Frontline Innovation Awards

HSE

Spark Innovation Programme

The COVID pandemic has driven home what supporters of the Spark initiative have known for a long time - that the health service of the future will need to be adaptable, flexible and responsive, and we will be required to change how we do things not just occasionally, but constantly.

Innovation is the new normal, from the advanced technology in our pockets, to the radical re imagining of logistics, supply chains, record keeping and information use, to changing attitudes to governance, stewardship, and sustainability.

The public are eager for change. They see how services can be improved, they demand value for money, and they want services to be designed to meet their needs, and not the system's.

Healthcare professionals and healthcare workers, meanwhile, see the changes that can be made, want to be part of that change, and want the system to stop holding them back.

We are delighted to acknowledge and celebrate some of our innovative frontline healthcare workers through various awards in this booklet.

Spark Innovation Programme

HSE

Office of the Nursing & Midwifery Services Director

Health & Social Care Professions

NDTP National Doctors Training & Planning

Initially established as a national programme to empower and engage doctors at the beginning of their careers, Spark Innovation Programme has expanded to include all healthcare professions, and every employee of the HSE, thanks to ongoing support from Office of Nursing and Midwives Director (ONMSD), National Doctors Training and Planning (NDTP), and National Health & Social Care Professions Office (NHSCPO).

Engage & empower frontline staff

- Spark Ignite
- Spark Seed
- Covid Call
- Hospital Innovation Fund
- Design Thinking Workshops

Create a supportive ecosystem

- Innovation-friendly workplace
- Collaborative work practices
- Human-centred thinking
- Innovation Fellows

Develop systemic capability

- Funds
- Fellows
- Partnerships
- CPD validation
- eLibrary
- Advocacy

Frontline Innovation

Collaboration

- National Doctors Training & Planning (NDTP)
- Office of the Nursing & Midwifery Services Director (ONMSD)
- National Health & Social Care Professions Office (NHSCPO)
- Engage and support Local Innovation Officers
- Develop external partnerships
- Deploy design expertise
- Find funding solutions

Accelerate Projects

- Develop prototypes
- Support and evaluate pilots
- Launch new products, services , processes and pathways
- Roll out locally
- Scale across healthcare system

Outcomes

- Improved patient outcomes
- Improved patient experience
- Shorter waiting times and fewer admissions
- Less unnecessary tests or procedures
- Better pathways
- Empowered patients
- Empowered workforce
- Savings
- Better use of resources

Supporting frontline innovation

Contents

01

Proven Success

Some projects so astutely identify a problem, and so precisely arrive at a solution, that you wonder how we ever got along without them!

MyCheckMate | Fluid Heart Tracker

Norma Caples | Clinical Nurse Specialist, University Hospital Waterford; Lead Nurse, National Heart Programme.

HSE-HIHI Spark Ignite 2020

The Problem
Fluid retention, manifested by weight gain, is indicative of Heart Failure. Patients with heart failure are required to record their daily weights, calculate weight gain and alert their clinical teams when weight gain exceed certain limits. However, up to 66% of heart failure patients have mild cognitive impairment, and the resulting reduction in numeracy and cognition skills can lead to an inability to recognise weight gains.

The Solution
Fluid Heart Tracker is a simple mobile phone app to record weight and alerts the user to seek clinical help when their weight is increasing. Prompt identification of weight gain before symptoms manifest enables rapid intervention, leading to better patient outcomes, reduction in hospital admissions, and a potential saving of €87 million per annum!

Success
The App was launched on the Irish Heart Foundation website, and Norma is now conducting a follow-on study as part of a PhD thesis at TCD – a true clinical entrepreneur!
"Nurses are natural innovators. We are often faced with challenges on how to provide best care for the patient and therefore we become experts at problem solving. A lot of great ideas from nurses have been lost to lack of knowing on how to develop or explore these ideas for solutions."
With twenty years' experience in Cardiology, Norma has submitted many innovative ideas to HIHI in the past, always focused on improving outcomes for patients.
"I was so excited when I read about the HIHI Spark Ignite competition. Thanks to mentoring provided by HIHI, I learned how to pitch my idea and move it forward. I will use these invaluable skills throughout my nursing career."

Steth-o-scope | A smartphone app for interns on call.

Dr Louise Rabbitt, Prof Dara Byrne, Máirín Murray, Dr. Lyle McVicker | NUI Galway and Saolta University Healthcare Group.

Bright Spark 2020

The Problem
When you start your career as a healthcare professional, working to develop clinical skills while also acclimatising to the operation of a hospital can be a very stressful. Research identified that the approach to the acutely unwell patient, and in particular knowing where to start, was a challenge for interns. The team asked whether a checklist to support decision-making when under stress would help interns navigate the encounter with acutely unwell patients, and ease the experience for all parties.

The Solution
The Steth-O-Cope Mobile App supports clinical decision making with a range of tools:

- Checklists for the different stages involved in reviewing a patient - prepare, assess, investigate and manage.
- Practical and useful tasks for interns to do when assessing patients, with a selection of common acute problems.
- Guidance on clinical features which should trigger escalation to more senior decision-makers.
- Prompts for stopping and thinking.
- A list of web resources to related protocols and guidelines.
- Tool for creating a task list and setting reminders.
- Share features to support peer learning.

Success
Steth-o-Cope receives more than 1,000 downloads per week on Google Play across more than 40 countries, with a star rating of 4.7/5. Users report that the app serves as a quick reference to ensure they are progressing appropriately, reminding them to seek help and escalate care as needed. This increased support reduces stress and anxiety in the healthcare professionals and ensures a best possible outcome for the patient.

02
High Potential

These products may be at an early stage of development, but they each solve an acute problem, significantly improve the delivery of care, empower clinicians, and save money. They have also clearly identified a global market for their solution. Exciting times indeed!

Wee catch it!

Bernadette Higgins, Assistant Director of Nursing;
Anne Murray, Health Protection Nurse, Department of Public Health, Limerick.

Spark Ignite 2022 Regional Winner

Total primary care costs (including antibiotics) to treat suspected UTIs adds up to approximately €19.2 million per annum nationally. However, many of these infections are misdiagnosed due to the difficulty of collecting urine samples in an efficient and hygienic way. This can be particularly true for pregnant women, babies and chidren, and the elderly. Our innovators have developed three targeted solutions for urine sample collection. For pregnant women, the solution is a stick similar to a pregnancy test kit. For older persons, people with physical impairment, and babies, the solution is a sanitary-type pad with an inbuilt reagent strip. This is placed in underwear or a nappy and is absorbent. All three solutions will reduce carbon footprint, are environmentally friendly, and will reduce waiting times. Each comes with a barcode and an associated downloadable App which enables results to be automatically triggered to a general practitioner, hospital or pharmacy system.

PressiDect

Siobhán Ryan, Class of 2022, RCSI.

HSE-HIHI Spark Ignite 2020

PressiDect is a peri-operative pressure detection system in the form of a smart mat utilised on the surface of an operating theatre table. Tactile pressure sensors actively map a patients' position during their surgical procedure, measuring pressure changes in real time and indicating where anatomically the patient would be most "at risk" to pressure injury as a result of prolonged immobilisation under anaesthesia.
Designed to operate at a unique 'micro' and individualised level, the primary goal of this innovation is patient safety by prevention. Pressure ulcers cause pain and infection, lengthen hospital stays, carry significant morbidity rates and are wholly debilitating for patients, leading to extensive, prolonged, costly and complex multidisciplinary care.

HSE-HIHI Spark Ignite 2021

A novel ankle range of motion (ROM) measuring device

Dr. Ramy Khojaly, Trauma and Orthopaedic Clinical Lecturer, RCSI.

Currently at second prototype, ROM reduces the cost of the management of ankle fractures by over €500 per patient. This ankle splint offers a reliable way of measuring the ankle range of motion with greater accuracy, reproducibility and ease of use than current solutions, and enables early weight-bearing and mobilisation to reduce the ankle joint stiffness and the need for physiotherapy, resulting in better patient outcomes, reduced hospital stay and earlier returns to work.
ROM will both replace traditional cast immobilisation and usurp the unwieldy manual goniometer as the go-to tool for measuring range of motion.
Ankle fractures are the third most common fracture in adults requiring surgical intervention, and with the global foot and ankle devices market size valued at $1.5 billion in 2016 and projected to grow, with ROM, the sky is the limit!

ORMS 1.0 - Orthopaedic Management System

Dr. Christopher Fenelon, Specialist Registrar in Trauma & Orthopaedics (T&O), Midlands Regional Hospital, Tullamore.

In March 2022, the Pathpoint eTrauma platform was launched in Midlands Regional Hospital Tullamore and Our Ladys Of Lourdes Hospital Drogheda. This cloud based digital platform is now used to coordinate the daily trauma surgery list, daily trauma referrals, patient handover and inpatient management, while also being used to manage the Virtual Fracture Assessment Clinics (VFAC). The new system eliminates a range of non-standardised paper-based forms, which have been typically copied, faxed, scanned and emailed to multidisciplinary team members, thus streamlining and safeguarding communication and coordination of multidisciplinary Trauma and Orthopaedics teams who carry over 20,000 procedures per annum in Ireland, and allows patients to receive instant information on their injury and rehabilitation once a treatment decision is made. The next part of the project involves integration with the HSE's IPMS administration system.

Syringe Safety Clip

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

The Challenge
Studies have repeatedly shown that up to 94% of anaesthetists have been involved in medication errors, including syringe swap errors, most of which were potentially life threatening, with 20% having consequent litigation at an average cost to the HSE of €151,000 each. This is a worldwide issue in healthcare that needs to be addressed.

The Solution
The "Syringe Safety clip" forces the pratitioner to physically unlock the syringe before administering a medication, and also provides visual differentiation for syringes filled with high-risk medications. Preventing the plunger from being depressed without removing the clip provides a moment of pause or a "double check", which is currently lacking. The clip works with all syringe brands and sizes, requires minimal training for correct use, and is a very affordable adjunct to current equipment and practice. Richard is working with medical industry innovators to bring this device to the wider anaesthetic community and improve patient safety in our hospitals.

My Kidney Health

Dr Sinead Stoneman, Nephrologist – Cork University Hospital

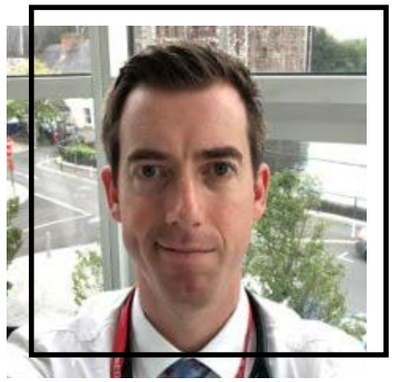
The Problem
Chronic kidney disease affects 15% of health care users in Ireland. Chronic kidney disease is associated with increased morbidity and mortality among affected patients. The cause of kidney disease are myriad. Patients with kidney disease are frequently complex with multiple comorbidities. They have different care needs, with different causes and stages of kidney disease, likelihood of progression. Their treatment can be variable and also more complex after transplant or when requiring dialysis. Understanding and communicating information regarding the multiple aspects of their care to patients can be challenging.

The Solution
To create a patient-focused app that delivers information regarding medications, their primary kidney disease, the stage of kidney disease, living with dialysis and transplantation, let contact numbers and more. The information will be mobile, searchable health-literacy focused and delivered via media that is accessible for patients. No such solution exists for kidney patients in Ireland. Patients, nurses, clinical nurse specialists, GPs, pharmacists, dieticians and patient advocacy groups will be involved in the app development.

Remote learning in Bronchoscopy

Dr Marcus Kennedy, Consultant Respiratory Physician and Interventional Pulmonologist, UCC; **Dr Kevin Deasy**, Respiratory SpR, BSc (Hons) in Business Information Systems, UCC.

HSE-HIHI Spark Ignite 2020 National Winner



This low cost flat-pack bronchoscopy biosimulator is made from reusable or common household products and uses various organic agents to mimic endobronchial tumours. Tests with both novice and expert groups indicate that working with this simulator will improve performance of what is a highly skilled procedure.

Distance learning has become mainstream, and simulation training allows flexibility of learning and invaluable skill development, with participants able to practice procedures both online with real-time expert feedback and offline at their leisure. Simulators for bronchoscopy can cost up over €100,000, but with single-use bronchoscopes now commercially available for under €300, this team's plan to develop a pleural ultrasound kit for home assembly and remote learning will support a formal simulation program available to global attendees, with global savings to match!

PPE – GN95 Gown

Bright Spark 2022

Niamh Lynch, Designer & Head of Fashion at Dublin Design Institute; **Jincy Jerry,** Assistant Director of Nursing in Infection Prevention and Control, Mater Misericordiae University Hospital.

The GN95 personal protective gown makes radical improvements to the interaction, efficiency & comfort challenges arising as a result of increased PPE gown usage.
Designed by incorporating key user insights related to comfort, fit, safety, temperature and difficulty donning and doffing when using traditional gowns, the GN95 comes in a one-size fits all version that enables the wearer to edit the body and cuff fit as desired. The textile provides breathability and 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.

Finalist 2021 Design on the frontline

03

Patient Experience

These projects educate, inform and support patients in advance of their interactions with healthcare services, as they recover from major treatments or surgeries, and while they learn to live with significant longterm lifestyle changes. These projects empower patients, bring the point of care into their home, equip them and their carers with tools and information to take control of their own health outcomes, and enable healthcare workers to extend a more empathetic service.

Transplant journey

Bright Spark 2020

Mater Heart & Lung Transplant Team led by **Susan Towell** and **Sara Winward** (CNS), **Prof Patricia Ging** (Pharmacist), **Tara Scanlon** (Medical Social Worker), **Eva Desmond** (NCAD), **Siobhan Manning** (Mater Transformation).

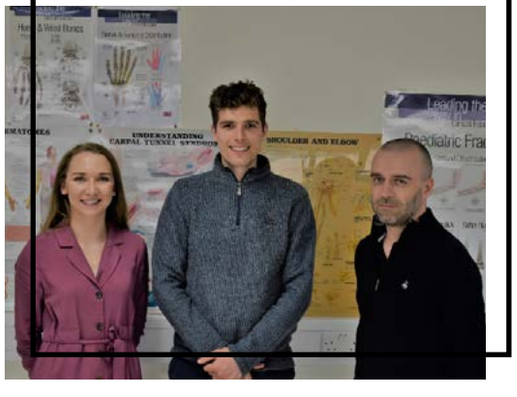
After a major organ transplant a patient must come to terms with managing a complex regime of medication and significant lifestyle changes around foods, vulnerability to infection and minimising contacts. Despite lots of face to face education as well as written information and aids, patients still struggle to adjust over the long term, leading to deterioration in their condition, and sometimes readmission.
The Transplant Journey Folder is a carefully designed engaging and accessible tool that builds a resource of the right information, at the right time, in the right way, personalised to individual needs. There's also lots of encouragement, thanks to quotes and case studies from peers who have been through transplant, reinforcing the role of the patient as primary agent of their own care.

Upper Limb Rehabilitation App

HSE-HIHI Spark Ignite 2021

Edel Siney, Clinical Specialist Occupational Therapist, **Brian Ó Ceallaigh**, Senior Physiotherapist in Plastics/Hand Therapy, **Andy Byrne,** Physiotherapist, UHG.

Patients undergoing Plastic Surgery for complex hand injuries require specific post op rehabilitation. With only three centres in Ireland, geographical barriers limit patients access to our service and rehabilitation.
This mobile app, designed with Zendra Health, provides a therapist-prescribed treatment plan containing visual, audio & written instructions to aid patients' rehab journey from the comfort of their own home. The app will increase the options for patients to access time-critical specialist care, reduce their travel time, associated costs and time off work, and has the potential to save €1456 per patient.



The Figo Nutrition Checklist

HSE-HIHI Spark Ignite 2021

Dr Sarah Louise Killeen, Dietitian, and **Prof. Fionnuala McAuliffe, Director,** UCD Perinatal Research Centre.

Tackling malnutrition, which can have lifelong and multi-generational impacts, is a wicked complex problem, challenged by limited time and training for professionals, lack of clear, personalised and reputable advice, and a significant deficit in patients' health literacy.
This web version of the established one page FIGO Nutrition Checklist will enable pregnant women to answer simple questions on diet and nutrition, after which they will be given personalised nutritional guidance on each question, in plain language, based on their answers. Taking only two minutes to complete on a mobile or similar device, this interactive feedback will help healthcare providers initiate the conversation from the right starting point for each patient, as well as surfacing trends and informing policy.

Animammo

HSE-HIHI Spark Ignite 2021

Claire Ahern is a senior radiographer in Breast Check West and holds an MSc in Telecommunications from University College London.

Harnessing her interest in art, creative writing, film, and a diploma in technology enhanced learning, Claire has created a series of short animations to inform and prepare clients for the mammographic procedure. It is the role of the radiographer to position the client and to explain the procedure. When the patients understands the reason behind an instruction, combined with visualising the imaging outcome of poor positioning and compression, they become an active participant in their own care. This can lead to improved image quality with associated improved outcomes for the service users in terms of radiation safety and diagnosis, and for radiographer ergonomics.

Online Patient Joint Replacement Education Programme

Bright Spark 2020

This multidisciplinary team project involving Orthopaedic Surgery, Anesthesia, Physiotherapy, Nursing, Pre-Assessment, Occupational Therapy, and Dietetics in Midlands Regional Hospital Tullamore, is led by

Dr. Christine Kiernan, SPR in Trauma and Orthopaedics.

The team has developed the online Joint School Programme to provide education sessions to patients and their primary care givers prior to undergoing hip and knee replacement surgery. The patient experiences a virtual tour of the hospital from front door to ward, to theatre, and back to the ward, in the company of the multidisciplinary team, each of whom discusses how they are involvement in the patient's care. Video demonstrations are available to be viewed at home post-op, helping patients navigate their recovery successfully.
The initiative has been expanded to three orthopaedic departments nationally, and will be further expanded to include other orthopaedic surgeries.

The Exchange | Old Space with a Familiar Face

Bright Spark 2022

Paul Phelan, Clinical Nurse Specialist,
Department of Psychiatry, University Hospital Waterford.

Especially under pandemic conditions, when face to face contact with friends, family, carers and advocates is severely restricted, patients experience many barriers to satisfying their communication needs: lack of space and privacy, limited technological knowhow or equipment such as smartphones, and the limited provision of traditional voice phones on the Unit.

Following Community Meetings, focus groups, and bedside discussion and questionnaires, it was agreed that a private and confidential space was required which Service Users could use to make video calls with family. A fun and quirky old-style telephone box was fabricated to suit the small footprint available, designed to be wheelchair accessible and user friendly.
"The Exchange" Communication Hub continues to provide a useful and private space to Service Users which protects confidentiality and GDPR issues.

Patient-Led Education Tool

Dr Lyndsey Paul, Dermatology Consultant, **Dr Catriona Gallagher,** Dermatology Specialist Registrar, **Anita Flynn** Dermatology Staff Nurse, University Hospital Waterford.

HSE-HIHI Spark Ignite 2020

Between 30-50% of all cancers are preventable, but this requires patients to keep track of their vaccination schedule, retain information from multiple leaflets, and keep track of their screening programme appointments.
This digital app and written record tool empowers patients through education about their risk, motivates them to attend cancer screenings, offers timely information for cancer prevention methods and provides reminders about appointments and vaccinations, as well as providing a record of test results.
With different sections for medications, cancer screening, skin check (info on protection, UV index in the patient's locality, photo-assisted check in for moles to monitor for changes), this initiative will ultimately improve the safety profile of immunosuppressive drugs thanks to patient education.

04 Patient Experience | Children

ADMiRE ADHD

Prof. Jane McGrath, Consultant Child and Adolescent Psychiatrist, HSE**; Linn Dara,** Child and Adolescent Mental Health Services, Dublin.

Spark Ignite 2022 Regional Winner

Despite the availability of highly effective treatments for Attention Deficit Hyperactivity Disorder (ADHD), it is a condition that is underdiagnosed and often poorly managed due to a lack of structured, evidence-based protocols in clinical services, with associated societal costs across the lifespan of up to €20,000 per person per year.
Our innovator's solution will expand the functionality of the recently developed ADHD-Tracker App and translate the ADMiRE standardised clinical protocol into a digital, scalable process, facilitating clinicians to provide best-practice, evidence-based ADHD assessment and management, increase safety through programmed 'red-flags', improve quality and accuracy of parent/teacher reporting, and support efficiency via a single, paper-free data-entry point with automated calculation and plotting of assessment and management data.

QR Maternity

Bright Spark 2022

Amy Carroll, National Nursing/ Midwifery Spark Innovation fellow and Clinical Placement Coordinator - St Luke's General Hospital, Kilkenny.

Quality Resources Maternity (QR Maternity) uses QR codes to link to carefully chosen information that is professional, up to date, specific, easy to understand and saves time, money and the environment. With one scan, one scroll of a page and one click, women can access relevant quality national and local resources. Contacting specialists, booking antenatal classes or contacting the maternity unit itself is in one place at the click of a button.
This provides a trusted source of information instead of the current 'doctor goggle' or the overload of paper leaflets that are sometimes irrelevant, out of date, poorly printed or hard for staff to locate.

PnPlus | Paediatric Nutrition Plus

Spark Ignite 2022 Regional Winner

Niamh Murphy, Emma Gentles; Senior Dieticians, UL Hospitals Group.

This solution will be the first Irish nutrition focused clinical decision support system for individually designed Parenteral Nutrition (IPN). IPN is a necessary intervention for best outcomes for preterm infants born early and underweight. The technology, available as a web based application within the critical care unit, guides the user through a series of steps to explore each nutrient required by the infant or child specific to their age and requirements. The solution will add speed, accuracy and confidence in calculations, enhancing clinical user knowledge while prioritising the short and long term care of patients.

Childhood Asthma Education Program

Bright Spark 2021

Catherine Carrig and **Mary Devitt** are Paediatric Respiratory Clinical Nurse Specialists with more than 20 years of experience in the care and management of children with asthma and their families.

They recognised that a childhood asthma education programme can better support children and their families to manage their asthma effectively following referral.
The resources include a special wallet containing leaflets and booklets, a personalized management plan, the patient's medical letters and appointments, and QR codes allowing digital access to asthma action plans, videos on inhaler technique and emergency treatment for acute asthma attacks. The pack can be updated at further follow up healthcare appointments, and can be brought along to consultations with other clinical teams.

Your Little Sleep

Bright Spark 2021

Dr Ann-Marie Crowe, Paediatric Anaesthesiologist in Hôpital Necker Enfant Malades in Paris, France.

Ann-Marie's easy-to-read children's book introduces Annie the Anaesthesiologist, who explains the process of what's involved in a child's upcoming visit to surgical theatre. Complete with Ann-Marie's own watercolour illustrations, the book communicates accurate information on pre-operative fasting, pre-medication, induction of anaesthesia and recovery, to build rapport, cooperation and trust between patient and anaesthesiologist in advance of the visit. Reviewed by senior clinical child psychologist, Dr Aisling NiCheallaigh, anaesthesia colleagues, play therapists and patient advocacy groups, and endorsed as an official resource of the College of Anaesthesiologists of Ireland and RCSI, Your Little Sleep will be given as a free resource and is already translated into 14 languages!

05
Patient Pathways

Some of the biggest innovation savings come from measures that ensure patients receive the right assessments, tests, procedures and care as soon as possible after presentation. This saves clinicians time by expediting only the appropriate cases to more intensive interventions, averts overprescription of expensive medicines or screenings that are costly or invasive, and ensures resources are well managed, including the reduction of admissions and shortening hospital stays.
Most importantly, they improve experiences and outcomes for patients, safeguard their independence and capacity for wellness, and free up vital resources for more appropriate use.

ABC | Rapid-Access Online Back Care programme

HSE-HIHI Spark Ignite 2021 National Winner

Aoife Collins, Senior Physiotherapist, South Lee Primary Care, Cork.

Back pain:
•experienced by 80% of Irish adults at some point in their life
•estimated to cost the country more than cancer and diabetes treatments combined
• highest single reason for people claiming income support.

This innovative digital-care model is easy-to-use, GDPR-compliant and provides a patient portal and smartphone application delivered by Salaso Health Solutions. Through this platform the physiotherapist will devise and manage a programme that clients can access without the exertion or expense of leaving home, and can repeat themselves at any time. The platform saves up to 20% of physiotherapists' time, increases throughput and most importantly decreases very lengthy waiting times for consultant appointments that often simply refer the patient back to physio with a chronically worsened problem.

OPRAH | Ambulatory Emergency Care for Older Adults

Bright Spark 2021

Dr. Rosa McNamara | Emergency Medical Consultant, St Vincent's University Hospital.

The Problem
Staff in the new Older Adults Rapid Assessment Hub (OPRAH) noticed that many older patients were automatically triaged to trolley areas as staff worried about falls risk, memory problems and frailty. This meant that older patients with low triage category waited longer to be seen and often needed help to negotiate hospital trollies, even though they were normally independent.

The Opportunity
Offering ambulatory care in a frail-friendly environment, with staffing rearranged to address risk, and a rapid access pathway to the appropriate care, might promote patient independence, reduce risk of de-conditioning, incontinence, delirium and falls, and prevent staff from underestimating functional capacity, which contributes to a tendency to admit.

The Solution
The ambulatory care stream incorporates more appropriate furniture, mobile computers for patient recreational use, engaging artwork to support spatial orientation, and future purchase of ambulatory diagnostic equipment.

The Results
There was a reduction to half the national estimated admission rate in this age group! With geriatric admissions costing an estimated average €7,172 the potential for savings across all Irish public hospitals is huge.

06

Machine Learning and Data Platforms

Introduction and Evaluation of BDG Testing

Bright Spark 2021

Dr Breda Lynch, Consultant in Clinical Microbiology, Antimicrobial Stewardship Lead, Mater University Hospital.

The Problem
Fungal infections are notoriously difficult to diagnose, and delays in treatment can lead to poorer outcomes for patients. That is why patients are often started on broad-spectrum antifungal therapy until an exact diagnosis is made.

The Opportunity
Breda identified that the Beta-D-Glucan (BDG) test, currently available only outside Ireland, is a useful tool for indicating presence or not of a fungal infection.

The Results
Following purchase of a BDG machine and analysis of tests showing a high degree of accuracy, and turn-around time improved from over 100 days to 1-2 days. As a result, patients are spared the side effects of unnecessary medication, with a cost saving of €81,064 at the Mater alone. Further, overuse of these medications is minimised, helping to avert the emergence of resistant organisms.

Machine Learning in Urology and Kidney Stone Disease

Bright Spark 2022

Dr Derek Hennessey, Consultant Urologist,
Dr Kenneth Patterson, Urology Registrar and MD candidate,
Mercy University Hospital.

The Challenge
Kidney stones are becoming a public health concern of the modern age. Knowledge of a patient's stone type can prevent a future stone recurrence, reduce the morbidity for patients, and reduce costs to health care systems. While infrared spectroscopy is most extensively used method to determine stone composition, it rquires a physical sample of the stone be removed from the patient, which can only be done by invasive and expensive surgery.

The Project
The goal of this project was to determine the accuracy of deep learning methods to detect stone composition based on computerised tomographic (CT) features and patient characteristics. Training and testing revealed that the SVM algorithm model had the highest prediction accuracy.

Solution
This technology will help to inform the shared decision making process between patients and clinicians, and may help urologists better plan treatments for patients with urolithiasis.
In particular, patients with uric acid stones could be treated with oral medication to dissolve their stones as an alternative to invasive surgery and the potential morbidity, resulting in cost savings in hospital bed costs, operative theatre costs, and saving patients the anxiety of undergoing invasive treatments.

Key Performance Indicators for Antimicrobial Stewardship

HSE-HIHI Spark Ignite 2020 National Winner

Rose Cafferkey and **Marie Ronan,** Senior Clinical Pharmacists and Antimicrobial Stewardship Pharmacists, Mayo University Hospital.

The Problem
Antimicrobial resistance is a worldwide problem, growing year on year. Overuse and inappropriate use of antimicrobials results in increased emergence of multidrug-resistant bugs that are difficult to treat. Antimicrobial Stewardship (AMS) is a set of coordinated measures designed to improve and measure the appropriate use of antimicrobials, and therefore reduce the emergence of antimicrobial resistance.

The Opportunity
Our innovators have designed a data collection tool and real time auditing platform for concise, coherent and co-ordinated monitoring and surveillance of antibiotics. The pilot study showed:
•93% decrease in the use of the most broad spectrum class of antibiotics.
•45% decrease in the use of IV antibiotics.
• Reduction in patient hospital stay from 4.14 days (2017) to 3.76 (2019).
• €100,000 decrease in spend on antibiotics over a two-year period.

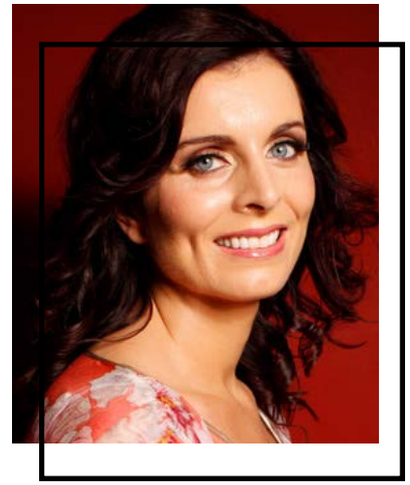
The Results
The Platform will enable sharing of quality improvement initiatives with proven outcomes for AMS, and adheres to WHO, iNAP, and HIQA recommendations for real time audit.
Savings of up to €2.4m are possible across all Irish public hospitals.

A novel early Detection Tool

HSE-HIHI Spark Ignite 2020

Helen Ryan is a Senior Medical Scientist with 20 years' experience in Medical Laboratory Service provision at University Hospital Galway.

The Challenge
Globally, complications of pregnancy have a profound effect on women, their families and the healthcare systems associated with their clinical management. Evidence points to significant disparities in the quality and level of access to timely interventions all of which can dramatically affect neonatal and maternal outcomes. The current focus of Helen's research is in the realm of women's health, with a specific emphasis on the management of pregnancy related complications. Helen recognised the importance of creating more sensitive and empathetic means of delivering this care, centred on women's emotional as well as physical needs.



The Solution
Helen aims to create an innovative testing platform that will support clinical decision-making and allow for more timely obstetric interventions in at risk pregnancies. For expectant mothers and their families this will provide peace of mind and reassurance at a stressful time of pregnancy and improve neonatal and maternal outcomes compared with the current standard of care. For care providers there is an opportunity to deliver significant cost savings through the more effective management of referrals, reduced follow up investigations and improved triaging through better-informed clinical care pathways.

This Point of Care blood-testing platform, which received Enterprise Ireland's Clinical Innovation Award 2019, could make a substantive impact in the management of pregnancy related complications.

It will support clinical decision-making and allow for more timely obstetric interventions in at-risk pregnancies. For expectant mothers and their families this will provide peace of mind and reassurance at a stressful time and improve neonatal and maternal outcomes.

Predicting Bacteraemia in Maternity Patients

Bright Spark 2021

Dr. Richard Drew, Consultant Microbiologist, Rotunda Hospital, and Irish Meningitis and Sepsis Reference Laboratory (IMSRL), Temple Street;
Dr. Maeve Eogan (Consultant Obstetrician), **John O'Loughlin** (Laboratory Manager), **Fionnuala Ní Áinle** (Consultant Haematologist), **Brian Cleary** (Pharmacy), with gHealth Research group **(Joseph Gallagher)** and the IMSRL.

When a pregnant woman presents to hospital with a fever, it can be difficult to identity whether she is at high risk with bloodstream infection or at a lower risk with local infection. Existing screening has been shown not to be very accurate, so the team developed a machine learning algorithm based on historical datasets, which identified that the neutrophil-lymphocyte ratio was the best marker for bacteraemia, and outperformed the traditional white cell count approach. This simple measure, using existing results and technology, better allows identification of pregnant women at higher risk of bacteraemia, aiding early treatment and investigation. Once this screening is introduced to the laboratory system and available in the MNCMS electronic healthcare record system, the team hope to now move to examine other areas using a similar machine learning approach.

Dr Drew collaborated with Ciarán Mooney, Maeve Eogan, Fionnuala Ní Áinle, Brian Cleary, Joseph J. Gallagher and John O'Loughlin on the original article that was published in 2020 in the International Journal of Laboratory Hematology – Wiley. Predicting bacteraemia in maternity patients using full blood count parameters: A supervised machine learning algorithm approach.

Int J Lab Hematol. 2020; 00:1–7.
https://doi. org/10.1111/ijlh.13434

07
The Power of Collaboration.

Blood Stock Inventory Management

HSE-HIHI Spark Ignite 2020

Helena Begley, Senior Medical Scientist, Blood Transfusion Lab, Naas General Hospital; **Alison Harper,** Chief Medical Scientist, Tallaght University Hospital; **Fergus Guilfoyle,** Chief Medical Scientist, Coombe Women and Infants University Hospital.



Irish Healthcare Awards 2020 Finalist

The Problem
When blood stock management was discussed at a hospital group meeting, our three innovators combined their scientific expertise and medical laboratory process knowledge to address the challenges presented by the fact that blood is a perishable product with a limited shelf life.

The Solution
The team initiated a weekly blood exchange programme between the three sites. The result was a reduction in the number of expiring units needing transfer; expiry dates have dropped, there is less wastage of blood, improved use of O Negative and a €30,000 saving in 2019.

The Potential
This is the only hospital group in the country currently exchanging blood, but there is a logistical infrastructure in place for blood delivery, so in light of recent national blood shortages, the team felt it vitally important to work towards scaling their solution across the HSE system. Since sharing their project via webinar, article and presentations, a number of pilot sites are now set up.

08
Covid Call
Design on the frontline.

We put two simple questions to HSE frontline staff:

'What current challenges are preventing you from doing your job well today?' 'What is currently causing your patients distress or leading to negative experiences?'

The response was overwhelming, and we then invited design teams to tackle three briefs:

- interaction, efficiency & comfort challenges of PPE usage
- onset of frailty in older adults while socially isolating
- more meaningful connections between people with amplified needs who are socially isolating

The results were very exciting!

Waffle

Award 2021 Design on the frontline

Tadgh O'Connell, Federico Tusacciu, Sinead Spring, Gareth Byrne and **Ava White** | National College of Art and Design.

The Problem
48% of people surveyed suffer from loneliness due to social restrictions , all of whom are daily social media users.

The Solution
As a group from the start of the project, exchanging ideas, thoughts, feelings and general anecdotes about life, we laughed, argued and laughed some more. In that instant we realised how impactful our conversations were on us.
As social creatures, our voices are integral to bonding. Being socially connected to others can ease stress, anxiety, and depression, boost self-worth, provide comfort and joy, prevent loneliness, and even add years to your life.
Waffle is a pared back social app that removes 'Like' buttons, photographs and comments, to create a space for interaction that is focused on voice and free of judgement.

Iontach

Award 2021 Design on the frontline

Giancarlo Nollora, Katie O'Brien and **Kate McKenna** | National College of Art and Design.

The Problem
Older adults who live alone often rely on visiting care workers and family to take notes on their daily activities because they experience difficulty with memory, writing, and frailty. This notebook is a crucial source of information for nurses, doctors, and other family members.

The Solution
Iontach is a user-friendly app incorporating a journal that prompts daily activities through a fun interface, with a simple button to show that the activity has been completed. This supports daily activity, and provides fun and positive interaction. The patient's family can check on the health of their loved ones by seeing what activities they have completed during the week, and doctors and nurses gain crucial insights into the current wellness of their patient.

Award 2021 Design on the frontline

Arctic Band

Founded by **Brian Foley, Seán Power** and **Tom English,** theCADlab promotes innovation by offering a complete prototype design service.

The Problem
Wearing high levels of full body Personal Protective Equipment (PPE) for prolonged periods of time creates extreme discomfort due to overheating, with core body temperature of our frontline staff reaching temperatures up to fever levels.

The Solution
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.
- Can be worn under or over PPE.
- No hard-to-disinfect fasteners.
- Low cost, rapid product development and straightforward manufacture.
- Small lightweight device suits basic freezer facilities.
- Instantly understandable design supports high uptake.

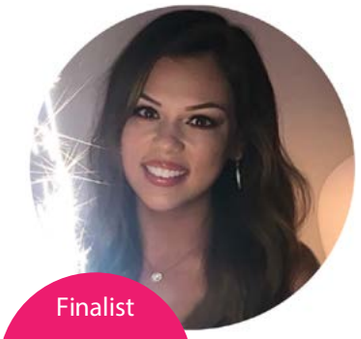
Over 40 prototypes are currently being trialled in St. James' Hospital to optimise design before full scale manufacturing.

Eureka

Gareth Byrne | National College of Art and Design

Gareth shrewdly identified that older adults are slow to seek hearing tests and aids, even when it is clear that their sense of hearing is deteriorating. He developed his prototype 'Eureka' to give those that have a hearing impairment an insight into their condition and the potential benefits of engaging with hearing support services.

Winner 2022 Design on the frontline



Bubblo

Asia Cheung | National College of Art and Design

Asia took on some of the challenges facing children who have prolonged admissions in hospital. She identified that they may feel isolated and disengaged from their peers, and so developed 'Bubblo', an appliance and application that can be used by children who are inpatients in hospital. With this product, they can connect with others in their situation, and overcome their collective challenges together.

Finalist 2022 Design on the frontline

SmoothScan

Alexander Fives |
Technological University of Dublin

Alexander discovered that high volumes of radiography staff in hospitals and clinics were suffering occupational injury on account of performing Ultrasound scans. His project 'SmoothScan' will help to overcome the ergonomic challenges that are commonplace in this field, and lead to better patient and staff experience.

Finalist 2022 Design on the frontline

09

Design Innovation Lab at St. James' Hospital

This partnership with Spark is developing a host of exciting projects, under the watchful eye of **Dr Chris Soraghan,** lead at the Design Innovation Lab, St James's Hospital.

Pathology Tool for Head and Neck Surgery

Bright Spark 2021

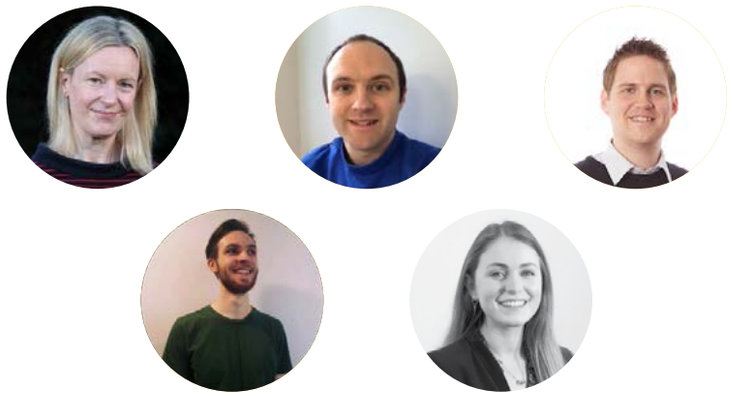
Dr Chris Soraghan Senior Clinical Engineer, **Dr Mary Toner,** Consultant Pathologist; **Mr Conor Barry** & **Dr Paul Lennon,** Head & Neck Surgeons; **Cait McCarthy**, Medical Device Designer; **Ellie Conheady** & **Morgan Cobban,** Biomedical Engineers.

The Challenge
The interaction and communication between the pathology department and theatre for Head and Neck surgery are vital when planning follow-up patient cancer treatments. A device was needed to improve this interaction for safe patient care provision and improving best practice in surgery and pathology activities

The Solution
The surgical and pathology team identified a challenge and were looking for an alternative solution to enhance patient care. Dr Toner and Mr Barry submitted their idea to a local design innovation competition at the hospital called SJH Design Week. They were announced winners of the design competition by a judging panel of internal and external judges and were awarded a €3000 bursary provided by the Spark Innovation Programme. This funding was to enable the team develop the device further in collaboration with the Design Innovation Lab at the hospital run by the Department of Medical Physics and Bioengineering at the hospital. Enhancing the vital interaction and communication between the pathology department and theatre for Head and Neck surgery could support collaboration and enhance patient care. A technological device-based solution is currently in development.

PPE Gown Annotation

Dr Chris Soraghan Senior Clinical Engineer, **Bernie Waterhouse** and **Tony Galvin,** Clinical Nurse Managers, SJH; **Máire Kane,** Designer in Residence, SJH; **Niall Keane,** design student, Maynooth University



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 experienced while working on a COVID-19 ward. Knowing that safe donning and doffing of PPE reduces the risk of tra nsmission of COVID-19 was a high priority item. The aims of the project were to make it easier for staff and visitors to don and doff gowns correctly; reduce risk of COVID-19 transmission due to poor doffing practice and make it easier to teach staff and relatives how to use PPE safely to avoid infecting themselves with COVID-19.

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 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 final design was then developed and submitted to the 'Design on the Frontline' competition and a judging panel awarded us first place in the Professional Category. The redesigned gown extends beyond applications in COVID-19 and is relevant to PPE use during other recurring situations such as managing patients with CPE infection.

The design has been developed further since the competition and usability testing 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.

Award 2021 Design on the frontline

09 **Design Innovation Lab | at St. James' Hospital**

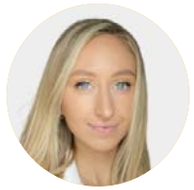
Hemiplegic Shoulder Pain: Can we offer more than a Pillow?

Bright Spark 2020

Dr Chris Soraghan, Senior Clinical Engineer, **Sinéad Coleman** and **Helen Kavanagh**, Senior Physiotherapists; **Conor Keady,** Occupational Therapist; **Joseph Halpin** and **Natasha Clarke,** Medical Device Designers.








The Challenge
Patients can suffer from hemiplegic shoulder pain (HSP) as a common complication after stroke. HSP can impact on the patient's potential for rehabilitation; cause depression; reduce quality of life after stroke. The aim was to explore a novel approach to this ongoing clinical need. A lack of effective options for the management of HSP was the motivation behind this project.

The Solution
The Stroke Team at SJH identified a potential alternative and effective way to prevent and manage HSP as a novel approach to patient clinical need. Sinéad and Helen won a local design innovation competition called SJH Design Week – a collaboration between SJH and NCAD. They were awarded a bursary of €3000 provided by the Spark Innovation Programme to progress the design of their prototype further in collaboration with the Design Innovation Lab in Dept of Medical Physics & Bioengineering at the hospital.

A multidisciplinary team of physiotherapy, occupational therapy, biomedical engineering & designers developed a prototype over 6 months after SJH Design Week for testing at SJH. Study Commenced in 2020 and aimed to show improved patient comfort and suitability for use. Early review of results indicates that the solution improved patient experience and comfort and was easy to use for both patients and staff.
A novel grass roots development was identified and driven by frontline specialist staff and the invaluable input from design and engineering postgraduates brought a diverse perspective to the project. This work demonstrates the value of multidisciplinary collaborations between clinical staff and designers in solving patient and staff healthcare issues.
The next stage for this device is to review data and explore having the device developed further for use in and outside of St James's Hospital.

10
Service Improvement

iCare | Introducing Nurse-Administered iCare in Retinal Clinics

Bright Spark 2020

Scannell O., Woods B., Powell S., McCabe G., Dooley I., Mater University Hospital.

The Problem
Demand for the retina service at MMUH has grown significantly, and because treatments must often be administered over a lengthy period of time, requiring regular outpatient follow up, demand far exceeds capacity. Clinics frequently run overtime, with negative implications for cost management and staff/user wellbeing.
Measuring Intraocular Pressure (IOP) is an integral part of the eye exam, but for most patients it is simply a screening measure. However, 50% of patients struggle with IOP measurement using the standard GAT method, which also requires extensive staff training, is a lengthy procedure, and involves the use of unpleasant anaesthetic drops.

The Solution
The team wanted to explore other options for their service, and used Spark funding to purchase two iCare tonometers and run an audited experiment comparing Gat administered by doctors with iCare administered by nursing staff.

The Success
• iCare was faster in 100% of cases – over five times faster!
• As well as being accurate within tolerances compared to GAT, iCare had a 100% sensitivity for picking up raised IOP, and excellent predictive values ideal for screening.
• 100% of patients surveyed found iCare experience to be more comfortable than GAT, which can be performed in any sitting position including a wheelchair, and does not require their lids to be held open or the instillation of eye drops which sting.
• Time savings for doctors.
• There was a saving of €80- per session of 45 patients, leading to a potential annual saving of €14,737!

Empower yourself

Dr Jennifer Edgeworth, Senior Clinical Psychologist, Health Centre, Longford.

The Problem
Ireland has one of the highest rates of mental health problems in Europe and such problems are said to cause the Irish economy €8.2 billion per annum. As well as direct healthcare costs, much of the costs are located in the labour market and social protection systems. Primary Care Psychology (PCP) is a critical gateway service for all people with mild/moderate mental health needs in Ireland. The mismatch between the demands on the service and the capacity to respond in a timely manner leads to long waiting times for initial intervention. On 31st December 2021, 6,801 adults were waiting for over a year for a primary care psychology service.

The Solution
"Empower Yourself" (EY) is a 6-week didactic group psychological intervention which encourages participant's active involvement through engagement in skills-building activities and experiential exercises. EY consists of a one-day training session, manual for facilitators, slides to facilitate delivery of each 2 hour session, and a 136 page reference book for each participant. A randomised control trial in conjunction with University College Dublin indicated that those attending EY had better mood and wellbeing levels compared to a control group. The group setting and classroom-based approach normalises and reduces stigma. Psychologists are equipped with everything they need to offer are robust Irish evidence based intervention. And there is a significant cost saving for the HSE.

New Graduate Nurse in Critical Care Support App

Sinead Gill, Critical Care Clinical Facilitator,
Shauna Vandendries, Shauna Delaney, Lisa Dunne,
Bernie Garvin – Tallaght University Hospital

The Problem
With increasing recruitment of new graduate nurses into the critical care environment it is imperative to ease their transition and provide as much support as possible. Supporting the new graduate nurse transition will create a positive experience and encourage them to stay in the critical care environment. This in turn will help provide safe staffing numbers of highly skilled nurses, therefore benefiting the delivery of patient care.

The Solution
The solution is the development of a new graduate in critical care support app to further compliment the other strategies in place. The app would be on the same concept as the Intern Steth-o-cope app which was developed to support new graduate doctors in the workplace. The app will have 5 categories: Head to toe assessment, Clinical presentations, Skills videos/simulation, Research, Health and wellbeing. Each category will have quick links to evidenced based practice guidelines and checklists. Having this supportive resource available as an app means it is always available to the new graduate nurse whether they are in work and looking for clarity on a topic or at home studying. Each clinical facilitator is responsible for the content they upload and will have the duty of keeping the evidence up to date with current research. There is currently no app in existence to support new graduate nurses in any discipline across Ireland.

My Healing Wounds

Noreen Whitehead, Community Nurse in Primary Care, St. Mary's Health Centre, Thurles.

The Problem
There is currently no formal method of communication from Primary Care Services to External Services (Consultant's OPD, GP, A&E) regarding wound care, including any treatment, progress, deterioration, interventions that have occurred since the patient's previous visit to the External Services.
This leads to the duplication of work, ineffective treatments being retried, effective treatments being ceased, and errors in verbal communication from clients to External Services. The commercial impact is significant as the cost related to clinical care and wound dressings is multiplied when treatments are repeated unnecessarily.

The Solution
A client-held personal wound care record will remove ambiguity, identify what's working, what community interventions have been tried, and any other new information regarding treatment.
The client will hold the personal wound care record which will advise on sepsis recognition, wound care nutrition, reducing fall risk, venous and arterial ulcers, and compression hosiery.
"My Wound Care Record and Wound Care Information" places the client in a key position in their healing journey, and promotes practitioners to see the client as key stakeholders, and not as passive recipients of care.

CORRIB | Physical Health Template data entry tool

Emma Beatty, Senior Registrar, Child and Adolescent Mental Health Services (CAMHS), North Galway.

The Problem
Antipsychotic medications have proven efficacy in the management of many common psychiatric conditions including schizophrenia, bipolar disorder and depression. However, they can have side effects including significant unwanted weight gain, impaired glucose tolerance and dyslipidaemia in some young people. They also have potential side effects on the heart and hormone levels.
Monitoring for side effects currently relies on a paper based system and patient attendance with their GP for blood tests and ECGs. This system is vulnerable to important medication monitoring appointments being overlooked or missed in a busy CAMHS service.

The Opportunity
A Physical Health data entry tool that links to an electronic patient record (EPR) and tracking system could help co-ordinate the physical health monitoring of young people on antipsychotic medication.

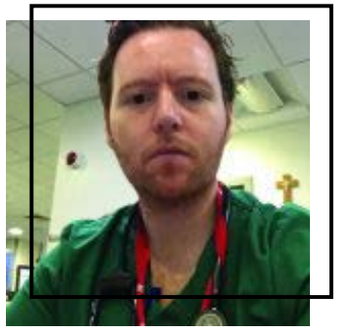
The Project
This is a pilot for approximately 300 young people trialling an App that will prompt attendance at important appointments and quickly identify those at risk of developing concerning side effetcs, thereby facilitating introduction of appropriate interventions.
The database of the young people using these medications would also allow for the co-ordination of targeted primary prevention intervention groups.

11

International Recognition

TraumaDoc

Dr Shane Broderick MRCEM was a Specialist Registrar in Emergency Medicine in Temple St Children's University Hospital.



"Many of the critical decisions made during the early phases of trauma care, resuscitation and ongoing care involve multiple specialist teams and disciplines. Every part of this patient experience can have an impact on whether the patient lives or dies."

My First Trauma Call
I still recall my first trauma call - I had no idea where or how to start to document the case. I scribbled some notes and ran to the operating theatre. Some months later, I met that same patient in the Outpatient Department. I had the opportunity to review my notes from that evening in Resus. What I read disappointed but certainly didn't shock me.
I recalled witnessing or indeed performing the interventions, but I had not documented all of them. For all intents and purposes, these life-saving procedures had not happened. Reflecting afterwards, I felt strongly that the stress and time pressure of the situation had led to gaping holes in my clinical notes. This terrified me.
It was likely that patients were receiving care in line with national and international best practice but without accuracy in documentation, we were doing ourselves, our institutions and most importantly our patients a disservice.

The Big Question
I thought to myself:
What about a trauma proforma? Why were we not using one? Did one exist? Would a trauma proforma allow me to accurately and efficiently document the management of major trauma patients? Could it also act as a decision support tool?

The Innovation Process
Working with Associate Prof Conor Deasy (CUH), Dr Geraldine McMahon (SJH), Dr Paul Staunton (SJH), Alison Reynolds (TARN data collector, SJH) together with Mr Anthony Edwards of the Department of Medical Illustrations (SJH), I developed TraumaDoc to assist improvement in documentation and prompt the delivery of time-critical actions. The document was refined through an iterative process (PDSA — Plan, Do, Study, Act cycles) with the aim of improvement in documentation and ultimately better care for our patients.

We set a target of 90 per cent data completeness in documentation across our four chosen clinical parameters, and achieved 100%!

TraumaDoc
The TraumaDoc booklet follows the patient journey and captures relevant data and clinical documentation from the ambulance pre-alert, pre-hospital care, arrival in the Emergency Department, primary survey, adjuncts to primary survey, secondary survey, interventions, diagnostic imaging, medications, allergies, and past medical history, as well as a general clinical notes section.

- Body maps and tick boxes assist efficient, accurate clinical documentation while keeping the space for free text to a minimum.
- Follows the Advanced Trauma Life support (ATLS) principles in relation to trauma care and is underpinned by the standards as set out in the Major Trauma Audit (MTA).
- All TARN data entry points included.

Highlight Achievements
- First Irish QI Project to win the UK TARN 'Improvements in Care' Award, 2018.
- Winner of NOCA Quality Improvement Champion, 2018.
- Published in Trauma, Oct 2018.
- Endorsed by IAEM, MTA Governance Committee and NOCA.
- Adopted by all 26 trauma receiving Emergency Departments in Ireland as the national trauma proforma.
- Supported by SJH Educational Fund, IAEM Executive and Spark.

"The team behind the Spark are incredibly active, care deeply about innovation and improvement in the system and are strong advocates of Human-Centred design. It's important to point out that Spark doesn't offer workshops just for the sake of workshops, they are linked to funding and action. Staff on the programme all have ideas to improve the system around them, and this training helps them understand the problem in a different way and provides them tools, techniques and hopefully creative confidence to take action."

Trevor Vaugh,
Maynooth University Innovation Lab | The Big Fix, RTE |
Actionable Innovation | Public Service Innovation Advisory Board

Spark Innovation programme is supported and funded by:

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