Research and Innovation for Health and Wellbeing Course.

Open to early career researchers from across the 4 Research Institutes.

# Background

The UK health system has always been bound by the limits of budgets and national funding caps. As we enter a transition phase from the pandemic to a post Covid-19 healthcare system there will no doubt be further reviews of NHS funding in a potentially cash struck UK economy. Now more than ever we need innovators within the health system to develop and implement new devices, technologies and services that can improve patient outcomes, improve the working lives of healthcare staff and do so at reasonable cost.

Many healthcare innovations fail to make it to widespread adoption. Anecdotal evidence suggests adoption of approved medical technologies or new innovations takes on average 17 years.

A recent RAND Europe report(1) (Innovating for improved healthcare-2020) concluded that professional communities should embed innovation-related training into continual professional development. The first of which is the strengthening of skills, capabilities, and leadership. The Health Research Institute will be running a formal short one week training course to support Early Career Researchers (ECRs) in understanding the innovation pathway for medical technologies and new innovations. This pathway spans from basic research and IP creation, through translational research, and on to commercial development. In addition, the course will provide ECRs with an opportunity to meet and make crucial connections with researchers outside their disciplinary fields; providing opportunities to build new successful interdisciplinary innovation teams.

The ambitions of the Research Institutes are rooted in interdisciplinarity we want to support our new talent to develop skills, and capabilities for innovating, and be able to practice these in a safe and supportive environment.

We have developed a one-week intensive Research and Innovation in Health and Wellbeing course focussed on early career researchers with an open application process for ECRs from across all four Research Institutes.

## The overarching aim of the course is to:

## Develop knowledge and skills in the health and wellbeing innovation pathway through a multidisciplinary cross-Research Institute short course.

# How will this course benefit you as an Early Career Researcher?

The purpose is to bring researchers together from diverse disciplines to learn together. Through interdisciplinary team-work participants will collaborate using their disciplinary expertise to collectively solve complex health and wellbeing issues and develop innovative solutions to real problems.

**Over the five days, you will:**

* Learn from specialist technology transfer and business development professionals,
* Explore the innovation development process,
* Work in a team with your peers from across the University,
* Undertake personal and group concept development activities,
* Develop a short business case and pitch in front of a panel of 'dragons'.

**The programme will provide you with an opportunity to:**

* Meet with, talk to, learn from and share experiences with a diverse mix of other early career researchers from across all four Research Institutes,
* Get a first-hand insight into real life health and wellbeing research and innovation, challenges and strategies to overcome these,
* Gain a greater knowledge of innovation concepts, routes to market, and how to pitch your idea,
* Develop self-awareness / efficacy, build vision and confidence,
* Develop networking and consortium building skills,
* Enhance your chances for future research progression and life skills

## References

1. Marjanovic S, Altenhofer M, Hocking L, Morgan Jones M, Parks S, Ghiga I, et al. Innovating for improved healthcare: Policy and practice for a thriving NHS: RAND Corporation; 2020.

Programme

The Research and Innovation in Health and Wellbeing course will start week beginning 20th September 2021. The times given below are rough as there will be teamwork, mini presentations as well as group discussions throughout the first two days.

If you want to tweet about things you find particularly interesting or anything else as we go along, please use the hashtag #RAIHW2021. Days 1-4 will be delivered remotely online, day 5 will be an onsite event delivered at the Advanced Wellbeing Research Centre (unless there is a dramatic change to the Covid regulations when we will revert back to an online event).

**Day 1:**

We will start with an introductory section which explores what innovation actually is, how it works, and what it takes to innovate.

We will then get started on the ‘Innovation Expedition’ with perhaps the most important aspect of all – **Prepare**. Most people start with an idea and try and develop it. However, unless we understand and can quantify the actual problem it is addressing, there is little chance of the idea being developed.

**Create:** Finishing off the day’s workshops, we will get creative and start looking at ways to shape our thinking. Co-design is of vital importance in health innovation. By having understood the exact nature of the problem we are addressing, we can create a solution to fully address every aspect of it, giving it a greater chance of success.

Finally, we will hear from a clinical academic about their experiences of ‘Prepare and Create’ through a shorter soundbite session in which all of the elements we have discussed will be contextualised.

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| Time | Session |
| 0830-0900 | **Arrival & Welcome** |
| 0900-1115 | **Team-building and Introduction to innovation in health** |
| 1115-1130 | Break |
| 1130-1300 | **Prepare Part 1** |
| 1300-1400 | Lunch |
| 1400-1445 | **Prepare Part 2** |
| 1445-1500 | Break |
| 1500-1715 | **Create** |
| 1715-1730 | **Guest soundbite speaker – Dr Anna Lowe** |

Evening Work for Teams: Consider the unmet clinical need and what information you may need to evidence this. How will you work as a team? Start thinking about solutions. There will be a handout to read to prepare for Wednesday

**Day 2:**

Day 2 is about developing an understanding of the Research and Innovation landscape within and beyond Sheffield Hallam University. The content will focus on developing knowledge of the research funding landscape, techniques for developing and writing competitive bids, and an explanation of how Research and Innovation Service supports funding applications, IP protection, and commercialisation, as part of the overall innovation pathway.

Day 2 will also explore the importance of networks and collaborations and how to build and maintain successful health networks/consortia. There will also be a focus on personal development needs in relation to undertaking R&I

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| Time | Session |
| 8.30-8.45am | **Registration and remembering back to the key messages from day 1** |
| 8.45am-10.00 | **Introduction to R&I at Sheffield Hallam** |
| 10.00-10.15 | coffee/comfort break |
| 10.15- 11.15 | **Research and Innovation case studies in health from SHU** (how did the journey go; personal reflections; crucible moments, challenges/strengths; learning points; celebration of the success; take away messages from the case studies that can link to confidence building. Ending with a Q&A panel) (2-3 case studies) |
| 11.15-12.15 | **Networking, collaborations and consortia** |
| 12.15-12.45 | Lunch |
| 12.45-13.15 | **How to build in effective Public-Patient Involvement (PPI) throughout the innovation pathway.** |
| 13.15-14.15 | **Moving your business plan on** (reflecting on the content of the first half of the day and how this will add to the developing business plans). |
| 14.15-14.30 | Coffee/comfort break |
| 14.30-15.30 | **Reflecting on self: considering personal goals within research and innovation** (designing a personal plan that becomes part of the individuals R&I plan and how individuals might support R&I in their local teams through UG/PG teaching input). |
| 15.30-16.00 | **Review and close** |

**Day 3**

Today we will change gear to a more business-focused approach, looking at the development aspects of our idea. We have one, we think it will work, but where to take it next?

**Test:** We have a concept, and we want to see if it will work – even if in principle at this stage. There are many examples of innovations which have been lost because people have not addressed this section properly – even in industry! This section will provide an overview of intellectual property, concept design and regulatory considerations. We will not delve too deeply as these are extremely large and complex areas.

**Opportunity:** By this stage, we are quite advanced in our potential solution development. But will anyone buy it or buy into the idea? What will it cost? What will the NHS save? Where will it fit into the patient pathway? We will take our own team projects and develop a business model canvass. There will be plenty of chances for teams to come and talk about their plans at different stages and work together as a whole to fine tunes these ideas.

We will end the day again hearing from a clinical academic who has gone through these stages and their experiences of doing it.

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| Time | Session |
| 0900-1115 | **Test** |
| 1115-1130 | Break |
| 1130-1300 | **Opportunity Part 1** |
| 1300-1400 | Lunch |
| 1400-1445 | **Opportunity Part 2** |
| 1445-1500 | Break |
| 1500-1715 | **Opportunity Part 3** |
| 1715-1730 | **Guest soundbite speaker - Professor Christine Le Maitre** |

Evening Work for Teams to fill in their Test gaps, develop their Business Models and turn this into a full Pitch.

**Day 4**

Small group directed learning to develop business cases and pitches.

**Day 5**

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| Time | Session | Facilitator |
| 0900-10:00 | **Yorkshire & Humber AHSN - regional support for inventors and the Innovation Champion Network** | *Sophie Bates* AHSN |
| 1000-1015 | Break |  |
| 1015-1115 | **Keynote speaker** | TBC |
| 1115-1200 | **Final prep for the Dragons Den** |  |
| 1200-1300 | Lunch |  |
| 1300-1600 | **Dragons Den -** Each team will get a maximum of 15 mins with 15mins questions from the Dragons.  There will be a 15 min break after the first 3 teams have presented | **Dragons:**  Lisa Mooney (PVC for research)  Rep from- Devices 4 Dignity  Rep from- Medilink  Richard Stubbs YH AHSN  Jon Wheat (ADRI HWLS)  Jason Brannan (Deputy Director AWRC) |
| 1600-1700 | Drinks/networking reception (Covid depending)  An opportunity to network, exchange contact details, speak to the Dragons and other representatives | |