

Report to:	Public Board of Directors	Agenda item:	17.0
Date of Meeting:	2nd November 2022		

Title of Report:	Research and Development Annual Report
Status:	For Information
Board Sponsor:	Richard Graham, Acting Chief Medical Officer
Author:	Kelly Spencer, Head of Research Operations
Appendices	Appendix 1 – RUH staff research publications Appendix 2 – Research Charitable Funds Appendix 3 – Research Staff Survey Results Appendix 4 – Details of research income 21/22

1. Executive Summary of the Report
<p>This report details RUH research activity for the 2021/2022 financial year.</p> <p>It is well established that patients cared for in a research active environments have better outcomes and our aim year on year is to increase our research portfolio to be able to offer our patients the very best treatments, medicines and services. In line with the CQC well-led inspection domain we are conducting a number of work-streams to improve use of research and research evidence across all Trust services.</p> <p>This has been a challenging year for research at RUH, reflected nationally and attributed to the capacity and backlog issues facing the whole of the NHS. In spite of this, research led by RUH has continued to grow and partnerships with Universities are stronger than ever, demonstrated the large amount of collaborative work ongoing and planned.</p> <p>Patient feedback is exceptional with 99% agreeing they were treated with courtesy and respect and 96% feeling valued. Staff have continued to flourish with better than average staff survey results across all seven elements.</p> <p>The success in delivery of large scale COVID-19 vaccine clinical trials, leading to new booster vaccines and changes in national immunisation policy, is also notable.</p>

2. Recommendations (Note, Approve, Discuss)
The report does not make any recommendations. The Public Board of Directors is asked to note the contents of the report.

3. Legal / Regulatory Implications
Operating according to the UK Policy Framework for Health and Social Care Research. This includes maintaining compliance with relevant UK legislation when conducting research and ensuring all Trust Research Governance processes are aligned to Health Research Authority (HRA) Approval processes.

4. Risk (Threats or opportunities, link to a risk on the Risk Register, Board Assurance Framework etc)
No impact on risk register or BAF.

5.	Resources Implications (Financial / staffing)
All research activity is funded from externally generated research funding. The reduction in overall activity has resulted in a reduction of some of these income streams. Work is ongoing to bring these back to pre-pandemic levels to ensure a break even position and stability of the research workforce.	
6.	Equality and Diversity
The Research and Development (R&D) Department is committed to delivering the objectives of the National Institute for Health Research (NIHR) to continue to increase patient equality in terms of access to clinical trials. The R&D department's long-term vision is to offer research participant opportunities to all Trust patients and to broaden our "offer" to hard to reach and minority groups.	
7.	References to previous reports/Next steps
Not applicable	
8.	Freedom of Information
Public	
9.	Sustainability
Not applicable. No impact on ability to deliver BAF	
10.	Digital
Not applicable.	

Research and Development Annual Report 2021/22

1. Introduction

Clinical research is vital for providing the evidence needed to deliver high quality and cost effective healthcare services, and to improve outcomes for patients both locally and nationally. It is through research that we are able to develop and test new treatments and approaches to healthcare, and better understand existing conditions. Research studies are taking place all the time across our Trust.

The NHS Constitution¹ sets as a principle that ‘the NHS aspires to the highest standards of excellence through its commitment to innovation and the promotion, conduct and use of research’. The handbook to the Constitution² highlights the importance of innovation and medical research as ‘integral to driving improvements in healthcare services for patients’. NHS England has a duty, through its mandate from the Department of Health, to promote research and the use of research evidence in the NHS. It views innovation and research activity as a core duty for NHS organisations.

The Research and Development Team at RUH are fully committed to developing and supporting research which improves the quality and experience of care for local people, as well as making our contribution to wider health improvements. The national and local response to COVID-19 has showcased the clear link between research and better outcomes for individuals and the NHS.

It is now well established that patients cared for in a research active environment have better outcomes³ and our aim year on year is to increase our research portfolio to be able to offer our patients the very best treatments, medicines and services. We continue to work with many different organisations national and internationally, to enable our patients to have access to new medicines, devices or treatments as part of a clinical trial.

RUH has a strong track record of undertaking both locally and nationally led research, with around 250 individual research projects open at any given time. RUH staff are named on close to 400 peer reviewed research publications during 21/22 a significant output for a hospital of our size (appendix 1). We have collaborative links with local Universities and work closely with the National Institute for Health Research (NIHR) Clinical Research Network to put in place the staffing and infrastructure required to give RUH patients the opportunity to participate in research.

2. Overview of research activity for the year

This period saw a steady recovery from the impacts of the COVID pandemic on non-COVID research activity. All studies that had been suspended to allow vital COVID research to be prioritised were either re-opened or abandoned, if deemed to be unfeasible within current patient pathways or staffing structures.

The ability of many studies to re-open or to recruit participants at pre-pandemic levels has been adversely affected by broader capacity issues within the hospital. Departments such as pharmacy, radiology and chemotherapy are unable to give required levels of support to research, due to facing their own backlogs and recovery from COVID impact. Similarly, clinical staff have reduced capacity to undertake the activities associated with research such as supporting identification of eligible participants and conducting follow-up assessments.

¹ <https://www.gov.uk/government/publications/the-nhs-constitution-for-england/the-nhs-constitution-for-england>

² The handbook to the NHS Constitution, January 2019, NHS England

³ [Recognising research: how research improves patient care | RCP London](#)

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Overall recruitment of participants into research was **2737**, with 1760 or **65%** coming from non-COVID related research. This represents a 15% increase on the previous years' figures (see Figure 1), an important achievement in light of the challenges described. This total, however, is boosted by one or two high recruiting observational studies, which between them contributed well over 1000 recruits, therefore masking the difficulties faced with opening and delivery of intervention research.

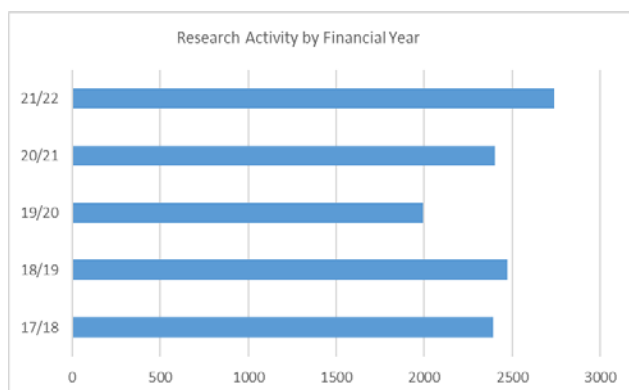


Figure 1. RUH recruitment of participants into research by financial year

As can be seen from regional reports (figure 2), RUH has fallen behind similarly sized acute hospitals in the region for overall recruitment performance.

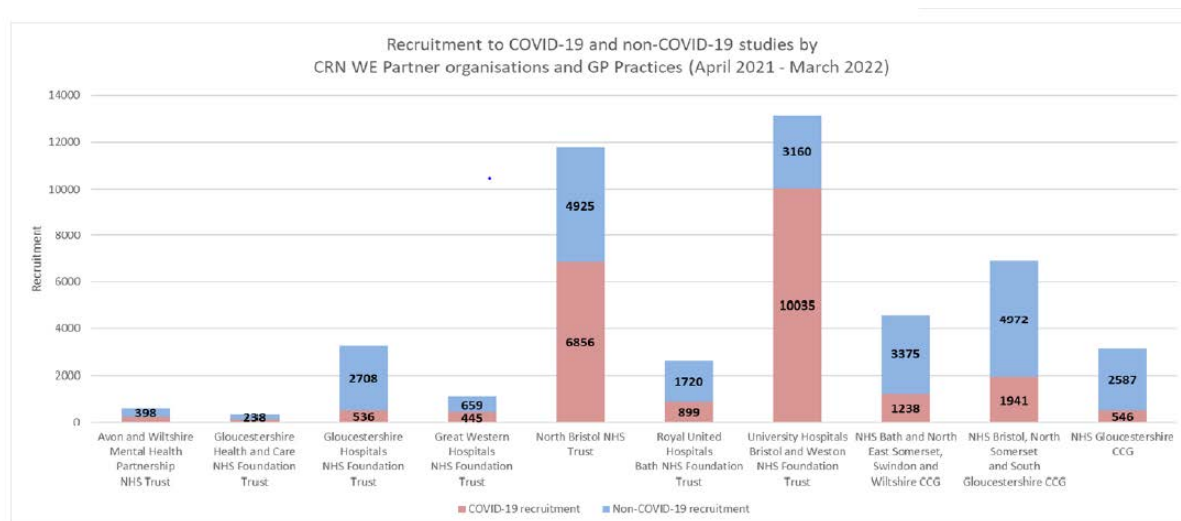


Figure 2. Regional recruitment of participants into research 21/22. *Data taken before end of year "data cut"

To address these difficulties in delivery of interventional studies the R&D department has worked closely with pharmacy and radiology to better support capacity planning. All studies in set-up are discussed at monthly meetings, priority lists agreed and, if required, a maximum number of scans/patients agreed. This work has seen a backlog of over 30 studies requiring Clinical Trials Pharmacy support reduce by half and a reduction in the time taken for radiology to make capacity decisions. This work is ongoing, with capacity remaining challenging, particularly for oncology and haematology clinical trials.

The breadth of clinical areas undertaking research across the Trust remains broad (figure 3), with emerging activity in areas such as Radiology/Artificial Intelligence (AI) and dermatology.

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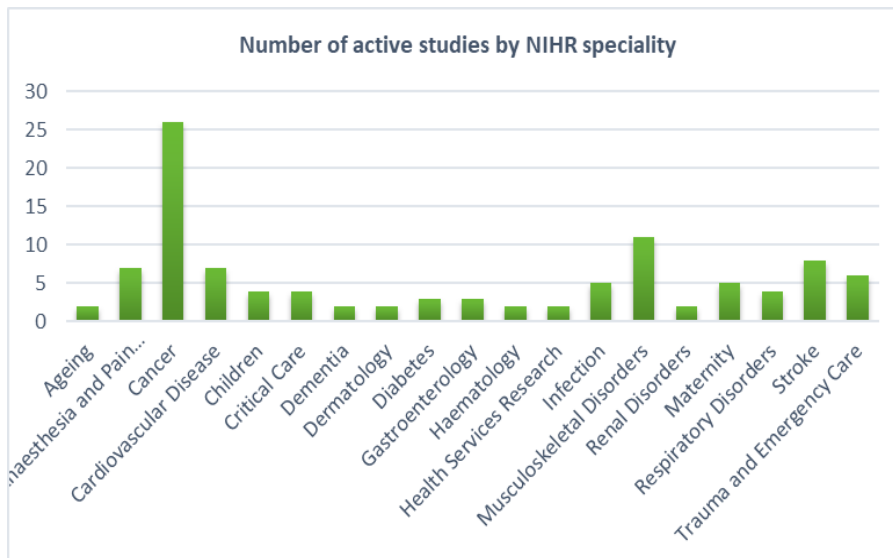


Figure 3. The number of studies with recruitment in 21/22 by NIHR speciality group

Focus on vaccine research

As previously reported, since the start of the COVID pandemic RUH research staff have played a significant role in the development of COVID-19 vaccines.

This began in July 2020 with RUH staff working with colleagues in both UHBW and NBT to directly support the trials that led to approval of the very first Oxford/AstraZeneca vaccine. This gave RUH research staff the skills and knowledge required to undertake these essential trials at RUH. Since this time we have created a dedicated vaccine research team who have established themselves with an excellent reputation for delivering commercially and non-commercially sponsored research studies to time and on target. The ability to undertake these, often time sensitive and high intensity, research studies has been a department wide effort with staff co-opted from all speciality research teams to work on these trials. This has had some impact on our ability to bring non-COVID research back to pre-pandemic levels (see section 2 above) justified due to the vital nature of this work.

We have worked with numerous pharmaceutical companies on clinical trials that have led to the approval of four new COVID-19 vaccines, including an Omicron specific booster and the first UK approved bivalent vaccine⁴ (offering protection against multiple variants of COVID in one vaccination). This team also played a pivotal role in conducting the “ComFluCov” trial, which informed national policy on the ability to give both COVID-19 and Flu vaccinations at the same time, saving the NHS a significant amount of time and resources.

A recent paper in the Lancet journal⁵ suggested that COVID-19 vaccines have prevented up to 20 million deaths in the first year of use. The role that the RUH has played in this should be celebrated as a great achievement. Moreover, this work has generated over £400,000 income in this financial year alone, with a projection of over £800,000 based on trials that are currently open or in set-up.

Looking forward we envisage that this work will continue to thrive and develop, as the pipeline of COVID-19 vaccine reduces we will expand into vaccinations for other infectious diseases with significant public health burden.

⁴ <https://www.gov.uk/government/news/first-bivalent-covid-19-booster-vaccine-approved-by-uk-medicines-regulator>

⁵ [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(22\)00320-6/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(22)00320-6/fulltext)

3. RUH led research

The RUH has a successful portfolio of research led by clinicians at the hospital often in conjunction with academics at three local Universities (University of Bath, University of Bristol and the University of West of England). There are also multiple collaborations with leading national experts in the NHS as well as international collaborators. External funding applications are regularly submitted to the National Institute for Health Research, local and national charities and pharma companies to support projects designed to answer questions that are directly related to patients and services here at the RUH.

The Trust was successful in being awarded £1.8m of new external grants to support its research during 2021/22. We are proud to support a wide range of staff to lead research and this includes doctors, midwives, nurses, therapists and health scientists. Our successful projects can be focused here at the RUH but also partnership with other local and national NHS hospitals to deliver multi-centre research. Industry supports our research by providing additional expertise, equipment, software and resources.

The following table provides some details of the successful awards and shows some of the breadth of research interests and strengths across the Trust. This is only a snapshot of the RUH led research portfolio and there are significant ongoing projects, funded in previous years, in several other areas including Pain, Orthopaedics, Parkinson's Diseases and Ageing, Respiratory and Critical Care.

Lead Applicant	Specialty	Title of Project	Amount awarded	Funder
Dr Jonathan Rodrigues/Dr Ali Khavandi	Radiology/ Cardiology	Super Rehab- Can we reverse coronary heart disease in metabolic patients?	£ 297,477.00	NIHR - RfPB
Dr Ali Khavandi/Dr Jonathan Rodrigues	Radiology/ Cardiology	Reversing the burden of atrial fibrillation with a novel lifestyle and risk factor modification intervention (Super Rehab)	£ 244,804.00	RUH X
Dr Daniel Augustine	Cardiology	IMPULSE – Improving pulmonary hypertension Screening by Echocardiography	£ 592,997.00	Jansenn Pharmaceuticals
Prof Esther Crawley	Paediatrics	GEM - How common is late onset Pompe disease in young people and adults treated for Chronic Fatigue Syndrome or Myalgic Encephalomyelitis (CFS/ME): cross-sectional study.	£ 577,255.00	Sanofi with University of Bristol
Dr Raj Sengupta, Dr Inma Mauri-Sole, Dr Tom Welsh	Rheumatology Dermatology Aging	Qualitative evaluation of virtual appointments at RUH	£ 3,769.00	UKRI via University of Bath
Jennifer Haworth	Orthodontics	The use of digital water technology in orthognathic surgery	£ 14,950.00	British Orthodontic Society
Anna Pease (UWE) Karen Patrick (RUH)	Maternity	Preventing Sudden Unexpected Deaths in Infancy: an assessment and planning tool for families at increased risk	£ 4,647.00	NIHR RfPB with UWE
Dr John Pauling	Rheumatology	The Warmer (Wearable Ambulatory Raynaud's Measurement Recorder) Project	£ 45,944.00	Scleroderma and Raynaud's UK (SRUK)
Dr Darren Hart	Clinical Imaging	Healthcare Science Innovation Fellowship	£ 15,000.00	NHS England & NHS Improvement
		Total	£ 1,796,843.00	

*Further details of these awards are available on request from the R&D department, Jane Carter, Head of Research Development jane.carter14@nhs.net

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To give a flavour of a few of our major RUH led studies there follows a focus on three National Institute for Health Research Funded Projects to demonstrate what has been achieved, what is ongoing and what is just beginning. These include:-

- The PROMPT Programme Grant for Applied Research (2015-2022) **£2,019,356**. Prof Neil McHugh Hon Consultant Rheumatologist RNHRD and Professor, Department of Life Sciences, University of Bath
- Chief-PD Health Technology Award (2019-2023) **£2,429,153**. Dr Emily Henderson, RUH and Honorary Consultant Senior Lecturer, University of Bristol
- Super-Rehab: Coronary Artery Disease Research for Patient Benefit (2022-2024) **£297,477**. Dr Jonathan Rodrigues, Consultant Radiologist RUH and Dr Ali Khavandi, Consultant Cardiologist RUH.

The Prompt programme: Early detection to imPRove OutCoMe in people with undiagnosed Psoriatic arthriTis (the PROMPT programme), including the TUDOR Randomised Clinical Trial

This programme started in 2015 and has involved over 3000 patients in 7 discrete projects. The study focused on the screening and diagnosis of patients with psoriasis who then went on to develop Psoriatic Arthritis. The background to this is that longitudinal observational studies suggest that patients who are referred to secondary care early with psoriatic arthritis (PsA) have a better outcome. This programme not only looked at if this were true but how we could accurately measure outcomes and what we need to include to ensure these are important to patients. Using data from patient focus groups, a multi-centre cohort study, primary care health records (Clinical Practice Research Datalink, CPRD), and a prospective randomised clinical trial (RCT) the study addressed the following objectives.

Objectives:

1. To identify disease activity and impact outcomes important to patients with PsA in comparison to existing ones (PROMS).
2. To assess the validity of new measures of disease activity derived from patient engagement (ASSESS).
3. To explore barriers to diagnosis and the experience of screening from a recipient perspective (GAPS).
4. To identify modifiable risk factors for the development of PsA using the CPRD (EPIC).
5. To compare the performance of screening tools for detecting undiagnosed PsA (COMPARE).
6. To investigate the clinical effectiveness (TUDOR) and cost-effectiveness (COSPA) of detecting undiagnosed PsA.

The study has been a major undertaking and has recently submitted its final report to the NIHR and will be continuing to publish the results in the coming months. The overall conclusion was that screening for psoriatic arthritis is likely to be cost-effective in a psoriasis population, although evidence of clinical effectiveness will require longer term follow-up. Findings will inform the design of future studies that may benefit from targeting screening to a population of patients with psoriasis with enhanced risk(s) of developing PsA.

Chief-PD - A phase 3 trial of Rivastigmine to prevent falls in Parkinson's Disease.

Parkinson's disease is a common condition particularly affecting older people. Falls are a very frequent complication of the disease affecting 60% of people with Parkinson's every year. Having a fall can be devastating, resulting in broken bones, injuries and hospital admission. In addition, people lose confidence in their walking and ability to get out and about so can become more isolated and anxious. As the population ages, the number of people living with Parkinson's disease and the occurrence of complications will increase.

This research is led by Chief Investigator Dr Emily Henderson and a team at the University of Bristol with the RUH being the lead NHS site for recruitment of patients and delivery of the trial. Participants are randomly assigned to receive the medication Rivastigmine or placebo and provide information on their health and occurrence of falls over the following 12 months. A total of 35 sites around the UK are also taking part and recruiting a target of 600 patients to take this approved medication and collect outcome data to establish whether it can reduce the number of falls experienced by people affected by this disease. The trial was interrupted and had delays due to the pandemic but aims to complete recruitment towards the end of 2022. The RUH has been a major recruiter to the study and supported the new sites with set up as required.

Super Rehab: Can we reverse coronary artery disease? (a feasibility study)

This project is led by Dr Jonathan Rodrigues who was awarded the Outstanding Clinical Radiologist Researcher of 2021 by the combined Royal College of Radiologists and National Institute for Health Research. He has been a driving force in expanding the research portfolio at the RUH in the area of radiology to support better diagnosis in conditions in Cardiology, Pulmonary Hypertension and other related diseases.

SuperRehab is a concept developed previously at the RUH led by Dr Ali Khavandi and involves providing lifestyle support in the form of exercise and dietary advice on an ongoing but tapering basis to patients. To prove that **Super Rehab** not only works, but should be offered to patients with early forms of coronary heart disease on the NHS up and down the country, a feasibility trial has commenced in Bath and Bristol with the aim of moving to a future multiple centre trial with larger numbers across the UK in 2-3 years.

As a first step to achieving this, we have recently won the support of the National Institute for Health Research to run a study testing the feasibility of delivering Super Rehab to this important patient group, and testing trial procedures. This will allow us to not only improve the way that Super Rehab is delivered to our patients and how it fits into the working patterns of our colleagues delivering it, but will help check that study procedures and tests are manageable and give us some initial pilot data into the sorts of impact Super Rehab may have on coronary heart disease.

The study will include 50 participants randomised to either Super Rehab or to continue with normal care only. Participants in the study will all have imaging tests of their heart and blood vessels, blood tests, blood pressure checks and fitness checks at the start, middle and end of their involvement in the study.

We'll also take the opportunity at the end to interview patients who went through the Super Rehab programme to find out more about their experience and highlight any areas for improvement. As well as the potential benefits we believe patients involved in the study will gain, the valuable information gained from this study will support the design and delivery of a future multi-centre study testing Super Rehab in patients across the country.

We are also delighted to report that another of our active researchers Prof Grey Giddins was awarded the Royal College of Surgeons of England Hunterian Professor for 2022, in recognition of his contribution to research in biomechanics of injuries in the wrist and hand. He is currently leading an ongoing NIHR Invention for Innovation Grant at the RUH developing a new Drill Guidance System for surgeons in collaboration with the University of Bath Department Of Mechanical Engineering.

3.1 Research Capability Funding (RCF)

NIHR Research Capability Funding (RCF) is allocated to research-active NHS organisations in receipt of NIHR grant income to enable them to maintain research capacity and capability. At RUH this income stream is predominantly used to support the work required to prepare further grant applications through an award scheme overseen by the R&D Executive Committee. In 21/22 the RUH was awarded just over £200,000 of RCF, which was invested across 14 different projects and also used to support central roles with the R&D team. Details of some of the major funded projects are in the table below.

Applicant Name	Speciality	Summary of Project
J Graby, J Rodrigues, A Khavandi	Cardiology	This feasibility study will assess whether it is possible to integrate a novel intensive lifestyle intervention (“Super Rehab”) into the care of high-priority patients with coronary artery disease.
W Loughborough, R Bowen	Oncology/Radiology	A prospective proof of concept study assessing whether whole body MRI is more accurate than CT (current standard of care) in assessing the effectiveness of systemic cancer treatment in breast cancer patients with bone only metastases.
A.Cookson, J.Rodrigues & J. Clark	Radiology/AI	To create an automated and sophisticated screening tool for use in patients with suspected pulmonary hypertension
B.Ainsworth & J.Suntharalingam	Respiratory	To use patient-centred methods to inform the development of a high quality digital mindfulness intervention that can be evaluated in subsequent feasibility and confirmatory trials
M.Western, T.Welsh & O.Perkin	Dementia	The aim of this project is to optimise an exercise snacking intervention designed to support older people maintain functional independence, robust health and wellbeing, and reduce risk of falls through improved physical function
S.Moore, J.Campbell & A.Emery	Haematology	The primary aim of this research project is to determine the feasibility and safety of individually-prescribed exercise training in multiple myeloma patients undergoing anti-cancer therapy
John Pauling	Rheumatology	The funding shall be used to assemble an investigative team to develop a proposal that will underpin a future clinical trial investigating the potential preventative role of vasoactive therapy in averting PAH in systemic sclerosis

As in previous years a large proportion of this RCF funding has been utilised to support local clinicians and academic staff to prepare and submit external funding applications, both those based at RUH and also in collaboration with local universities. Of note this year has been investment in longer term positions, namely a Cardiology and a Respiratory Research Registrar, to undertake pilot and feasibility work in support of external applications. This has led directly led to the success of the “SuperRehab” research programme.

This programme of investment of RCF into grant development will continue in future years and be used to further strengthen RUH led research and collaboration with our University partners.

3.2 Charitable funds for Research

We are fortunate to be able to support research projects through generous donations and legacies given to the hospital for research. The RUH hold a number of charitable funds, including restricted funds, to support research at the RUH and RNHRD. The Heads of Department are fund-holders on four funds and there are further research funds held by other speciality leads within clinical areas. The aim is to utilise these funds to encourage

researchers and provide support for new research projects in the Trust and to support staff in the dissemination of research results. Funding is also allocated for education purposes including support of joint PhDs and research prizes.

See Appendix 2 for the latest report on Research Charitable funds

4. Patient Experience

Our teams, researchers, clinicians and all the support departments who help us deliver our research portfolio work diligently to improve outcomes for patients both locally and nationally. However, we would not be able to conduct research if it was not for patients and members of the public volunteering to participate. The voluntary aspect of research participation means it is essential that research patients have a high quality experience and that their involvement and time is valued.

To this end RUH research patients are being offered the opportunity to feedback via a national Participant Research Experience Survey (PRES). During 21/22 5% of eligible RUH research participants feedback using this questionnaire.

Feedback from participants gained in 21/22 was overwhelmingly positive with **96%** of respondents strongly agreeing or agreeing that researchers valued them taking part in research. Of note, **99%** of respondents stated that they were treated with courtesy and respect, an exceptional response and testament to the dedication of research staff to give patients an outstanding experience of care. The least positive feedback related to participants feeling they have been kept updated about the research they are taking part in. This can in part be attributed to the long duration of many research studies and time taken to be able to ascertain any significant results. We are working with local and national research sponsors to identify ways in which communication with participants, especially in relation to results of the study, can be improved.

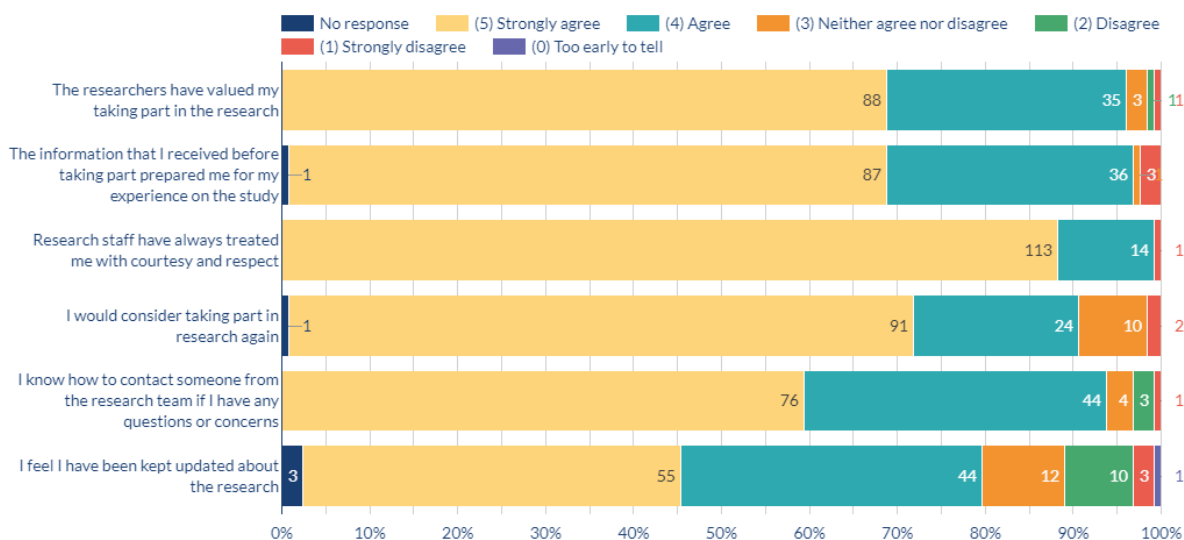


Figure 4. Graphical representation of PRES responses for RUH participants

The use of this tool is relatively new and as such is taking some time to become an established part our work. Research studies often have huge amounts of information that patients are required to understand in order to give fully informed consent to participate, and as such timing this questionnaire to avoid participants feeling overwhelmed is key. It is our ambition to increase the number of research participants and range of studies from which

this feedback is received. This will give more meaningful feedback upon which we can act to further improve the participant experience.

5. Staff Development and Wellbeing

The R&D Directorate directly employs over 80 research staff (63.5wte), this is a diverse group of Nurses and Midwives, Allied Health Professionals, Clinical Trials Assistants (similar role to a Health Care Assistant), Administrators and Database staff. The department is structured into broad speciality teams (Cancer, Acute Care, Rheumatology, Maternity and Planned Care), each led by a Senior Research Practitioner/Nurse/Midwife.

As in previous years teams have engaged well with the Staff Survey and 21/22 saw a 73% response rate. The R&D Directorate achieved above both Trust and National averages across all seven elements of the People Promise (appendix 3). Both staff morale, and recognition and reward, were celebrated as key achievements with scores significantly higher than average, a great accomplishment given the pressures of recovery from the pandemic. Action plans are in place to improve feedback relating to specific questions '*There are opportunities for me to develop my career in this organisation*' and '*If I spoke up about something that concerned me I am confident my organisation would address my concern*'.

5.1 Career Development

As a key part of our response to staff survey feedback we are increasing the support available for research staff to develop in their role. We have included 'Research Career Opportunities' as an induction session for all new starters to the department which aims to arm staff with the knowledge of opportunities within clinical research so that they can immediately start shaping their career pathway.

A larger piece of work is ongoing around supporting those employed as Clinical Research Practitioners, for whom opportunities are more limited than for professionally qualified staff. Nationally, as especially apparent during the COVID-19 pandemic, the clinical research delivery infrastructure is reliant on not just research nurses and midwives, but also the support of researchers with non-clinical backgrounds. A directive is in place from the NIHR to ensure there is recognition of the clinical research practitioner (CRP) as a profession, and as such a national directory and subsequent register has been created. At present RUH have some staff on the directory but none have yet completed their registration. We have set up a monthly protected time for CRP's to work on their registration application, supported by one of our senior members of staff. In time, we plan to organise career talks from colleagues in industry and those who have run their own projects, in the short-term this has been a great opportunity for CRP's to connect with colleagues working in different areas of research and to provide set time for personal development.

During 21/22 we have set aside a small amount of 'research capacity funding' to support R&D staff to undertake external training and attend conferences. At a department level we are also working with research study sponsors to allow for CRP's and Research Nurses to take on roles with more responsibilities within research studies. We are promoting research delivery staff as Principal Investigators of studies through our own monthly departmental meetings. We are also ensuring that researchers with non-clinical backgrounds can take on roles which may have previously only been available to research nurses or midwives, ensuring they are fully supported. One example of this is that we are working with colleagues in the education centre and pharmacy to understand whether CRP's could give sub-cut medications for research studies. As an additional benefit to this work we envisage it will take some pressure away from our clinical colleagues who as outlined previously find supporting research increasingly difficult.

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6. Research Engagement

Creating a culture across the organisation that values research, and use of evidence, is one of our key drivers. Research is beneficial to people and patients, with breakthroughs enabling earlier diagnosis, more effective treatments, prevention of ill health and better outcomes. Research is also beneficial to healthcare professionals who are able to develop imaginative solutions for real NHS problems, improving care and increasing job satisfaction.

In September 2018 the CQC signed off the incorporation of clinical research in its Well Led Framework (NHS Trusts). The focus is on how well an NHS Trust as a whole supports research activity at three levels.

Research equity – how does the organisation support the research programme across the breadth of its services?

Research facilitation – how does the organisation proactively support the delivery of research from board level to the clinical setting(s)?

Research awareness – how does the organisation make research opportunity known to patients, the public and healthcare professionals?

To support the organisation wide preparedness for this CQC element a Research Engagement Lead has been appointed to undertake a number of key projects outlined below.

6.1 RUH Research Network

To improve access to research and research skills for those staff not employed directly in research role a “Research Network” has been established, which is now in its second year. The Research Network is open to all RUH staff and those from partner organisations. A meeting is convened alternate months via Teams, as a community to increase awareness of research and increase research activity amongst health professionals. It is open to all, whether just dipping a toe into research or further on in research career. It is an opportunity to unite health professionals with an interest in research, promote networking, get peer support, share knowledge and expertise and raise awareness of research opportunities. This initiative has gained national recognition through conference presentation⁶.

In 2021, five online Network meetings included; how to navigate ethical and research governance processes, developing a career in research, an introduction to research funding pathways for health professionals and how to get your research noticed. Attendance numbers increased over the year as the initiative gained momentum. A full programme of meetings is planned for 22/23. Key aims for the next year include an evaluation of the Research Network and to extend the reach of the initiative to partner organisations.

6.2 Silver and Gold Ward Accreditation programme

A survey undertaken in 2020 indicated that awareness of research amongst RUH NMAHPs in particular was limited, with those having undertaken higher level (MSc) study being better informed. To facilitate the spread of research awareness more broadly though the organisation research questions have been incorporated into the Silver Ward Accreditation Programme. These relate to signposting a patient to research studies and asking staff to describe the benefits of the RUH being a research active Trust. In March 2022, questions were submitted for inclusion in the Gold accreditation process. These include asking for; examples of how research evidence has informed the delivery of patient care, staff describing how the Trust supports research opportunities for patients and staff, and describing research evidence relevant to their area of practice.

⁶ Grieve S & Hirst L (2021) Establishing a virtual Research Network for Nurses and Midwives. RCN international nursing research conference. Sept 2021

Now that these questions have had time to embed 22/23 will see us collating data on the outcome of these questions in each clinical area where accreditation is undertaken. These data will inform targeted approaches to highlight successful engagement with research and to flag areas which needed further support.

6.3 Raising the profile of research at the RUH

The profile of research has further been raised via a number of approaches including: participation in the Nursing and Midwifery Grand Round as a presenter, articles in Trust newsletters, utilising Workplace as a forum to disseminate information, and being an invited speaker at events held by external organisations. The Research Engagement Lead is collaborating on a number of projects which will result in submission of articles for publication, including a scoping review and reporting a national survey.

It is our ambition to further support and grow this work in 22/23 with a number of projects including the introduction of a small scheme to support NMAHPs to have the opportunity to produce abstracts for presentation at relevant national conferences, and to pilot a 'Clinical Research Link' initiative to support integration of the research team and clinical team and to embed research into the ward culture.

A significant amount of work has been undertaken to improve and update the R&D inter and intranet pages, with final versions to be launched within the next year. Research outcomes and achievements are also regularly featured in Trust communications, staff brief, exec videos and Workplace, alongside press releases around stories of local interest.

7. Next Steps and Future of RUH Research

This has been a challenging year for research at RUH, reflected nationally and attributed to the capacity and backlog issues facing the whole of the NHS. In spite of this, research led by RUH has continued to grow and partnerships with Universities are stronger than ever, demonstrated the large amount of collaborative work ongoing and planned. Staff have continued to flourish and patient feedback is exceptional. The success in delivery of large scale vaccine clinical trials is also notable.

Our vision moving forward is to build a culture where development and delivery of research, and use of evidence, is truly embedded in the provision of outstanding healthcare across the community in collaboration with, and for the benefit of, patients and the public. To do this we will

- Continue our engagement work to create a culture that values research and use of evidence across the Trust.
- Further spread research across the Trust to better enable patients to participate in research.
- Build our external relationships to be an active research partner in our local community.
- Continue to support our staff to develop and enable them to provide excellent care to all research participants.

Appendix 1. RUH peer reviewed journal publications 2021/22



RUH Staff
Publications Bibliogra

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Appendix 2 – Research Charitable Funds

Charitable Research Funding Report May 2022

Prepared by Jane Carter, Head of Research Development

Background

The RUH hold a number of Charitable funds, including restricted funds, to support Research at the RUH and RNHRD. The Heads of Department are fund-holders on four funds and there are further research funds held by other specialty leads within clinical areas. The aim is to utilise these funds to encourage researchers and provide support for new research projects in the Trust and to support staff in the dissemination of research results. Funding is also allocated for education purposes including support of joint PhDs and research prizes.

PhD funding

Funding for PhD students in conjunction with local Universities (currently University of Bath) which will provide benefits to the patients of the RUH and potentially further afield. There is potential to set up similarly joint PhDs with the University of the West of England and early discussions are in progress. These would focus on more Nursing and Allied Health Professional candidates.

Dr Dan Augustine, Prof Dylan Thompson and Dr Oliver Peacock

£31,573 contribution – 3 year project “Harnessing Technological Innovation to improve cardiac rehabilitation” .

The aim of this project is to work with patients and healthcare professionals to co-develop a digital solution to enable cardiac rehabilitation to be delivered in the community.

Dr Chris Dyer and Dr Christof Lutteroth of the Centre for Digital Entertainment

£12,000 contribution – 3 year project Jan 2020 -Sept 2023 “In Someone Else’s Shoes: Empathy through VR” A Doctor of Engineering (EngD) project

The aim of the project is to develop a VR simulator that helps clinical staff to develop empathy and understanding for people affected by cognitive or mental disorders.

RNHRD General Research Fund

In 20/21 the RNHRD General Fund which had received a significant donation (c£146k)

A small project/infrastructure programme grant scheme which had existed at the RNHRD for many years was re-vamped and four deadlines were held during the year. This proved popular and had an average of two applications per deadline. A peer review committee with membership from across the RNHRD services and both Heads of Research review the applications. Teams meetings allowed applicants to give a presentation and answer questions and a consensus decision made. Feedback is provided to applicants to enhance the project proposals from the peer review. The following received awards, many of which have recently commenced or are in the process of commencing and will see expenditure in this financial year.

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Small Projects - Applicant and Title	Award
Dr Ellie Korendowych, Incorporating patient reported outcome measures into the Bath Lupus Cohort Study	4,153.00
Dr Ben Mulhearn - Research project studying the rise in GCA incidence during Covid-19	10,000.00
Olivia Taylor - Qualitative research project to enhance LoCATE - Long Covid Services for Adolescents	1,340.00
Dr Jessica Ellis - Support for SLE patient advisory group for research	2,686.00
Marc Batalla - Research project investigating the feasibility of Cognitive Multisensory Rehabilitation in CPRS	9,175.00
TOTAL	£67,756

Charitable funds are also valuable to provide otherwise un-achievable advances in infrastructure to facilitate future research. This, in the past and currently, focusses on the move to paperless collection of Patient Reported Outcome Measures (PROMs) for different specialties. Electronic capture not only improves the patient experience in clinic and allows their treating clinician to have the most up to date scored PROMs to make diagnostic and treatment decisions, but provides a repository for the data for research analysis as well.

Infrastructure Programme – Applicant and title	
Dr Jenny Lewis and Dr Jeremy Gauntlett-Gilbert. Development of online clinical outcomes for pain services	£40,402.31
Infrastructure award recommended for resubmission	
Dr Sarah Skeoch (on behalf of Rheumatology consultants) Expanding rheumatology clinical research capabilities though increasing data management capacity	£58,914

Other areas supported from the RUH General Research Fund, RNHRD Arthritis and RNHRD Rheumatology Funds

There are a number of costs which are supported on an ad-hoc basis which are not covered by other sources of funding (NIHR Clinical Research Network, Grant income, Commercial income etc) which promote the RUH as a research active hospital. These include support for journal publication costs where the Trust has acted as Sponsor and the research work was led from the RUH. Support is awarded to staff to present research at national and international conferences, again where this is accredited to the RUH, and where no other sources of funding are available. This has been minimal over the last couple of years due to the impact of the pandemic. Historically patent costs for projects where the patent arises from a research project are supported from Charitable funds (currently one ongoing).

Spending Plans and future fundraising

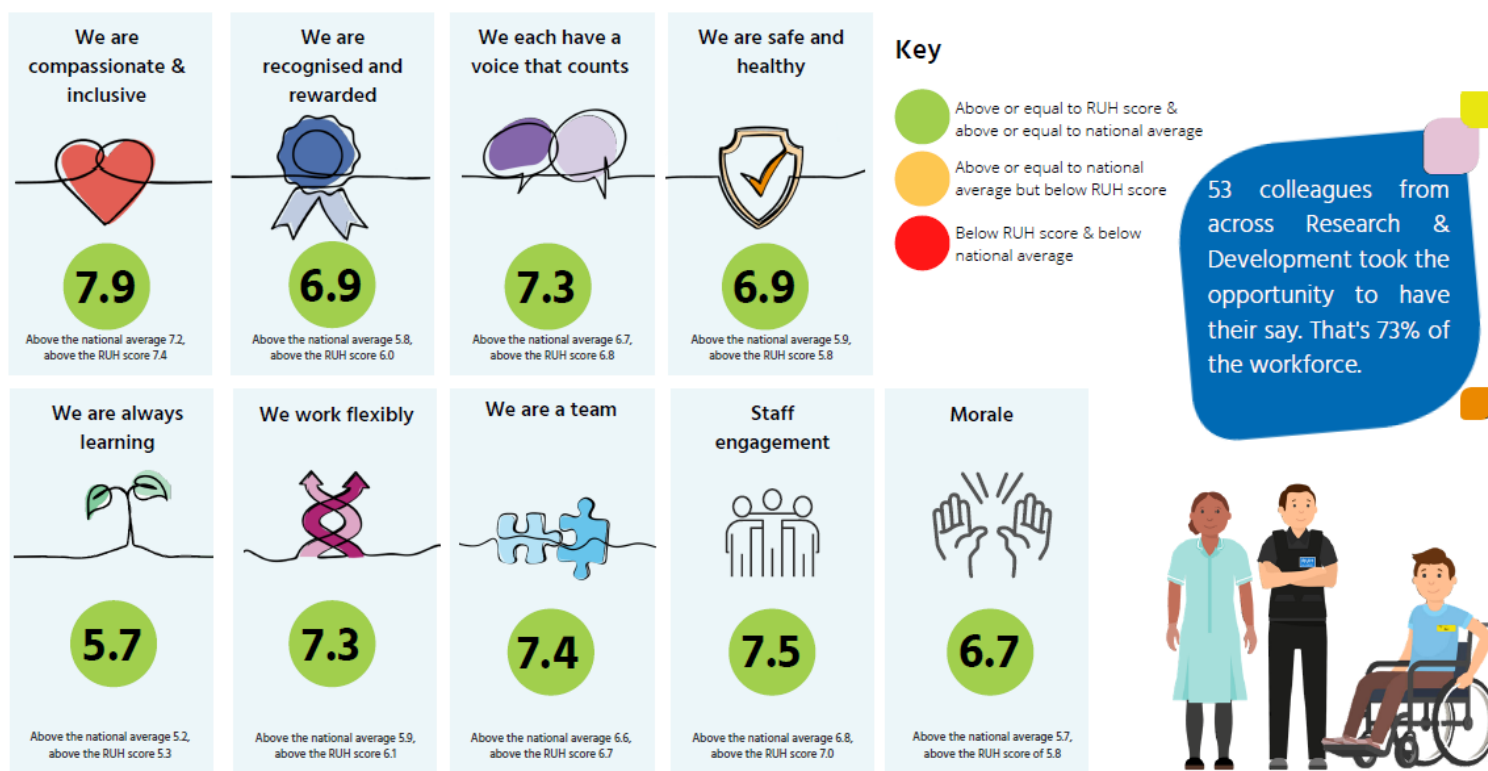
The spending plans for 2022/23 are attached and if predictions are correct will leave most of the funds at a low level at the end of the year. Research is important and the R&D Exec recognise that a fundraising campaign to be able to continue to support the activities described above is essential. We are compiling some information on outcomes and impacts of previous small projects and short synopses of the type of funding awarded for promotion purposes.

Appendix 3

Research & Development - NHS Staff Survey Results 2021

The 2021 NHS Staff Survey was redesigned in line with the People Promise.

This is a promise we must all make to each other – to work together to improve the experience of working in the NHS for everyone. This year, the survey tracked progress towards the seven elements of the People Promise, as well as measuring Morale & Staff Engagement.



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Appendix 4 – Details of R&D Income 21/22

All research activity undertaken at RUH and research staff salaries are externally funded. It is therefore essential that income levels are sustained to ensure stability of the workforce and continuation of research activity at current levels.

Below is a summary of research income by broad category over the past 3 years.

Income Detail	2018-19	2019-20*	2021-22
Delivery Income (NIHR/CRN)	£ 1,292,174.33	£ 1,332,347.00	£ 1,468,580.00
Research Capability Fund	£ 157,915.46	£ 427,901.34	£ 246,581.00
Other - Central Codes	£ 99,990.36	£ 435,815.36	£ 191,995.73
Commercial Income (Not Grant)	£ 15,209.74	£ 385,928.84	£ 183,647.09
Non Commercial Income (Not Grant)	£ 9,533.76	£ 219,124.70	£ 491,369.21
Grant (Commercial and Non Commercial)	£ 1,343,189.76	£ 1,474,477.19	£ 1,287,979.73
Total Income	£ 2,918,013.41	£ 4,275,594.43	£ 3,870,152.76
*significant additional non-recurring awards to support COVID-19 research response			