AHCS®
Academy for Healthcare Science

HEALTHCARE SCIENCE WEEK

DAY 1: INNOVATION

Welcome to Healthcare Science Week!

Today is the start of the annual, week-long celebration of Healthcare Science!

Throughout the week, we will be sharing content and championing the outstanding work of Healthcare Scientists across the UK.

On Day 1, we are focussing on innovation and highlighting some of the great innovative work that is going on in Healthcare Science. Below, we share articles and comments from colleagues about Healthcare Science and innovation, as well as highlight some of the fantastic innovations that were recognised at the Advancing Healthcare Awards last year.

We look forward to following the celebrations on Social Media. Check in to our website each day for new content! Tomorrow, we focus on how Healthcare Scientists are making a difference.

TODAY'S CONTENT:

- **How can Healthcare Scientists Lead on Innovation** - Professor Elaine Cloutman-Green
- **Helena Morgan** - Innovation in Neurophysiology
- **Dr. Darren Clarke** - Medilink
- **Registrant Spotlight** - Dr. Ruth Brotherstone
- **AHCS Healthcare Science Leadership Journal Highlight** - "Celebrating Success"

HOW CAN HEALTHCARE SCIENTISTS LEAD ON INNOVATION?

PROFESSOR ELAINE CLOUTMAN-GREEN

CONSULTANT CLINICAL SCIENTIST, DEPUTY DIRECTOR OF INFECTION PREVENTION AND CONTROL AND JOINT TRUST LEAD HEALTHCARE SCIENTIST, GOSH

The NHS, and the health sector more widely, are both in an exciting place and a potentially stressful situation linked to innovation and change right now. There are so many opportunities on the horizon, and so much potential for patient benefit, but change can be scary, and it must be acknowledged that there is always the possibility of introducing unknown levels of risk into patient pathways. Having sat in a lot of meetings lately where people talk about the role of artificial intelligence, new imaging approaches, and how to move from research to implementation, I've been struck by how few scientists are in the room and how so many of the conversations would be more fruitful if they were represented. I've been thinking a lot therefore about, not only what and how we could add to this dialogue, but also why aren't we in the rooms where these conversations happen?

Let me start by saying that none of this is new. I've been attending Chief Scientific Office and other events for over a decade, and this is something that always seems to be on the agenda, so won't aren't we moving the dial?

Looking at our work differently

Some of the challenge I think is that we undertake research every single day, but we don't call it or acknowledge that what we are doing is research. We think of research, often, as being specific tasks that are undertaken in addition to the day job, whereas in fact we are often creating unique data sets as part of our everyday processes. We frequently sit on hoards of data, like a Tolkien dragon, without recognising the value of what we have, or that it would be of use to others, as it is something so common in our daily working lives. I am not exempt from this. I have decades of specialist paediatric data, that the more I read, the more I realise isn't out there in the literature. If it's not out there for others to access, we aren't sharing the learning, or making the most out of what we already hold. It can be hard to find the time to look at what we have with a fresh set of eyes and really think about how best to share it, but as scientists it is increasingly important that we help create the evidence base that future decisions will be based upon. Recognising that research is a part of our day to day, and that we can do it with what we already have is a big step in seeing our role in changing things for the better.

Maximising our opportunities

One of the other reasons that we need to start looking at the world differently, is that until we recognise that we are researchers every day, rather than thinking of research as something other that is only undertaken in universities, we won't think about accessing all of the different resources that would be available to us. Many of the Healthcare Scientists I speak to have never applied for a grant or other support to undertake their work. We have all the skills, access and knowledge needed to be great research active professionals however, so why haven't we engaged? Scientists are some of the best people I know at doing something with very little.

I know so many who do amazing work, just by working with suppliers, arranging free trials or validations, and using their networking skills to just get things done. This amazing approach though, often means that we aren't aware of the opportunities out there to go even bigger with our aspirations. Writing grants and publishing papers, as first or last authors, is still all too frequently considered to be the role of our medical colleagues. This doesn't have to be the case though; the problem is that the funding landscape can seem impenetrable if you don't have someone to help you to start out and navigate which parts might work best for you. There are some amazing scientific role models out there who do understand how all of this works, but we seem to do a poor job of a) show casing them and b) then sharing that knowledge to help others take their first steps.

Being the change

So how can we do this better? First let me start by saying why Healthcare Scientists need to be in the room. As I've already said, we have access to all kinds of pre-existing data that can often really help to change innovation from something done in a research setting, to something that could help change patient care right now. Utilising more of what we already have is a key way to remove barriers to innovation. The second thing is to know what we bring into the room, so we are better able to feel comfortable and advocate for ourselves. Scientists risk assess all the time, it's inbuilt into our practice. We are used to dealing with unknowns and navigating from first principles. I think this is such a unique skill set that we don't give ourselves credit for.

When we are working to bring innovation into healthcare, and must acknowledge the unknowns and the risks that throws up, then this skill set is exactly what the wider workforce needs to be able to do it safely. We are uniquely placed to support innovation introduction and we need to be vocal about how this can help. The last thing I want to say is that sometimes, I feel we are so used to being the bridesmaid and never the bride, that we don't put ourselves forward and therefore miss being where we are needed most. It isn't always comfortable being the only scientist in the room, but that doesn't devalue the importance of having one of us there. I long for the day when I walk into a space and find that there are so many of us present that I can be like 'you don't need me' and go for coffee instead.

So, this Healthcare Science Week, if you can do just one thing, I would think about actively seeking out or saying yes to the next opportunity you are offered. You may not know where it will lead, or what impact it will have, but I know that you make a difference just by being part of the conversation.

HELENA MORGAN

HEAD OF CLINICAL NEUROPHYSIOLOGY, MORRISTON HOSPITAL SWANSEA BAY UNIVERSITY HEALTH BOARD AND HONORARY FELLOW OF THE AHCS

“Healthcare science staff working in neurophysiology investigate the function of the central and peripheral nervous system to diagnose and manage a range of neurological and non-neurological disorders These investigations are performed in dedicated environments/departments, intensive care settings and operating theatres. Neurophysiology innovation in healthcare science has made remarkable strides in recent years, combining advances in technology, sustainable enhanced career educational pathways, reinforced with a greater understanding of brain and nervous system function. In summary, the future of neurophysiology is a blend of biological, technological, and ethical advancements, each unlocking new possibilities for understanding and enhancing brain function with better patient outcomes, a sustainable service with continued development of high-quality healthcare professionals.”

DR. DARREN CLARK

DEPUTY CHAIR, MEDILINK

MEDILINK MIDLANDS

VOI MED TECH
VOICE OF INDUSTRY

"Healthcare Science Week is a fantastic opportunity to recognise the dedicated professionals who work behind the scenes to advance medical innovation and improve patient care. At Medilink Midlands, we acknowledge the vital role healthcare scientists play in shaping the future of healthcare, from driving technological advancements to ensuring the effectiveness of life-saving treatments. We also work closely with businesses and SMEs developing cutting-edge diagnostic and treatment technologies that empower healthcare scientists to deliver faster, more accurate diagnoses and improve patient outcomes.

As a membership organisation, we provide tailored innovation business support, connecting companies to key stakeholders across academia, business, and clinical communities. Through strategic guidance, access to funding opportunities, and fostering collaborative partnerships, we help businesses overcome barriers to success and accelerate healthcare innovation. We are proud to support this celebration, which not only raises awareness of these incredible contributions but also inspires the next generation to pursue careers in this essential field. By fostering collaboration and innovation, we can strengthen our healthcare system and drive meaningful progress for patients and communities alike."

REGISTRANT SPOTLIGHT

CELEBRATING DR. RUTH BROTHERSTONE

LINDSAY GRIPTON
CLINICAL NEUROPHYSIOLOGIST AND AHCS REGISTRANT

Dr. Ruth Brotherstone, Clinical Neurophysiologist

We recently celebrated Dr. Ruth Brotherstone's remarkable 40th anniversary with the NHS. Ruth's journey has been marked by unwavering dedication and innovation, transforming patient care in Clinical Neurophysiology in Scotland. Starting her career at the Royal Hospital for Sick Children in NHS Lothian in 1986, Ruth has consistently gone above and beyond, earning admiration from colleagues and gratitude from countless patients and families.

One of Ruth's most significant contributions is the development of a novel seizure alarm algorithm. This innovation was inspired by a tragic incident involving a young girl who died from a nocturnal seizure, deeply affecting Ruth and igniting her determination to prevent such tragedies. Her empathy and understanding of the challenges faced by patients and their families have driven her to continuously improve our services.
Ruth's dedication to advancing Clinical Neurophysiology and raising its profile within Healthcare Science has motivated her colleagues. Her strong clinical leadership underscores the importance of improving patient outcomes. In this special 40th year, we recognise her tenacity, commitment to patient care, support for her team, and the potential impact of her invention.

Celebrating Ruth's extraordinary career reminds us of the profound difference one person can make in Healthcare Science. Her grit, compassion, and innovative spirit are truly inspiring, and we feel incredibly fortunate to have her leading our team.

AHCS HEALTHCARE SCIENCE LEADERSHIP JOURNAL HIGHLIGHT

Throughout Healthcare Science Week, we will be highlighting a selection of past articles from our Healthcare Science Leadership Journal!

"CELEBRATING SUCCESS"

ALISON DUNN, CHAMBERLAIN DUNN

In this article in the Summer 2024 edition of the Healthcare Science Leadership Journal, Alison Dunn, Chamberlain Dunn, reflects on the winners of the two AHCS sponsored awards at the Advancing Healthcare Awards UK 2024. The two awards focussed on innovative practice to enhance patient safety and recognition of emerging leaders. Here is a short snapshot of the article:

The award for innovative practice to enhance patient safety was won by the Clinical Engineering R&D Team at the Northern Care Alliance NHS Foundation Trust for their project to bring new 3D printing and visualization methods to clinical practice for difficult airway planning.

They developed and introduced new methods involving medical imaging, computer design and 3D printing into clinical practice in a collaboration between anaesthetists, ENT surgeons and clinical engineers. This initiative has improved patient safety and reduced risks of complication and adverse events for patients with difficult airways.

The Airway Innovation Group (AIG) is a collaboration dedicated to developing new techniques and devices to improve care for patients with complex and difficult airways. A difficult airway is where the patient has complications which make it difficult to provide oxygen during operations. If the anaesthetic team cannot provide oxygen, either through a mask or through a tube inserted into the airway, then the operation may need to be stopped or not be attempted in the first place, as the risks to the patient may be too great.

The team developed a set of new methods and instruments specifically for patients with difficult airways and have moved this into routine clinical service within the Northern Care Alliance, a world-first for such a service. This effective clinical workflow turns medical images into 3D printed planning models that surgical teams use to simulate procedures and create patient-specific 3D printed guides that facilitate safe intubation.

Click here to read the full article.

Keep the conversation going on our social platforms!