innovation in our health service and enables hospital consultants to lead these changes rapidly through an easily accessible fund.

By creating this fund, consultants working in the public health service were empowered to deliver real and meaningful changes to the service they deliver. This was a novel, collaborative approach to supporting quality improvement in the public health service by providing funding and other resources to consultants using an efficient, transparent process with multi-stakeholder input.

The initiative allowed senior clinicians to rapidly implement innovative solutions which have undergone review by the Consultant Innovation Fund collaborative group. Projects were short-listed on the basis of an approved marking scheme which will give marks for scalability, sustainability and alignment with HSE corporate strategy.



Features of the Innovation Fund:

- Nationwide call**
- Once-off non-recurring funding**
- Investment in new equipment, training opportunities or exploration of novel ways of working**
- Delivering cost savings, capacity increases, best practice care delivery or improved patient experience**
- Consultants can apply on behalf of a multi-disciplinary team**
- Projects which follow a co-funding model are prioritised**
- Estimated five-fold return on investment**

A selection of supported Projects

01

Beta-D-Glucan Testing: Small test - Big Impact

Dr Breda Lynch

Microbiology
The Mater Misericordiae University Hospital.

02

Heart-Flow: Streamlining patient referrals to the National Centre for Cardiothoracic Surgery

Cardiothoracic Surgery
The Mater Misericordiae University Hospital.

03

Ambulatory Care Stream for Frail Older People in the Emergency Department

Dr Rosa McNamara

Emergency Medicine Consultant
St Vincent's University Hospital.

04

Infant Mental Health @ CHI Quality Improvement Project

Psychiatry, Children's Health
Ireland (CHI) at Crumlin.

05

Co-Producing a Transition Clinic for young people with 22q11.2 deletion syndrome

Endocrinology
St James's Hospital.

06

Implementation of Emergency Physician delivered deep vein thrombosis scanning in Emergency Department

Emergency Medicine
The Mater Misericordiae University Hospital.

07

Predicting bacteraemia in maternity patients using full blood count parameters: A supervised machine learning algorithm approach Clinical Microbiology; Haematology, Obstetrics and Gynaecology

Pharmacy. Rotunda Hospital.

Update on Funded Projects



01

Beta-D-Glucan Testing: Small Test - Big Impact

Dr Breda Lynch - Microbiology

The Mater Misericordiae University Hospital.

- Project successfully implemented with a **saving of €81,064** based on current antifungal pricing
- **Expected annual savings** in MMUH estimated at **€123,780**
- **Turnaround time** improved from **109 days to less than 3 days**, with an average of 1 day
- Shortlisted for Irish Healthcare Awards 2021 – Hospital Project of the Year
- **Winner of Bright Spark Award 2021**



03

Ambulatory Care Stream for Frail Older People in the Emergency Department

Dr. Rosa Mc Namara - Emergency Medicine Consultant

St Vincent's University Hospital.

- Project implemented with a **10% lower admission rate** due to this initiative
- **Total savings** since service commencement in 2020, **€1.9 million - €2.5million**
- **1061 patients** seen by the service with a **75% discharge rate**
- **Winner of Bright Spark Award 2021**



02

Co-Producing a Transition Clinic for young people with 22q11.2 deletion syndrome

Endocrinology

St James's Hospital.

- **Successfully established multi-site Transition process for teens and young adults living with the rare genetic disorder 22q11.2ds.**
- **Reduced patient and parental stress and anxiety; Reduced health service waiting times.**
- Increased patient and parental satisfaction and quality of care; **Improved patient outcomes.**
- **Improved understanding** of the complex rare disease 22q11.2ds, Increased referral rates for Children's Network Disability Teams
- **Shortlisted for Irish Healthcare Awards 2022: Patient Organisation Project of the Year**

Case Study

Predicting Bacteraemia in Maternity Patients, Machine Learning in Obstetrics

Dr Richard Drew, Ciarán Mooney, Maeve Eogan, Fionnuala Ní Áinle, Brian Cleary, Joseph J. Gallagher, John O'Loughlin

About the Innovator

Dr Richard Drew (pictured below) is a Consultant Microbiologist at the Rotunda Hospital, and at the Irish Meningitis and Sepsis Reference Laboratory (IMSRL) based at Children's Health Ireland at Temple Street. He is an honorary Senior Lecturer in the Dept of Clinical Microbiology in the Royal College of Surgeons in Ireland. His research interests are sepsis (paediatric and obstetric), meningitis and the use of machine learning in clinical practice

The Challenge

Blood stream infections in pregnant women are a cause of morbidity and can lead to poor neonatal outcomes. At the time of presentation to hospital with a fever, it can be difficult to identify which women are at high risk of bloodstream infection and which are at a lower risk with local infection. Early identification of patients at high risk of blood stream infection is important to ensure appropriate management in line with national sepsis pathways. Unfortunately, the historical method to assess risk of bloodstream infection, in which a full blood count is sent to the lab and the white cell count is reviewed, has been shown not to be very accurate.



The Solution

The multidisciplinary team at the Rotunda, with external support from the gHealth Research group and the IMSRL, developed a machine learning algorithm based on historical datasets to identify how best to identify blood stream infections in obstetric patients.

The neutrophil-lymphocyte ratio was identified as the best marker for bacteraemia, and outperformed the traditional white cell count approach. This simple method uses existing results and technology and better allows identification of pregnant women at higher risk of bacteraemia. The paper was published in the International Journal of Laboratory Haematology, 2020. The team plan to introduce the neutrophil-lymphocyte ratio to the laboratory system, make it available in the MNCMS electronic healthcare record system, and encourage hospital staff to use the marker in assessment of patients with suspected sepsis.

The Impact

Early quantification of higher risk of bacteraemia in pregnant women will lead to earlier treatment, improve outcomes for patients, and save costs associate with later intervention for blood stream infections. It is hoped this machine learning approach can yield similar dividends in other areas such as sepsis in preterm neonates, antenatal sepsis and preterm premature rupture of the membranes.



HSE-HIHI Spark Ignite

HSE-HIHI Spark Ignite

Spark Ignite is run in association with the Health Innovation Hub Ireland (HIHI), the Health Service Executive (HSE), the Office of the Nursing and Midwifery Services Director (ONMSD), the National Health and Social Care Professions Office (HSCP), and National Doctors Training and Planning (NDTP).

Spark Ignite is an innovation competition that is run in collaboration between the Spark Innovation Programme and Health Innovation Hub Ireland (HIHI). The goal of this competition is to help staff in the health service develop solutions to the challenges faced by care providers and patients and solve those problems through the lens of product or service development. The unique element of the Spark Ignite initiative is the valuable knowledge transfer around product and service commercialisation.

Entrants are asked to plan, perfect and then pitch their ideas at the event. The winners of the competition are given funding to further develop their ideas and are in receipt of ongoing support and mentorship.

This unique bottom up approach, supported by the commercial and industrial experience of the HIHI team, allows staff to articulate their ideas in a structured, needs led manner and builds the knowledge and confidence of individuals to promote their ideas for solutions based on their frontline experience within the healthcare system.

The Spark Ignite programme provides an engaged cohort of the HSE with the skills and means to assess innovative ideas, understand the process and requirements to bring them towards reality, and apply these skills to their current work practices.



Developing a culture of innovation from the ground level, by empowering staff to develop their ideas that will ultimately deliver benefits to patients, improve efficiencies, reduce costs, and deliver new products, processes, technologies and services, makes Spark Ignite an approach that is scalable to other departments within the public sector.

Spark Ignite

- **Open to all HSE staff**
- **Bottom up approach**
- **Learn innovation and Design Thinking methodologies**
- **Validate unmet clinical needs and determine if a market exists for their proposed solution**
- **Identify the stakeholders and develop a coherent value proposition**
- **Understand the product development pathway**
- **Reviewed by a panel of experts from various sectors**
- **Funding awarded for further development of winning ideas**

Overview

Over 180 applications with innovative ideas in healthcare were received from HSE staff nationwide. The innovative projects submitted included a variety of new products and services with commercial appeal, and healthcare service or process improvements applicable to any hospital or team, home and abroad, all of which have the patient and the care teams at their core. Following a two-stage review by experienced reviewers, 36 finalists were chosen to go forward to a bespoke innovation workshop, supported by the Local Enterprise Office Galway.

The 36 finalists received mentorship from the HIHI national team to develop their innovative ideas and solutions, and to prepare them for the regional pitching competitions. The Regional pitching finals were conducted

electronically in association with each of the three HIHI offices, Cork, Dublin and Galway. The 12 finalists in each region pitched to a panel of experienced judges comprised of experts from industry, venture investment, Local Enterprise Offices, Enterprise Ireland, public and private healthcare, and academia.

Each regional final awarded five prizes: Best Single Applicant Overall, Best Team Applicant Overall, both winning €3,000, and then three €1,000 prizes for categories of Novelty, Fastest to Market, and One to Watch. The best single applicant overall and best team applicant overall from each region qualified for the National Final. The winner of the national final received a further €3,000 prize for their innovation.

Ignite at a Glance



109.8K

Social Media Impressions



1K +

HSE staff engaged via email and in-person contact



180

Applications



36

Solutions Shortlisted



70 +

Invited to Attend Workshops



15

Awarded Funding Totalling
€33,000

Overview of Applications & Projects



33
Nurses



39
Doctors



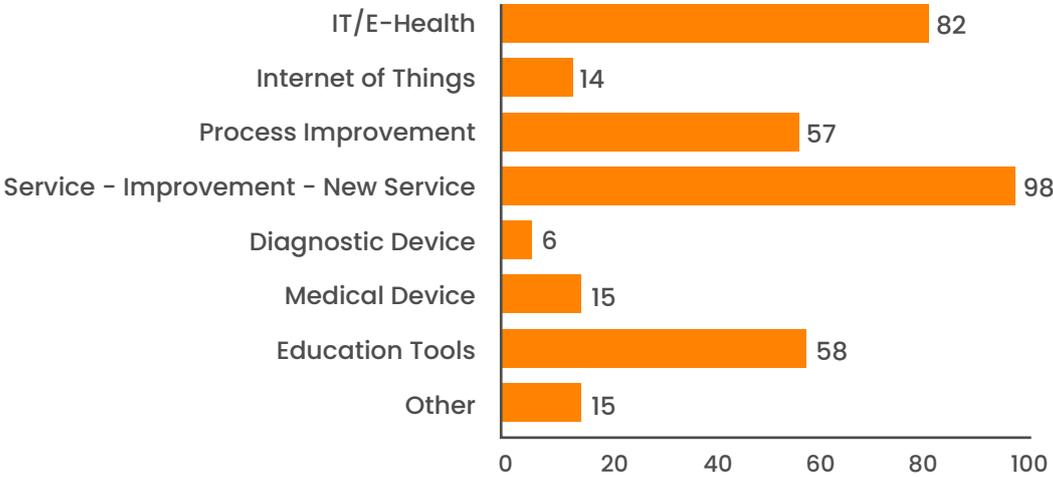
62
Health & Social Care Professionals



42
Other

Roles held by applicants to the HSE-HIH Spark Ignite 2021 Competition

Application Categories



*applications may be in more than one category

Application breakdown by innovation type.

Spark*Ignite

East Regional *Winners*



Individual Winner

A Novel Ankle Range of Motion (ROM) measuring device

Mr Ramy Khojaly, Orthopaedic Clinical Lecturer and registrar, University Hospital Waterford/RCSI

Expected Benefits

A novel and reliable way to measure the ankle range of motion with greater accuracy, reproducibility and ease of use than current solutions

Potential Impacts

- Provides accurate measurement will give precise research results, reflecting directly to improve patients' management

Runner Up

Targeted Health Care Solutions – Use App

Clodagh Rooney and Loretta Ratcliffe, Outreach Workers. Dr Steevens' Hospital, Dublin 8

Expected Benefits

- Active engagement with people who inject drugs using harm reduction interventions reduces risks and increases health outcomes
- Individual becomes more skilled in their practice, thus reducing associated health problems
- Increased awareness of safe disposal of paraphernalia

Team Winner

The FIGO Nutrition Checklist – the first step in pregnancy nutrition

Dr. Sarah Louise Killeen, Registered Dietitian. Prof. Fionnuala McAuliffe, Consultant Obstetrician & Gynaecologist. National Maternity Hospital

Expected Benefits

Plan to convert the FIGO Nutrition Checklist to an interactive webpage that can be completed on a mobile device

Potential Impacts

- Give personalised feedback in real-time, in a user-friendly manner and in a manner that is accessible to the woman.
- The improved layout and content of the feedback section will better support healthcare professionals in discussing nutrition in the appointments.
- Will be suitable to guide women who work through it on their own.

Runner Up

Sleepycubs...babies second skin, but your first response

Patrick Healy and Dermot McDonnell, Senior Clinical Engineers. Our Lady of Lourdes Hospital

Expected Benefits

Early warning of problems with the patient's breathing ensures that appropriate intervention can be commenced immediately

Potential Impacts

- 4500 babies born prematurely in Ireland per year across ~20 NICUs.
- Potential to make €250,000 from units sold, not including consumable revenue

Runner Up

"Box of Happiness" Resource Tool Kit for Children

Dr Edmond Power, Medical Student. Dr Sarah Taaffe. Prof. Farhana Sharif, Consultant Paediatrician and Clinical Associate Professor RCSI Regional Hospital Mullingar, RCSI, UCD

Expected Benefits

Resources for children to develop positive behaviour and resilience to improve their mental health and decrease the stress placed on the HSE

Potential Impacts

- Children and young adults: receive tools to improve their mental health
- Clinical teams: receive a standardised set of resources that they can physically hand to the children who are in need of help
- Carers/Parents: learn techniques that improves
- Government: decreases the stress placed on psychiatric services

Case Study

A Novel Ankle Range of Motion (ROM) measuring device

Dr. Ramy Khojaly, Orthopaedic Clinical Lecturer and Registrar, University Hospital Waterford/RCSI

About the Innovator

Ramy Khojaly (pictured bottom left) is a trauma and orthopaedic surgery fellow. He has 12 years of experience in Trauma and Orthopaedic Surgery. As well as his clinical work, Ramy is a Trauma and Orthopaedic Clinical lecturer at the RCSI and an honorary lecturer at the UCC. In addition to his medical degree, Ramy holds an MSc (with distinction) in Trauma and Orthopaedic from the Queen Mary University of London. Currently, he is completing an MD degree at the RCSI.

He has a particular interest in trauma research, and his MD is focused on ankle fractures research. He conducted the INWN trial, a multi-centre randomised controlled trial investigating weight-bearing following ankle fracture fixation. Ramy was the winner of the Individual category, Spark Ignite Dublin Final 2021.

The Challenge

Ankle fractures are the third most common fracture in adults requiring surgical intervention, with approximately 187 fractures per 100,000 people each year and growing due to growth in the number of people involved in athletics and in the size of the elderly population.

Many foot and ankle conditions will require both protection and limitation of movement to allow healing, but immobilisation for longer than needed leads to stiffness and requires further rehabilitation.



The standard instrument for measuring ankle movement is the manual goniometer. This instrument is neither very accurate, because of the need for visual estimation, nor user-friendly, as it must be held with two hands, leaving neither hand free for stabilisation of the limb or the proximal part of the joint.

The Solution

The novel ankle range of motion splint (RAM) offers surgeons and physiotherapists a reliable way of measuring the ankle range of motion with greater accuracy, reproducibility and ease of use than current solutions.

The brace also allows early ankle movement and control of ankle rotation and side bending, furthering recovery. In a trial of the early prototype, thanks to the RCSI Office of Research and Innovation and the National College of Art and Design (NCAD), early weight-bearing and mobilisation resulted in better patient functional outcomes, reduced hospital stay and promoted earlier returns to work. It also reduces the cost of the management of ankle fractures significantly.

The Impact

Ramy expects the RAM to ultimately replace traditional cast immobilisation and enable controlled ankle movement as part of a treatment protocol which will reduce ankle joint stiffness and the attendant need for physiotherapy. Applying this management protocol will save €8,000 for every 15 patients with ankle fractures requiring surgical fixation. This is a high potential innovation, with the global foot and ankle devices market valued at \$1.5 billion in 2016 and projected to grow by over 10% per annum.

Case Study

The Figo Nutrition e-Checklist – the first step in pregnancy nutrition

Dr Sarah Louise Killeen, Registered Dietitian, UCD Perinatal Research Centre; Prof. Fionnuala McAuliffe, Consultant Obstetrician & Gynaecologist, National Maternity Hospital; Head of Women's and Child's Health, UCD; Director, UCD Perinatal Research Centre.

About the Innovators

Dr Sarah Louise Killeen (pictured left) is a CORU registered dietitian in Ireland and post-doctoral researcher in maternal and child health at the University College Dublin (UCD) Perinatal Research Centre. She completed her PhD in translational medicine this year, with a focus on nutrition, cardiometabolic health and obesity in pregnancy.

Professor Fionnuala McAuliffe (pictured right) is a Professor of Obstetrics and Gynaecology at National Maternity Hospital Dublin, Head of Women's and Child's Health at University College Dublin and Director of the UCD Perinatal Research Centre, a multidisciplinary research centre aiming to improve outcome for mother and baby through clinically relevant pregnancy research.

The Challenge

Malnutrition, manifesting as obesity, undernourishment, and micronutrient deficiencies, is a major global health issue causing significant morbidity, mortality, and economic burden in almost two billion people.



In particular, mothers that have suboptimal diets during pregnancy are more vulnerable to complications like diabetes and high blood pressure, and their children may also be “programmed” to have higher risk of chronic diseases in later life in a cycle of poor health that is passed across generations.

In Ireland, up to 4 in 5 pregnant women may have suboptimal diets and 1 in 2 may be overweight or obese. The World Health Organisation recommends that all women get diet and weight counselling during pregnancy, but compliance with this recommendation is constrained by limited nutrition or counselling training for healthcare professionals and lack of time. In addition, there is a lack of clear, personalised and reputable advice, in conjunction with poor health literacy and hard to navigate, sometimes conflicting, information.

The FIGO Nutrition Checklist is a paper-based, freely available pregnancy nutrition counselling tool designed to overcome some of these barriers, but its effectiveness is limited by its current form.

The Solution

A web-page version of the FIGO Nutrition Checklist simplifies the process for women to get the best nutrition advice suitable for them. After inputting basic personal information and answering a short list of simple questions on food intake, weight, and vitamin levels, they will be shown personalised nutritional guidance on each topic, in plain language, based on their answers.

The web-based tool will take only two minutes to complete and will be easily accessible from a mobile, computer or other similar device. Where professional support is not available, pregnant women will be able to complete the tool alone, addressing a gap in care.

In addition, the non-identifiable information will be used to explore local and global trends in pregnancy nutrition. This will inform policy makers.

The Impact

As well as the direct and immediate impacts on mother and child, improving pregnancy diets as part of a ‘life-course approach’ to maternity care holds great potential to reduce the global burden of diseases such as cancer, cardiometabolic disease, and obesity.

Spark*Ignite

South Regional *Winners*



Individual Winner

The Rapid-Access Online Active Back Care (ABC) Program

Aoife Collins, Senior Physiotherapist
Physiotherapy Department, Cork South Lee PCC

Expected Benefits

Salaso Software will consist of a patient portal and application, linked with a platform for the physiotherapist who will devise and manage the programme.

Potential Impacts

- Physios may save up to 20% of their time each week
- Increased throughput of patients and decreased waiting times for patients
- Estimated total savings to taxpayer 173m – 259 million across the HSE over 3-5 years

Team Winner

Remote Learning in Bronchoscopy using a Low-Fidelity Airway Simulator

Dr Kevin Deasy, Respiratory SpR
Dr Marcus Kennedy, Consultant Respiratory Physician and Interventional Pulmonologist HSE /Cork University Hospital

Expected Benefits

To integrate the use of a low cost (less than €300), single use bronchoscope which can be directly integrated with a remote learning platform and used at home or in the office by any trainee to develop their basic bronchoscopy skills.

Potential Impacts

- Improved trainee proficiency
- Improved patient outcomes
- Reduced costs due to damaged bronchoscopes

Runner Up

A novel clinical care pathway for the management of acute stable spinal compression fractures

Dr Paul McCarroll, Specialist Registrar in Trauma and Orthopaedic Surgery
Department of Trauma and Orthopaedics, University Hospital Waterford

Expected Benefits

Introduction of a clinical care pathway aims to decrease the need for acute inpatient stays and improve the quality of care for these patients

Potential Impacts

- Optimisation of pain management; ensuring access to surgical intervention as required
- Education and empowerment of the patient regarding their own functional ability
- Ensuring adequate work up for the underlying osteoporosis

Runner Up

The Posture Post

Conor O'Mahony, Staff Grade Physiotherapist.
Rachel Casey, Senior Occupational Therapist, University Hospital Limerick

Expected Benefits

Device designed to quantify and objectively assess patients during reaching exercises, undertaken to improve postural and midline awareness

Potential Impacts

- More reproducible and accurate treatment
- Consistency between healthcare staff

Runner Up

Cardiac Physiologist led loop recorder implant service

Leigh Blackmore, Chief I Cardiac Physiologist
University Hospital, Waterford

Expected Benefits

Generation of a physiologist lead loop implant service outside of the cath lab in a clinically suitably minor ops room within the hospital may decrease waiting time from patients who meet the criteria for loop recorder implantation

Potential Impacts

- The waiting time for loop implantation may be reduced and patient stay in hospital while waiting for an implant will be reduced
- Reduced attendances at either GP or ED services for investigation of symptoms and hopefully a reduced incidence of stroke

Case Study

The Rapid-Access Online Active Back Care (ABC) Program

Aoife Collins, senior physiotherapist

About the Innovator

Aoife Collins (pictured bottom left) is a senior physiotherapist working in South Lee Primary Care, Cork. She has 17 years' experience working as a physiotherapist. Aoife holds a BSc in Physiotherapy and an MSc in Older Person Rehabilitation. She has specialist training in Back Pain management and treatment stratification and is the Local Champion for Telehealth Implementation for Physiotherapy, Cork South Lee. Aoife was the winner of the Individual category, Spark Ignite National Final 2021.

The Challenge

The most commonly reported health condition in Ireland, back pain will be experienced by 80% of people at some point in their life, with an estimated cost to the country of more than cancer and diabetes treatments combined. People with persistent back pain are often referred to an orthopaedic specialist, although less than 10% will require surgery with the remaining 90% discharged back to primary care. But the long wait for the consultation – an average of four years – delays their engagement with physiotherapy, leading to an exponential increase in healthcare costs.



The Solution

Rapid-Access Online Active Back Care (ABC) is an award winning, evidence-based group programme delivered via an integrated software platform by Salaso Health Solutions. This easy-to-use, GDPR-compliant software will provide a patient portal and smartphone application which is linked with a platform for the physiotherapist to devise and manage the programme.

The online format supports clients who struggle to attend a clinic to access their physiotherapist without leaving home. Clients can repeat the programme themselves at any time, encouraging self-empowerment and avoiding ineffective and costly passive treatments.

The Impact

Implementation of this programme aims to save up to 20% of physiotherapists' time, increase throughput, and decrease waiting times. Addressing low back pain in a meaningful, patient-friendly, and accessible way presents the opportunity to save €173-€259 million in the next 3-5 years. Further content for the ABC programme is in development.

Case Study

Remote Learning in Bronchoscopy using a Low-Fidelity Airway Simulator

Dr Marcus Kennedy, Consultant Respiratory Physician and Interventional Pulmonologist

Dr Kevin Deasy, Respiratory SpR, Mater Hospital/UCC

About the Innovators

Dr Marcus Kennedy (pictured top right) is a consultant respiratory physician and interventional pulmonologist at Cork University Hospital and clinical lecturer at University College Cork. He was the National Cancer Control Program (NCCP) lung cancer chairman between 2006 and 2020 and chaired the inaugural Lung Cancer National Guideline.

Dr Kevin Deasy (pictured bottom right) is a Respiratory SpR currently completing his specialist training at the Mater Misericordiae University Hospital in Dublin. He graduated Medicine from UCC in 2014 through the Graduate Medicine Programme. His previous undergraduate degree is a BSc (Hons) in Business Information Systems from UCC in 2007. Marcus and Kevin were the winners of the Group category, Spark Ignite National Final 2021.

The Challenge

Specialist training has been impacted by the Covid-19 pandemic not just because of limited training opportunities, but through the overall curtailment of access to teachable moments in the clinical setting. Recent reports have highlighted the need for a transition from experience-based training without outcome and safety assessment, to proficiency-based simulation training that escalates via graded expertise on a pre-clinical basis with a biosimilar procedural model. However, simulators for bronchoscopy can cost over €100,000 with even 'low-cost' models reaching €5-10,000.



The Solution

Our goal was to reduce costs with a low-cost biosimilar device which can be used in conjunction with a single-use bronchoscope, the cost of which is less than €300.

The result is a flat-pack bronchoscopy biosimulator made from reusable or common household products and using various organic agents to mimic endobronchial tumours. Combined with a planned pleural ultrasound kit for home assembly and remote learning, the kit will support both real world and distance learning through remote video platforms. Participants will be able to practice procedures both online with real-time expert feedback and offline at their leisure.

The Impact

In a study assessing the prototype simulator, both expert and novice groups identified an improvement in terms of performance, scope complications and bronchoscopist satisfaction. There is global potential for this project to enhance flexibility of learning and facilitate remote engagement and skill development.

Spark*Ignite

West Regional *Winners*



Individual Winner

AniMammo

Claire Ahern, Senior Radiographer, BreastCheck West, Galway

Expected Benefits

Generation of short videos, no longer than 2 minutes each providing a visual representation and detailed explanation of the steps involved in obtaining high quality images. The videos may be a combination of animation and real life designed so that they can be translated into multiple languages for all users

Potential Impacts

- Reduced costs associated with repeat images during appointment and 'technical recalls' where the radiologist upon image review is not satisfied with the quality

Team Winner

Upper Limb Rehab App

Edel Siney, Occupational Therapist.
Andy Byrne, Physiotherapist.
Brian O'Ceallaigh, Senior Physiotherapist.
HSE - University Hospital Galway

Expected Benefits

Development of an interactive medical app with Zendra health where patients can access a therapist prescribed treatment plan including information on their injury, surgical repair, post op care, rehabilitation from their own home

Potential Impacts

- App could save University Hospital Galway €184,912 per year.
- It may free up OPD slots
- Reduce therapist admin
- Reduce travel/costs for the patient.

Runner Up

Travelling Towards Mental Health Equity

Jacopo Villani, Mental Health Service Coordinator for Travellers, Ita madden, Mary Kennedy, Ciara Ridge, Mary Byrne, Peter O'Reilly, Petra Daly and Doreen Carpenter, HSE Mental Health Services, Sherwood House, Sherwood Avenue, Galway

Expected Benefits

Aims to reduce barriers to healthcare for Travellers and improve their mental health outcomes

Potential Impacts

- Higher Traveller engagement and serviceuptake
- Lower DNA rates
- Better allocation of resources and reductions in mental health inequalities

Runner Up

Helping children learn through play at an early age to manage and control their asthma and allergies

Ally Russel, Paediatric Respiratory CNS, Dr Muhammad Tariq, Maura Rice, Midlands Regional Hospital Portlaoise

Expected Benefits

Help to educate and promote self-management whilst also aiming to prevent illnesses and fatalities in patients with asthma and allergies in the future

Potential Impacts

- Reduce GP and ED visits, reducing hospitalisations
- Reduced cost of medication and investigations
- Reduction in days missed from school and work

Runner Up

Garvin's Colonoscopy Belt

Dr Muhammad Raheel, Surgical Registrar, Portiuncula University Hospital

Expected Benefits

Designed to avoid looping during endoscopy

Potential Impacts

- Lower incidence of colonoscopy looping, shorter endoscopy times
- Minimised patient discomfort
- Reduced total dose of sedation required for the patient
- Improved patient comfort scores and improve safety for the patient and healthcare staff
- Reduced need for further expensive investigations for patients.

Case Study

AniMammo

Claire Ahern, Senior Radiographer, Breast Check West, Galway.

About the Innovator

Claire Ahern (pictured below) is a senior radiographer in Breast Check West. Claire trained in St Bartholomew's school of Radiography, London. In addition, Claire studied Electronic Engineering and holds an MSc in Telecommunications from University College London.

After working as an engineer until 2007 Claire returned to radiography to work part time with BreastCheck, the Irish breast cancer screening service, where she is currently the QA (Quality Assurance) radiographer representative. Claire's interest in art, creative writing and film coupled with a diploma in technology enhanced learning at NUIG, combined to create her award winning "AniMammo" project. Claire won the individual category in the Galway regional final and the Bank of Ireland award for Best Innovation in Healthcare Award (Individual) at the Spark Ignite National Final 2021 with 'AniMammo'



The Challenge

Approximately 1 in 8 women will get breast cancer, and 8 in 10 cases will be in women aged over 50 years. A key healthcare measure is the BreastCheck screening programme which invites women aged 50 to 70 years of age for a mammogram every two years.

Women invited for a screening mammogram are in good health and can be resentful of the procedure, anxious about compression and results, and concerned about radiation. It is the role of the radiographer to explain the procedure and position the client, but they are underserved by a scarcity of clear, visual information resources that can be provided ahead of the appointment. The consequent poor understanding of the process and what may cause poor images or recalls for repeat scans, can create patient anxiety and low participation.

The Solution

AniMammo is a series of short and accessible video animations providing accurate information through illustration that can be easily translated into multiple languages for all users.

The videos will inform and prepare clients for the mammographic procedure by showing how to get into position, what anatomical detail is required in the final image, what the final image looks like, and what it looks like when positioning or compression is inadequate.

Understanding the reason behind the procedure and the radiographer's instructions informs consent and empowers clients leading to an enhanced experience that facilitates them to be active participants in their own care.

The Impact

Enhanced patient participation can lead to improved image quality with associated improved outcomes for the service users in terms of radiation safety and diagnosis, with cost reductions associated with reduction in repeat imagery, and wellbeing benefits for radiographers in terms of ergonomics.

Health promotion and other advocacy organisations can use the videos as a tool to promote the service and address concerns so as to drive participation.

Case Study

Upper Limb Rehab App

Edel Siney, Occupational Therapist,
Andy Byrne, Physiotherapist,
Brian O’Ceallaigh, Senior Physiotherapist,
HSE – University Hospital Galway

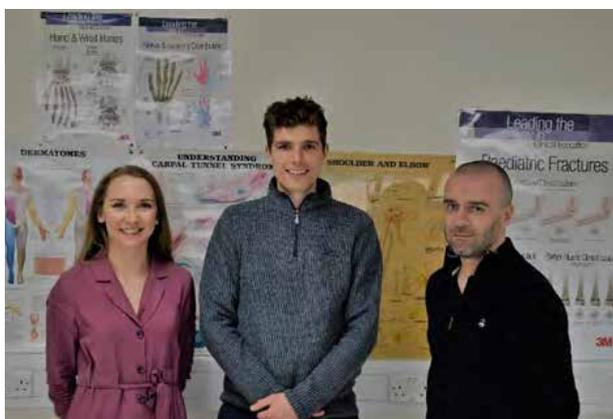
About the Innovators

Edel Siney, Clinical Specialist Occupational Therapist, Andy Byrne, Physiotherapist & Brian Ó Ceallaigh Senior Physiotherapist in Plastics/Hand Therapy (pictured left to right) are all part of the Hand Therapy team in University Hospital Galway, which covers a wide geographical region in the West and North West of Ireland for patients recovering from complex hand injuries.

In March 2020 there was a timely transition towards managing patients virtually as opposed to traditional face to face consultations as a result of travel restrictions imposed as a result of Covid-19. The feedback from patients was very positive and the delivery of this service has proven to be very effective.

The Challenge

Plastic surgery for complex hand injuries requires specific post op rehabilitation, but only three centres across the Republic of Ireland provide this surgery, and there is a lack of local hand therapy services throughout the Saolta region. Thus patients can miss out on their vital care needs. An increasing number of referrals over the last 10 years puts further strain on our hand therapy service.



The Solution

In March 2020, as a result of travel restrictions imposed during the Covid-19 pandemic, there s a timely transition towards managing patients virtually as opposed to traditional face to face consultations. The feedback from patients was very positive and the delivery of this service has proven to be very effective.

Through a collaboration with Zendra Health, our innovators will design and pilot a mobile health app which allows patients to access a therapist-prescribed treatment plan containing visual, audio & written instructions. This will increase options for accessing time critical specialist care for each patient, and aid the patient to progress their rehab journey from the comfort of their own home.

The Impact

Following local ethical approval, the pilot phase of this project will commence in 2022. This has the potential to save €1456 per patient requiring tendon repair surgery, and reduce travel time, associated costs and time off work for the patients.

There will be a knock-on effect of maximising health resources as outpatient and consultant clinic slots can be used to best effect for both hand and other therapies.

Design

Spark Design

Healthcare delivery is complex and problems within healthcare as a result are complicated, requiring intelligent solutions. At Spark we fully believe in human-centred design and our goal is to spread design principles to healthcare professionals. Great Design is inclusive, pragmatic and questions the status quo.

Innovation is a complex process that involves myriad competencies. It can be a long journey from identifying and generating insights into a problem; researching, devising, prototyping, and testing solutions.

Design Thinking and Design Practices are invaluable resources that help potential innovators structure the innovation process, collaborate, and set key milestones for each stage of a project. We at Spark are passionate about the use of design principles in healthcare and strive to integrate with the design community and encourage design thinking and user-centred design in all of our initiatives.



How it works

-  Promoting design practices in the workplace
-  All Seed / Ignite funding applicants attend Design Thinking and Innovation workshops
-  Matching designers with Seed and Ignite projects to maximise impact
-  Designer in Residence
-  Design Challenges / Design Weeks
-  Linking with the Design community such as in our COVID Design on the Frontline initiative

Spark Design Outputs at a Glance



222

Total number participated
in Design Workshops



70

Total number of
projects funded



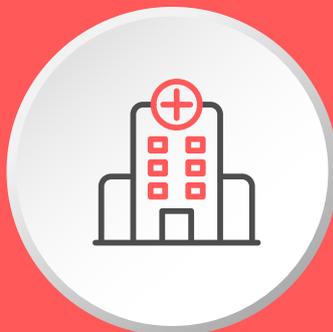
6

Design Thinking Workshops
hosted in 2021



211

Total number of applications



2

Week-Long Hospital
Design Challenges

Design on the Frontline 2021

An initiative to help solve issues identified by frontline healthcare workers during the covid pandemic

Our frontline staff faced intense new challenges during COVID-19 and our healthcare system has been under immense pressure. In response, we created Design on the Frontline - an effort to solve pressing challenges with the help and expertise of the design and innovation community. Our hope was that design could bring new solutions by challenging existing orthodoxies and proposing preferred futures.

Design on the Frontline (DOTFL) was a call to all members of the design and innovation community, from students to seasoned professionals. **Any proposed ideas had to be innovative, implementable, and most importantly, they had to be Human-centred.** And this was where design came in.

We put two simple questions to our frontline staff - 'what current challenges are preventing you from doing your job well today?' And 'what is currently causing your patients distress or leading to negative experiences?' The response was overwhelming. Dozens of healthcare workers were selected to attend a design thinking and innovation workshop led by Trevor Vaughn.

From this we developed 3 design briefs which capture the most cited challenges:

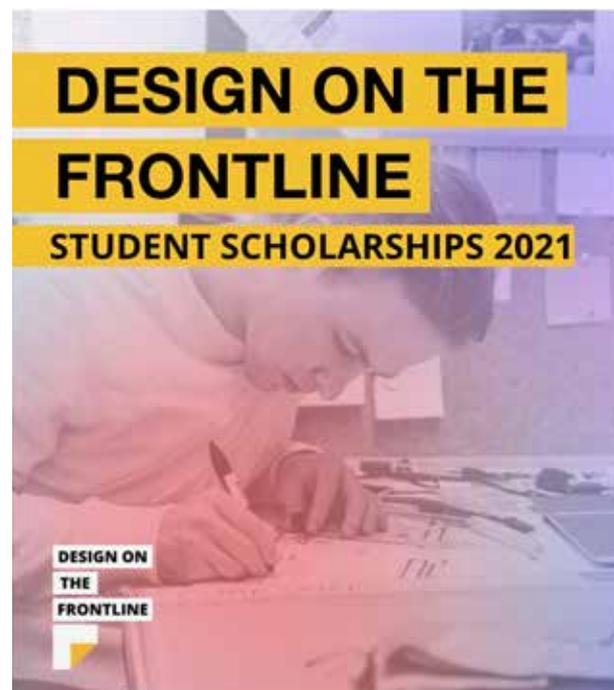
- **PPE Improvement & Sustainability**
- **Frailty and Wellbeing**
- **Communication, Isolation and Boredom**

These were the type of challenges that we know designers are excellent at solving - challenges that required huge empathy, creativity, innovativeness, grit, and agility. We trust the intuitiveness, creativity, and ingenuity of designers. We knew designers were eager to help during this crisis but struggled to find ways to assist. We firmly believe that our community of designers and innovators could make a profound impact on healthcare, by proposing solutions that understand the root cause of a problem.

In the professional category the winner was the St James's Hospital team of Bernie Waterhouse, Tony Galvin, Niall Keane, Máire Kane, and Dr Chris Soraghan for their PPE Gown Annotation project. With the runners-up prize going to Brian Foley, Tom English, Sean Power of the Cadlab for Arctic Band, a flexible waterproof band that delivers instant cooling relief to healthcare workers in PPE.

The student category was won by the National College of Art and Design (NCAD) team of Tadhg O'Connell, Federico Tusacciu, Sinead Spring, Gareth Byrne and Ava White for their innovative app idea, Waffle. They were followed by another NCAD team composed of Giancarlo Nollora, Katie O'Brien & Kate McKenna for their project entitled, Iontach. Waffle enjoyed further success by being shortlisted in the Student Category of the Irish Healthcare Awards.

Coming Soon...



Case Study

PPE Gown Annotation

Bernie Waterhouse, Tony Galvin, Máire Kane, Niall Keane, Dr Chris Soraghan

About the Innovators

Bernie Waterhouse and Tony Galvin are Clinical Nurse Managers at St James's Hospital (SJH) Dublin who identified the need for a better PPE Gown, along with their staff while working on a COVID-19 Ward; Máire Kane is Designer in Residence at SJH and the lead designer for this project; Niall Keane is a design student at Maynooth University and former Design Intern at SJH; Dr Chris Soraghan is a Senior Clinical Engineer and leads the Design Innovation Lab at SJH.

The Challenge

The St James's team took up the 'Design on the Frontline' challenge in the Professional Category in February 2021 to apply design principles to problems that they had experienced working on a COVID-19 ward. The team knew that safe donning and doffing of PPE reduces the risk of transmission of COVID-19. They used this design challenge as a starting point to explore improvements in PPE use. The aims were to make it easier for staff and visitors to don and doff gowns correctly, thereby reducing the risk of COVID-19 transmission due to poor doffing practice.

The Solution

Surveys and interviews were carried out on staff from a COVID-19 ward at St James's Hospital to identify PPE related needs and challenges. Design workshops between clinical and engineering staff established root causes of improper use and led to the co-design and development of a concept design and prototype. The design was prototyped and tested with two non-clinical groups (3 in each group) – one using the old design and one using the new design. This quick proof of concept test demonstrated less contamination events in the group using the new design compared to the current gown in use. The application of the redesigned gown extends beyond COVID-19 and is relevant for PPE use during other common situations such as managing patients with CPE infection.

The Impact

The design has been developed further since the competition and usability testing has been performed by SJH's in-house product designer Máire Kane with clinical ward staff. The intention is to explore how the design can be made and tested further at SJH and to look at having the gowns developed for use across the HSE.



Bernie Waterhouse



Chris Soraghan



Niall Keane



Máire Kane



Tony Galvin

Case Study

Arctic Band

TheCADLab

About the Innovator

TheCADlab is a prototype design company which strives to promote innovation by offering a complete prototype design service to bring a product to life.

Founded by Brian Foley, Seán Power and Tom English in March 2021 theCADlab has helped numerous companies design and build prototypes of their dream products before helping them secure funding or organise full scale manufacturing of their product on the back of their prototypes.

The Challenge

Since COVID, frontline staff in hospitals are often required, given the infectious nature of COVID-19, to wear full body Personal Protective Equipment (PPE) for prolonged periods of time. The DOTFL call outlined a need for a solution to the issues presented by this intense use of PPE. TheCADlab answered the call and began interviewing frontline staff to see what the biggest issues they faced were.

It was found that our frontline staff were experiencing extreme discomfort due to overheating in the hospital setting. The core body temperature of our frontline staff can reach temperatures of 38.9°C when wearing full PPE. For context, the HSE defines normal body temperature as between 36-36.8°C with a high temperature or fever defined as 38°C or higher.

TheCADlab began developing a simple solution to this problem and thus the Arctic Band was born.



The Solution

Studies from Stanford University have proven that cooling of the wrists has a dramatic affect on core body temperature. The Arctic Band applies sub-zero temperatures to the wrist through a simple ice-pack encased in a super hygienic, wipeable silicone wristband. The band shapes to the user's wrist meaning no fasteners are needed which are often hard to disinfect.

The simple design boasts the following benefits:

- **Can be worn under or over PPE.**
- **Can be removed/ replaced at user's discretion.**
- **Low cost design allows for high volumes which makes it accessible for greater numbers of staff.**
- **Small lightweight device suits basic freezer facilities.**
- **Easily transferred in and out of COVID wards with other equipment.**
- **Low class medical device leading to rapid development.**
- **Environmentally friendly design**

TheCADlab has currently developed over 40 arctic band prototypes that are currently being trialled in St. James' Hospital to gather design feedback. This feedback will be used to optimise design before approaching full scale manufacturing.



Designers in Residence



The Mater/Spark Designer in Residence & Design Internship Programme Planning

The success of the above projects is testament to the significant potential that design offers to drive frontline innovation within healthcare – particularly when supported by a team like Mater Transformation who can:

- **Cultivate and identify optimal opportunities where design can impact**
- **Connect designers with frontline workers and provide access to the wider hospital**
- **Mentor frontline workers through the change process helping them to overcome obstacles and drive projects through to completion.**

Recognising this, in November 2021, Spark Innovation and Mater Transformation began discussions around how to scale this work. It was agreed that the optimal plan would be to provide access to full time designers, working within the existing Mater Transformation team – rather than having to rely on applying for funding from various sources to individual projects.



To this end, Spark Innovation co-funded a one year full time Designer in Residence post and two six month Internships from NCAD undergraduate design programmes. Together with the Service Innovation & Design Lead and Project Manager at Mater Transformation, this team will deliver an ambitious programme of design-led innovation at the Mater in 2022.



A St James's Hospital and HSE Spark Innovation Programme joint initiative appointed Ireland's 1st Designer In Residence at a public hospital.

Máire Kane joined the design team at SJH in November 2021 to bring year-round design expertise to bear on various designs underway at the hospital.

Máire was appointed as Ireland's first Designer In Residence at a public hospital in 2021, in a joint initiative between St James's Hospital and the HSE Spark Innovation Programme. This role at St James's Hospital aims to provide ongoing design expertise in the Design Innovation Lab team which consists of designers, physicists and clinical engineers who work with frontline healthcare staff to develop ideas and address design challenges.

Máire has responsibilities for user research, developing concepts, prototyping ideas and conducting usability assessments with healthcare staff. Prior to joining St James's, Máire completed her studies in the National College of Art and Design (NCAD) with an undergraduate degree in Product Design and MSc in Medical Device Design.

Following college, Máire worked for Versono Medical, a Galway based medical device start-up company who are developing a device to transform endovascular treatment of complex calcified lesions.

Design Challenges/ Design Weeks



The Mater-NCAD Design Week 2021

The Mater-NCAD Design Week has been running since 2016. This is an intensive 'design sprint' where masters level design students from NCAD work alongside Mater staff across five days on a series of challenges set for them by the staff.

Staff are invited to submit design challenges through an open call. On the Monday morning of Design Week, students and lecturers set up a design studio in the hospital and are given briefs. On the Friday morning, following four days of intensive research, ideation, prototyping and testing, the students then present their final solutions at the now very popular 'Design Showcase' event.

The design students come from a variety of design backgrounds and they offer a different skillset and perspective. Matched with the subject matter expertise of hospital staff, this allows for a new perspective on long-standing problems generating exciting and creative solutions. The Spark Innovation Programme has been supporting the Mater-NCAD Design Week since 2019, providing a €3,000 Seed Fund for the winning project as well as participating in the judging panel.



This year's winner was 'Caitwalk' – a medical device innovation that addresses the need of patients who require something more supportive than a walker but less passive than a transfer aid. The Mater champion for this project, Physiotherapist Caitriona Fingleton, will now have access to the €3000 Seed fund from Spark to help bring the concept to the next stage.



Design Innovation Lab
@ St James's Hospital

SJH Design Week 2021

SJH Design Week is an annual event hosted by the Design Innovation Lab in MPBE to support St James's Hospital staff in solving problems through design.

Leading up to SJH Design Week, staff are invited to submit ideas to improve the delivery of care, with a focus on better design. Ideas submitted have included, for example, concepts for improving medical equipment, 'gadgets' for assisting in clinical procedures and improvements to processes and facilities.

Design and engineering students from the National College of Art and Design (NCAD) and Trinity College Dublin (TCD) are then paired with staff to work on the shortlisted ideas over SJH Design Week in a design sprint. Design concepts are developed over the week and then presented to a judging panel who determine the overall winner. The winning design is then taken forward after the week to develop it further towards a final product with the staff member(s) (Ideators) and design team at the Design Innovation Lab, with support from the Spark Innovation Programme.

Seven projects were shortlisted in 2021 and pitched to a judging panel to determine a winning design which received €3000 development funding from Spark to further grow the design at the hospital.



This year's winner was Mary Monks – Chief Medical Scientist, Histopathology –for a Safety Improvement Product Design for Staff in the histopathology lab at SJH. Mary will work along with the MPBE Design Innovation Lab at MISA to develop the solution for the hospital.

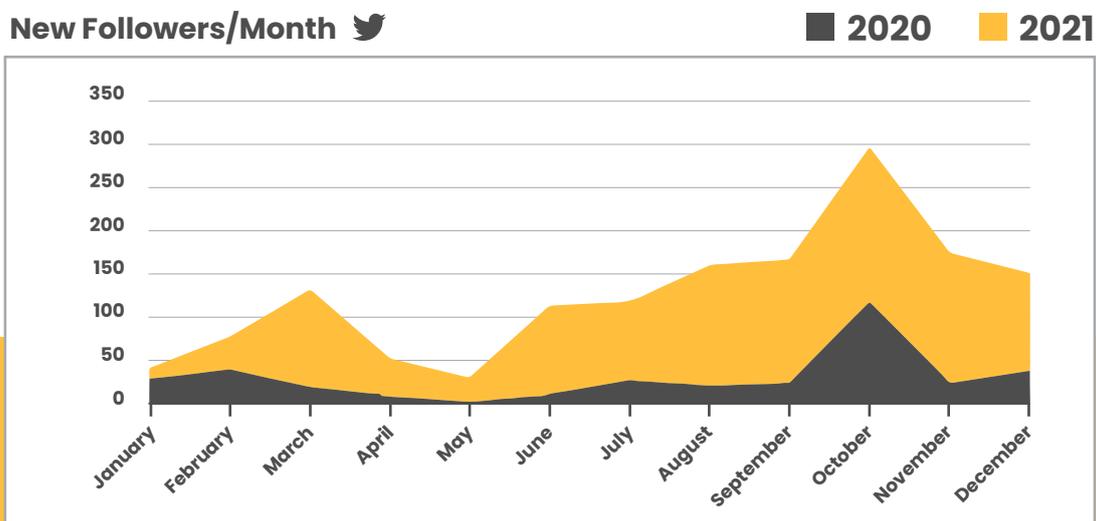
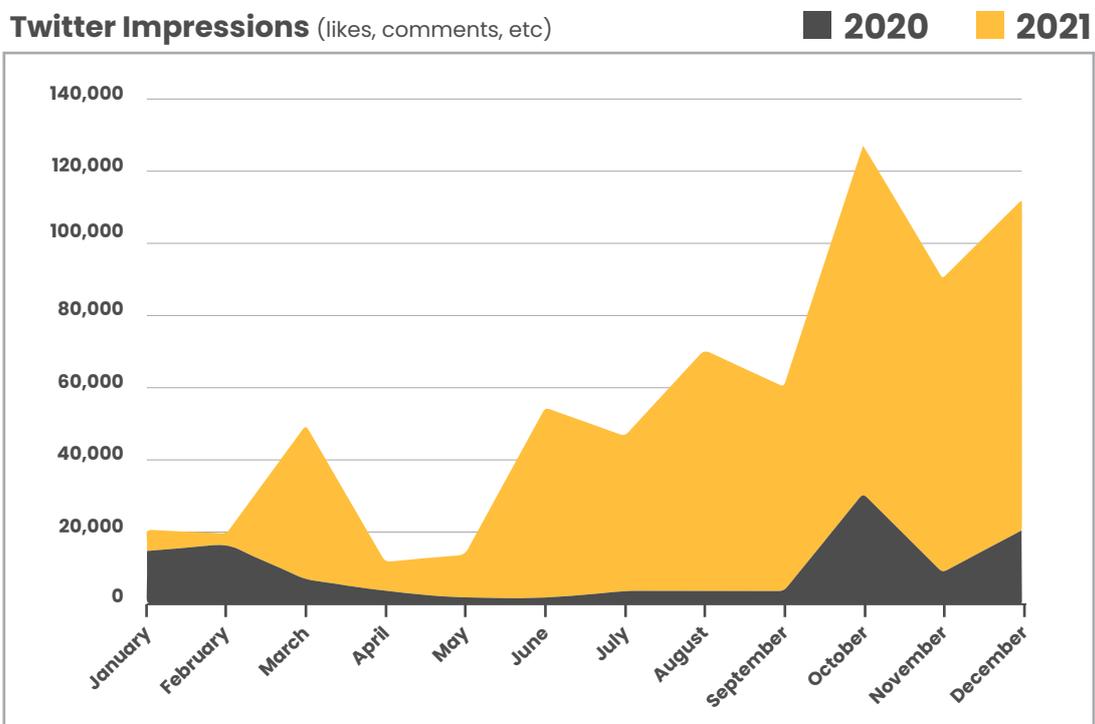
Engagement



According to the Health Services People Strategy 2019–24, increasing the agency and influence of our staff to innovate in their own departments is a key priority of the organisation. 2021 marked several milestones for us in terms of engagement with our primary stakeholders, frontline healthcare workers.

All across the Health Service, our frontline healthcare workers are at different stages in their innovation journey. While in some institutions, there exists a strong improvement and change culture, in many others, workers do not readily self-identify as innovators. At Spark we know that there is huge innovative potential across the system, it is a matter of increasing our levels of connectivity in order to truly harness that potential.

Social Media Growth



Showcasing Excellence – Innovator of the Week

Many champions of innovation already exist in the healthcare ecosystem. We believe that it is so important to celebrate and acknowledge their efforts. One such initiative is the “Innovator of the Week” award; where we profile a healthcare worker every week who has made a significant contribution to shaping the face of healthcare in Ireland through Innovation.



Engagement Fast Figures



500K

Twitter Impressions



7

Innovators of the week



4

Fellow Roadshows

Network



Innovation is a team sport

By forming connections with HSE, academic, entrepreneurial and industry partners, effective synergies form that drive the implementation of new products, processes and efficiencies across the system.

2021 saw the formation of a National Innovation Practitioners Network, linking institutions with a dedicated innovation resource and remit within the HSE.



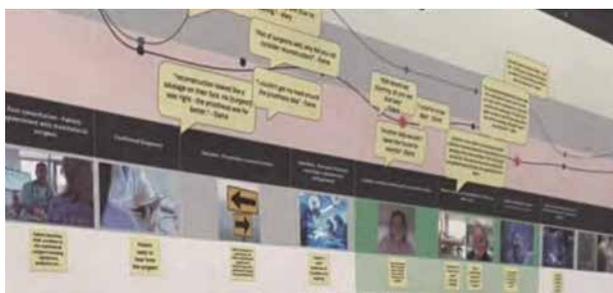
Research



2021 has heralded a new era for the Spark Programme as we reflect on the activity of the past 4 years since the inception of the programme. Having witnessed the impact that the Programme has had on innovation at the front line and gained insight into the factors that support or impede successful innovation, we believe that the time is right to begin formally capturing that impact & insight through the development of an in-house research pillar.

The activity of the Spark Programme prides itself on how it develops initiatives in response to needs felt in real time by the health service. Through developing a formal research strand we will also be in a position to be informed by evidence as we plan for the future direction of the programme and develop supports to sustain innovation activity at the frontline.

This year we have embarked on an exciting research partnership with Maynooth University that will be hugely beneficial in assisting us to build our research strategy. There are ambitious plans for 2022 to retrospectively analyse data collated over the first four years of the programme's activity and to embark on an in-house research project. Using an Action Design Research Methodology, we will generate new knowledge about the innovation ecosystem in Ireland while simultaneously designing and testing a tool to support frontline workers as they engage in innovation activity.



Pioneering



In addition to supporting the pioneering innovation activity of clinicians at the front line of healthcare, the Spark Programme also engages in experimental exploration of new and exciting ways to address the 'wicked problems' of healthcare. 2021 saw the beginning of two large scale projects that addressed the challenges faced by patients undergoing life altering maxillofacial surgery and the increasing comfort and infection control challenges emerging throughout the COVID-19 pandemic.

This is the first time that The Spark Programme has commissioned two longitudinal projects that are likely to span a two year period but promise to yield high impact outcomes and further demonstrate the impact that Design can have on delivering excellence in the healthcare service.

Saving Face

Enhancing Patient Experience at the National Maxillofacial Unit, St James’s Hospital, Dublin

Defects of the head and face following the removal of cancerous lesions represent a considerable physical and psychological challenge for patients. Few surgeries have such an impact on appearance, self-esteem and general emotional wellbeing.

“I couldn’t go to the shops for a year.”

Patient experience

“I frightened my grandchildren.”

Patient experience

The main approaches to managing these patients are with surgical reconstruction or prosthetic reconstruction. Though surgical reconstruction can be a long-term solution, it is not suitable for all patients; may not be an option in the event of large defects; and is technically very challenging. Removable facial prosthetics can offer a functional and aesthetic solution to patients without the complications of surgical reconstruction. They can have a huge impact on psychological health and quality of life. The National Maxillofacial Unit currently provides facial prosthesis rehabilitation to patients across the country.

The Challenge

Despite the hard work of the team at the National Maxillofacial Unit, and innovations in facial prosthetics in recent decades, the process remains labour-intensive and time-consuming. It is also difficult for patients to imagine their lives with a prosthesis that will require lifelong maintenance and occasional replacement. The Unit reached out to us, suggesting the introduction of digital technology as a potentially innovative solution to some of these issues.

The Solution

Recognising that the unresolved challenges in this unique problem space were multifactorial, Spark sought the expertise of Actionable, a design consultancy.

Through a Design Thinking lens, the problem area was explored. Following an iterative process, the Actionable team, along with Maire Kane (Designer In Residence) and the Maxillofacial staff, solutions including the introduction of an intermediate prosthesis and the application of 3D printing were proposed. These have the ability to vastly improve the service delivery and therefore the patient experience.

The human-centred approach to problem solving in the facial prosthesis rehabilitation process will continue into 2022 with ongoing input from Actionable, the Spark Programme, patients and their families, along with the team at the National Maxillofacial Unit.



GN95 Personal Protective Gown

Niamh Lynch, Jincy Jerry

About the innovators

Niamh Lynch (pictured top right) is a designer and the head of the Fashion department at the Dublin Design Institute and has 18 years of experience working in the fashion design sector, both in Ireland and internationally. Niamh obtained a first-class honours MSc in Design Innovation from Maynooth University and recently worked on an Interreg Europe project with Irish SMEs for the Industry, Research and Development Group and Enterprise Ireland. In 2021, Niamh's innovative redesign of the personal protective gown was chosen as a finalist in the Spark innovation 'Design on the Frontline' competition.

Jincy (pictured bottom left) is the Assistant Director of Nursing in Infection Prevention and Control at the Mater Misericordiae University Hospital, Dublin, Ireland. She has expertise in clinical disinfection, environmental decontamination, surgical site Infection surveillance, outbreak management, and ventilation. Jincy was awarded the "Hospital Manager of the Year 2020" by Irish Healthcare Awards due to her outstanding leadership and inspirational vision.

The Challenge

Using a design thinking methodology, the challenge was to improve the interaction, efficiency & comfort challenges arising as a result of increased PPE gown usage. By researching current personal protective gowns and gaining insights from frontline workers the objective was to design and manufacture a PPE gown that will fulfil the needs outlined by the user.

The Solution

The GN95 personal protective gown has been designed incorporating user feedback to define the requirements of frontline workers' by evaluating the poor design and functionality of current PPE gowns. Niamh Lynch



developed the GN95 gown to address the issues encountered by frontline workers due to the increased use of PPE. By capturing user feedback to define requirements some of the key insights gained related to the comfort, fit, safety, temperature and difficulty donning and doffing when using the traditional gown. As a result, the GN95 gown aims to provide key protection benefits with extra comfort and performance to serve the user's needs.

Features include one size-inclusive garment, and an effortless donning process with closures that enable the wearer to edit the body and cuff fit as desired. The textile is manufactured to provide breathability and the gown is fabricated using sealed seams with a centre back vent allowing heat to escape therefore stabilising body temperature. The textile also affords resistance to penetration by contaminated liquids, contagious aerosol and infective agents. The sealed seam manufacture process facilitates a much-improved doffing experience minimising cross-contamination.

With support and collaboration from Jincy Jerry (Assistant Director of Nursing in Infection Prevention and Control) at the Mater Misericordiae University Hospital, a pilot of the GN95 gown within a COVID ward is presently in operation to allow users to evaluate the design of the gown and gain valuable user feedback. The aim is to continue the active involvement of users to evaluate the design and champion the GN95 gown to expand the product usage both nationally and internationally.



Professional Development

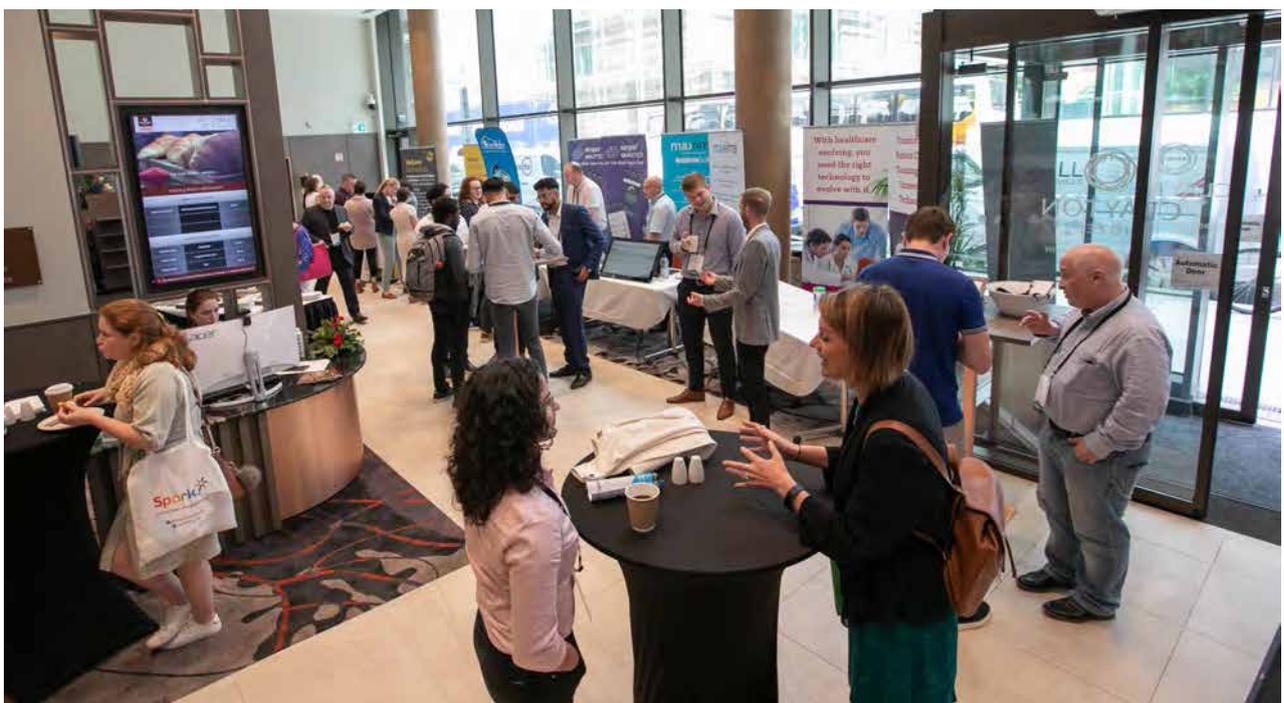


At the Spark programme, we strive for continued improvement not only within the health service but also for the frontline healthcare workers that we support.

The National Innovation Fellowships offer a chance for clinical staff to gain a whole new perspective on the administrative and governance structures involved in working in the HSE. This ensures that when they return to their clinical roles, they are poised to apply innovative strategies in line with clinical best practice.

This year alongside our national initiatives, the team ran a number of workshops and educational events upskilling Spark participants in design principles as well as pitching and business case development. We recognise that ideation and design is only one part of a journey towards implementation and endeavour to ensure that those who engage with the Spark programme are offered a robust skillset to advance both their projects and their personal and professional development.

We also encourage our Spark fellows to use the fellowship to advance their skills and capabilities in the fields of innovation and change. We were delighted to support Alan, Ivan and Rachel in undertaking postgraduate qualifications in these areas.



Evaluating Impact

What you can't put a number on

Through pursuing our three strategic objectives we are empowering frontline staff, creating a supportive ecosystem for innovation, and making the healthcare system more capable of carrying innovative staff projects and processes.

Together with frontline staff, we are helping to create a better health system that is attentive to the needs of service users and responsive to the impulses of care providers to improve services through innovation practices.



Empowering Frontline Staff

- The power of being told your idea is really good
- Feeling your insight, experience and creativity can make a difference
- Being given the tools to advance your solution



A Better Healthcare System

- Problems are resolved quickly at little cost.
- Collaborative working becomes the norm, and promotes mutual inter-professional trust and respect.

A Culture of Innovation

- Improved services
- Better use of resources
- Patients-centred solutions

2021 Year in Review



500

Total Applications Received



292

Frontline Healthcare Workers who attended workshops



90

Projects Supported



Innovation Programme

Looking Forward to 2022

We will continue to grow the Spark Programme offerings and further strengthen our collaborative work with our partners.

In 2022 we aim to:

01 _____

Continue, expand and evolve all Spark Initiatives.

By adjusting each iteration of our initiatives to further meet the needs of the frontline HSE staff and our sponsors we hope to engage with a wider range of frontline innovators.

02 _____

Run the Hospital Innovation Fund and support implementation of these projects.

03 _____

Complete the recruitment process for the NCHD, Nursing/ Midwifery and the HSCP fellows to champion the priorities and circumstances affecting their peers.

With an expanded team we aim to provide a more visible presence at HSE events and meetings.

04 _____

To continue to grow our social media presence and promotion of initiatives.

05 _____

Evolve Spark Ignite and continue building this initiative.

06 _____

Develop speciality specific 'Design Thinking Boot Camps'.

07 _____

Expand our Innovation Network through units with established, or in the process of establishing, Innovation departments.

08 _____

Hold Spark Summit 2022, an in-person conference and awards ceremony.

09 _____

Host the Spark Innovation Series: Online webinars briefly introducing bite-sized design thinking sessions to HSE staff.

“

“The design-thinking workshop was amazing! Spark is the appropriate word. It sparked creativity to what could be”

Siobhain Treacy
Health Protection CNM2, HSE Mid-West Department of Public Health

”

“

“The Spark Seed programme gave me the help, support and tools I needed to bring my project from an idea to a reality. Their knowledge and guidance is outstanding.”

Emer O'Rourke
Clinical Practice Support Nurse in Urology and Kidney Transplant
Beaumont Hospital

”

“

“The programme was engaging from the outset. The workshop days were highly effective in gathering groups of like-minded HSE staff together to highlight common problems throughout the health service. There was great shared learning and a great opportunity to network.”

Vikki Sheeran
Nurse Practice Development Unit, Sligo University Hospital

”

“

“Taking part in the Design-Thinking workshop was very beneficial for us as a team. It provided an opportunity for us to think differently and be exposed to other professionals and teams and hear how others are working.”

Clare Flanagan
Registered ANP Old Age Psychiatry, St Vincents University Hospital

”



Spark*
Innovation Programme

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