

## Learn 2 Innovate in-person event – April 2024

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What does it take to innovate? We are here to tell you that it does not take a Steve Jobs or Mark Zuckerberg to make an impact....

The Learn 2 Innovate 2023–24 Programme is a cross-university collaborative event where students of healthcare, business and technology-related courses from the GW4 universities – Bristol, Cardiff, Exeter, Plymouth – get together to attend a series of virtual workshops on key themes of innovation, led by leaders in the field. These themes span from introduction to innovation: ideation, creation and business strategies through to patents, protection and pitch deck gruellings. A personal favourite of mine was a workshop on Innovation in Surgery from Mr Asit Arora and Mr Saahil Mehta discussing their innovative business practices in robotic surgery and breast surgery, respectively.



### Learn2Innovate Cohort 3 finally getting to gather in person for the first time since workshop 1 began in December 2023

After a series of eight virtual workshops from December 2023, on the 26 April 2024, the cohort got together in the sbarc|spark building in Cardiff University for a much looked-forward in-person highlight of the year. Seven groups of 27 like-minded student innovators got together after a few months of hard work, dedication and inspiration, to witness their efforts come into fruition by showcasing their unique ideas to the rest of the cohort in the form of a pitch deck competition. All eyes on the prize: £1000 funding to transform their idea into reality – only if the panel of judges are impressed!

### Welcome talks and judging

Before the pitches, student innovators were welcomed with coffee and welsh cakes, and a morning of inspirational talks from innovators in health. Dr Alexander Coombs and Connor Wood, Programme Director and Lead, respectively, opened the event by showcasing the student innovators Learn 2 Innovate Journey with highlights of all the workshops completed. The first two talks delivered by Professor Ian Weeks and Professor Rachel Errington captured the imagination of the audience through the impact one can have on healthcare through research and innovation. Professor Ian Weeks provided insight into his research into the replacement of radioactive isotopes using chemiluminescent (light-emitting) molecules. An idea that eventually became the basis for a spin-out company, with its technology now being used worldwide. Professor Rachel Errington discussed how research into Mr Kipling cakes led to developing novel

fluorescent probes and tools for cell-based assays. Similarly, Rachel created a spin out company from her discoveries called Biostatus, a company where she holds the role of Director. The last two talks were from clinical innovators. Dr Fiona Brennan, a consultant anaesthetist and intrapreneur, discussed the importance of planetary health and her role in reducing waste in the operating room. Lastly, Dr Dafydd Loughran, Concentric CEO and entrepreneur, delivered a captivating heartfelt talk on his innovation journey including the difficulties of not fitting the stereotypical CEO/Co-Founder mold that is assumed in media.



### Judging panel consisting of Maxine, Rachel and Barbara listening to an afternoon of well-delivered pitches

The panel of judges consisted of Maxine Birmingham, CEO of thinkingaroundcorners, Professor Rachel Errington, interim head of the Cardiff University School of Medicine, and Barbara Coles, project manager of Clinical Innovation Hub Manager at Cardiff University. Teams were judged on the following domains: 1. Market Validation: the problem and its size; 2. Product Proposition and Design; 3. Business Model: how would revenue be created, 4. Traction: whether expertise in the field have responded to the needs and appeal of the product; 5. Team: what makes your team suitable and how so over others; 6. Presentation in the pitch deck; and last but not least 7. Prototype: whether the prototype can be classified as a minimal viable product (MVP). The panel of judges, apart from having to listen intently to the pitches, had to challenge the groups by posing stimulating questions at the end – not an easy feat from the other end of the table!

### Pitch decks



The series of pitch deck presentations kicked off with the DSA team trying to tackle an emerging healthcare burden that is costing the NHS an estimated £70 million per year, contributing to doctors' burnout-discharge summaries. The group aimed to create the Discharge Summary Assistant - an automation tool that uses Large Language Models (LLM) to generate text-based discharge summaries in a mere 60 seconds; there is also a visual timeline feature which represents the patient's hospital journey and important touchpoints.

**Interview with Macca,  
CEO of Discharge Summary Assistant**

**What did you enjoy most from the programme?**

*It has been an incredible experience – I enjoyed the programme and it enhanced my expertise in technology and applying it to real life scenarios.*

*Our weekly meetings were charismatic, I loved building the incredible piece of software and the MVP, and I am looking forward to, as a team, taking it to a next level.*

**Which was your favourite online workshop from the programme?**

*I enjoyed the last event (Leadership and Entrepreneurship) where a founder (Sina Yamani, an entrepreneur in the FinTech space founding Yoello) came in to talk about his experience, it was inspirational and motivational.*

The third group was Bolytica, which aimed to minimise errors and improve efficiency in radiological imaging system by creating a multi-model AI approach that enabled image analysis of radiographic scans and detailed written reports to be generated, guiding clinicians on their decision-making process.



**Interview with Rajib from team Bolytica**

**Did the programme make you more motivated to become a medical innovator in the future?**

*It was a good and exciting programme which helped to supplement my medical studies and enabled me to see what flaws there are existing within the medical system. It was also very inspirational to hear about other people's journeys in healthcare innovation.*



Synapse is an idea pitched by the second group of student innovators. They believed that current systems are not sufficient and convenient enough to link up students with professors and other stakeholders within universities and research communities. They aimed to create a centralised platform which uses algorithms to bring everything into a single "synapse" network, creating cross-institutional collaborations. Synapse aims to facilitate students thorough an automated workspace setup, for example to match their dissertation or research work targets to potential supervising academics.

**Interview with Synapse**

**How did you come about this idea to begin with?**

*It started off as an idea whilst working with consultants and other student groups in Bristol – we found that there was no easy access to other student groups, clinicians, industry and company members when we wanted to approach them, so we wanted to set up a dialogue and bridge the gap for everyone in the industry through Synapse, by creating a cross disciplinary collaboration.*



**Interview with Veronica from team  
Postnatal Readmission Tool**

**Say someone presents with risk factors, how long would it take the system to identify it and how soon after will she be called to visit the doctor?**

*We haven't done any testing and we don't have the details about how long it will take to identify anyone with a complication, however, women will be able to add their pain scores and track their symptoms, and clinicians will be able to monitor it before each visit once the baby is born. This will help to support clinician's judgement on what is the best course of action.*

The Ockenden Report highlighted that maternity services in some areas of the country have been treated as a Cinderella service for years, and maternal deaths can be as high as 52% from 1–41 days post birth. Traditionally, those of black ethnic origin, younger or older

age groups and women living in deprivation are at higher risk of being admitted postnatally. That is what the Postnatal Readmission Tool hopes to tackle – it hopes to assess risks and identify mothers who are at higher risk of developing complications post birth and following discharge. It provides a risk assessment and symptoms tracker tool to identify a woman’s risk factors of readmission post-discharge. Clinicians will use this information to help with decision-making on the best course of action before each mother’s visit in the post-natal period (eg wait, observe, admit, act on certain symptoms). Community midwives can also monitor the interface and identify those at risk early, so things can be actioned quickly.

Ever wondered how diabetics count their calories? You would have thought there would be a more tech savvy way of doing so in the 21st century than literally adding up calories from food labels – here is how Diabecon comes to the rescue! Invented by a healthcare professional whose girlfriend is a type 1 diabetic, Diabecon helps to accurately carbs count. Working like a weigh scale, it syncs with its unique mobile app through closed loop voice systems. You simply have to tell the device what food is placed on, and it will do its job by weighing how heavy it is and calculating the amount of carbohydrate it consists. This saves patients time and effort to carb count every single meal of the day, preventing from burnout, and more importantly, complications like hypoglycaemia and diabetic ketoacidosis.



### Interview with Joe from team Diabecon

#### What did you find most helpful from the programme?

*It was good working with people from different courses and unis, as well as with our mentor as she was very helpful and gave very good advice about the MVP.*

#### Type 1 diabetics are usually quite young, how do you ensure that children can handle the device, under supervision from their parents?

*Our device is very user friendly and uses a closed loop system syncing with their mobile phones, only simple language is required to communicate with the device.*



Bring in another discharge summary assistant! Perhaps this highly unmet need in the healthcare environment which is causing disruption through discharge delays is recognised widely - that’s why Summit hopes to come to the market. Summit is another discharge summary automation tool that helps alleviate clinicians’ time in handling administrative tasks, allowing them more time to conduct clinical diagnoses and patient interactions. Summit also provides text translations into different languages, and has a separate report generated to the GP, bridging the communication gap between primary and secondary healthcare.

### Interview with Harris from team Summit

#### How do you see the market of discharge summary automation in the future? It seems to be a buzzing theme at the moment as an easy-win solution to help clinicians, save time and costs.

*Yes, it is definitely a big market with good potential. The fact that there are 2 groups undertaking the same project highlights the need for it to be addressed as a matter of urgency.*

Ever encountered a time where you have unfortunately missed your long-scheduled hospital clinic because of clashes with other commitments? DNAs (Did Not Attends) are a costly problem in the NHS; an estimated £290 million of NHS funds has been wasted due to people not attending their appointment slots. Health Sync aims to tackle this issue by bridging the communication barrier between GPs and hospital doctors by creating a platform where, for example, a patient requires to be referred for radiology scans in the hospital; during the GP appointment, the patient can state when he is free for an appointment, the radiologist on hospital site can then use the same platform to accept or decline, and at the same time, view health records and assessment reports from GP. This way, the transparency and efficiency of information provision between the two parties are greatly improved and can hopefully act to minimise the costly DNAs.



### Interview with Saaketh from team Health Sync

#### Do you think that Do Not Attends are a neglected issue in the NHS, and are you aware of any current systems put in place to tackle the underlying causes?

*We believe that DNAs are a significant issue within the NHS. They not only contribute to delays in care but also wasted resources and increased costs. We identified several reasons including transportation difficulties, patients having other priorities, and a lack of understanding of the inefficiencies created by missing appointments. Current systems in place to mitigate the issues include SMS or email reminders introduced by certain trusts to alert patients of upcoming appointments. Some clinics are also implementing more flexible booking systems that improve accessibility and give patients more freedom. However, further steps might be required to fully address the many causes of DNAs.*

## Awards and closing

After an enlightening afternoon, student innovators were given a short comfort break to mingle and socialise with their like-minded peers, whilst awaiting the judges to make difficult decisions...

As someone who has been part of this student innovation journey, it definitely feels surreal to see our efforts pay off after the afternoon's intense pitch presentations. I would like to take this opportunity to congratulate all groups for their enthusiasm and for their hard work to come into fruition. I have no doubt that regardless of who wins, it has been a rewarding journey for all, and for some, it is just the starting point for something bigger and better in the near future.

It took the judges a while to come to decide, however, it seems that the two groups pitching for discharge summaries have swayed their hearts unanimously, persuading them to believe in the impact of bringing this issue to the table and the public's eye. It came down to the presentation style for which the Discharge Summary Assistant surmounted over Summit – lending themselves to be entitled “Winners” and “Runner-ups” of Cohort 3 of Learn 2 Innovate, respectively. Special mention was also given to the “Postnatal Readmission Tool”. The winning team would be given a generous funding of £1000 to bring their idea to reality, and an opportunity to pitch their project to the next level of panelists at the Cardiff University Clinical Innovation Hub.

coming to an end, but in fact it is only the beginning for us, and more importantly, for YOU, budding innovators of the future.

*Photos credit: Ieuan Miles*

*Thanks also to Alexander Coombs*

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**All smiles for the two teams pitching on discharge summaries – the Discharge Summary Assistant was awarded First Prize and Summit closely came second**

So, what does it take to innovate? As a proud member of the winning team, I would say a key spice to the recipe of success is, if anything, do not limit yourself to a box with four sides. Being able to think out of the box, being observant and receptive to little things in life would be a great start for those who would like to follow our journey. Formulating opinion of what you think require improvement in the environment around you, and brainstorming how these can be done – bit by bit, efforts will accumulate and be sufficient to last an impact of a lifetime. Our time in Learn 2 Innovate 2023–24 might be