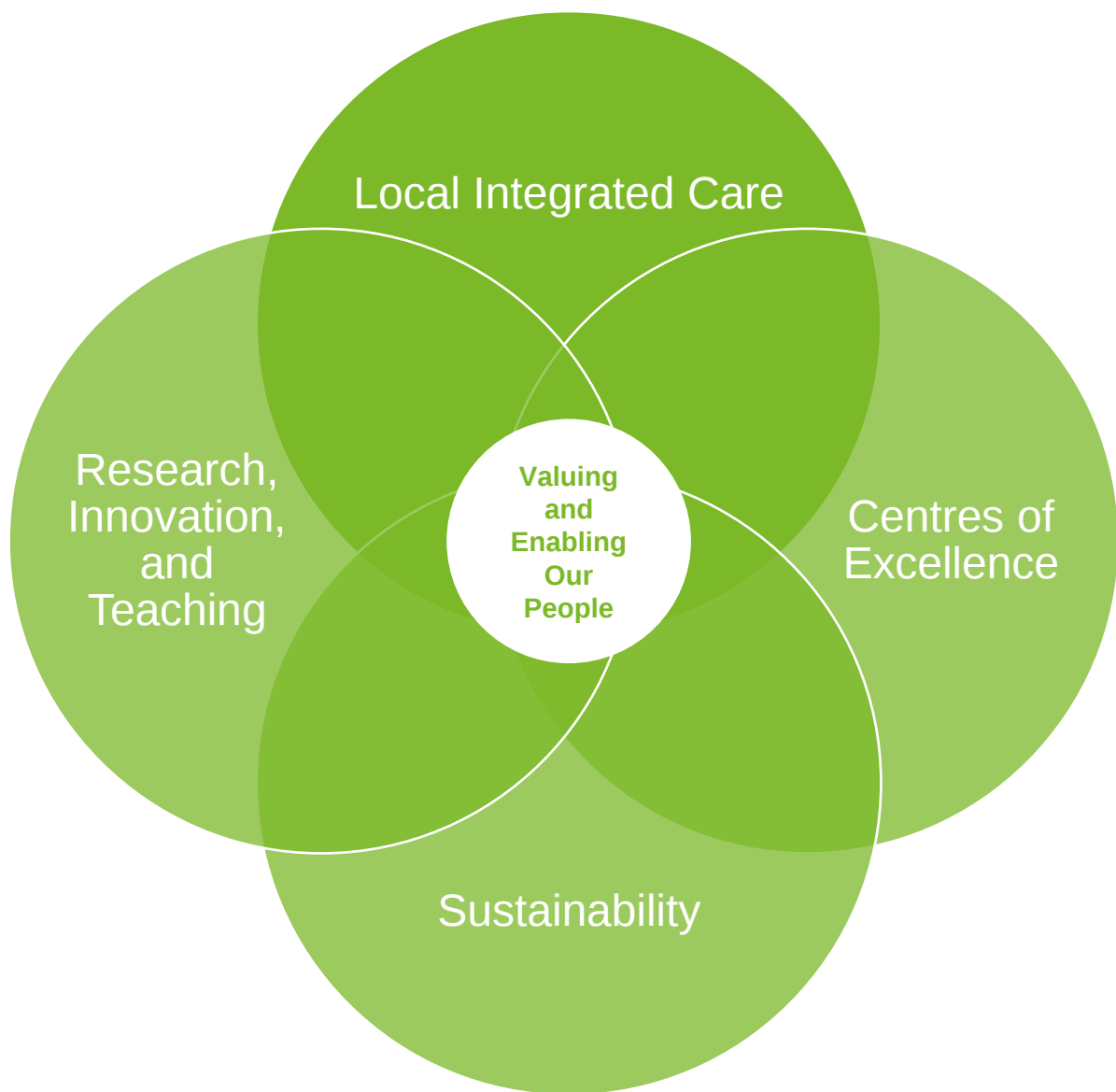


University Hospitals
Coventry and Warwickshire

Research & Development Annual Report 2023/24



Trust Purpose: Research & Development



Introduction

We are committed to conduct transformational and impactful research that empowers UHCW staff to be truly world-class in their practice; inspiring research innovation and collaboration for the benefit of our patients and the communities we serve.

This report provides the Trust Board with a review of progress made during 2023-24 and assurance on delivery against the Research & Development (R&D) Strategy during this period.

Summary

Key Achievements:

- ☑ We secured our first National Institute for Health and Care Research (NIHR) capital grant of £1.02million this year.
- ☑ National Institute for Health and Care Research (NIHR) Research Capability Funding funding exceeded £1.3 million for 2024/25.
- ☑ UHCW was the highest recruiting site in the West Midlands - more patients participated in research than in any other year to date.
- ☑ We are submitting increasing numbers of research grant funding applications to external funders and this year UHCW was 4th of NHS Trusts in England for Research Capability Funding received, being in the top 5 Trusts for the first time (8th last year).
- ☑ Despite issues with staffing levels, patient recruitment met its target in 2023/24.
- ☑ Our patient and public involvement has supported all the work that we do, this year we have been focussing on the inclusion of underrepresented groups and external funding has enabled the development of a Research Engagement Network across Coventry & Warwickshire Integrated Care System.
- ☑ R&D played an active role in the creation of the West Midlands Secure Data Environment and in the transfer of PathLAKE data.
- ☑ Greater breadth of collaboration with industry; securing funding, delivering innovative medical device studies and acting as clinical advisors/experts.
- ☑ Global collaborations and dissemination, particularly our involvement in the Europe Horizon Programme.

Challenges:

- ☒ The number of patients recruited into commercially funded research has continued to fall post pandemic and only 58% of commercial trials met their planned target within the agreed timeline (aim is 80%). Plans are in place to address this in 2024/25.
- ☒ Set-up times and research delivery remain below target. R&D and clinical capacity and recruitment difficulties are the main reason for these. Capacity across the R&D team is improving.
- ☒ NIHR Capital does not provide revenue support; a self-sustaining business model has been developed.

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LOOKING FORWARD

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UHCW R&D Annual Report 2023/24

Fostering a progressive, enabling and supportive research environment



Summary Performance 2023/24

RAG rating used. Recruitment to time and target denotes whether the agreed number of patients were recruited within the timeframe; target is >80%.

5238

Target

5556

Total Recruitment

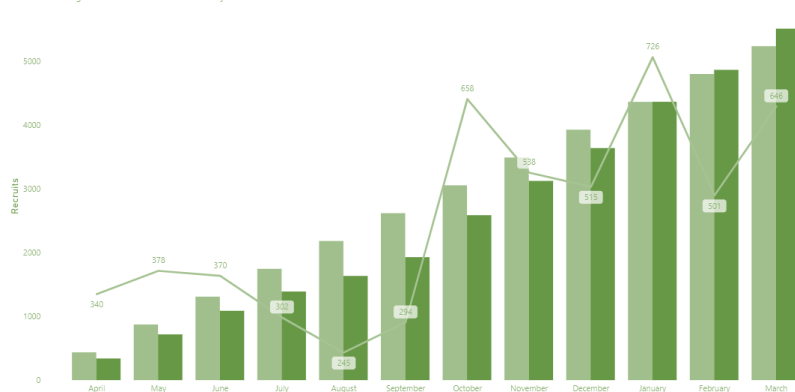
106%

Recruitment vs Target %

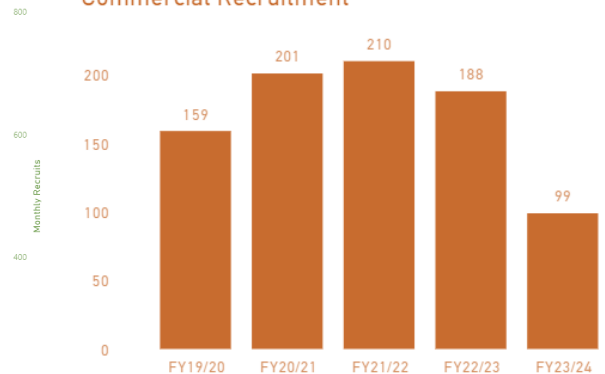
99

Commercial Recruitment

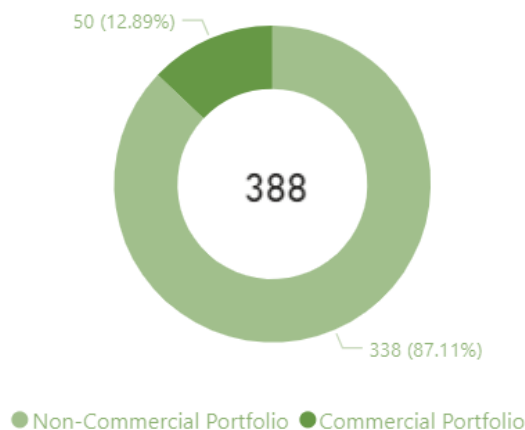
● Cumulative Target ● Cumulative Recruits ● Monthly Recruits



Commercial Recruitment



No of NIHR Active Studies*



Open and Closed in follow-up at time of report*



124 new studies opened



160 peer review publications

58% Commercial trials recruited to time and target



52% of total trials recruited to time and target



Research Development: Grants and Fellowships

By winning research funding through highly competitive external income application schemes, we drive research activities. Grant income:

- Provides money to carry out research with our patients to the highest standards,
- Enables personal development of researchers into research leaders,
- Ensures proposed research is of high quality: independently judged to be timely, patient focused, relevant, justified and has impact,
- Encourages collaboration with other researchers and organisations that add value to research,
- Supports the development of structures, resources and the capacity needed to deliver research.

The Research Development Team does this by supporting funding applications closely with researchers. We bring experience, guidance and networking across organisations to streamline the process and add to the research culture.

Funding from the National Institute for Health and Care Research (NIHR) is a strategic priority for us, they understand the NHS research environment and our specific needs, funding and wider to enable us to do quality research.

For every £1 we receive in NIHR grant funding, we receive an additional percentage from the NIHR, awarded as 'NIHR Research Capability Funding' (RCF). This funding recognises UHCW's importance in leading the delivery of NIHR research.

RCF Metrics:

- ✓ UHCW's 2023/24 RCF was over £1.3M (an increase in RCF of over 25% from the previous year's allocation).
- ✓ UHCW was ranked 4th highest out of 257 NHS organisations.

Other Funding Metrics for 2023/24

UHCW income >£10.3M

166 grants were submitted against a target of 152 (9% over target).

53 grants funded (32% of the total submitted), 20 still pending outcome.

Involved in 15 successful NIHR grants and 7 as the contracting body, with a total value to UHCW of over £8.4M and £7.9M of that as the contracting body.

Of the 166 grants submitted:

- 69 were to NIHR programmes
- 12 were to UK Research & Innovation
- 20 were to large medical charities,
- 16 were to commercial industry funders,
- 1 European Commission's Horizon,
- 48 Learned societies/academic/others.

Fellowships:

Personal Development of our staff to be able to deliver and bid for wider research funding schemes is critical to successful bidding for funding and attracting quality collaborations. For 2023/24 UHCW staff secured:

- ✓ 3 NIHR Senior Clinical and Practitioner Research Fellowships
- ✓ 2 CRN WM Clinical Academic Mentorship and Leadership Programme Awards
- ✓ 2 CRN WM Personal Development Awards
- ✓ 1 Electrophysiologist Fellows Summit & Arrhythmia Scholars Program Fellowship
- ✓ 1 British Cardiovascular Society Clinical Training Fellowships
- ✓ 1 Warwick University Industrial Fellowship
- ✓ 3 West Midlands Birmingham Healthcare Partners Internships
- ✓ 6 participated in UHCW/Coventry University's iCAhRE scheme to develop early career researcher.

Income & Expenditure

The Research & Development Team has sought to act as a business unit, securing external income from a variety of sources to cover its costs, develop its service and contribute to the Trust's position. R&D Income and Expenditure has maintained a positive balance position for 10+ years.

External research funding criteria include demonstrating good value, with all elements of income allocated to support research delivery and governance. Awards are externally monitored through submission of annual finance returns.

R&D has an Income Based Funding Model, this means that recurrent waste reduction is not possible, as all income is activity driven and therefore non-recurrent in nature, however, R&D supports the Trust position through securing external income.

Arden Tissue Bank was our UHCWi focus in 2023/24, with staffing reallocated to meet demand, a reduction in the out of hours burden on staff and development of a new digital tissue storage solution to maximise capacity and thereby income. Increasing income from commercial companies is a focus for 2024/25.

Research Income and Expenditure balanced in 2023/24:

RESEARCH AND DEVELOPMENT INCOME AND EXPENDITURE APRIL 2023 TO MARCH 2024				
Income Source				
NIHR Grant		4,904		
NIHR RCF		946		
NIHR Clinical Research Network		2,267		
Commercial/Clinical Trials				
- Research Exchequer Accounts	1,224			
- Allocated to Clinical Groups	194			
		1,418		
Non-Commercial Income				
- Research Exchequer Accounts	124			
- Allocated to Clinical Groups	33			
		157		
Total Research and Development Income Apr 23 To Mar 24		9,692		
Expenditure				
Research Management and Governance		1,574		
Research Nurses		2,901		
Clinical Research Facility		44		
Contractual Research Payments		3,594		
Research Exchequer Accounts Expenditure		878		
RCF expenditure		690		
Total Research and Development expenditure Apr 23 -Mar 24		9,681		
RESEARCH AND DEVELOPMENT NET I&E APR 23 MAR 24		11		

CfCE Centre for Care Excellence

The Centre for Care Excellence (CfCE) partnership with Coventry University enables Nurses, Midwives and Allied Health Professional staff within both organisations to develop skills and combine expertise through research, innovation, practice and education activities.

The joint Coventry University and Trust CfCE Strategy Board oversaw a strategy refresh this year and its launch at UHCW Grand Round in March 2023.

Achievements since the CfCE inception in 2020 include:

74 funding applications submitted, of which 32 (43%) were funded, an excellent success rate, with £7.68 million awarded.

The CfCE team have developed research capacity and capability through training and support for UHCW staff, enabling them to compete for external fellowship funding, with £200k secured by UHCW NMAHP staff:

- ✓ 5 Personal Development Awards
- ✓ 2 Clinical Academic Careers Programme Awards
- ✓ 2 NIHR Pre-Doctoral Clinical Academic Fellowship
- ✓ 1 NIHR Doctoral Research Fellowship
- ✓ 1 matched-funded PhD

Exemplar projects this year include:

Research: Professor David McWilliams secured the CfCEs first NIHR Grant for 'PHOENIX' Physiotherapy and Optimised Enteral Nutrition In the post-acute phase of critical illness.

This study is evaluating optimised nutrition and enhanced physiotherapy on the ward for patients as they step down from critical care to enable them to be fitter for discharge home.

Innovation: A project to evaluate a novel approach to delirium was published in the Lancet eClinicalMedicine.

Practice: Professor Liz Lees-Deutsch led a project aiming to reduce patient perpetrated violence and aggression against hospital staff. This included a systematic review of violence risk screening tools, an examination of 2,000 violence and aggression reported incidents, co-creation of a screening tool with staff and a feasibility study of its use to reduce violence at UHCW.

The next phase of work, with UHCW People Team and UHCWi, aims to expand the scope of feasibility testing and measurement of the risk screening tool, prior to a full research trial.

Education: Associate Professor, Emma Murphy, leads Enhanced Supportive Kidney Care Training and Education at UHCW, nationally (as faculty member of the annual Supportive Kidney Care for the Renal Patient with Imperial College London), and internationally (keynote speaker, Hong Kong, Nov 2023; online training Pakistan 2024).

Professor David McWilliams is training clinical staff at UHCW and internationally to develop physiotherapy services in critical care.



Digital & Data Driven Research Unit

Background:

This is the first R&D Annual Report since the formation of the Digital and Data Driven Research Unit. The DDDRU aims to “*Curate the culture, infrastructure, governance and data environment required to enable world class digital, and data driven research*”.

The DDDRU sits alongside the Research Institutes for Excellence and whilst not established to apply for research funding itself, supports their delivery activity and promotes the digital research agenda to internal and external organisations looking to collaborate with UHCW.

DDDRU Structure:

The DDDRU has established an aim, strategy, and internal and external steering groups. A UHCW Clinical Research Information Officer (CRIO) has been appointed.

The DDDRU also participated in the HDRUK Black Internship Programme, recruiting two interns from the programme to work on data projects in the department.

Artificial Intelligence:

The DDDRU has worked closely with the UHCW Innovation Team to co-lead an approach to AI at UHCW: *Project AIR* (AI-Ready UHCW). This is awaiting the appointment of the UHCW Chief Data and Digital Officer to progress this further.

Grants & Key Projects:

UHCW has been involved with Digital Related Research Grants totalling £33m over five years and across 37 different projects. Funding has been received from major national and international funders including NIHR, MRC and Horizon Europe.



PathLAKE
Computational Pathology Excellence

The predominant focus of the DDDRU over the last 12 months has been on supporting delivery of the EPR system and, in particular, the creation of a PowerTrials component of EPR. This has been shared by Cerner/Oracle internationally and UHCW will start to adopt and utilise it, subject to funding and ICT resource capability.

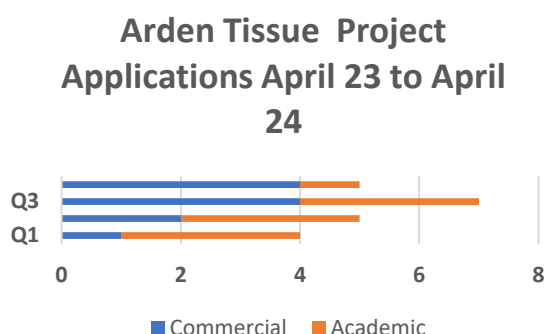
HRDC and The West Midlands Secure Data Environment:

The DDDRU Chair and Vice-chair support two external digital projects. Dr Tim Robbins is the Digital and Data External Pillar lead for the Coventry NIHR Health Determinants Research Collaboration and Guy Smallman supports the West Midlands Secure Data Environment as the Chair of the Commercial Workstream.

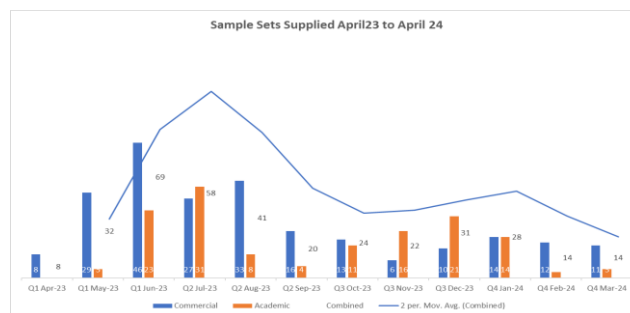
Arden Tissue Bank and Multi-omics Research Lab

Applications to the biobank:

There were 21 applications to the biobank for access to tissues in 2023/24. Almost double the previous year.



Ethically supplied samples- 361 individual samples were supplied to Commercial and Academic applicants in the last year, predominantly from oncology patients.



Cost Recovery & Distribution:

Costs recovered from Tissue Bank supply of consented donor tissue samples derived £100,000 for the Trust in 2023/24, a proportion of which has been shared with each of the contributing teams across the Trust e.g. surgery, pathology, anaesthetics.

Regional Facility:

Tissue Bank continues to be the contracted biobank for two other Trusts in the region

- Royal Orthopaedic Hospital , Birmingham >34,000 samples collected over 20 years, with routine monthly transfers.
- University Hospitals North Midlands

Multi-Omics Laboratory Grant:

Prof Dimitri Grammatopoulos secured an NIHR grant for £1.02million to establish a cutting-edge research facility at UHCW. The spatial transcriptomics and proteomics technologies within the facility will supply researchers with data on human tissues that will give new insights into human healthy and disease states.

Laboratory setup is ongoing, with a launch event inviting potential users of the facility from all over the country in late 2024 planned.



Human Metabolic Research Unit

The Human Metabolism Research Unit (HMRU) is a dedicated research-unit run by UHCW in partnership with Warwick Medical School. The HMRU provides a unique opportunity to explore human energetics and the determinants of human obesity and its metabolic sequelae.

Infrastructure and Technology Upgrade

The HMRU has been operational for over 10 years with limited investment; during 2023-2024 a process of upgrade on key infrastructure and underlying technology has begun. This will be a continual process going forward, but this year has focused on hard-standing infrastructure and a new network. We have extended our small research equipment items via pooling with local institutions (see Sustainability).

Research

The HMRU was impacted by EPR, which necessitated the re-allocation of staff to EPR-related roles for a large portion of the year. Clinical research colleagues have also struggled to refocus on research; however, we have started two new funded studies.

UHCW Research Institutes

At the inception of the Institutes for Excellence, the HMRU was placed in the Cardio Metabolic institute (ICMM), under the Metabolism. This year we have begun working more closely across the wider ICMM and the DDDRU.

Collaborations and Networks

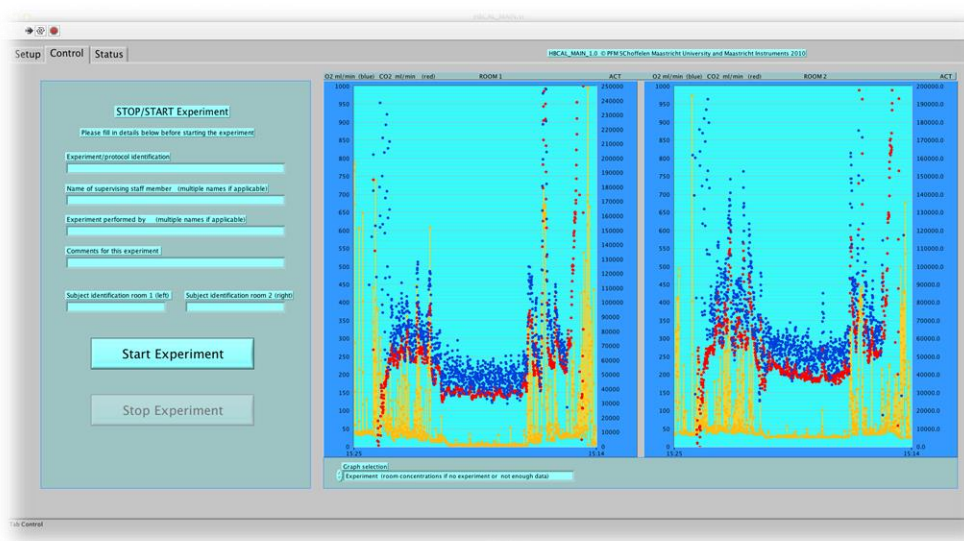
Collaborations with our strategic partners, Warwick and Coventry Universities, are maintained – with studies from new groups within these institutions. We have also begun engagements with commercial medical device manufacturers (e.g. Dexcom and Calibre) potentially leading to new projects in 2025.

Grants and publications

The HMRU has maintained a high publication output, despite the small pool of researchers.

Sustainability and UHCWi

The HMRU endeavours to engage with UHCW's sustainability strategy. Towards this, we have conducted waste walks, process minimisations and logical efficiency drives. In addition, we have begun an equipment sharing scheme with other research groups, locally, to reduce purchasing of small items.



UHCW R&D Annual Report 2023/24

Collaboration and strategic partnership



Academic Partners

UHCW continues to expand its academic links and works in collaborations with many universities when applying for funding and when delivering research studies. These include the University of Leicester, the University of Nottingham, University College London, and Imperial College London.

Most academic research collaborations continues to be with UHCW's strategic partners, Coventry University, and the University of Warwick. The R&D department continues to expand its academic links with these partner universities.

With Coventry University, we have collaborated on the following:

- Centre for Care Excellence (see page 9).
- Community Diagnostics Centre – To catalyse growth in research and engagement with HealthTech and Pharmaceutical industry; focus on digital health, diagnostics and advanced interventions.
- Post-doctoral researcher supporting the Institute for Health Equity & Social Care undertake qualitative research.
- Funding applications and joint projects with the following Research Centres:
 - Future Transport and Cities
 - Healthcare and Communities
 - Intelligent Healthcare
 - Physical Activity, Sport & Exercise Science



Our collaborations with the University of Warwick have included numerous funding applications and joint projects with:

- Warwick Clinical Trials Unit co-creating and delivering NIHR funded multicentre randomised control trials with UHCW clinicians.
- Institute of Translational Medicine supporting research studies in cardiology, trauma & orthopaedics and reproductive health.
- Warwick Business School joint funding a research fellow to support organisational science research at UHCW.
- Warwick Medical School supporting doctoral research fellowships through the Medical Research Council Doctoral Training Partnership and other schemes.
- Other University departments; Chemistry, Computer Science, Engineering & Physics supporting UHCW specialties develop novel medical devices and digital health projects.

Both universities are also actively involved in the Institutes for Excellence attending events and research meetings in addition to being Accelerator Board members within each Institute.



NHS Organisations

In addition to our collaborative workstreams across Coventry and Warwickshire Integrated Care System (C&W ICS, detailed later) we work with numerous NHS organisations across the West Midlands and beyond, projects this year include:

West Midlands Clinical Academic Roadmap - Job Description Delivery Taskforce:

Led by UHCW, this Project aims to develop and deliver a constant approach to career pathways across the West Midlands for Nursing, Midwifery and Allied Health Professional staff groups.

This has included:

- Developing a repository of exemplar job descriptions and an experientially based toolkit.
- Providing clarity about role expectations, so that those staff who are embarking on a clinical academic pathway can roadmap personal development.
- Outlining clear expectations for staff working at all levels, providing consistency and supporting clinical leadership in understanding the contribution and value these roles bring to the workforce.
- Producing a report with recommendations that will influence the national agenda.

Originally working across all West Midlands Trusts, the project has expanded to establish the national picture. We have built on existing relationships to be able to collect job descriptions and undertake interviews with members of staff.

Looking forward, we will now progress into the organisational interfaces stage, this will include highlighting and publishing regional best practice for employment and progression. Dissemination will include feeding back our findings to influencers and completing peer reviewed publications.

Research and Clinical Impact Tracker for Excellence (ReCITE™) Tool:

Measuring clinical research impact and the outcomes of research on patients and stakeholders in NHS organisations can be challenging to articulate in a meaningful way.

The ReCITE™ Tool was designed by UHCW and Nottingham University Hospitals NHS Trust. This year, we piloted it with researchers in NHS organisations to capture the metrics of their projects. Once researchers complete the tool, they are provided with a score which helps to articulate their impact in a healthcare setting. Feedback has been positives and ReCITE™ will launch at a national conference in September 2024.

West Midlands Secure Data Environment

The West Midlands Secure Data Environment (WM SDE) is one of 12 sub-national Secure Data Environments funded by NHSE to operationalise the DHSC strategy, *Data saves lives: reshaping health and social care with data*.

SDEs are data storage and access platforms that allow researchers to access and analyse NHS health and social care data while upholding the highest standards of privacy and security.

UHCW's R&D team is supporting the creation and deployment of WM SDE. Guy Smallman, Industrial Partnerships & Intellectual Property Manager, chairs the WM SDE Commercial workstream group which also includes UHCW CFO Su Rollason; while Sonia Kandola, Research Governance & Operations Manager, and Rachel Chapman, Consultant in Public Health, represent the Trust on the Information Governance & Ethics and Data Standards workstream groups.

Industry

Researchers across UHCW are working with industry partners to develop and test new products, treatments and devices. Work continues along the development process, from idea development to evaluation and implementation. The Arden Tissue Bank is unique that it can provide access to human tissue samples with anonymised clinical data to enable companies to conduct basic science and drug development and testing and is receiving year on year increases in requests for samples. Providing this service as part of our new Multi-omics laboratory offering will be unique within the UK.

Our Trials Management Unit enables commercial companies to carry our pilot evaluations of new treatments and devices with our patients and our in-patient Clinical Research Facility enables early phase and complex commercial research to be carried out safely. We are seeing increased repeat business from commercial companies for research trial delivery.

As an experienced commercial site, we have established strategic partnerships with several commercial sponsors and Contract Research Organisations (CROs) e.g., being a 'Preferred Site' for IQVIA and a 'Flagship Site' for Medpace, ensuring priority access to commercial studies for our patients. Through our status as a Phase 1 Centre for AstraZeneca oncology studies, a 'Valued Partner' of MSD, and a collaborative partner of Immunic Therapeutics, we are recognised as high-performing and have preferential selection for studies. This year, working alongside the West Midlands Clinical Research Network Industry Team, we have sought to identify, embrace and engage with industrial opportunities, showcasing our facilities, teams and research initiatives, have recently established new partnerships with NovoNordisk, Regeneron and Synexus.

In line with our R&D strategy, collaborations with commercial organisations are increasing, with many UHCW staff acting as expert advisors to industry. Professor Harpal Randeva, as Director of R&D, models this approach as a member of the NovoNordisk Global Expert Panel for their diabetes and endocrinology portfolio. Our Institute structures provide an interface for industrial partners to engage with NHS experts, leading to numerous commercial collaborations, this year including project to develop software to guide ventricular tachycardia ablation, a hypertrophic cardiomyopathy registry, the development of new in-vitro diagnostic biomarkers of pre-eclampsia and evaluation of commercial clinical decision support tools based on available clinical, laboratory, and treatment data.

The National Institute for Health and Care Research (NIHR) is increasingly supportive of industry collaborations. Currently, Corporate Health International are collaborating with UHCW on an NIHR study using Artificial Intelligence to improve efficiency and accuracy in the detection of polyps within the lining of the bowel and Stryker UK Limited are supporting both research and the training of surgeons in robotic orthopaedic surgery for two NIHR studies led by UHCW.

Commercial companies have also funded a number of research fellowships, with the Institute of Cardio-Metabolic Medicine securing 3 fellowships this year (in cardiac electrophysiology, rehabilitation for patients undergoing atrial fibrillation and atrial fibrillation ablation outcomes).

International Collaboration

Our commitment to be an international leader in healthcare is realised through research and development activities, through international training and education, research collaboration, and influence on practice. Numerous activities were carried out this year, and a selection are detailed here.

International training and education:

In November 2023, Associate Professor Emma Murphy (Centre for Care Excellence) delivered a 2-day Training Workshop for more than 60 Clinical Staff in Nephrology and Palliative Medicine in Hong Kong, including keynote talks on 'Clinical research in renal palliative care' and 'Palliative care needs for patients who are on dialysis and undergo dialysis withdrawal'. The training course was highly evaluated by delegates and has led to the development of a Supportive Kidney Care Training programme with Nephrology colleagues in Pakistan.

Professor Faizel Osman and his research fellows presented and showcased posters at the 2023 European Heart Rhythm Association Congress in Barcelona in April, and the European Society of Cardiology Congress in Amsterdam in August 2023.

The Institute of Cardio Metabolic Medicine (Professors Krishnan, Renal, and Randeva, Endocrinology), hosted a work experience week for four Ethiopian medics who visited UHCW in July 2023.

International research collaboration:

UHCW is involved in international research collaborations as part of the following projects:

ADLIFE: Horizon 2020 project to improve the quality of life of patients with advanced chronic diseases involving a consortium of 12 partners from 9 countries.

CAREPATH: Horizon 2020 project proposing an ICT based solution in the treatment and management of multimorbid patients, involving 10 partners from seven countries.

METEOR2: NIHR funded study assessing whether personalised knee therapy is better than surgery for patients with damaged cartilage (meniscus), involving clinical academics from Australia, Belgium and Canada.

REPPORT: NIHR study comparing whether physio or surgery leads to better patient outcomes for people with repeated dislocations of the kneecap, involving clinical academics from universities in Sydney and Melbourne.

We also enjoy research collaborations with multi-national companies such as Abbott (US), Bristol Myers Squibb and Beamtree.

International influence on practice:

International collaboration by Professor David McWilliams with the European Society of Intensive Care Medicine has developed international guidelines for the management of very old patients admitted to ICU.



UHCW R&D Annual Report 2023/24

Improving the culture of research.



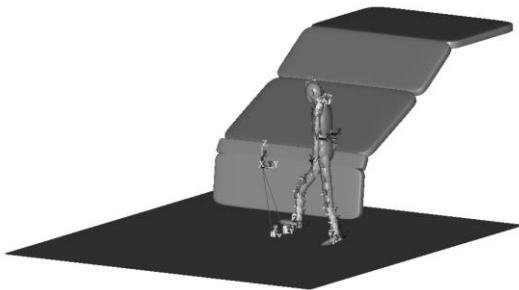
Intellectual Property

Intellectual property (IP) is a fundamental component of clinical research, particularly if a study involves multiple stakeholders and where the funder stipulates terms and conditions governing its ownership and commercial exploitation.

The R&D department provides advice on the identification, protection and commercial exploitation of IP arising from research and new product innovation. This support extends to departments and teams across the Trust including Innovation, Learning & Development and Performance & Informatics.

Patents

Pedestrian Forensics Tool
Traffic accident injury assessment tool in collaboration with Coventry University
Patent pending



Trademarks

PathLAKE®

Digital pathology AI diagnostic project
US word mark granted

APPTITRATOR®

Cardiology medication up-titration AI tool
UK word mark and figurative mark granted

Research4All™

UHCW staff R&D programme
Unregistered trademark

OUR JOURNEY TO EXCELLENCE™

Framework for nursing & midwifery excellence

Delivery

- 90 x new IP projects and studies registered
- 79 x active IP projects and studies open
- 5 x IP training courses delivered

IP Agreements Executed

- 4 x Assignment Agreements
- 14 x Licence Agreements
- 3 x Collaboration Agreements

IP Income

PathLAKE® **£750,000**
Digital pathology AI diagnostic project
WMSDE Data migration

KingMark **£5,513**
Orthopaedic prosthesis alignment tool

HEARTT® **£100,000**
Elective care waiting list tool

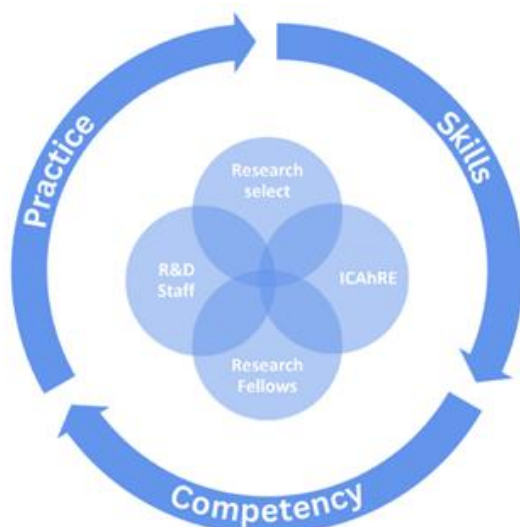


PathLAKE®
Computational Pathology Excellence



Research For All

Research For All @UHCW offers opportunities, experiences and training for all staff to obtain research skills. With a broad offering a tailored programme can be created to support and offer individualised suite of training and courses to best suit the individuals current background and research aspirations.



This approach has enabled our staff to engage with, and benefit from, research at several levels, contributing to the generation of knowledge to drive forward improved outcomes and experiences for our patients, their carers, our staff and the public by:

1. Developing opportunities for research training and education for all UHCW staff.
2. Increasing capacity and capability through developing and embedding clinical academic research careers and roles across inter-disciplinary groups in the Trust.
3. Developing a supportive and empowering infrastructure and embedding an innovative interdisciplinary clinical academic research culture across the Trust.

As part of Research For All we offer our interdisciplinary Clinical Academic health Research Excellence (iCAhRE™) programme at 3 levels (Bronze, Silver and Gold) (<https://www.uhcw.nhs.uk/leading-research/i-cahre/>)

The iCAhRE™ **Skills Competencies & Practice** programme supports all staff to feel confident to engage with research, through gaining skills, demonstrating competencies and showing their practical application. Staff receive opportunities for formal learning and practical application. This includes taught sessions at Coventry University and clinical research placements at UHCW. Staff also receive a master level qualification and certification to demonstrate completion of the programme.

This programme allows staff to experience research without committing to a research career, whilst allowing identification of those staff who may want to consider an academic pathway.

Aim of the programme:

1. Provide opportunities for staff to engage with research
2. Enable a pathway for staff to become part of a research team
3. Provide opportunities for staff to become part of research delivery

iCAhRE is now offered to staff across our ICS partners.



The Year in Pictures

April

UHCW R&D Staff made it through to the final four in the Clinical Site Team category of the **PharmaTimes International Clinical Researcher of the Year Awards**, going on to receive Silver in the final competition.

The competition offers a unique opportunity for research professionals to benchmark their skills against their peers and have them judged by an independent group of high-level industry leaders.



May

Co-ordinated by our Research Council, the **first Research in Your Area Event** invited colleagues from across the Trust to find out about research across different specialties and opportunities to get involved.

The event was extremely well received by staff, leading to a second Research in Your Area Event being held in November, providing fantastic opportunities to raise the visibility of research at the Trust.



June

The R&D Team celebrated **#Red4Research** to thank all those participating, supporting, and undertaking research, acknowledging that research doesn't just happen, but people make it happen.

Photos of staff wearing red or holding messages of thanks and support were shared throughout the day on social media.



July

The **launch of the Pharmacy Medicines Research Unit (PMRU)** strengthens the Trust's position as a centre of excellence where cutting-edge research happens, as well as attracting exciting collaborations with local and national partners.

Located in the main foyer of University Hospital, the PMRU is easily accessible for patients taking part in clinical trials and provides a great opportunity to raise awareness of research.



The Year in Pictures

August

UHCW recruited their **300th participant to the RACER Knee Trial**. A collaboration between UHCW and University of Warwick, RACER Knee compares robotic to standard instruments for total knee replacements.

Randomisation to the study ended in January 2024, with more patients taking part at UHCW than any other hospital.



September

The **UHCW Institutes for Research Excellence** were launched at our annual knowledge and exchange networking day – the R&D Summit.

Attended by over 150 colleagues from the Trust and academia, the event showcased current research and achievements, plus the future ambitions of the Institutes in support of the transformative R&D strategy.



October

Stroke Research Sister Faith Omoregie completed the **Higher Education England West Midlands Internship Programme**. Faith was presented with her certificate by Professor Annie Topping at the celebration event.

The internship aims to prepare individuals to apply for the Pre-Doctoral Clinical Academic Fellowship, a Masters in Research, or help them to identify the next step in their career development.



November

Nominated in the **2023 CRN WM Awards** for Innovation of the Year, Research Contribution of the Year, PPIE, Training and Development and Embedding Research Awards; UHCW were 'highly commended' in all five categories.

Joining R&D Staff at the awards event were Centre for Care Excellence colleagues from Coventry University and Patient Research Champion Jane Sausman.



The Year in Pictures

December

We celebrated our amazing research workforce with our annual **Golden Gnome Awards**. Awards were presented at the R&D Christmas Extravaganza, following a peer nomination process.

The awards were revamped this year to align with the Trust OSCAs and included new awards for Improvement and Rising Star.



January

Clinical Trials Assistant Nat Morris, who works in the Tommy's Miscarriage Clinic, received a **CNO Special Commendation Award** at the inaugural ceremony to celebrate those that have received outstanding nominations.

Nominated by a lady who she supported during the management of her miscarriage, Nat was commended for the seamless way she communicated and her organisation.



February

We welcomed new members of R&D at our **New Staff Induction**. Designed specifically for R&D staff, the induction programme covers all the essentials for new starters.

Held three times a year, the R&D New Staff Induction is complemented by a robust training programme, supporting the training and development of new and existing R&D staff.



March

Research partners from across the region joined us to launch the Coventry and Warwickshire Clinical Research Facility (CRF), celebrating the first of its kind in the Coventry and Warwickshire area.

An Inpatient Research Unit containing two beds, allowing trial participants to remain overnight, was the final stage of the development and recently welcomed its first patient.



Patient & Public Involvement & Engagement

Involving patients in research, either as participants, as experts in their condition or as champions of research, ensures that our research meets the needs of our patients. As such, Patient and Public Involvement and Engagement (PPIE) continues to be strategic priority for R&D.

This year we developed our PPIE Strategic Plan in partnership with our Patient and Public Research Advisory Group (PPRAG) and Research Champions. To support delivery of this plan, we have established the PPIE in Research Steering Group, which includes five public members and R&D workforce.

Patients and the public continue to be part of the R&D Strategy Committee and Arden Tissue Bank Management Committee, ensuring that they are involved in decision-making and their perspectives are heard.

Our Patient and Public Research Advisory Group (PPRAG) comprises ~60 patients, carers and members of the public who use their experiences and opinions to guide researchers. In 2023/24, PPRAG members contributed to 26 research projects. Eight PPRAG meetings were held, providing 10 researchers the opportunity to present their research to the group and obtain important feedback from PPRAG members.

In 2023/34, the PPIE Team supported 42 researchers to ensure the patient voice is at the heart of their research.



We celebrated the achievements of the PPRAG and Research Champions in September, with a PPIE Celebration Event in the Faith Centre.

Raising awareness of research continues to be an important focus, ensuring communities are aware of the opportunities research offers and how they can be involved. We attended the Prematurity Day Event in CSB in 2023, highlighting the importance of research to people who have experience of premature birth.

Embracing the Trust vision to be 'rooted in our communities' we have held engagement events outside of UHCW this year. This includes celebrating International Clinical Trials Day with a stand at the Arena Shopping Park and attending the British Transplant Games.



In November, we were part of a successful bid for NHSE funding to create an ICS-wide Research Engagement Network (REN). The REN aims to increase engagement with communities who do not routinely engage with research.

PPRAG member and Research Champion Jane Sausman was 'Highly Commended' at the Clinical Research Network West Midlands (CRN WM) Awards in November for her outstanding commitment to PPI. This was awarded as a result of her role as Chief Investigator in the REPLICA Study, the first time a patient has undertaken this role at UHCW.

Inclusion and Patient Experience

To ensure that research results are generalisable, it is essential that our research participants represent the wider patient population.

In 2023/24 we expanded our demographic data collection to include postcode data, linking this to the Index of Multiple Deprivation (IMD) deciles provides insight into the socioeconomic status of our research participants. With this data, along with gender, age and ethnicity data already collected, we are starting to understand the current demographic makeup of UHCW research participants, and which populations are being under-served by research.

Developed by our Data and Digital Team, the Demographics Dashboard brings together this data in an easy-to-use platform, which can be interrogated to identify participant demographics across years, specialties and teams. This will be rolled out across R&D in 2024/25.

Leading the way regionally with demographic data collection and reporting, we have been asked to share our processes with other NHS Trusts in our area to ensure fair and equal access to research across the region.

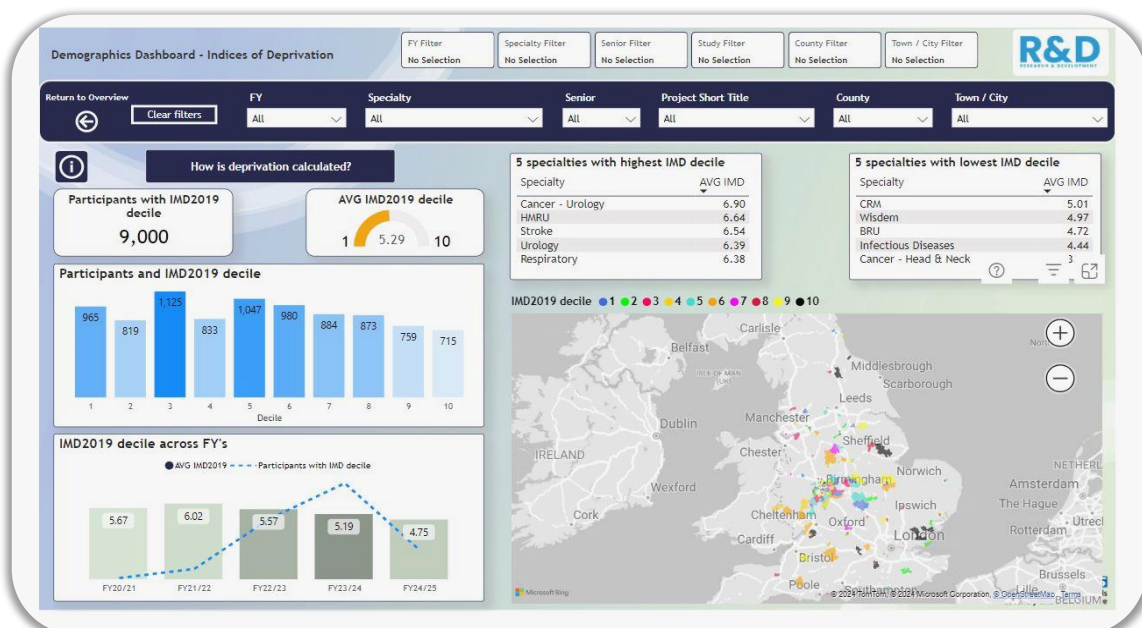
Each year, we participate in the national NIHR Participant in Research Experience Survey (PRES), which aims to measure the experiences of participants in health and social care research.

PRES achieves this by asking individuals to give feedback on the research they have taken part in. The survey outcomes describe the participants' views on direct interactions with the research delivery teams and the environments the research takes place in and a range of factors relating to the design of the research itself.

In 2023/24, we received PRES responses from 307 research participants, an increase of 90% from 2022/23. Highlights from our PRES feedback included:

- 96% of respondents felt they were always treated with courtesy and respect by research staff
- 89% of respondents would agree to take part in research again

Feedback also identified area a key area for improvement was to ensure participants are aware how they will receive research results and to ensure they are provided. Addressing this area forms part of our Research Participant Experience Improvement Action Plan for 2024/25.



Research Governance

Research Governance enables us to safeguard our patients taking part in research, protects our researchers by providing a clear framework within which to work, enhances the ethical and scientific quality of what we do, mitigates risk, monitors practice and promotes good practice by ensuring lessons are learned.

Over the last 12 months, the team have maintained their target of zero serious breaches and critical findings and reviewed / approved over 80 projects.

In May, we launched a more robust and comprehensive R&D training programme that is now offered three times a year and ensures that all UHCW employees have access to the appropriate training sessions which are now bookable via ESR. The team ensure that each training session is delivered effectively, supporting our commitment to high standards in research governance and staff development.

In August 2023, we launched formal R&D QIPS meetings, to provide oversight of the governance arrangements for research management and improve understanding and ownership of quality across the wider R&D team. The meeting provides assurance and governance updates to R&D Strategy Committee (and Trust Board via Patient Safety Committee).

QIPS also demonstrates oversight of safety of research participants and highlights research quality improvements.

In October, the team began utilising Power BI for monitoring of sponsored studies. We now benefit from seamless integration with our portfolio management system. This allows us to view real-time performance metrics on a dynamic dashboard, eliminating the need for manual data manipulation. The shift to Power BI has significantly streamlined our processes, enabling more efficient and effective study management and performance tracking, ultimately enhancing our overall operational capabilities

The team have also continued to provide support for research teams learning lessons from incidents, internal reviews and monitoring visits. We have provided dedicated support for researchers with the process, requirements and completion of Data Protection Impact Assessments, Data Sharing/Transfer Agreements and International Data Transfer Agreements

Over the next 12 months the team will focus on continuing to utilise Power BI for KPIs, develop R&D monitors across the department to improve research quality and improve presence at local universities to strengthen the existing relationships.



Trial Management Unit

Our Trial Management Unit (TMU) provides dedicated support to researchers throughout the clinical trial process from initial concept through to trial completion.

In 2023/24 the TMU was actively managing and overseeing 24 research studies, all at different stages in their timeline. With 8 new studies in set-up including our first Radiotherapy study, first externally sponsored study, and 3 studies funded by the NIHR.

427 patients were recruited to TMU studies in 2023/24:



QUALYCARE KIDNEY study

5G SUCCEEDS



TENDENCY

PHPVTS

Quality Assurance

- Working in partnership to develop new processes to improve efficiency and accessibility of research, including: a new TMU operational guide, Set-up responsibilities table and flow diagram, TMU staff competencies, Template document re-refresh, Grant costings guide, and a New website with individual research study pages.

Data Management

- Following data quality checks by our team members, four study databases were locked for analysis in 2023/24.
- We renewed our subscription to CastorEDC, a cloud-based research database solution, for a further 5 years. This has strengthened our data management capability and has become a USP for our Trial Management service.

Staff Development

- TMU Team members have presented at conferences (RDF23) and completed internal and national training to increase confidence in their roles, including 'How to be a good trial manager', 'Introduction to statistics for trial management', and the UHCW Leader course.
- Staff have actively volunteered for events and working groups to raise the research profile, including the Saving Turtles Network, Research Council, and Research Communications. Our Trial Manager also received a nomination as a Trust's 'World Class Colleague'.

Team Development

- Following staff turnover, the TMU has successfully recruited new Clinical Trial Coordinators and a Trial Manager to support with the coordination of a portfolio of grant-funded multi-centre studies.
- Team building days continue to be planned, collaborating to design study pages for the new [R&D website](#), as well as social activities to create strong bonds and a supportive learning culture.



TMU Pipeline

- The team supported 17 new proposals in the last year, either at the research idea or grant development stage, with a successful NIHR i4i grant being awarded with Prof Siobhan Quenby.
- The year has also seen an increase in interest from external researchers interested in using TMU services, that may also be Sponsored externally.

UHCW R&D Annual Report 2023/24

Supporting the UHCW Organisational Strategy



Performance Summary

Performance against Organisational Strategy KPIs is detailed below:

Success Indicator	2022/23	2023/24	2024/25	2025/25	2026/27
Establish institutes of excellence define leadership strategies and governance arrangements	☑				
Research for all training and development platform or platform developers structured workforce development and competency programme to support staff to develop deliver and lead research		☑			
Develop patient and public involvement in engagement strategies that ensure inclusivity and promote maximum access		☑			
Expand our digital portfolio through improved infrastructure and increased collaboration			Target date Sept 2024		
Double NIHR, Doctoral, post- doctoral and senior fellows				Target date March 2026	
Increase Research income by 30%				Target date Sept 2026	
Demonstrate the impact of 5 practice changing research studies					Target date Dec 2027

Institutes for Excellence

The Institutes for Excellence underpin a positive research culture and make research central to UHCW activities. The four institutes are:

- Institute for Applied & Translational Technologies in Surgery (IATTS)
- Institute for Cardio-Metabolic Medicine (ICMM)
- Institute for Health Equity & Social Care (IHESC)
- Institute for Precision Diagnostics & Translational Medicine (IPDTM)



The Institutes were officially launched in September 2023.

All Institutes are active in research funding applications, enjoying success with many funders, including RESTORE (ICMM) and Big Toe (IATTS) funded by the NIHR:

Institute	Submitted	Successful
IATTS	28	7 (25%)
ICMM	37	17 (46%)
IHESC	20	5 (25%)
IPDTM	26	10 (38%)

In addition, the Institutes continue to deliver research that has the potential to impact on patient care. These include:

COBix

(IPDTM) multi-site algorithm validation to see if a new algorithm can accurately separate normal bowel biopsies from non-normal biopsies and thereby speed up cancer diagnosis.



IHESC are part of the NIHR Health Determinants Research Collaboration, led by Coventry Council and are supporting the creation of the infrastructure to support research into the wider determinants of health.

Development of the next generation of clinical-academics is a key priority of the Institutes.



Physiotherapist Lucy Silvester (IATTS) is developing and evaluating a rehabilitation programme for her NIHR doctoral research fellowship.

The Institutes are looking to increase research collaborations with commercial organisations especially with those organisations UHCW researchers already have established links with.

Sustainability

During 2023/24 we...

...reduced the carbon footprint of the tissue bank

- By discarding old and abandoned samples, 2 freezers have been turned off.
- Maintaining this over the year, an estimated saving of **£2503.50** and **2339kg eCO₂** has been made.
- This is the equivalent of:



154,413 smartphones charged



5,982 miles driven by an average car

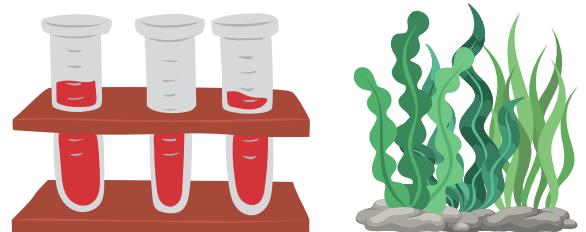


1195.6 litres of petrol consumed

...volunteered at 3 Saving Turtles events

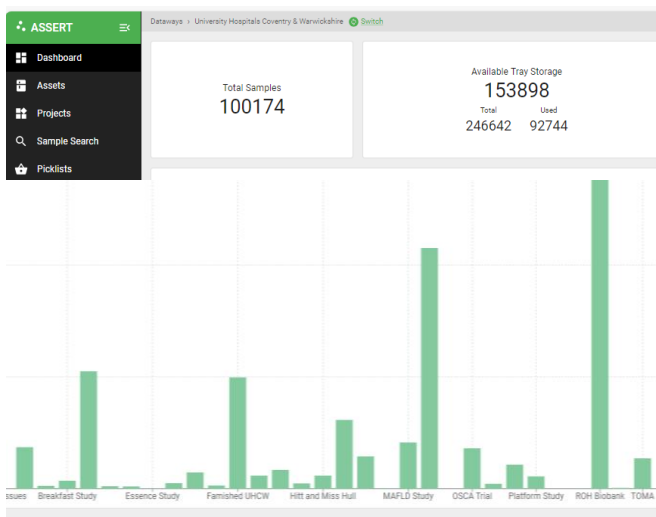


...held conversations with a company making microtubes made of seaweed!



...commissioned a management tool to efficiently manage sample storage in tissue bank

- ASSERT is a LIMS system that uses data from projects holding samples in the tissue bank
- This gives us the ability to monitor how many samples a project has stored vs how many have been collected during the project, therefore calculating what proportion of our capacity is being used by a specific project
- This will reduce the amount of wasted freezer space and enable better capacity management, reducing monetary and environmental waste.



...trialled a replacement for polystyrene sample transfer boxes

- Unfortunately, the cardboard thermally insulated version from a local supplier did not pass the trial.
- However, this has sparked ideas of how to continue innovating, and we are now working with University of Warwick and Tower Cold Chain to trial using high spec, long-life (5-7 years) temperature-controlled boxes to sit in the courier cars, with a short term, temperature-controlled package made from recyclable materials being used for the final delivery.



Valuing and Enabling our People

R&D has an established wellbeing workstream, with a wellbeing lead introduced this year to promote a culture of people development aligned with the R&D strategy. Our wellbeing lead raises awareness by sharing updates on initiatives provided by the wider Trust and other sources. They also serve as a point of contact for staff, helping to foster a supportive and inclusive culture.

Wellbeing updates and initiatives are shared via huddles, a monthly e-newsletter, organised events such as monthly wellbeing walks, and a wellbeing noticeboard. Our research cafés provide a supportive forum for staff to have open conversations about their work and ways of working.

As a team, we support charity events, this year a dragon boat race and mud run. We have a monthly UHCW Charity cake event, where staff bake and bring cakes and staff take time out to come together as a team.

R&D Staff Survey scores are consistently above Trust and national averages (as shown in People Promise data table):

However, those in the R&D Clinical Delivery team have lower scores than those in R&D Administrative roles and there is room to improve with regards to staff retention, career pathways and progression to meet aspirations of different generational groups.

We develop our staff, through inhouse training and visits to other teams (this year the surgical training centre hosted day visits for team members). R&D staff are completing higher qualifications through apprenticeship schemes, and we have staff on the UHCW Leadership course to equip and foster a supportive, people first culture which will promote wellbeing

Our staff's valuable contributions are recognised through various channels, including success stories and achievements on social media, a quarterly R&D staff e-newsletter, submissions to national awards, and our Annual R&D 'Golden Gnome' awards. R&D staff were nominated for several OSCA nominations, recognising their hard work and accomplishments over the past year.

Question	R&D Team Score	UHCW	COMPARATOR
PP1 We are compassionate and inclusive	8.03	7.1	7.2
PP2 We are recognised and rewarded	7.13	5.8	5.9
PP3 We each have a voice that counts	7.23	6.6	6.7
PP4 We are safe and healthy	6.97	6.0	6.1
PP5 We are always learning	6.90	5.7	5.6
PP6_2 Flexible working	8.17	6.0	6.2
PP7 We are a team	8.04	6.7	6.7
E Staff engagement	7.63	6.8	6.9
M Morale	6.46	5.8	5.9



This year, the R&D team supported the trust-wide implementation of flexible working patterns for staff to support wellbeing through the 'Compressed Hours Evaluation Project'. Supported by an academic in Behaviour and Wellbeing Science from Warwick Manufacturing Group, R&D have supported with questionnaire design and governance support. The project will complete in September 2024 and report shortly after.

Local Integrated Care



R&D Manager Group: Implementing our Integrated Care System (ICS) Research Strategy:

An ICS R&D Manager Group has been established with ICS partners and charged with maximising opportunities for participants through a series of workstreams including increasing Commercial Research, Capacity Building & Workforce, Operational Efficiency, Translation & Partnerships and utilisation of Digital tools and electronic patient records.

Workstreams delivered this year include:

- ICS interfaces – engagement and relations: Research Engagement Network (REN)
- Capacity and capability workforce including the pharmacy project and WM clinical academic project.
- Commercial research workstream, analysing the O'Shaughnessy Review and working on changes for the whole ICS.

Research Engagement Network:

Through a jointly developed bid between NHS, Coventry Council and Voluntary sector partners, our ICS secured £100,000 NHSE funding to develop a Research Engagement Network. . The overall aim of our REN is to develop a longstanding and sustainable Research Engagement Network (REN) in the Coventry and Warwickshire ICS region.

This will support engagement of underserved communities in research and ultimately reduce health inequalities.

We have started to map existing and potential engagement opportunities across the Coventry and Warwickshire ICS region to identify gaps and attended community engagement events, with more planned.

Research Pharmacy Springboard:

This Project aims to evaluate current pharmacy service provision across Coventry and Warwickshire Integrated Care System (C&W ICS) with a view to developing a shared pharmacy service, with shared job descriptions, training and competency frameworks, standard operating procedures and governance arrangements. This will enable sharing of research pharmacy resource and expertise so that more studies can be set up more efficiently, enabling more of our population to take part in clinical trials. Joint working across organisations will improve the capacity and speed of the research study life cycle and improve the delivery of commercial research.

Stakeholders are working together to suggest and implement solutions to build pharmacy research capacity in a sustainable and meaningful way with a view to maximising opportunities for patients.

Looking Forward

In 2024/5, R&D will continue to deliver the Trust R&D Strategy, with focus on these priority workstreams:

FOSTERING A PROGRESSIVE, ENABLING, & SUPPORTIVE RESEARCH ENVIRONMENT:

☑ Commercial Research Trials

- ✓ Refreshed commercial research strategy to ensure a step change in the number of trials and opportunities available for our patients.
- ✓ UHCWi Cost attribution and recovery project for commercial trials to ensure that all income is recovered.

☑ Digital & Data Driven Research

- ✓ Development of 'INTERACT' – the development of an ethically approved research data access process to maximise EPR data opportunities for researchers.
- ✓ Innovate UK Collaboration to support wider Horizon Europe Collaboration & participation.
- ✓ Integration of PowerTrials Capabilities within EPR subject to resource availability.
- ✓ 2025 Health Determinants Research Collaboration Black Intern Programme.

☑ R&D Footprint and Infrastructure

- ✓ Review and maximise benefits from R&D Facilities, particularly the in-patient research unit and Multi-Omics facility (launch planned autumn 2024).

COLLABORATION AND STRATEGIC PARTNERSHIP

☑ Integrated Care System Collaboration

- ✓ Maximising ICS collaboration and opportunities for patients across Coventry & Warwickshire.
- ✓ Implementation of standardised processes and digital systems for R&D management across ICS partners.

Forward Look

COLLABORATION AND STRATEGIC PARTNERSHIP (continued)

☒ Academic and NHS Collaboration

- ✓ Realise Community Diagnostics Centre Research Vision.
- ✓ Explore research opportunities provided by UHCW's Robotic Centre of Excellence and Arden Cross Partners.

☒ Industry

- ✓ Further develop business offering through a 'Business Engagement Unit' to enable industry interaction for patient benefit at pace.

☒ International Collaboration

- ✓ Further international collaborations via European Commission Horizon Europe projects STRATEFY-HF (ICMM) and Dorian Gray (ICMM).

IMPROVING THE CULTURE OF RESEARCH

☒ Staff, Patient and Public Involvement and Engagement

- ✓ Increase opportunities for patients.
- ✓ Demonstrate inclusion and support underrepresented groups to get involved in research.
- ✓ Maximise opportunities for staff through fellowships and clinical academic pathways.
- ✓ Increase number of joint academic posts with partners.
- ✓ Launch updated R&D website with detailed information on the department, research studies, Institutes for Excellence and opportunities to get involved.