

# Patient Inspired Innovation

Welcome to issue 13 of the NIHR Brain Injury MedTech Co-operative newsletter.

## Current Topics

In this edition, find out about our current research projects and more about our Theme Leads and their prestigious awards.

## About us

The MIC is one of eleven national Medtech and In vitro diagnostic Co-operatives (MICs) funded by the National Institute for Health Research (NIHR).



The MIC works with patients, carers, academics, clinicians and industry to develop new medical devices, healthcare technologies and technology-dependent interventions to improve treatment and quality of life for patients with brain injuries.

## Be part of Research

To find out about opportunities to participate or get involved in brain injury research sign up to Register for Healthcare Involvement and Technology Evaluation (RHITE). The register is designed to match researchers with patients and carers who would like to help with our understanding of brain injury and development of new treatments and technologies.

<http://www.brainmic.nihr.ac.uk/rhite>

## Important:

To unsubscribe from RHITE and this newsletter please send an email to: [involve@brainmic.org](mailto:involve@brainmic.org)

## An exciting opportunity to take part to Research!

### Improving care for patients with mild traumatic brain injury

Dr Virginia Newcombe is a Health Foundation/Academy of Medical Sciences Clinician Scientist Fellow. She completed her PhD in neuroimaging and traumatic brain injury in 2009. Her research interests include using imaging as a biomarker for prognosis, the trajectory of traumatic brain injury and outcomes after critical illness.

With projects based in the Emergency Department and Neurosciences Critical Care Unit her research encompasses the entire spectrum of TBI from mild to severe. She divides her time between research and clinical training in intensive care and emergency medicine.

This particular study is to improve the care that patients receive after a mild traumatic brain injury or concussion. We know some people after a concussion will have ongoing problems like headaches, problems with thinking, fatigue or dizziness. The majority of patients are sent home from Emergency Departments with simple advice, no arranged follow up and the expectation those with persisting problems will seek help themselves. However, the nature of a brain injury makes reaching out for help often difficult, and many patients do not receive the long-term care they need. This is an unmet healthcare need affecting millions of individuals worldwide each year. We are looking for feedback on our study to improve its design and ensure it is the most effective it can be for patients.



To get involved in this project please contact [involve@brainmic.org](mailto:involve@brainmic.org)

**Get involved!**

## HOW TO GET INVOLVED

If you want to know more about how to get involved in this study, please send an email to [involve@brainmic.org](mailto:involve@brainmic.org)

## Surgeons: At the Edge of Life - BBC2 Documentary Series featuring

*Dr Alexis Joannides, Consultant Neurosurgeon,  
Deputy Director of the NIHR Brain Injury MedTech Co-operative*



Addenbrooke's Hospital in Cambridge takes on some of the most challenging medical cases in the country. Its surgeons carry out operations that require such expertise that they are only carried out here and a handful of other centres in the UK.

In Episode 4 of the series two operations were being undertaken, one which involved our very own Deputy Director, Dr Alexis Joannides who was tackling one of the most serious forms of brain tumour using cutting edge science.

Consultant neurosurgeon Alexis Joannides will be seen operating on the edge of what is possible.

He has the daunting task of removing a tumour the size of a small apple from the brain of 30-year-old Adam, a manufacturing operative who is expecting his first child with partner Tasha in just a few weeks.

Adam's problems started two months before when he began experiencing severe headaches that would not go away. Five weeks later, an optician's appointment led to an immediate referral to A&E where doctors discovered the tumour. It turned out to be a glioblastoma, a particularly aggressive type of brain tumour that is life threatening. In order to give Adam the best prognosis, Alexis needs to take out as much as possible therefore Adam was given a "pink drink" that contains the chemical 5 ALA, only available on the NHS since 2019. This causes tumour cells to fluoresce pink under UV light in the operating theatre allowing Alexis to tell the difference between tumour and healthy brain and should assist in removing all the tumour. Research shows that when the pink drink is used, the whole tumour is successfully removed in 70% of cases, up from around 30% when the drink is not used. But the first challenge is to find whether the drink has worked.

To find out more about these ground breaking surgeries please visit the BBC website:

<https://www.bbc.co.uk/programmes/m00123yx>

## *A giant leap for brain injury research!*



**The UK Acquired Brain Injury Forum (UKABIF) is delighted that the Government has announced it will implement a cross departmental strategy for Acquired Brain Injury (ABI).**

UKABIF has been working closely with Chris Bryant MP after he secured a Private Members' Bill calling for improved services for people with acquired brain injury. Now, in the week Chris Bryant was due to have the second reading of his Bill, the Government has agreed it will create a Panel Board early in 2022 to implement an ABI strategy.

Chris Bryant, Chair of the All-Party Parliamentary Group on Acquired Brain Injury, said: "The Government has announced it will be creating a Panel Board in the New Year with officials from several departments to start devising a whole-Government strategy on ABI. In other words, the Government is doing precisely what my Acquired Brain Injury Private Members' Bill is calling for.

"A huge thank you to all the acquired brain injury charities, MPs and other campaigners who have been supporting my Bill and the campaign."

Chris Bryant and Gillian Keegan Minister of State for Care and Mental Health will co-chair the programme board which will begin by launching a call for evidence in early 2022.

Chloe Hayward, Executive Director of UK Acquired Brain Injury Forum (UKABIF), said: "The Government's announcement that they will be implementing a full ABI strategy is hugely welcome news. We have worked tirelessly to back Chris and his Bill as we are acutely aware of how much it is needed and what a difference it will make to better supporting people with an acquired brain injury.

"It has been a real collective effort from charities including The Child Brain Injury Trust, The Children's Trust, The Disabilities Trust and Headway, supporters, service users and MPs and it is wonderful to see that collaboration pay off. There is much work to do in the New Year as the ABI strategy is implemented and UKABIF will continue to play a key role in ensuring people with acquired brain injury have access to the support they need."

*The Brain Injury MIC presents its Theme Leads:*

## **Professor Andrew Bateman Neuropsychological Rehabilitation Theme Lead**

As you may be aware, the work of the NIHR Brain Injury MIC is divided into eleven themes led by internationally renowned experts in their respective field. This month we are delighted to introduce to you our Neuropsychological Rehabilitation Theme Lead Dr Andrew Bateman.



Dr Andrew Bateman took up the position of Reader in Rehabilitation at the University of Essex in June 2019. He is also Director of the NIHR Research Design Service for East of England. Previously he was Clinical Manager at Oliver Zangwill Centre for Neuropsychological Rehabilitation (2002-20019). He is an Affiliated Lecturer in the Department of Psychiatry in Cambridge. He is Chair of the United Kingdom Acquired Brain Injury Forum (UKABIF), a national charity that aims to provide a route for lobbying continuing professional development and networking for people working in the brain injury sector. He is a Past-President and Honorary Treasurer of the Society for Research in Rehabilitation, a scholarly society that aims to promote excellence in rehabilitation research.

He has published research on a wide range of aspects of brain injury rehabilitation including exercise, cognitive neuropsychology, psychometrics, rehabilitation service development and social media.

Rehabilitation involves a collaboration between survivors and professionals = working together to overcome disadvantages caused by brain injury to optimise participation in daily life. The prevalence of brain injury among people of working age makes the goal of return to work a key priority. Retuning to work helps people to achieve the well recognised benefits that concern both psychological wellbeing and economics. The overarching work of Dr Bateman and the Brain Injury MIC is to provide resources that enable the assessment and targeted intervention to help people overcome these challenges.

*...and an award to our Theme Lead!*

## **Professor Andrew Bateman was recently awarded .....**

Breaking news: In November 2021 Andrew heard the news that he has been promoted to Professor in the School of Health and Social Care.

On hearing of his promotion, Andrew said: "It really is a great honour and I am proud to think what I can achieve from this new platform. Through this position, I can represent the brain injury sector and continue to support wonderful organisations such as Brain MIC. The work they do facilitating research in this sector is extremely important to the whole sector."

*...upcoming events:*

## **IMPORTANT ANNOUNCEMENT: Seedcorn Competition 2021 is now OPEN!**

The National Institute of Health Research (NIHR) Brain Injury MedTech Co-operative is delighted to launch the Seedcorn Competition 2021. Applications are invited for funding of up to £10,000 to support the early development of novel technology-based solutions applicable to the brain injury pathway from prevention through to long term rehabilitation that includes Patient and Public Involvement and Engagement (PPIE). Please visit our website to obtain further details. Competition closes on **24th January 2022**.

## **Cambridge Festival 2022!**

The Cambridge Festival takes place next year between 31st March until 10th April 2022. For further details please visit:

<https://www.sciencefestival.cam.ac.uk/>

**Cambridge Festival 2022**  
**31 March - 10 April 2022**



## Showcasing the new eScent mask!

### Founder Jenny Tillotson

Cambridge MP Daniel Zeichner had a nose around the eScent offices at the Maxwell Centre, where he learned how its innovative scent delivery system for facemasks could aid wellbeing.

The AI-powered company, which has been funded by a £175,000 Innovate UK Sustainable Innovation Fund Award, has developed a reusable enhanced FFP3 facemask to offer “personal protective assurance”.



It uses sensors to dynamically respond to the wearer's mood, delivering a personalised and renewable scent that is designed to improve the wearer's wellbeing. eScent hopes it could reduce mental ill health among NHS staff and the wider population.

The Labour MP met with eScent founder Jenny Tillotson and colleagues at the Cambridge start-up, including its NHS advisors, to discuss applications for the technology within healthcare and beyond, before trying out the mask for himself.

He said: “At a time where the number of working days lost in the NHS due to mental health-related absences is at an all-time high, innovations like these give us a real opportunity to help protect the most precious commodity we possess, the health and wellbeing of our frontline workers.”



MP Daniel Zeichner with eScent founder Jenny Tillotson at the Maxwell Centre in JJ Thomson Avenue, Cambridge

The Covid-19 viral pandemic continues in 2021 with a new variant, Omicron, which has multiple alterations in the spike protein and may be more transmissible. As a designer working in the hybrid of biosciences, technology, fashion communication and scent, Dr Tillotson presented the MP with

a possible addition to the armamentarium of measures to contain SARS-CoV2 with novel wearable technologies designed to reduce the commonest method for disease transmission: airborne spread.

According to mental health charity Mind, some people find wearing a mask challenging for several reasons, including the triggering of breathing problems or, in some cases, memories of traumatic events.

Meanwhile, mental wellbeing is a growing issue in the NHS during the pandemic, with a BMA survey of 7,000 doctors finding 44 per cent felt their mental health conditions were being made worse by their work.

eScent believes it can help address some of these problems, while also avoiding the damage done by disposable masks - about 129 billion of them, mostly made from plastic microfibres, are believed to have been used every month during the pandemic, along with 65 billion disposable gloves, according to an Environmental Science and Technology study.

Dr Tillotson said she was “delighted” to showcase the prototype FFP3 facemask to the MP.

“Daniel has been a huge supporter of the NHS and a vocal speaker on the climate emergency, and our transformative technology aligns with both of these issues, providing frontline workers with a self-administered scent delivery system to help reduce mental distress, whilst eliminating the need for single-use PPE on the planet,” she said.

eScent uses smart sensors, embedded with AI and voice analytics, to detect early increases in stress and other biometric parameters.

The sensors trigger the release of a localised cloud of scent that the company calls a ‘scent bubble’ that changes moment by moment, reacting to and anticipating the wearer's mood at the right moment.

Beyond facemasks, eScent says the patented wearable platform technology and AI-powered liquid dispenser can be deployed in a range of wearables, including garment buttons, jewellery, smart textiles and AR/VR headsets.

Over the next 18 months, it intends to miniaturise the delivery system and sniff out opportunities in markets including the wellbeing, fashiontech, protection, entertainment and psychedelic medicine sectors.

## COVID-19 update

### NIHR COVID-19 and the influenza vaccine

**NIHR** | National Institute  
for Health Research

Research funded by the NIHR has found that it is safe for people to receive a flu vaccine at the same time as a COVID-19 vaccine.

Reported side effects were mainly mild to moderate, and there were no negative impacts on the immune response produced by either vaccine when both were given on the same day, in opposite arms. 97% of the study participants said they would be willing to have two vaccines at the same appointment in the future.

Earlier in the pandemic, it was not known how giving COVID-19 vaccination boosters may fit in with the seasonal flu vaccine programme. The Combining Influenza and COVID-19 Vaccination (ComFluCOV) study, led by researchers at the Bristol Trials Centre, University of Bristol and University Hospitals Bristol and Weston NHS Foundation Trust (UHBW) and supported by the NIHR Local Clinical Research Network (LCRN) West of England looked to establish the safety of co-administering the most widely used COVID-19 and influenza vaccines in the UK. The research aimed to describe the expected side effects and immune responses to the vaccines when they are given together.

A total of 679 volunteers over the age of 18 and who had already received one dose of either the Pfizer/BioNTech or the Oxford/AstraZeneca COVID-19 vaccine took part in the study, across 12 NHS sites in England and Wales.

The volunteers were randomly allocated into one of two groups. The first group received their second dose of the COVID-19 vaccine and the flu vaccine at their first study visit, then a saline injection (placebo) at their second visit. The second group received their second dose of the COVID-19 vaccine and a saline injection (placebo) at their first visit and then the flu vaccine at their second visit.

Participants also attended a third study visit to discuss any side effects they experienced following their second appointment and to give a final blood sample.

The most common side effects were pain around the injection site and fatigue. With some combinations there was an increase in the number of people who reported at least one side effect when both COVID-19 and flu vaccine were given together, but the reactions were mostly mild or moderate.

Further information can be found at: <https://www.nihr.ac.uk/>

**Wishing you all a very Merry Christmas  
and a Happy New Year!**



NIHR Brain Injury MedTech Co-operative

Dept. of Clinical Neurosciences  
University of Cambridge  
Box 167 - Cambridge Biomedical Campus

T: 01223 336 944  
W: [www.brainmic.nihr.ac.uk](http://www.brainmic.nihr.ac.uk)  
Twitter: NIHRBrainMIC